

# The Future of Internet Use and Television Viewing: A Comparison of New and Established Media

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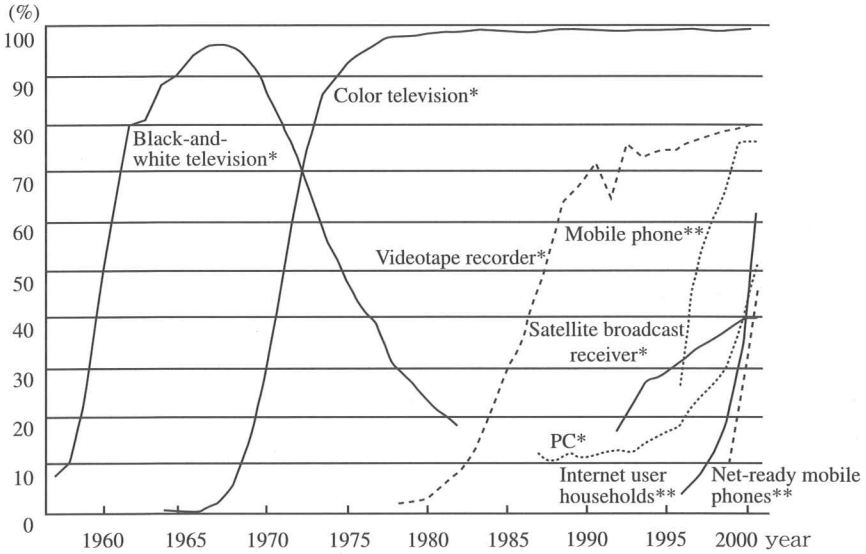
According to data released in May 2002, 61 percent of households in Japan were using the Internet<sup>1</sup> by the end of fiscal 2001 (April 2001–March 2002) (fig. 1), nearly double the figure (34 percent) recorded for the previous year. This dramatic rise was among the findings of the Communications Usage Trends Survey in 2001 published by the Information and Communications Policy Bureau of the Ministry of Public Management, Home Affairs, Posts and Telecommunications. People are naturally interested in learning how Internet use will develop in the future, what kind of changes it will bring to their lives, and what overall impact it will have, including its effect on their use of other media like television and their interactions with other people.

Not only the Internet but any new medium that appears and begins to spread arouses the interest of people in the industry, university researchers, and others involved with new and established media. They are eager to see how use of established media will change and whether the newer media will replace what came before. Reading through the history of broadcast-related research at the Public Opinion Research Division of the NHK Broadcasting Culture Research Institute demonstrates just how frequently and carefully surveys have been made, analyzed, and reported in response to such concerns.

One of these surveys, carried out every five years since 1960, is the NHK National Time Use Survey. In 1960, the first time it was conducted, attention was focused on the correlation between radio listening behavior and television viewing behavior. By that time, almost ten years after broadcasts began, television had spread to nearly half of all homes in Japan with a household penetration rate<sup>2</sup> of 45 percent. The second survey, held in 1965 after rapid growth in the spread of television, concentrated on television viewing behavior. In the 1985 survey, conducted amid the so-called new media age, the focus was on

<sup>1</sup> Internet user household: a household whose members access the Internet in their own home by means of a personal computer, mobile phone, or other device for individual use.

<sup>2</sup> The household penetration rate in this report reflects, if not mentioned otherwise, data from the Consumer Trends Survey by the Economic Planning Agency (now part of the Cabinet Office).

**Figure 1. Household Penetration Rate for Several Media**

\* Consumer Trends Survey by the Economic Planning Agency (now part of the Cabinet Office)

\*\* Communications Usage Trends Survey by the Information and Communications Policy Bureau of the Ministry of Public Management, Home Affairs, Posts and Telecommunications

\*\*\* The peak for radio reception contracts was 81 percent (1957 and 1958).

the newly introduced video (owned by 28 percent of households) and video game media, which were seen as potential threats to television.

More recently, in the 1995 survey interest was focused on personal computers (PCs), which had by then spread to 15 percent of households, and questions in the 2000 survey were centered on the Internet. Mobile phones featuring the i-mode service had become available the previous year, and their ability to search for information and send e-mail further amplified this interest. Although "Internet" was not included as an activity classification in the 2000 survey, NHK carried out a time use survey focused on Internet-related activities the following year—the 2001 Survey of Time Use in the IT Age.<sup>3</sup>

In addition to the basic activities of daily life—sleep, meals, work, house-

<sup>3</sup> Survey of Time Use in the IT Age: this survey of 3,600 Japanese citizens ages 10–69 from throughout the country was carried out on 21 (Sunday) and 22 (Monday) October 2001. The survey method consisted of a precoded system based on the distribution-collection method that provides participants with a diary-style survey form printed with a list of activity classifications for 15-minute time intervals and asks them to draw a line in the time blocks for the activities that apply to them.

**Figure 2. Activity Classification**

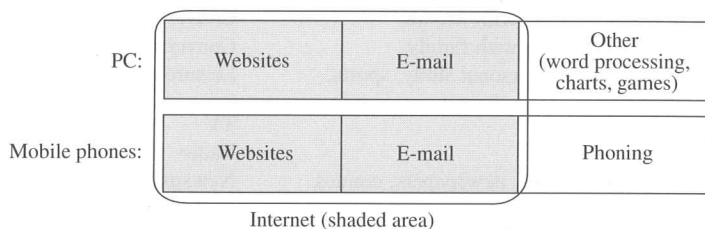
Description of Activity	Activity Name
(1) Basic activities of daily life	
Time spent at home	At home
Sleeping (30 minutes or more)	Sleep
Personal chores (washing face, bathing, changing clothes, etc.), going to the hospital	Personal chores
Eating meals	Meals
Commuting to work, school, or elsewhere (both ways)	Commuting
Working, work-related association	Work-related
Classes, school events, clubs, study and homework at cram schools or home	Schoolwork
Housework (cooking, cleaning, laundry, looking after family members, shopping, tidying up)	Housework
Social obligations (PTA, local events, ceremonial occasions, volunteering, etc.)	Social obligations
Conversation and chatting with friends	Conversation with friends
Conversation and chatting with family	Conversation with family
Entertainment, hobbies, personal study, sports, vacations, walks	Leisure activities
Watching television	TV
Listening to the radio	Radio
Reading books, magazines, newspapers, comics	Newspapers, magazines, comics, books
Listening to CDs, MDs, audiotapes	CDs, tapes
Watching videotapes	Video
Playing video games	Video games
Resting, doing nothing in particular	Rest
Other activities	Other, uncertain
(2) PC and mobile phone use	
Talking on a home or company phone or a public pay phone	Phoning (stationary phones)
Using websites on a personal computer	Website use (PC)
Reading or writing e-mail on a personal computer	E-mail (PC)
Other activities on a PC (word processing, charts, games, etc.)	Other (PC)
Talking on a mobile phone (cellular or PHS)	Phoning (mobile)
Reading or writing e-mail on a mobile phone (cellular or PHS)	E-mail (mobile)
Accessing information services (i-mode, EZ-web, J-SKY, etc.) from a mobile phone (cellular or PHS)	Website use (mobile)
(3) Interaction partner	
With family	Family
With friends	Friends
With people related to work or to the local community	Work or community-related
With other people	Other people

work, commuting, leisure, use of mass media, etc.—this survey included activity classifications for PC and mobile phone use and investigated the nature of Internet use in Japan (fig. 2). As figure 3 shows, these classifications make it possible to analyze the Internet from both sides—the equipment aspect, including personal computers and mobile phones, and the functional aspect, including e-mail and websites. Further, they enable a quantitative comparison of Internet use with use of established media like television.

The findings of the Time Use in the IT Age survey revealed the following about the Internet:

- 1) Usage patterns varied widely depending on the combination of equipment used, purpose of use, and day of the week (figs. 4 and 5);

**Figure 3. Survey Classifications and Analysis Classifications**



**Figure 4. Internet User Ratio and Time Use (all respondents nationwide)**

	Monday	Sunday
User ratio	28%	26%
Average time use for users	1:23	1:11
Average time use for all respondents	0:23	0:19

**Figure 5. Average Time Spent Using the Internet for All Respondents (at work/outside work; at home /outside home)**

	Monday			Sunday		
	Internet	websites	e-mail	Internet	websites	e-mail
Total	23	7	16	19	6	13
At work	8	2	6	1	0	1
Outside work	15	5	10	18	6	12
At home	10	4	6	14	5	8
Outside home	13	3	10	5	1	4

(minutes)

**Figure 6. Average Time Spent Using the Internet for All Respondents (by gender and age)**  
(hours: minutes)

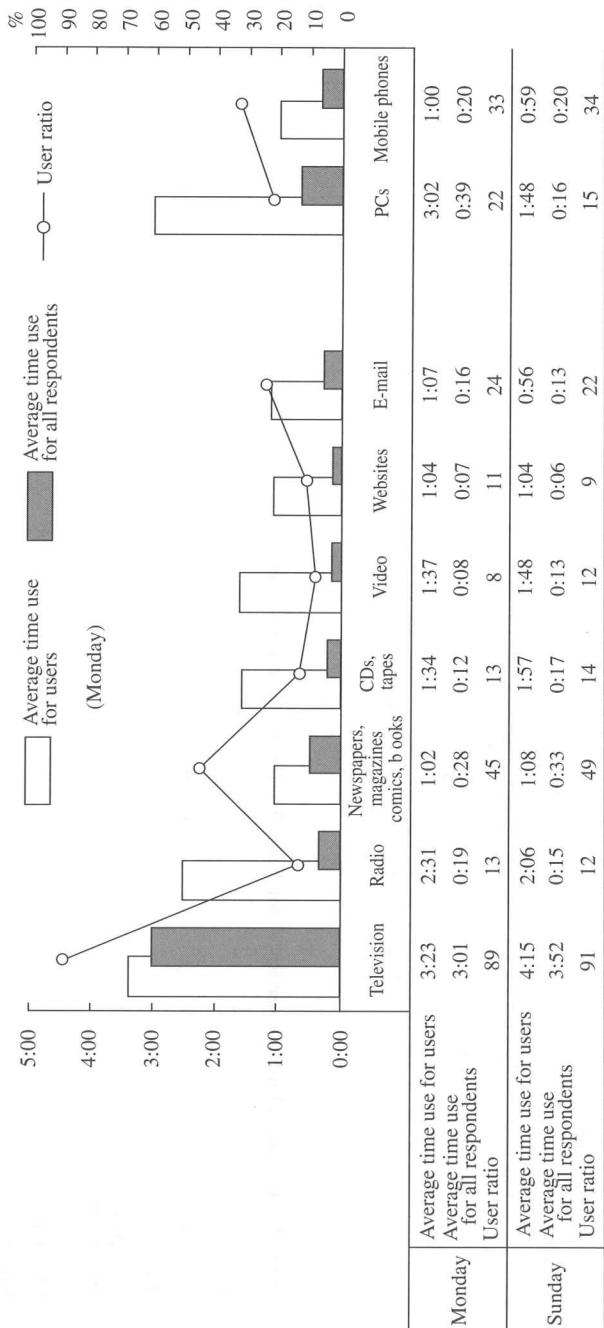
	M		M		M		M		W		W		W	
	10-19	20-29	30-39	40-49	50-59	60-69	10-19	20-29	30-39	40-49	50-59	60-69		
All respondents	0:07	0:17	0:19	0:06	0:04	0:04	0:04	0:09	0:08	0:04	0:01	0:00	0:01	0:00
Monday	0:16	0:29	0:28	0:18	0:09	0:03	0:38	0:35	0:15	0:10	0:05	0:01	0:01	0:01
Internet	<b>0:23</b>	<b>0:46</b>	<b>0:47</b>	<b>0:24</b>	<b>0:13</b>	<b>0:07</b>	<b>0:42</b>	<b>0:44</b>	<b>0:23</b>	<b>0:14</b>	<b>0:06</b>	<b>0:01</b>	<b>0:06</b>	<b>0:01</b>
websites	0:06	0:17	0:16	0:06	0:04	0:01	0:05	0:10	0:05	0:03	0:02	0:00	0:02	0:00
Sunday	0:13	0:26	0:18	0:10	0:05	0:01	0:44	0:31	0:14	0:08	0:05	0:01	0:05	0:01
Internet	<b>0:19</b>	<b>0:35</b>	<b>0:26</b>	<b>0:12</b>	<b>0:08</b>	<b>0:02</b>	<b>0:49</b>	<b>0:41</b>	<b>0:20</b>	<b>0:11</b>	<b>0:07</b>	<b>0:01</b>	<b>0:07</b>	<b>0:01</b>

**Figure 7: Average Hourly User Ratio for Each Medium (all respondents nationwide, Monday)**

hour	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Television	3	1	1	0	0	2	9	18	12	7	6	6	13	9	6	5	7	9	18	37	42	43	35	13
Radio	0	0	0	0	0	1	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1
Newspaper, magazines, comics, books	1	0	0	0	0	1	3	4	3	2	2	1	1	1	1	2	2	3	2	2	2	3	4	4
CDs, tapes	1	0	0	0	0	0	0	1	1	0	1	1	0	1	1	1	1	1	1	1	1	1	2	2
Video	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	2	1	1
Website	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	1	1	1	0	1	1	1	1
E-mail	0	0	0	0	0	0	0	1	2	2	1	1	1	2	1	1	1	1	1	2	2	2	2	2

Bold type: values 10% and over

Figure 8. User Ratio and Time Use for Each Medium



- 2) Internet use has been spreading mainly among younger age brackets (fig. 6); and
- 3) Judging by the percentage of users, time spent, and other quantitative indicators, Internet use is still far from the level of television (figs. 7 and 8).

It is hard to imagine that the relationship between television and the Internet will continue unchanged. This report undertakes, therefore, to consider Internet use and the future of television in comparison with historical examples; specifically, it will reexamine the conditions surrounding the use of now older media when they first appeared, the relationship of those "new" media to established media at the time, and subsequent changes in uses of the new media. For the most part, it will take up the aforementioned (1) radio-television relationship of the 1960s and (2) video-television relationship of the 1980s. As for procedure, this report will first lay out the findings of various surveys, mainly the National Time Use Survey, from the 1960s, and second, sum up the characteristics of new and established media use during the time when new media were still "new," relying on quantitative aspects like time use and user ratio.<sup>4</sup> The analysis will focus on: (1) penetration growth patterns, (2) relationship of penetration to actual use, (3) increase in daily users, and (4) the functions users were looking for in new and established media. Finally, it will review the characteristics of Internet use and its relationship with television viewing as revealed by the findings of the Survey of Time Use in the IT Age, and consider whether similar historical examples exist, or whether there is no precedent.

### Radio and Television in the 1960s

Looking at the average time all respondents spent on a particular activity during a given day, Sunday,<sup>5</sup> the National Time Use Survey showed that the relationship between radio and television reverses between 1960 and 1965:

	1960		1965
Radio	1:41	→	0:23
TV	1:19	→	3:41

<sup>4</sup> Four indicators frequently used in time use surveys are user ratio, average time use for users, average time use for all respondents, and hourly user ratio. These are defined as follows: User ratio: the percentage of people who do a particular activity for 15 minutes or more in a single day. Average time use for users: the average time spent on an activity only by those who do the activity. Average time use for all respondents: the average time spent on an activity among all respondents, including those who do not do the activity. This is equivalent to the number produced by multiplying the user ratio by the average time use for users. Hourly user ratio: the percentage of people doing an activity during a particular hour.

<sup>5</sup> This report uses only data from Sunday, as this is the one day people can choose freely how to use their personal time.

Thereafter, television viewing time becomes overwhelmingly longer than radio. Simply put, these findings show that television supplanted radio. Now we will take a closer look at the mechanism at work in this change.

#### *Increase in penetration and time use*

The penetration rate for radio at its peak in 1957 and 1958 (NHK radio reception contract rate) was 81 percent, and it is thought to have stayed at that level in following years as well.<sup>6</sup> On the other hand, looking similarly at the penetration of television by reception contract rate, we find that TV ownership expanded by a wide margin—from 33 to 85 percent between 1960 and 1965—outdistancing radio ownership at its peak. In other words, the new medium (television) spread rapidly and overtook the established medium (radio).

The percentage of people who actually listened to the radio or watched television on a single day (user ratio), and the average time they spent watching television (average time use for users) changed as indicated in figure 9. Not only did television ownership spread over the five-year period, the actual number of people watching television increased, and the amount of time each viewer spent watching television grew longer.

Factoring in the hourly user ratio (for all respondents, fig. 10) as well as total viewing time, the curve for radio listenership in 1960 looks similar to the curve for television viewership in 1965, and for most time slots, television use in 1965 exceeds radio use in 1960. Considering the above data, by 1965 television had clearly superseded radio in the role it had played hitherto.

**Figure 9. User Ratio and Time Use for Radio and Television (all respondents nationwide, Sunday)**

		1960	1965
Radio	User ratio	56%*	16%
	Average time use for users	3:00*	2:21
	Average time use for all respondents	1:41	0:23
Television	User ratio	40%*	92%
	Average time use for users	3:17*	4:01
	Average time use for all respondents	1:19	3:41

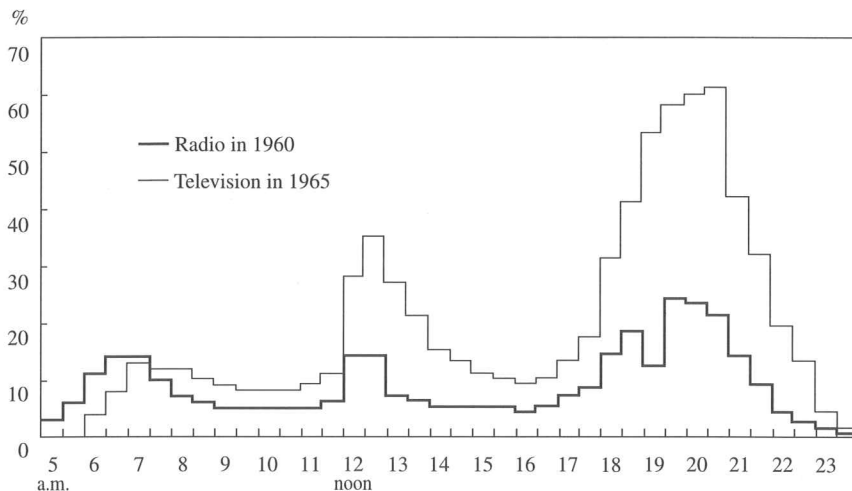
\*trial calculation

(NHK National Time Use Survey)

<sup>6</sup> Since those who own a television, even if they own a radio as well, must change over to a television contract, the number of NHK radio reception contracts decreases yearly beginning in 1959. This, however, cannot be considered to indicate a decline in the number of households with the facilities to listen to radio.



**Figure 10. Hourly User Ratio for Radio in 1960 and Television in 1965**  
(all respondents nationwide, Sunday)



(NHK National Time Use Survey)

### *Forecasting penetration in progress*

Back in 1960, when television was still in the process of spreading, one wonders if anyone foresaw the dramatic displacement that was to take place. Comparing the findings for radio use by respondents who owned only radio (established-media users) with combined television and radio use by owners of both (new-media users), the analysis of surveys from around 1960 predicts changes in media use as the result of television ownership.<sup>7</sup> The findings, shown in figures 11 and 12, are unambiguous on the following three points:

- Compared with radio-only owners, the time that owners of both spent listening to the radio is extremely short.
- The time that owners of both spent watching television exceeds the time that radio-only owners spent listening to the radio.
- Except for the 6 a.m. hour, television viewing rates never fall below radio listening rates for owners of both.

From these findings, it was surmised in 1960 that the amount of time people

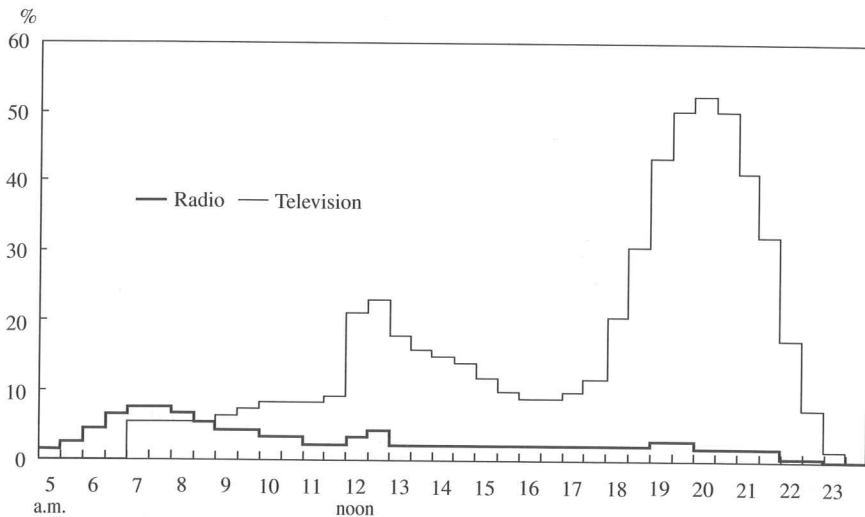
<sup>7</sup> A similar comparison was carried out in the 1962 Radio and Television Program Audience Ratings Survey, and similar findings were obtained. See the articles in *Bunken geppo* [NHK Broadcasting Culture Research Institute monthly report] (March and April 1963).

**Figure 11. Television and Radio Use by Owners of Both and Radio-only Owners (1960, Sunday)**

Radio use by radio-only owners	2:32
Radio use by owners of both	0:38
Television use by owners of both	3:04

(NHK National Time Use Survey)

**Figure 12. Hourly User Ratio for Owners of Both Television and Radio (1960, Sunday)**



(NHK National Time Use Survey)

spent listening to the radio would drastically decrease when they purchased a television, and that the amount of time they would give to TV would exceed the amount of time they cut back on radio. It was predicted that the new medium (television) would replace the established medium (radio). Indeed, five years later that is what happened.

#### *A new function hastens displacement*

Why did television replace radio so completely? In short, because people were expecting the same sort of functions from television as from radio and found that television offered more as well.

Let us examine some data gathered at the time. The findings of a 1962

**Figure 13. Users' Preferences in Television and Radio Programs**

	What viewers prefer to see on TV	What viewers prefer to hear on the radio
News, weather reports	89	81
Popular songs, folk songs	72	66
Home dramas	72	59
Sumo	68	56
Comedy	68	55
Detective stories, adventures, mysteries, and similar dramas	65	52
Quiz, game shows	62	49
Dramas dealing with social issues or human nature	61	52
Baseball	55	47
<i>Rakugo</i> (comic monologue), <i>manzai</i> (comic dialogue)	53	51
Period dramas	51	39
Current-affairs commentaries, politics, economics, and society	48	41
Romance, melodrama	41	33
Light music	41	41
<i>Kodan</i> storytelling, <i>rokyoku</i> ballad	41	39
Childcare, health, cooking, and other household- oriented practical information	41	35
Variety and music shows	40	30
History, geography, and science	33	28
Kabuki	30	20
Classical music	26	26
Practical information about non-agriculture occupa- tions	20	18
Practical information about the agriculture industry	17	15
Traditional Japanese music	14	13
Language courses	14	13

Supplementary Opinion Survey to the Radio and Television Program Audience Ratings Survey, July 1962 (nationwide ages 10–69, findings for owners of both television and radio)

survey<sup>8</sup> showed that owners of both television and radio wanted to watch television programs extremely similar to programs they wanted to hear on the radio. For all program categories, moreover, the number of people who pre-

<sup>8</sup> From a question concerning program preferences for radio and television that was asked as a supplement to the Radio and Television Program Audience Ratings Survey. See the articles in *Bunken geppo* (March and April 1963).

ferred to watch a program on television exceeded those who wanted to listen to it on the radio (fig. 13).<sup>9</sup>

When two different media are expected to offer the same functions, it is likely that the medium with an additional new function will get more use. By adding images to an audio message, television provided a function that went beyond mere substitution. The addition of images increases a message's accessibility and more closely matches the activities and sensations of the real world. This accessibility became television's special advantage, and later affected the expansion of viewing time, as well.

Radio, on the other hand, though it never recovered its former share of listening time, later made use of its traits as an audio-only media. It made up for the loss of listeners by pioneering territory unavailable to television—it exploited its convenience as a medium to listen to on the job, while doing housework, or studying; as a portable medium that could be carried around as technology made devices smaller and lighter; and it became a medium for solitary late-night listening.<sup>10</sup>

### **Video and Television in the 1980s**

Next let us examine how television and video affected each other in the 1980s, when household use of video spread most rapidly.

#### *Growth in ownership and use*

The household penetration rate for video (Economic Planning Agency, Survey of Consumer Trends) was barely 2 percent in 1980, but it was 28 percent five years later in 1985; it crossed the half mark at 53 percent in 1988, and reached 67 percent in 1990 (fig. 1). The pace at which video spread was not as fast as it had been with television, but was nonetheless quite rapid.

Figure 14 (National Time Use Survey) shows the percentage of people who actually watched video (user ratio), the average time they spent watching video (average time use for users), and the average time all respondents (including those who did not watch video) spent watching video on a single day. Points to be gleaned from these statistics include the following:

- From the beginning of its spread to the present, video's user ratio for a

<sup>9</sup> In addition, according to the Supplementary Opinion Survey to the Nationwide Radio and Television Program Audience Ratings Survey of June 1964, the reasons TV owners most often gave for watching television were "because I can enjoy interesting programs" and "because it brings me news of the wider world," which were the same reasons for listening to the radio given by owners of radio only.

<sup>10</sup> For more detailed information, refer to the *2000 NHK National Time Use Survey*, edited by the NHK Public Opinion Research Division (Nihon Hoso Shuppan Kyokai, 2001).

single day has remained exceedingly small, and in no way compares to television (user ratio of over 90 percent), which almost everyone watches at some time in a one-day period.

- From 1980 through 1985, video's penetration rate rose, but the user ratio on a single day rose very little and remained at 4 percent even in 1985.

Just from these findings, it is easy to imagine that the uses for video and television are completely different and that the functions people seek from each are also separate. The time use survey's user ratio, which represents the percentage of people who use a particular medium on a single day, shows a higher value for media used nearly every day and a lower value for those that are not (fig. 15). Still, even though some media like video may not be used on a daily basis, they seem to fulfill their role well enough.

**Figure 14. User Ratio and Time Use for Television and Video (all respondents nationwide, Sunday)**

		1980	1985	1990	1995
Television	User ratio	96%	94%	94%	96%
	Average time use for users	4:15	3:53	3:58	4:34
	Average time use for all respondents	4:05	3:40	3:44	4:23
Video	User ratio	—	4%	8%	9%
	Average time use for users	—	1:32	1:38	1:33
	Average time use for all respondents	—	0:03	0:08	0:08
	Household penetration rate	2	28	67	74%)

(NHK National Time Use Survey)

**Figure 15. Users and Daily User**

		Users (A)	Daily users (B)	B/A (%)
Video <sup>(1)</sup>	1988	43%	6%	14
	1990	50%	6%	12
Television <sup>(2)</sup>	1966	99%	87%	88
	2000	98%	95%	97
PC-Internet <sup>(3)</sup>	2001	27%	14%	52
Mobile-Internet <sup>(3)</sup>	2001	30%	19%	63

(1) Nationwide Home Video Survey (age 16 and up)

(2) 1966: Supplementary Opinion Survey to the Nationwide Radio and Television Program Audience Ratings Survey (age 16–69); 2000: Japanese and Television Survey 2000 (age 16 and up)

(3) Survey of Media and Daily Life (age 16 and up)

A person may own such a medium but feel no need to use it every day—only as necessary. That is enough for the medium to play its part. Video might be similar to satellite broadcasts, which offer many more channels than basic terrestrial broadcasts.<sup>11</sup> It is there in case you want it.

Moreover, comparing the frequency of use by video owners in the 1988 survey, when household ownership passed the halfway mark at 53 percent, with that of the 1990 survey<sup>12</sup> two years later (67 percent household ownership), we see that the number of people using video daily dropped from 10 to 8 percent, and those not using it at all rose from 31 to 36 percent. A tendency for overall use to thin out over time became apparent as video ownership spread and the number of people who owned but did not use a video player was factored in. Another characteristic of video use, therefore, is a tendency for the rate of use to fall rather than increase as ownership spreads.

We also did not find any correspondence between video and television indicating that television viewing time for video (new medium) users was less than for non-users. Indeed, we might conclude that video complements television. Television and video do not conflict, and television viewing time is not scaled back as a result of video use.

#### *Freshness is key to television*

The following are findings from the 1988 and 1990 NHK Home Video Use Surveys showing the ways in which video owners use video in conjunction with television programs (figures in parentheses are from 1988):

Record a program while out (at work or school)	48% (56%)
Record a program while out (other diversion)	16% (16%)
Record a program while watching one on a different channel	44% (53%)
Simultaneously watch and record a program	12% (15%)
Record a program to keep	26% (30%)

To “record a program while out” does not cut into television viewing time, since it is likely that users would be watching television if they were at home during that time. Obviously, neither to “record a program while watching one on a different channel” nor to “simultaneously watch and record a program” infringes on television viewing time. To “record a program to keep” can be considered video use that cuts into television time because it enables a pro-

<sup>11</sup> As shown in figure 1, ownership of satellite broadcast receivers is spreading, but the growth in the rate of use per day is comparatively small.

<sup>12</sup> Home Video Use Survey. See *Hoso kenkyu to chosa* [NHK Broadcasting Culture Research Institute monthly report on broadcast research] (March 1989, March 1991).

gram to be seen at a later, more convenient time, even though the viewer could have watched the program when it was broadcast. However, this type of use is minor.

The use of video that takes away from television viewing time in the true sense is watching rental or other "outside" videos that do not involve recording and playing back television programs. According to the same survey, however, the number of people who watch outside videos is also small, about one-third of those who play back recorded television programs.<sup>13</sup> It is clear from the above findings that video does not pose a threat to television.

The most significant difference between television viewing and video viewing is whether or not the time a program is broadcast coincides with the time it is watched.<sup>14</sup> The ability to watch a program whenever it is convenient or enjoyable, without time constraints, is the essence of video. On the other hand, watching live television, despite the time constraint, allows the viewer to get the latest message or information and share it with many other people at the same time.

The findings reviewed so far suggest a general awareness that television has meaning when one can watch a program at the time it is broadcast, along with all other viewers, and together with them receive whatever fresh message or information is conveyed.

The above is summarized in the three points below.

- Video's penetration rate was rapid, but growth in the number of people who actually use video was comparatively small.
- Video is not a medium for daily use.
- In terms of function, there are few points on which video competes with television.

The analysis of the findings of this survey conducted by the Public Opinion Research Division predicted at the time that video would not supplant television, and findings from later surveys confirmed this. The general take on video at the time, however, appears to have been a bit different. About 1983, when the household penetration rate topped 10 percent, the spread of video began to pick up speed. Around that time, from 1980 through 1985, television viewing time decreased greatly, to the extent that some people started talking

<sup>13</sup> For about one week during the survey, 31 percent of video owners watched recorded television programs, and 9 percent watched outside videos.

<sup>14</sup> For more on "time" as it relates to the broadcasting and viewing of programs, see Mitsuya Keiko, "Jikan ishiki to seikatsu jikan" [Time Consciousness and Daily Time Use], *NHK hoso bunka chosa kenkyu nenpo* [NHK Annual Bulletin of Broadcast Culture Research], No. 39 (1994).

about a “flight from television.” Many people at the time felt that video, with its alternative claim to the television screen, might be at the root of the drop in television viewing time. TV viewing time, however, rebounded in the 1990s and reached a level that surpassed the previous peak of 1975.

Flagging interest in television, born of boredom with entertainment programming, and rising criticism of human rights infringements by broadcasters, were factors in the decrease in TV viewing time from 1980 through 1985. On top of that, aware that personal free time was not increasing, people were becoming very conscious of how they used it. It became clear that they were cutting back on television time and using more time for other leisure activities. In short, “television’s enemies” included work and leisure pursuits.

### Video Games and Television in the 1980s

While television viewing time was decreasing—and many thought video was the culprit—video games loomed up as a diversion vying for the TV screen and were regarded with the same suspicion. The data in the 1985 time use survey for males aged 10–15, the group thought to be the most frequent users of video games, show that 25 percent played video games on Sundays. For users, the average time spent on video games was one hour and 56 minutes, and it was 28 minutes for all respondents, including those who did not play video games. These figures are far smaller than those for television viewing (fig. 16).

**Figure 16. User Ratio and Time Use for Television and Video Games (Sunday)**

		User ratio	Average time use for users	Average time use for all respondents
Males 10–19	Television	93%	3:30	3:15
	Video games	40%	2:22	0:57
Men 20–29	Television	75%	3:51	2:54
	Video games	18%	2:12	0:24
Men 30–39	Television	87%	4:37	4:01
	Video games	13%	2:17	0:17

(Survey of Time Use in the IT Age, 2001)

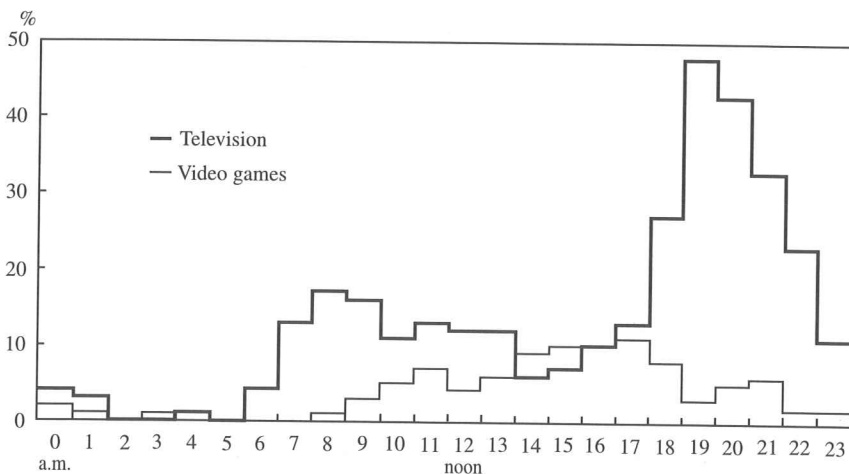
(Reference 1985)

Males 10–15	Television	94%	3:22	3:09
	Video games	25%	1:56	0:28

(NHK National Time Use Survey, 1985)



**Figure 17. Hourly User Ratio for Television and Video Games (Males age 10–19, Sunday)**



(Survey of Time Use in the IT Age, 2001)

Judging by the hourly user ratio, moreover, it became clear that video game use was relatively high during low television-viewing time, such as weekdays in the early evening and Sunday afternoon. At those times, a high percentage of people are at home but do not spend much time watching television. (This trend in video game use remains unchanged even now. See fig. 17.) It was assumed that viewers opt to play video games when there are no TV programs they find interesting, but usually give priority to viewing television.<sup>15</sup>

In separate surveys,<sup>16</sup> children who played video games showed a tendency to watch more television than children who did not. It was judged, therefore, that children who enjoyed video games tended to like television.

In terms of function, furthermore, the two are not at all competitive as media, despite the fact that video games make use of the television screen. Video games offer entertainment on a par with television, but are not used enough, it seems, to cut into television viewing.

<sup>15</sup> Similar findings were obtained in the 1986 and 1992 Teen Audience Ratings Survey. The results of these surveys showed time slots when video game use exceeded television viewing.

<sup>16</sup> Refer to the 1986 and 1992 Teen Audience Ratings Survey (*Hoso kenkyu to chosa*; October 1986, October 1994); the 1987 TV and the Daily Lives of Elementary School Students (*Hoso kenkyu to chosa*, May 1988); and TV and the Daily Lives of Elementary School Students '97 (*Hoso kenkyu to chosa*, April 1998).

### **The Internet and Television from the Late 1990s to 2000**

Among the questions generated by the findings of the 1995 National Time Use Survey, around the time personal computer ownership exceeded 20 percent, were, “Approximately how much time do people spend using a personal computer?” and “Will PCs eat into television viewing time in the future?” The researchers asking the questions evidently had PC communications and Internet use in mind. Later, when computers adapted for the Internet and net-ready mobile phones began to spread—around the time of the 2000 time use survey—the questions became, “Approximately how much time do people spend on the Internet?” and “Will the Internet eat into television viewing time in the future?” In this final section, let us examine the correlation between the Internet and television.

#### *Equipment penetration and use*

The proportion of households accessing the Internet, according to the Communications Usage Trends Survey by the posts and telecommunications ministry, expanded rapidly in the short span of five years from 3 percent in 1995 to 34 percent in 2000. Net-ready mobile phones came out in 1999, but had already reached a 27 percent penetration rate by the following year. This rate was similar to the spread of television.

According to results of the 2001 Survey of Media and Daily Life, 27 percent of those surveyed accessed the Internet from a PC (PC-Internet users) and 14 percent did so almost every day, whereas 30 percent accessed the Internet via mobile phone (Mobile-Internet users) and 19 percent did so almost every day. The ratio of daily users to users (fig. 15), is about 50 percent for PC-Internet users and 60 percent for Mobile-Internet users. Using the results of other surveys to calculate a similar ratio for television and video around the time when they were beginning to spread, we find television at the high end with almost 90 percent and video at the low end with roughly 10 percent. The Internet, whether accessed from a PC or mobile phone, falls right between these two. It is said to be growing as a medium for daily use, though not to the extent of television.<sup>17</sup>

Next we will compare television (and Internet) use by users and non-users

<sup>17</sup> Similar findings were yielded in the 1997 Survey of Audiences in the Digital Age. In this survey’s analysis, cellular and PHS mobile phones (only capable of phoning functions at the time), which were owned by relatively large numbers of people and were used daily by many, were in the process of becoming a medium for daily use, and that is indeed what they have become today. (See *Hoso kenkyu to chosa*, May 1999.)

**Figure 18. User Ratio and Average Time Use Among Users and Non-users of PC Websites (Sunday)**

	Average time use for all respondents		User ratio	
	Users	Non-users	Users	Non-users
Television	3:17	3:54	87%	91%
PC websites	1:14	0:00	100	0

(Survey of Time Use in the IT Age, 2001)

of the Internet, in the same way that we compared radio (and television) use in 1960, when TV was still new, by users of both, and users of radio only. Distinguishing website browsing from e-mail, we consider the former to pose more functional competition to the mass medium of television than the latter, which is a personal communication tool, and here we are concerned only with website users. To throw the competition with television into sharper relief, moreover, we restrict our investigation to website browsing on a PC, which cannot be carried around like a mobile phone.<sup>18</sup>

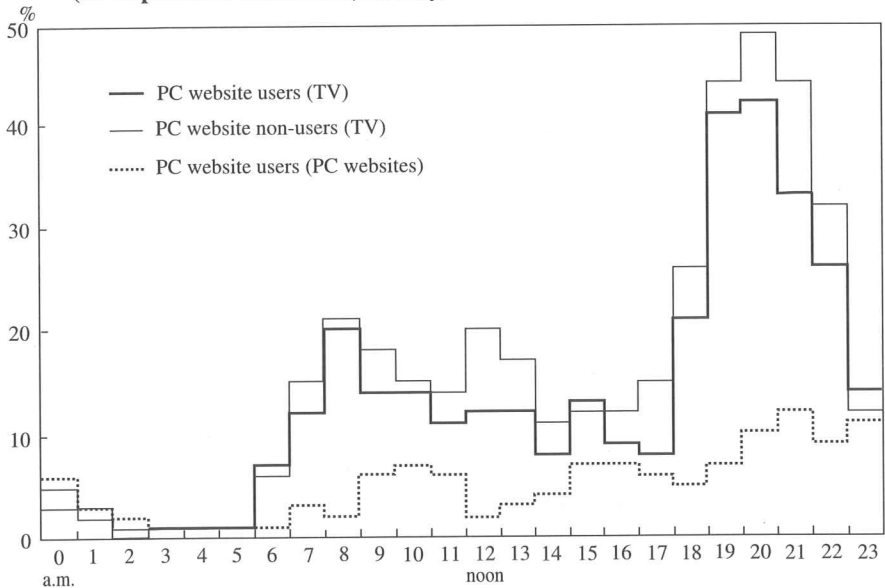
The per day television user ratios, average time given to television viewing, and average time given to PC website use among PC website users and also among non-PC website users appear in figure 18. PC website users spend less time watching television (3 hours 17 minutes) than non-users (3 hours 54 minutes). But, even among users, time spent using the new medium of PC websites (1 hour 14 minutes) was still less than time spent watching television (3 hours 17 minutes). The time that users spent accessing PC websites (1 hour 14 minutes), moreover, exceeded the differential in television viewing time for users and non-users (37 minutes). Judging solely by these numbers, we can speculate that users are also drawing time from activities besides television viewing to apply to PC website browsing. This resembles the interrelation between television and radio when television first began to spread.

Looking at the percent of each hour in the day used for television viewing by PC website users and by non-users (fig. 19, dark and light solid lines), we see the following:

- The usage patterns for both are similar, with a peak between 8 and 9 a.m. and a large jump in the rate of TV viewing between 7 and 8 p.m.
- PC website users differ from non-users in that they show no peak at midday,

<sup>18</sup> In the 2001 Survey of Time Use in the IT Age, the average time spent on the Internet on a personal computer for all respondents was five minutes and for mobile phones, one minute.

**Figure 19. Hourly TV User Ratio Among Users and Non-users of PC Websites (all respondents nationwide, Sunday)**



(Survey of Time Use in the IT Age, 2001)

their TV viewing falls off between 9 and 10 p.m., and their TV viewing rates are low for the noon–2 p.m. and 8–11 p.m. hours.

And when we compare users' hourly rates of website use with those for television (dotted and dark solid lines), we note that,

- There is no block of time when PC website browsing surpasses television viewing, and for time periods during the day and late at night that show a high rate of PC website browsing, the gap with television viewing is quite small.

There seem to be two trends relative to television viewing during periods of high PC website use. The first, as evident from 9 p.m. onward, is the tendency to use PC websites even at times when television is widely viewed. The second, seen during the 10 a.m.–noon and 2–5 p.m. time periods, is the tendency to use PC websites at periods of low television use.

### *Competitive functions*

To what extent do the functions that users seek from websites overlap with the

Figure 20. Most Useful Media

	E-mail		Mobile phone		Talk with family and friends		Television		Newspapers		Books		Information magazines		Websites	
	Both	Neither	Both	Neither	Both	Neither	Both	Neither	Both	Neither	Both	Neither	Both	Neither	Both	Neither
To convey your thoughts and feelings to others	13	2	22	2	38	44	0	1	0	0	0	0	0	0	0	0
To deepen exchange with others	8	1	17	2	49	51	1	4	0	1	0	0	1	0	2	0
To relieve weariness	1	0	2	0	13	17	18	28	0	0	2	4	1	0	1	0
To simply enjoy	1	0	1	0	14	15	38	49	0	3	3	6	1	2	2	0
To kill time	2	0	4	0	1	2	49	61	2	2	6	8	3	2	5	0
To learn about current events	0	0	1	0	1	2	63	64	25	28	0	0	1	2	3	0
To think about political and social issues	0	0	0	0	2	2	40	45	46	45	1	1	3	1	1	0
To increase general knowledge	0	0	0	0	4	4	15	17	30	34	29	28	14	12	2	0
To gain knowledge for work	2	0	1	1	6	7	6	9	28	26	17	20	25	18	6	1
To search for something interesting	1	0	3	0	4	6	8	17	2	5	3	9	34	47	36	3

Both = Users of both mobile phones and Internet (i.e., new-media users)

Neither = Users of neither mobile phones nor Internet (i.e., established-media users)  
(Survey of Media and Daily Life, 2001)

functions that they seek from television? In the Survey of Media and Daily Life, the findings from a comparison of media appraisals<sup>19</sup> by users and non-users of PC-based Internet revealed the following points (fig. 20):

- Among Internet users and non-users alike, many feel that television is the most useful medium for relaxation, entertainment, using up time, and getting primary information. The media appraisal findings for both users and non-users did not vary by much for other criteria, too.
- As the medium most useful for searching for interesting items, websites rank highest among Internet users, and magazines among non-users. Among Internet users, many ranked magazines most useful after websites, but a higher percentage of non-users ranked magazines first.

These data led us to conclude that printed media such as information magazines, rather than television, are in competition with and will inevitably be supplanted by websites.<sup>20</sup> The functions that users seek from television and from the Internet, in other words, do not overlap. If that is the case, the Internet's correlation with television, in terms of historical examples, more closely resembles that between television and video than that between radio and television.

We can summarize the above characteristics of the Internet as follows:

- The Internet resembles television in the speed of its penetration.
- The ratio of Internet user growth to penetration growth is not as high as television's, nor as low as video's.

**Figure 21. Penetration, Use, Daily Use, and Functional Overlap**

	(1) Increasing penetration	(2) Increasing penetration and increasing use	(3) Proportion of daily users	(4) Overlap of desired functions
Television	◎	◎	◎	◎
Video	○	△	△	△
Internet	◎	○	○	△

<sup>19</sup> The Survey of Media and Daily Life presents 16 media, including the mass media, personal communication tools, and personal communication itself, and asks respondents to select the single medium they find most useful for specific purposes. (See *NHK Broadcasting Studies*, No. 1, p. 81.) This is a comparison of people ages 16 to 49 who use both PC Internet and mobile phones with people who use neither. (See *Hoso kenkyu to chosa*, December 2001.)

<sup>20</sup> The competition between the Internet and printed media was suggested in the 2000 Japanese People and Television Survey. (See *Hoso kenkyu to chosa*, November 2001.)

**Figure 22. Comparison of Time Use for Established Media during the Early Stages of Their Penetration**

New : Established	Time spent using established media
Television : Radio	New-media users < Established-media users
Video : Television	New-media users = Established-media users
Internet : Television	New-media users < Established-media users

**Figure 23. A Comparison of New-Media Users' Time Use for New and Established Media**

New : Established	Time spent using media
Television : Radio	New media > Established media
Video : Television	New media < Established media
Internet : Television	New media < Established media

- Fewer people use the Internet on a daily basis than watch television, and more use it than view video.
- The Internet does not have many functions that overlap those of television.

When we consider these points in light of historical example (figs. 21, 22, 23), television's relationship with the Internet (websites) today might seem to preclude predictions of a drastic change, such as when television supplanted radio. But as with the television-video relationship, we cannot say that Internet use has had no quantitative impact on use of established media. In the future, in tandem with increasing numbers of people who own PCs and/or mobile phones from which to access the Internet, the number of actual Internet users will also grow, even though not all PC or mobile phone owners will use it. The amount of time users spend accessing the Internet will also likely increase. The conclusion at present, though, is that the Internet will not overtake television, which just about everyone watches for some amount of time each day.

The Internet, however, "has everything" and combines apparently conflicting aspects—it imposes few restraints on time and space, houses information that is perpetually and simultaneously available, allows one-to-one communication as well as one-to-world communication, and allows for both the transmitting and receiving of information. Its functions have yet to be fixed and are still a work in progress. If, down the road, Internet-related hardware is im-

proved, costs reduced, operability enhanced, and potential for entertaining maximized, it is hard to deny the possibility that the Internet will confront the established medium of television as a rival competing for users' free time.<sup>21</sup>

<sup>21</sup> According to the findings of a focus group interview carried out by the Broadcasting Research Division of the NHK Broadcasting Culture Research Institute, among constantly connected Internet users, many use the Internet as much as television to use up free time. This suggests the possibility of competition with the Internet even for the functions of relaxation, entertainment, and using up time, which were thought to be the province of television. (See *Hoso kenkyu to chosa*, June 2002.)