

The Spread of Multimedia and Changes in Information Behavior: From the Research Project “People and Media Usage in Japan”

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In 2006, 50 years after street corner television for public viewing in the early days of television broadcasting, television is on the street again with the start of “one-segment broadcasting”—digital terrestrial TV services for mobile devices—in selected areas of Japan (Tokyo and 28 other prefectures) that began April 1, 2006. The appearance of this new type of television, available anywhere and any time, may, for example, boost the number of people watching television, instead of reading or composing e-mail, on their mobile phones while riding commuter trains. As broadcasting becomes increasingly digital-based, a new era has dawned for digital media.

The NHK Broadcasting Culture Research Institute’s research project, “People and Media Use in Japan,” initiated in 2004, is a comprehensive, multi-dimensional attempt to identify how the increasing digitalization of media at various levels is affecting television viewing and other media usage by Japanese through public opinion surveys, face-to-face interviews, and other methods. To determine to what extent various digital media¹ have been taken up by consumers and how they are being used, we created a conceptual chart (Figure 1) based on the four segments identified from research findings so far. Respondents were divided into two major groups, owners and non-owners, further subdivided into owner users and owner non-users and non-owners intending and not intending to purchase digital media.

Based on the chart that we drew up, we carried out a public opinion poll in January 2006 among men and women age 20 and over to determine how these four groups were distributed, in order to get an overall idea of multimedia usage. Additionally, based on the findings of this poll, we carried out case studies (face-to-face interviews) with multimedia owners in January and February 2006 to probe their attitudes toward digital media and how they used it.

¹ In this paper, “digital media” refers to digital audiovisual equipment (e.g. television sets equipped to receive terrestrial digital broadcasts, digital video recorders, etc.) and digital broadcasting services (e.g. video on demand, etc.).

Figure 1. Conceptual Chart of Digital Media Adoption and Use

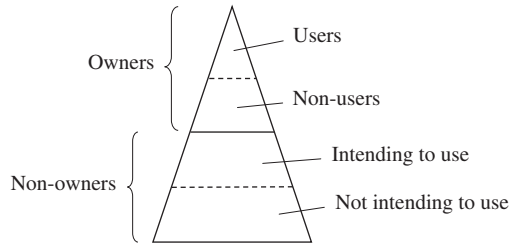


Figure 2. Sample Breakdown

Total	Sex		Age Groups						
	Men	Women	20s	30s	40s	50s	60s	70 and older	
1,387 persons	622	765	139	253	247	285	268	195	
100.0%	44.8	55.2	10.0	18.2	17.8	20.5	19.3	14.1	

Total	Men's Age Groups						Women's Age Groups					
	20s	30s	40s	50s	60s	70 and older	20s	30s	40s	50s	60s	70 and older
1,387 persons	59	103	111	114	132	103	80	150	136	171	136	92
100.0%	4.3	7.4	8.0	8.2	9.5	7.4	5.8	10.8	9.8	12.3	9.8	6.6

In this paper, based on the findings of our opinion poll and the face-to-face interviews, we will focus on three types of digital services or equipment—the Internet, VOD (video on demand), and DVR (digital video recorders)—that have been attracting increasing numbers of users and becoming more diversified, and describe their current usage and characteristics of usage behavior. We will also discuss the relationship between the use of such digital media and television viewing.

Outline of Study and Research

The aim of the opinion poll was to obtain a broad overview of ownership and usage of various types of equipment and services. The poll was conducted over four days, from January 6 to 9, 2006, among 2,000 men and women age 20 and over chosen by multi-stage random sampling through face-to-face interviews. The valid sample rate was 69.4 percent, or 1,387 individuals. The composition of the valid sample is as shown in Figure 2.

For the case studies, respondents were defined as digital media owners aged 20s-60s, and we paid close attention to how they used digital media, including how those media had spread, users' attitudes, and age-based differences. One-segment broadcasting had not started at the time of the study, but respondents were also asked about usage and needs with regard to watching video on portable terminals, in order to examine usage trends for advanced media.

We requested the cooperation of a Kanto-area based cable television company² in recruiting individuals willing to participate in the case studies from among its multimedia user customers (6,130 households), through a Web-based screening survey. A total of 66 people (38 men, 28 women) ranging in age from their 20s to their 60s were recruited and took part in the following three surveys.

1. Diary survey (record of media exposure on one weekday and one day over a weekend)
2. Questionnaire survey (questions concerning how they watch TV, their needs as far as information is concerned, etc.)
3. Face-to-face interview on media usage

The screening survey was conducted in December 2005-January 2006, while the three surveys described above took place in January and February 2006.

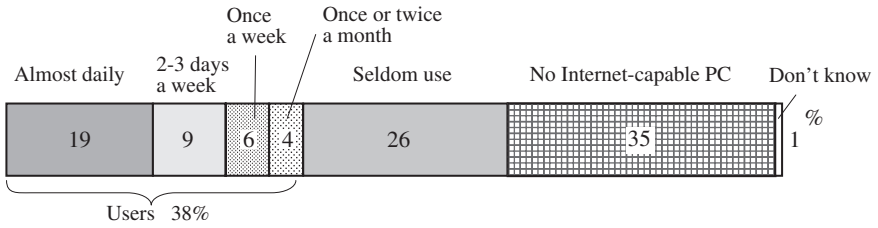
INTERNET

The Internet began spreading rapidly about ten years ago. In the public opinion poll conducted as part of this study, 38 percent of respondents indicated that they accessed the Internet at home (excluding e-mail), broken down into 19 percent who said that they did so "almost daily," 9 percent "2-3 days a week," 6 percent "about once a week" and 4 percent "about once or twice a month" (Figure 3). Changes in Internet usage over the past five years also indicate that the numbers of both those using the Internet almost daily and once a week or more have doubled. There were more users not only among younger age brackets but also among the older generation, including men in their 60s and women in their 50s as well.³

² Providing service in central and eastern Shizuoka prefecture, Chiba prefecture, Kanagawa prefecture and Saitama prefecture, with 280,000 households subscribing to cable TV and 76,000 households subscribing to Internet service (both figures as of January 31, 2006).

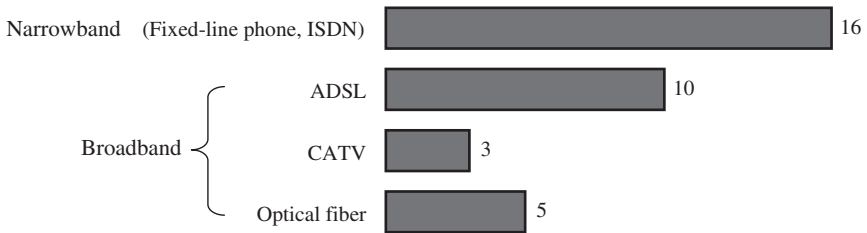
³ Hara Miwako and Terui Daisuke, "Intanetto riyosha no kakudai to terebi shicho" [The Growth in the Number of Internet Users and Television Viewing], *Hoso kenkyu to chosa* [Broadcasting Research and Studies], monthly journal of NHK Broadcasting Culture Research Institute, March 2006.

Figure 3. Frequency of Internet Use at Home



Source: "People and Media Usage in Japan," January 2006

Figure 4. Internet Use (multiple answers)



In the survey, respondents were asked to choose from among 14 types of digital media they could use or were using at home, with multiple answers allowed. Four choices were offered for the Internet.

Source: "People and Media Usage in Japan," January 2006

Broadband Internet (ADSL, CATV, optical fiber network) users also increased, becoming nearly as numerous as narrowband (landline telephones, ISDN) users (Figure 4). In particular, among those reporting almost daily Internet use, 47 percent were broadband users versus 30 percent who used narrowband. A more sophisticated connectivity environment appeared to encourage usage frequency.

Usage

Because our case studies examined households connected to the Internet through cable television circuits, all respondents were broadband users. Forty-two out of the 66 individuals surveyed used the Internet almost daily.

Increasing popularity among older age groups

Examining Internet use among older respondents (those in their 50s and 60s) in the case studies, men were more active users than women and included

some who had begun using a PC after retirement, or when cable TV service started up in their area.

- I often visit Yahoo! on the Internet, as well as the official website of the city where I live and the golf courses where I play. (Male, 60s)
- Our local residents' association recently started posting notices on the Internet. About half of the people in my class when I went to school also use the Internet. (Male, 60s)
- I enjoy surfing the Internet, visiting everything from websites on gourmet eating to that of the prefectural governor. I get all kinds of information about bargains, and discount coupons too. (Female, 50s)

Many younger people were of course proficient PC users and actively used the Internet, but the Internet is no longer a medium limited to this age group. Our study showed that the Internet has become a medium even older people are quite comfortable in using if they are highly motivated and have a well-defined aim in mind.

Television viewing and the Internet

In this study, we asked Internet users how they watched television, how they felt about the Internet and television, and about their television and Internet use. Our observations determined that users do so either in "connected" or "while-doing-something-else" fashion.

1) "Connected" usage

One characteristic of television and Internet use observed among both men and women and in all age groups was that respondents obtained primary information from television and then went to the Internet for more detailed information. In other words, they used these two media by linking their contents. Some people checked information on the program's website after watching a particular program on television.

- For international political affairs, in which I'm particularly interested, I look things up on the Internet after watching the news on TV. (Male, 40s)
- I go to the program websites to check the details about various shops introduced in the TV programs. (Female, 40s)
- When I watch travel programs on TV, I like to check information about possible destinations, accommodations, shops and so on, for use when I travel myself. (Male, 60s)

Some respondents used the Internet to learn about others' opinions, rather than to collect information.

- I go to the Internet to learn what other people are thinking about things I learned on TV. What they say may be right or wrong, but it's a good way of hearing people's opinions directly. (Male, 50s)

It is often pointed out that television excels at immediacy or making things easy to understand, and that the Internet is useful when users themselves select what they need.⁴ The face-to-face interviews highlighted the fact that users made selective use of television and the Internet depending on each medium's role and characteristics, in order to obtain information they found satisfactory. We can safely say that the Internet is neither replacing television nor that the two media compete; in fact, users used them in linked fashion by taking advantage of their respective strengths.

2) "While-doing-something-else" usage

This refers to simultaneous use of the television and Internet, which was common among frequent Internet users. These people did not find simultaneous use of the two media especially taxing, but when they were asked which they concentrated their attention on, they replied that they paid more attention to the Internet.

- I turn my computer on while watching the 11 o'clock news on TV at night. I'd say 70 percent of my attention goes to the Internet. (Male, 30s)
- The TV is on even when I use the Internet, and I just pay attention to the main points on the TV. (Male, 60s)
- I leave my PC on the whole time from late afternoon to evening. I'll check the news on Yahoo! during breaks in housework and glance at the TV as I do so. (Female, 30s)

In various types of studies previously conducted by NHK, housework and eating had been frequently mentioned as activities carried out while watching television.⁵

Findings from the case studies indicated that during "doing-something-else" usage, respondents would leave the television on but would pay attention only to the bits that caught their attention. This demonstrates that Internet usage has had an impact on *how* people watch television, rather than on the *amount* of time they spend watching it.

⁴ Hara and Terui, "Intanetto riyosha."

⁵ In October 2006 we conducted a detailed study on use of the Internet "while-doing-something-else."

The Internet as a medium for social interaction

Many people are using the Internet not just for accessing websites or searching for information; increasingly they find enjoyment in generating information of their own, either by creating their own websites, writing blogs, or joining chat rooms. For example, a survey by the Ministry of Internal Affairs and Communications showed that the number of registered bloggers had grown 2.6-fold by the end of March 2006 compared to the previous year, to 8,680,000; and the number of persons registered with SNS (social networking sites) totaled 7,160,000 as of March 31, 2006.⁶ To those individuals, the Internet is a medium where they can get to know others better and broaden their circle of acquaintances.

- I'm on two SNS. I find my Internet friends more interesting than my local friends. (Male, 20s)
- I'm really into "mixi,"⁷ to which I was introduced by a friend. I'm just lurking right now, but later on I'd like to post something myself too. (Female, 30s)

Those who enjoyed Internet-based relationships liked this medium because they could interact with others, something that television did not offer. Some also considered it a medium offering refreshment and allowing them to relax and forget fatigue.

- I get on the chat room every day after dinner. I have my own website too. Chatting is more fun than watching TV. (Male, 50s)
- I make friends with the people who visit my website. It also relaxes me to visit friends' websites. I don't want to give up the time I spend on that. (Female, 40s)

Television has been considered a highly entertaining and relaxing medium until now, but in future it may face stronger competition with the Internet for users' time.

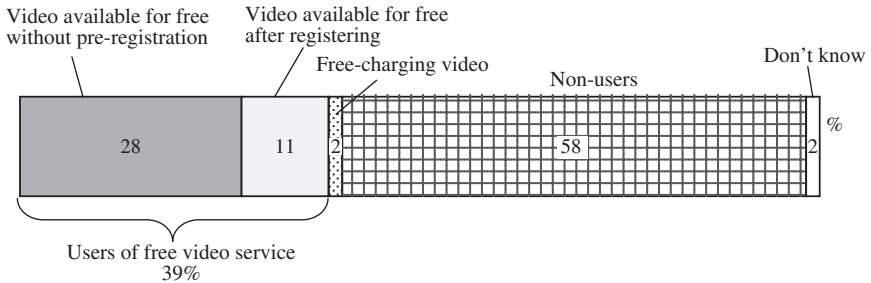
VIDEO ON DEMAND

VOD (video on demand)—TV programs, movies, music software, video games, etc. carried over the Internet—is one medium that is rapidly proliferating with the spread of broadband and that can easily be enjoyed on a personal computer at home.

⁶ Based on a news release from the Ministry of Internal Affairs and Communications on April 13, 2006.

⁷ An SNS inaugurated in February 2004. It has the largest number of users among domestic services, with over 3 million registered users as of March 1, 2006.

Figure 5. Internet-based Video Service Use



Source: “People and Media Usage in Japan,” January 2006

The public opinion poll carried out asked Internet users (531 persons) about their use of video services. The largest proportion, 28 percent, said that they “watch videos available for free without pre-registration.” Another 11 percent said they watched videos for free after registering, and 2 percent said they used a fee-charging video service (Figure 5). VOD users apparently prefer easy-to-use services that do not require registration, which is bothersome, and that do not charge registration or other fees.

Usage

The cable television company cooperating with this study was the first to offer VOD among cable television companies in Japan, beginning in December 2004, providing up to 1,000 titles in the film, music, animation, television drama and culture genres, including adult-oriented programs. One hundred titles were free of charge and the remainder were available on a pay-per-view basis.

Among the 66 respondents in the case studies, two were users of cable TV VOD service, but the screening survey and the questionnaire survey indicated that many in fact accessed Internet-based sites showing videos using their personal computers.

Evaluation of VOD

Out of the 66 respondents, 23 said they “watch/have watched” video provided through VOD. Men slightly outnumbered women in this area, and whereas most of the women viewers were in their 30s-40s, men viewers ranged in age from their 20s to their 60s.

Users were asked how they felt about VOD.

“Satisfied”

- I watch one program a day, of nostalgic cartoons and so on, after I get home from work. (Male, 20s)
- I’m really interested in Korean TV dramas. I’ve started watching in the daytime when I’m by myself, after my son has gone off to kindergarten. (Female, 30s)
- With VOD, I can watch at my own convenience, rather than having to adjust my schedule to TV programming. (Male, 60s)

“Dissatisfied”

- It may be a problem with my PC, but I find the monitor small and videos hard to watch on it. (Male, 40s)
- I can’t record with the VOD service I’m using, so I can’t make the content my own, even when I like what I’m watching. (Male, 30s)

Many people commented regarding VOD that they liked it because it allowed them to watch at their own convenience. Although some expressed dissatisfaction, as noted above, the feature of VOD allowing users to watch what they want and when they want to, is a major benefit.

Video services used

Figure 6 lists the video services VOD users said they often used.

- On “O-uchi de Theater” [At-home Theater] I can watch programs not offered elsewhere, or that are popular just in certain areas. (Male, 30s)
- I watch C-SPAN or “Shugiin TV” [The House of Representatives Internet TV], for work-related purposes. For personal enjoyment I watch dog races. (Male, 30s)
- I often watch entertainment news, such as movie previews or interviews with performers. (Female, 30s)
- I signed up with GyaO recently, and I watch golf or fishing programs. (Male, 60s)

VOD users who used sites showing videos searched for sites to watch that offered contents coinciding with their interests. However, except for “O-uchi de Theater” on cable TV, all of the sites respondents mentioned were free of charge and none of them watched fee-charging sites.

Preference for free or fee-charging services

As mentioned at the beginning of this section, our public opinion poll demonstrates that many more people among those using Internet-based video services used free than fee-charging sites.

Figure 6. Major Video Services (those used by case study respondents)

“O-uchi de Theatre”	Fee-charging VOD service offered by the cable TV company cooperating with this study. One hundred titles can be viewed free of charge. Charges for other titles range from ¥53–¥525. Over 1,000 titles available.
GyaO	Shows news, dramas, etc. to subscribers. Commercials also aired. Subscribership has been growing since April 2005, when the service started. By August 2006, GyaO had over 11 million subscribers.
Shugiin TV	Broadcasts plenary sessions and committee meetings of the Lower House (Shugiin) of the Japanese Parliament.
C-SPAN	U.S. non-profit satellite broadcasting network. Broadcasts Congress sessions and public programming.
Yahoo! Video	Broadcasts sports, Hollywood films, etc. both free and on a pay-per-view basis. Also has a video search function.
BIGLOBE Stream	Video portal site operated by Japanese electronics maker NEC. Also provides fee-charging content.
MSN Video	Free video service operated by Microsoft.
Nikkei Golf Guide	Golf-related information page within the <i>Nihon Keizai</i> newspaper news site. Broadcasts easy golf lessons, using slides and videos.

In the case studies, one user of “O-uchi de Theater,” a paying service, had the following comment.

- Paying for VOD is no different from renting a video, so it doesn’t bother me. The only problem is that the “window” for watching is only 2-3 days. (Male, 30s)

Meanwhile, users of free services reacted as follows to fee-charging VOD, including “O-uchi de Theater.”

- I want to see hard-hitting political discussion or cultural programs, but there aren’t many available. The contents lineup is a problem. (Male, 60s)
- I’d rather watch movies in a theater, because that has so much more impact. I’m not interested in VOD unless it gives the same experience as in a movie theater. (Female, 30s)
- The charges generally seem expensive to me. It’s not a cost-effective medium yet. (Male, 30s)

As far as fee-charging services were concerned, aside from the issue of whether charges were expensive or not, respondents appeared to feel that if they paid they would expect some benefit from those services that free ser-

vices could not offer. Although they appreciated the convenience of VOD, they did not find it something worth paying for at this point. It appears that there are barriers to shifting from free to fee-charging services.

Use of video on mobile phones

Almost none of the respondents interviewed used video services on mobile phones. Accordingly, we were unable to collect any comments relating to actual use of this service.

Needs relating to video viewing, including one-segment broadcasting, in general were weak overall, and respondents were not very interested in watching.⁸

- The screen is so small that I don't feel like watching on a mobile phone the foreign dramas that I enjoy. (Male, 30s)
- I'm content with the functions I already have on my mobile phone. (Female, 40s)
- I'm worried about using up the battery. If it means devouring battery power, I don't need that function. (Male, 20s)

Although we need to keep in mind that this study was carried out before one-segment broadcasting service began, respondents did not feel as positive about being able to watch TV "any time, anywhere" on their mobile phones as they did about VOD allowing them to watch whatever they wanted to, whenever they liked, on their TV or personal computer at home.

DIGITAL VIDEO RECORDERS

The DVR (digital video recorder) is a home appliance used for recording and replaying television programs that has been increasingly replacing video cassette recorders (VCRs) in the past few years. According to the Japan Electronics and Information Technology Industries Association (JEITA), 3.5 million DVRs were shipped yearly in both 2004 and 2005, and the current estimated household penetration rate stands at over 15 percent.⁹ It is also expected that the penetration rate will increase to around 50 percent within the next five years.¹⁰ Broadly defined, DVR includes DVD recorders, but in this

⁸ Respondents were also asked about their intention of viewing terrestrial digital broadcasts on mobile phones in the opinion poll carried out before the start of one-segment broadcasting. Although 3 percent said that they "want to watch as soon as possible after the service starts," a much larger proportion, 67 percent, said "I'm not that interested in watching."

⁹ See <http://www.jeita.or.jp/Japanese/> for JEITA statistics.

¹⁰ For example, Nomura Research Institute's News Release (May 31, 2005).

study, DVR refers to digital recording appliances equipped with a hard disk drive (HDD).

DVRs are equipped with various features, such as electronic programming guides (EPG), extended recording, time-shift replay, 30-second skip and so forth. Since contents are stored on the appliance's hard disk, there is no need to organize videotapes or to rewind or fast-forward tapes as is necessary in the case of VCRs.

There are also various types of distribution channels and interfaces for DVRs. While the majority are DVRs as a single home appliance sold through retailers, there are also set-top boxes leased or sold to users by cable television operators that come with DVR functions, or television sets with DVR functions, and types available may diversify further in the future.

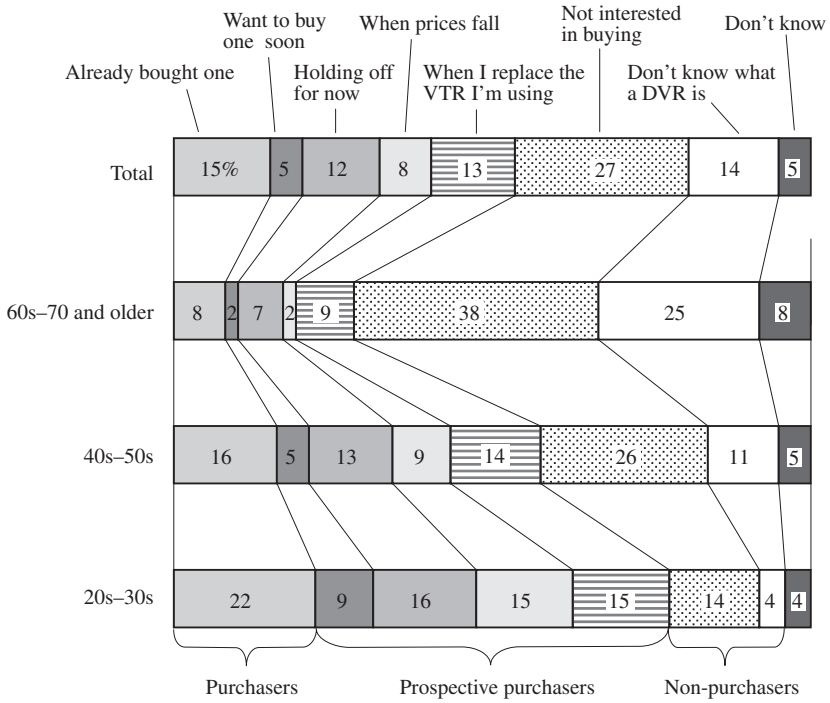
In the public opinion poll conducted as part of this study, 15 percent of respondents indicated that they "already own a DVR" (Figure 7). By age group, only 8 percent of those in their 60s and older owned DVRs, whereas 22 percent in their 20s and 30s did so. As far as prospective owners—"I'd like to buy a DVR soon/when they get cheaper"—were concerned, 20 percent of those in their 60s and older fell into this category compared to 55 percent of those in their 20s and 30s.

When compared by annual income, ownership was higher in direct proportion to income: 11 percent among those with an annual income of less than 4 million yen vs. 31 percent among those earning 8 million yen or more. Similar trends were seen based on academic background, with ownership at 7 percent among middle school graduates vs. 22 percent among university graduates. High ownership rates were also observed among terrestrial digital broadcast viewers (50 percent), viewers of specialized channels (37 percent), and those who used the Internet two or more times a week (26 percent).

Just as in the early days of the Internet and mobile phones, DVRs are spreading more among younger people and relatively affluent individuals, and among those who are actively interested in obtaining information and owning information-related equipment.

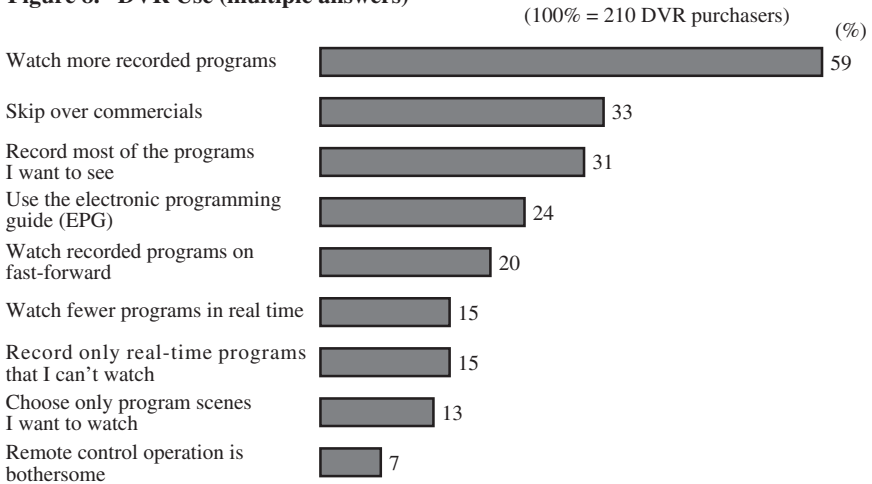
The 210 respondents who answered that they "already own" a DVR were asked how they used it. The largest proportion, 59 percent, said they were now "recording and watching TV programs more often" (multiple answers, Figure 8). Three out of every ten respondents, each said they "often skip commercials while watching programs" or "record most of the programs I want to watch," indicating that DVRs are having an impact on television viewing.

Figure 7. Intention of Buying a DVR



Source: "People and Media Usage in Japan," January 2006

Figure 8. DVR Use (multiple answers)



Source: "People and Media Usage in Japan," January 2006

Usage

Among the 66 respondents in the case studies, 14 owned DVRs, including two who owned DVRs but rarely used them. The remaining 52 did not own DVRs, but 32 of them were prospective purchasers who said “I’m planning to buy one soon” or “I want to wait for prices to fall before buying one.” The last 20, who said they “don’t intend to buy a DVR,” were people who were not knowledgeable about DVRs to begin with.

More recording and saving being done with DVR

Respondents in the interviews concerning DVR who owned the machines and made active use of them ordinarily conducted time-shift viewing—watching programs they had recorded previously—or skipped the commercials in recorded material. What is noteworthy here is that many respondents said that they were recording and saving more programming hours compared to when they used DVD recorders or VCRs.

- I previously used two VCR decks to record programming, but I’m recording much more now since I’ve switched to a DVR. (Male, 30s)
- With a DVR I’ve started recording most programs I want to watch and programs on which my favorite show business personalities appear. (Female, 30s)

Respondents who did not own a DVR but who wanted or planned to get one also expected that they would record more.

- With a VCR, rewinding or fast-forwarding are a bother, so I don’t record very much, but I’d like to record a lot with a DVR. (Male, 30s)
- Even if a DVR is a bit more expensive, if you think of that cost as recording expenses, it isn’t that expensive. I think I will probably record more with a DVR. (Male, 20s)

As mentioned earlier, 59 percent of opinion poll respondents said that they were “watching recorded programs more often” (multiple answers), clearly indicating that viewing of recorded television programs is increasing.

Some argue that increasing time-shift viewing and the resulting increase in commercial skipping may be having a major impact on television viewing or the commercial broadcasting business model, so it is interesting that DVR users are recording and saving more programs.¹¹ But given that DVRs are

¹¹ For the relationship between DVR and the commercial broadcasting business model, see Yonekura Ritsu, “HDR wa terebi shicho to hoso o do kaeru ka” [How Will HDR Change TV Viewing and Broadcasting?], *Nenpo 2006* 50, annual of NHK Broadcasting Culture Research Institute.

only found in 15-20 percent of households, and that at this point, DVR users include people actively inclined to watch television, more DVR recording and saving of programs is, in a certain sense, only to be expected.

As DVR becomes more prevalent in the future, it will be important to keep track of the percentage of TV viewers who watch recorded material at a different time and how this figure changes, and of the impact that DVR actually has on television viewing.

More "efficient" TV viewing with DVR

Interviews with respondents also revealed that time-shift viewing was motivated by DVR users' desire to view TV in a more efficient manner. For example, one man in his 20s living with his parents hooked up his DVR to the TV in his own room, rather than to the TV in the living room, for his personal use. He related how he records programs that he wants to watch or is interested in and how he replays and watches what he recorded at fairly high speed. This young man fast-forwards not only through commercials but also many of the dramas he watches, and he often watches just to find out how the stories end so that he won't be left out of conversations with his coworkers.

Another individual, a man in his 40s who uses his DVR almost daily, said that he arranged to record every episode of dramas, variety shows and several other program types and that he replayed these in marathon viewing sessions when he had time to watch. He related that he watched programs he had recorded on DVR, sometimes fast-forwarding through them, especially on weekends when there were no other programs he wanted to watch, and that he had become a TV viewer who watched mainly programming recorded by DVR.

This shows that DVR users feel they have been personalizing their television viewing by using DVR to select and decide which programs to watch out of the limited time they have each day, thus making viewing more efficient and pleasurable. In the future, it will be necessary to examine the extent to which the spread of DVR makes television viewing increasingly selective and personalized.

CONCLUSION

In the foregoing we have discussed users' attitudes toward the Internet, VOD and DVR and their usage of those media, based on an opinion poll and case studies carried out in 2006. To conclude this paper, we would like to highlight a number of problems and issues concerning the spread and expanded use of these digital media and their relationship with television viewing.

One of the common characteristics of Internet, VOD and DVR usage behavior is that it allows users to be more selective about content. It has often been pointed out that digital- and network-based media have freed users from having to be in a specific place or having to watch at a specific time, and that they are increasingly able to edit content as they please. The spread of mobile phones, iPods, car navigation systems and other mobile terminals means there is no need for users to be in a specific place, while the Internet, VOD, and DVR have made it possible for users to watch content any time or self-edit that content to suit their preferences.

In conventional broadcasting, programming is organized in a predetermined timeframe, with content selected by the sender (i.e., broadcaster) and in line with its purposes. This “time-specific” element is something that VOD and DVR users can adjust to suit their preferences. More interactive contents, and more diverse means and media for recording and saving content have also increased the previously limited control (the ability to self-edit) over content by those on the receiving end. This allows users to be more selective. But with enhanced ability to be selective about content and greater exposure to a richer information environment on the one hand comes the possibility that media consumption may become increasingly segmented and that personal tastes and preferences may be amplified.

One point that should not be overlooked is that the users enjoying greater selectivity with regard to content due to the expansion of digital-based media are not everyone in society. Our opinion poll and case studies also showed that only some of the respondents were active VOD or DVR users. Furthermore, although over 70 percent of households today have personal computers, people who routinely use the Internet are still not yet a majority. Thus, trends in the desire to collect content and information, and the amount of money and energy expended on this pursuit among digital media users, who remain a social minority, cannot be assumed to be the norm when it comes to today’s media environment.

In addition, there are disparities in certain respects between digital media users and non-users. Although this report does not go into detail, our findings indicate the possibility of differences among users and non-users based on variables such as age, income, occupation and academic background. Those differences could produce substantial disparities not just in how and the extent to which the two groups use digital media but also in the quality of the content they receive.

As media become increasingly digital- and network-based, broadcasting, defined as “transmission of radio communication intended to be received directly by the general public” (Article 2 of the Broadcast Law) is undergoing

major change. Broadcasting thus needs to find a new role and function it can play in the new media environment. It will also be necessary to reexamine and reevaluate the role and function that broadcasting has had in the scheme of things so far, that is to say, the tangible and intangible ways in which broadcasting has shaped and organized social time and space.

(Translated by Julie Kuma)