

## Section 2

### ICT Use by Individuals

#### 1. Progress in ICT Use

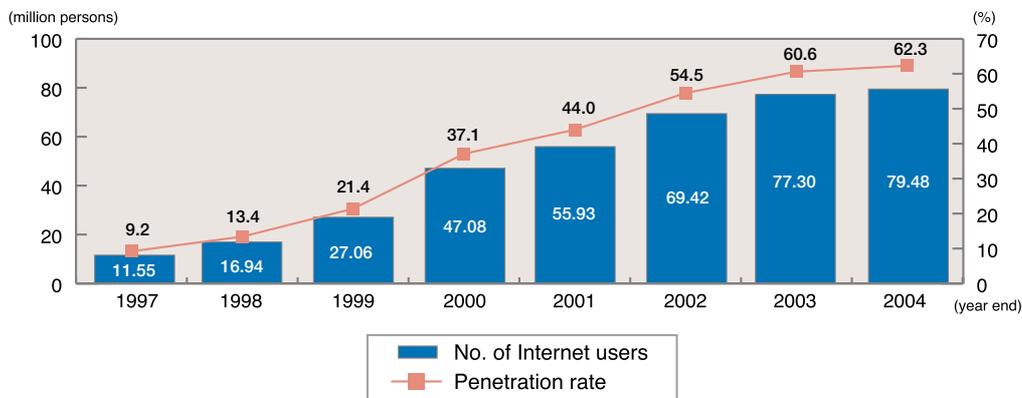
##### (1) Increase in the number of Internet users

The number of Internet users at the end of 2004 was estimated to be 79.48 million (an increase of 2.8% over the previous year), and the penetration rate was 62.3%, increasing by 1.7 points over the end of 2003 (60.6%) (Figure 1-2-1). Since the penetration rate exceeded 60% at the end of 2003 and significant diffusion has already been achieved, the speed of the increase is slowing down. Compared to the end of the year preceding the launch of the e-Japan strategy (2000), the number of Internet users increased by about 32 million, and the penetration rate by 25.2 points. This indicates that Internet use by individuals has steadily progressed in these four years.

##### (2) Increase in the number of broadband households

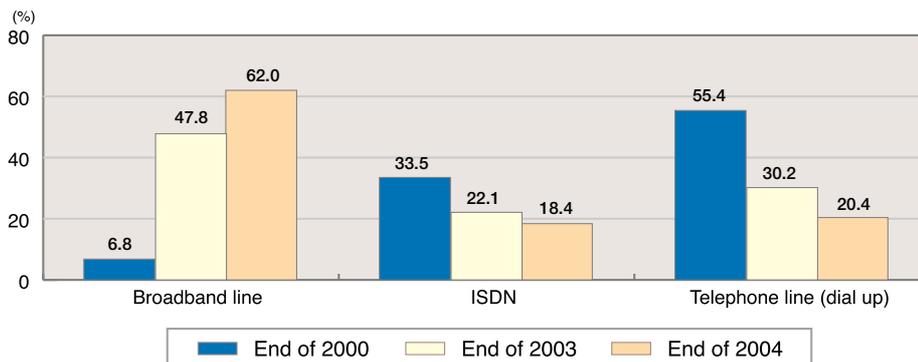
The percentage of broadband households (using FTTH, DSL, cable Internet, or wireless access (FWA, etc.)) to the total households accessing the Internet via home PCs was 62.0% at the end of 2004, increasing by 14.2 points over the percentage at the end of 2003 (47.8%). On the other hand, the percentage of dial-up households was 20.4%, decreasing by 9.8 points from the end of 2003 (30.2%). Compared to the end of the year preceding the launch of the e-Japan strategy (2000), the number of broadband households rapidly expanded, increasing by 55.2 points (Figure 1-2-2).

Figure 1-2-1 Number of Internet users and penetration rate



Source: MIC, Communications Usage Trend Survey

Figure 1-2-2 Internet access method at home



\* Broadband line: FTTH (from "End of 2001"), DSL, cable Internet, wireless (FWA, etc.), and third-generation mobile phones (only for "End of 2004")

Source: MIC, Communications Usage Trend Survey

### (3) Degree of Satisfaction with the Internet

When Internet users were asked how satisfied they were with the present Internet use, they generally indicated a high degree of satisfaction with PC Internet use. However, the degree of dissatisfaction was comparatively high for Internet use through mobile phones (in this white paper, “mobile phones” collectively refer to mobile phones, PHS, and PDA). This is presumably because users accustomed to PC Internet use find that the usability (ease of viewing the screen, ease of operation, etc.) of mobile phones does not match up to that of PCs. In addition, the number of respondents answering “don’t know” is high for mobile phones compared to PCs. The users’ opinions are likely to be still unfixed because they have not used the mobile phone Internet for as long time as the PC Internet and the services provided are undergoing rapid changes (Figure 1-2-3).

### (4) Progress of ICT in respective fields

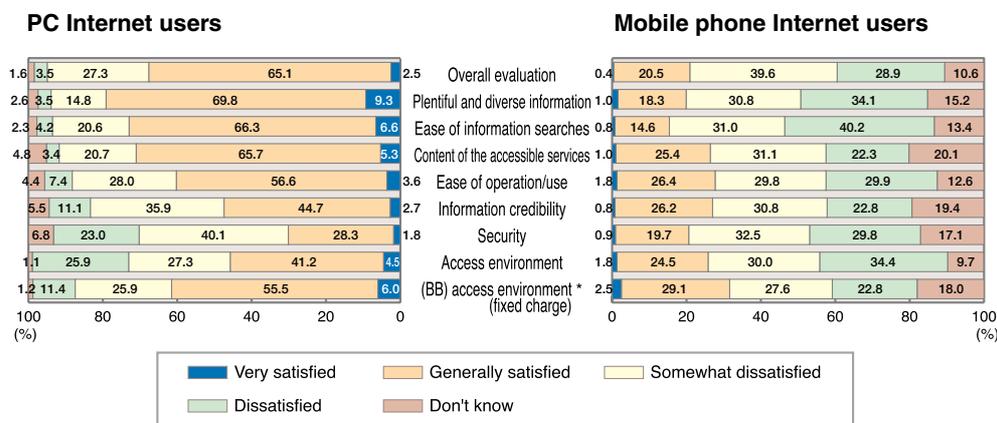
When Internet users were asked about the progress of ICT use in main fields, more than 80% believed that

ICT use has “made a lot of progress/made some progress” in the fields of information gathering, shopping, communication, amusement/contents, and financial transactions, but as many as 30 to 40% believed that ICT use has “made little progress/made no progress” in the fields of medical care, administration, and education (Figure 1-2-4).

## 2 Changes in people’s lives

The users are aware of both positive and negative influences of the Internet on society. The most mentioned positive influences included “makes life more convenient through the information search function and online shopping,” “generates various new businesses and changes the industrial structure,” and “improves the capacity to convey knowledge and know-how.” On the other hand, the most mentioned negative influences included “flooded with information and makes selection of the necessary information difficult,” “encourages crimes such as libel and providing illegal/harmful information” and “reduces the ability to give in-depth thought

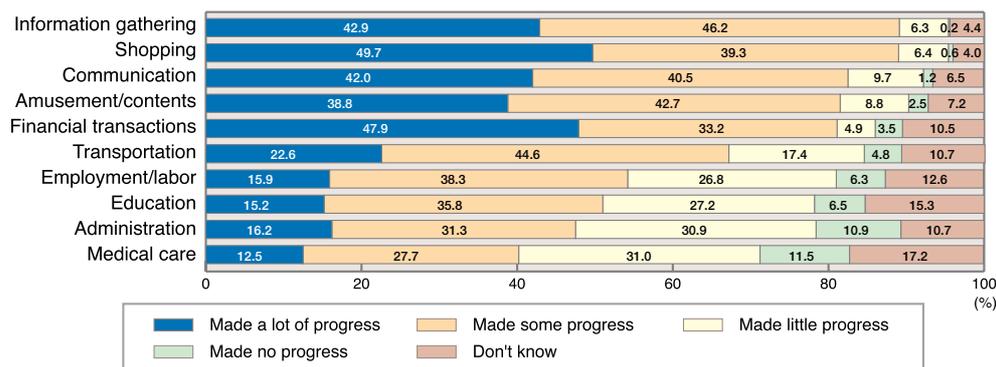
Figure 1-2-3 Degree of satisfaction in the PC/mobile phone Internet



\* The degree of satisfaction with the Internet access environment was investigated for only broadband users (BB) and users of fixed-charge packet transmission services (fixed charge).

Source: Survey on Networks and People’s Lives (Web Survey)

Figure 1-2-4 Progress of ICT use in main fields



Source: Survey on Networks and People’s Lives (Web Survey)

to things.” The percentage of users who have a positive impression that the Internet “has a favorable impact on society on the whole” was 75.6% (Figure 1-2-5).

### 3 Stimulation of communication

The utilization rate of PC e-mail in Japan is 94.2%, and 90% of Internet users send less than five e-mail messages per day. In the meantime, the utilization rate of mobile phone e-mail is 87.7%, and 80% of the users send less than five e-mail messages per day. While the utilization rate of PC e-mail in the United States is high at 96.1%, the utilization rate of mobile phone e-mail is extremely low at 12.4%. In the Republic of Korea, the mobile phone Internet is widely used similarly to Japan, but the utilization rate of mobile phone e-mail is 43.1%, which is far lower than the rate in Japan. In this manner, the high utilization rate of mobile phone e-mail is characteristic to Japan (Figures 1-2-6 and 1-2-7).

The communication tool other than e-mail that is most used by Internet users is “Internet BBS” at 45.1%, followed by “a personal Website” (27.1%). At the same time, the percentage of users who have “a personal blog” is 14.9%. When comparing Japan, the United States, and the Republic of Korea, the utilization rate of such tools is generally high in the Republic of Korea where 37.3% of Internet users have a personal blog (Figure 1-2-8).

### 4 Diffusion of online shopping, etc.

Among PC Internet users, those who have experi-

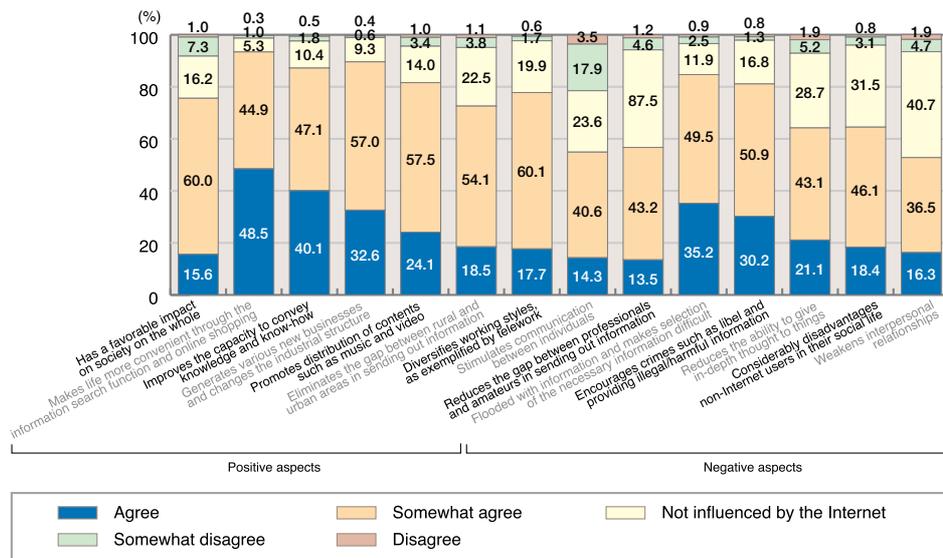
ence in online shopping accounted for 89.1% in Japan, 89.7% in the United States, and 86.1% in the Republic of Korea. In this manner, online shopping is widely used in all three countries. On the other hand, among mobile phone Internet users, those who have experience in online shopping account for 18.1% in Japan, 14.7% in the United States, and 31.4% in the Republic of Korea. In other words, online shopping through mobile phones is more popular in the Republic of Korea than in Japan or the United States (Figure 1-2-9).

The annual amount of purchases (throughout 2004) through PCs was 95,062 yen in Japan, 1,202 dollars (about 129,500 yen) in the United States, and 824,187 won (about 78,100 yen) in the Republic of Korea. That of purchases through mobile phones was 34,694 yen in Japan, 697 dollars (about 75,100 yen) in the United States, and 163,813 won (about 15,500 yen) in the Republic of Korea.

The degree of satisfaction with PC online shopping is high in Japan, the United States, and the Republic of Korea, but in terms of mobile phone online shopping it is relatively low (Figure 1-2-10).

Internet users’ intent to use PC online shopping in the future is high at 92.3% in Japan, 88.1% in the United States, and 88.5% in the Republic of Korea, while the intent to use mobile phone online shopping is 21.5% in Japan, 8.9% in the United States, and 23.6% in the Republic of Korea, showing that the intent of use in the United States is lower than that in Japan and the Republic of Korea.

Figure 1-2-5 Social influences of the Internet



Source: Survey on Networks and People’s Lives (Web Survey)

Figure 1-2-6 Utilization rate of e-mail

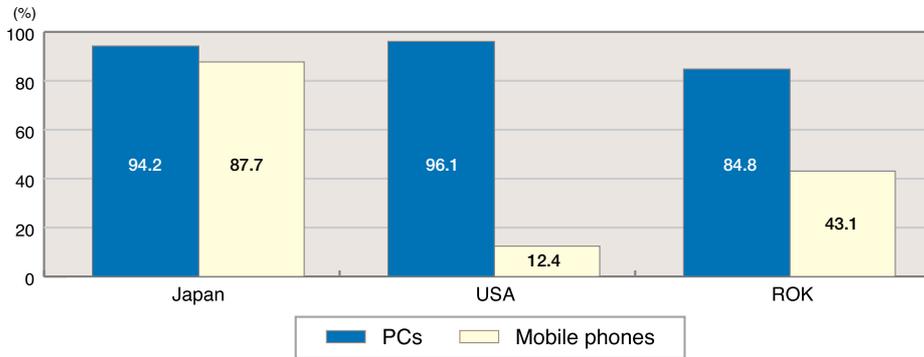
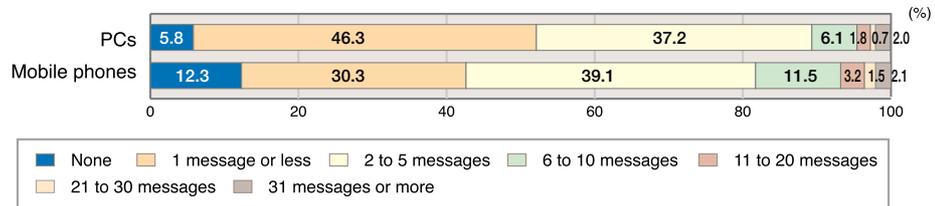


Figure 1-2-7 Frequency of sending e-mail messages



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

Figure 1-2-8 Utilization rate of communication tools (multiple responses possible)

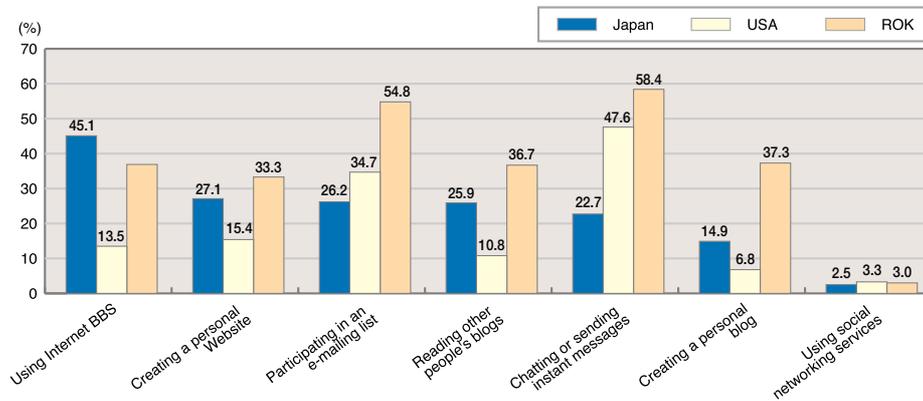
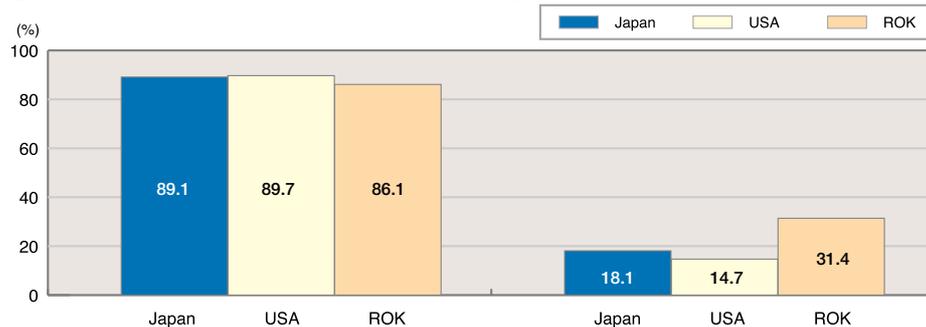


Figure 1-2-9 Utilization rate of online shopping



Source for Figures 1-2-6 to 1-2-9: Survey on Networks and People's Lives (Web Survey)

## 5 Increasing use of media contents

### (1) Overall trend of media contents market

The overall media contents market has hit the ceiling at about 11 trillion yen during the period from 2000 to 2003. Broken down by content type, the market for audio contents (music, radio programs, etc.) and the text contents market (newspaper articles, literary contents, etc.) are shrinking, while the market for visual contents (movies, TV programs, etc.) is expanding. Each of these content types could be put to secondary use in other media after being used in a specific medium. It was found that the market for distribution in the first medium in which produced content is assumed to be distributed (primary distribution market) is shrinking, and the market for secondary distribution through other media

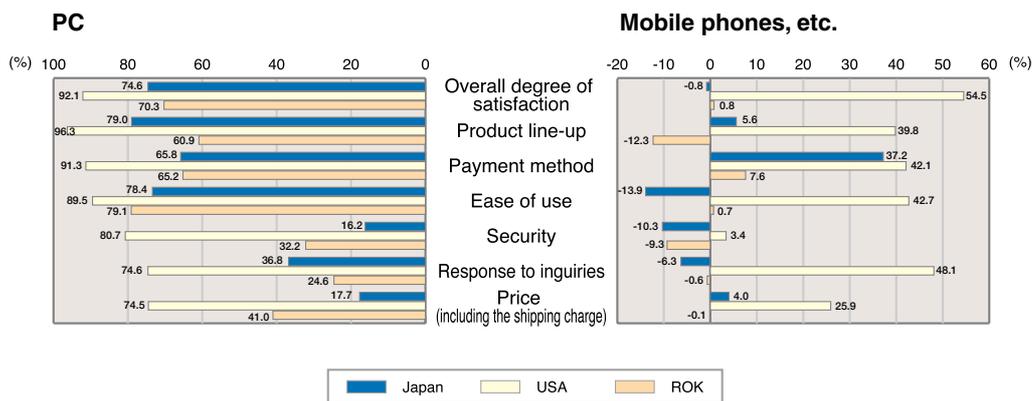
(multi-use market) is expanding.

In recent years, the market for media contents, which includes music, games and newspaper articles that are distributed to PCs and mobile phones through the Internet and mobile network (network-based distribution market), has been growing. The market expanded to about 500 billion yen in 2003, increasing by about 200 billion yen in three years (Figure 1-2-11).

### (2) Internet contents

An overwhelmingly high percentage of PC Internet users use free contents. The most frequently used paid contents are “music” (7.2%) followed by “games” (6.7%) and “moving images” (4.8%). Free contents are also frequently used among mobile phone Internet users,

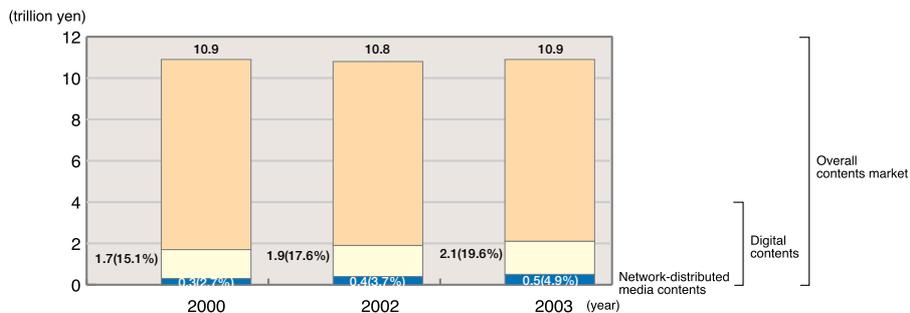
Figure 1-2-10 Degree of satisfaction of online shoppers



\* The figure indicates the percentage of users who answered “satisfied” by deducting the percentage of users who answered “dissatisfied” for each item.

Source: Survey on Networks and People’s Lives (Web Survey)

Figure 1-2-11 Proportion of the network-distributed media contents market in the overall contents market



Notes:

Digital contents are CDs, DVDs, games, digital satellite broadcasting programs, off-line databases and network-distributed media contents.

Network-distributed media contents are contents distributed via the Internet, mobile network, online karaoke and online databases.

Source: Institute for Information and Communications Policy, MIC, Research Concerning the Current State of Production and Distribution of Media Contents

but while the utilization rate of free contents is lower compared to that for PC Internet use, the utilization rate of paid contents is higher (Figure 1-2-12).

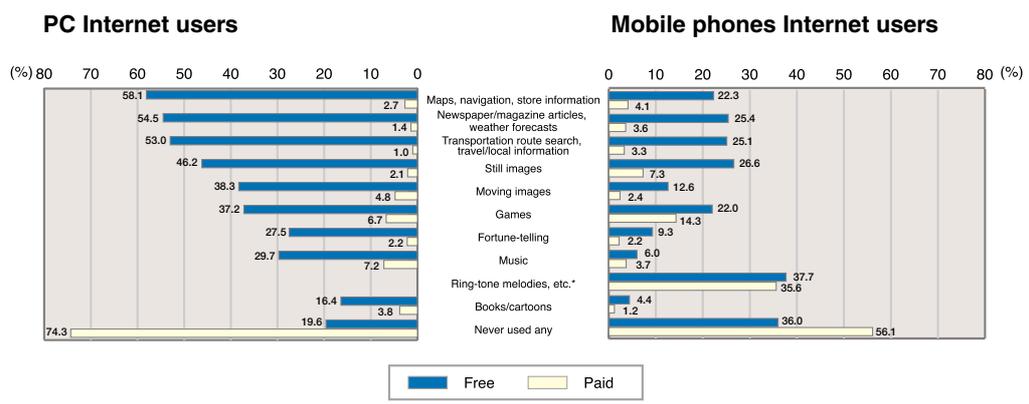
With regard to the intent for future use of paid contents, PC Internet users have a high intent for using “music” (16.5%), followed by “moving images” (13.9%) and “games” (9.0%), while mobile phone Internet users have a high intent for using “ring-tone melodies, etc.” (37.1%), followed by “games” (16.9%) and “music” (11.8%) (Figure 1-2-13). Music, moving images, and games are expected to remain as the core Internet contents in the future.

When comparing the use of core paid contents (moving images, still images, music, ring-tone melodies, games, and books/cartoons) among Japan, the United States, and the Republic of Korea, the rate of use is overwhelmingly high in the Republic of Korea, both through

PCs and mobile phones. The use through PCs is the next highest in the United States, and then in Japan, and the use through mobile phones is the next highest in Japan, and then in the United States (Figure 1-2-14). One of the reasons for such active use of paid contents in the Republic of Korea is that settlement of small amounts is simple and easy due to the diffusion of the system to have the fees charged by the mobile phone carriers.

The average annual amount of paid contents used in 2004 through PCs was 9,464 yen in Japan, 180 dollars (about 19,400 yen) in the United States, and 129,059 won (about 12,200 yen) in the Republic of Korea, while that used through mobile phones was 4,036 yen in Japan, 233 dollars (about 25,100 yen) in the United States, and 93,899 won (about 8,900 yen) in the Republic of Korea.

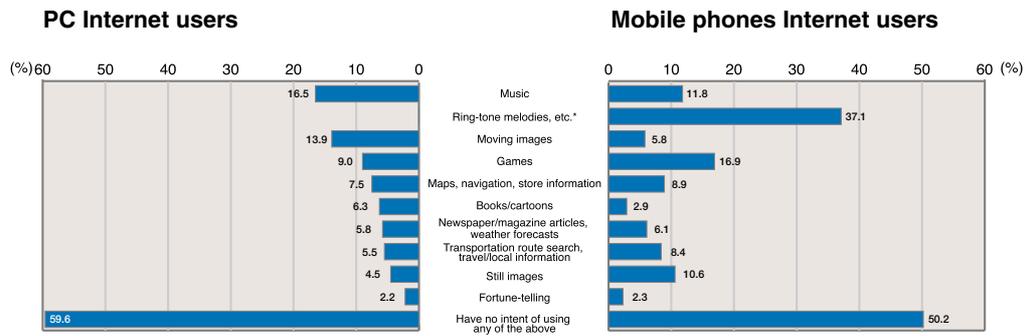
**Figure 1-2-12 Status of use of contents (multiple responses possible)**



\* Only mobile phone Internet users were questioned about the status of use of “ring-tone melodies, etc.”.

Source: Survey on Networks and People’s Lives (Web Survey)

**Figure 1-2-13 Intent for future use of paid Internet contents (multiple responses possible)**



\* Only mobile phone Internet users were questioned about the status of use of “ring-tone melodies, etc.”.

Source: Survey on Networks and People’s Lives (Web Survey)

With regard to copyright awareness in using contents, users who are “always aware/sometimes aware” account for 46.4% in Japan, 71.8% in the United States, and 49.8% in the Republic of Korea, and those who are “often not aware/never aware” account for 53.6% in Japan, 28.2% in the United States, and 50.2% in the Republic of Korea. Copyright awareness is higher in the United States than in the other two countries, and the awareness level is about the same in Japan and the Republic of Korea (Figure 1-2-15).

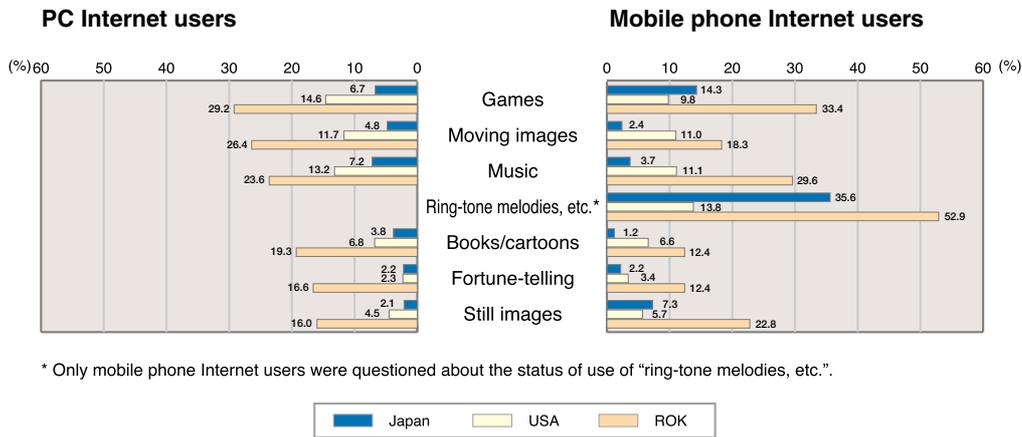
The percentage of users of P2P file sharing software is tremendously large in the Republic of Korea compared to the other two countries, with the utilization rate being

3.7% in Japan, 11.6% in the United States, and 44.2% in the Republic of Korea (Figure 1-2-16).

**(3) Music distribution**

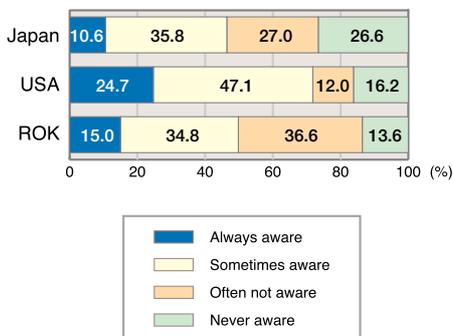
The music distribution service started by a U.S. company, A, in April 2003 (launched in April 2003 in the United States and in June 2004 in Europe) was an explosive hit due to the large collection of music available, the low price, and loose copyright restrictions. The cumulative total of the number of tunes sold exceeded 300 million in March 2005, and currently the daily sales exceed one million tunes. While purchases of music via the Internet surged from April 2003 in the United States, the

**Figure 1-2-14 Status of use of paid contents (multiple responses possible)**

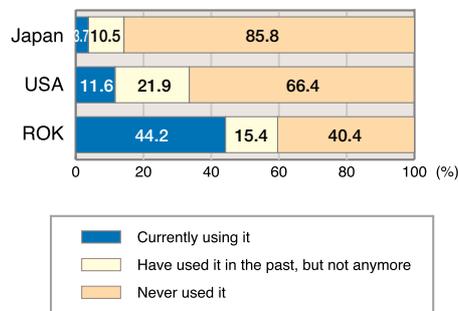


Source: Survey on Networks and People’s Lives (Web Survey)

**Figure 1-2-15 Copyright awareness upon using contents**



**Figure 1-2-16 Status of use of P2P file sharing software**



Source for Figures 1-2-15 and 1-2-16 Source: Survey on Networks and People’s Lives (Web Survey)

shipment volume of musical CDs in 2004 also increased by 2.8% over the previous year (Figure 1-2-17).

Many Japanese companies have also entered the music distribution market since 2004 (Figure 1-2-18).

The Japanese music distribution market is still small compared to the United States with two major companies' monthly music sales in January 2005 being about 510,000 tunes. This is considered to be because the Japanese music distribution services are not sufficiently attractive for users at present.

Among Internet users, those who use music distribution services through PCs account for 8.9%, which is still small in number (Figure 1-2-19).

The most commonly mentioned dissatisfaction with music distribution services through PCs was "the price of music is high" (26.3%), followed by "the restrictions on copying and transfer are tight" (17.1%), "it takes a lot of effort to find the desired tune" (15.9%), and "the desired tune is not available/the music collection is

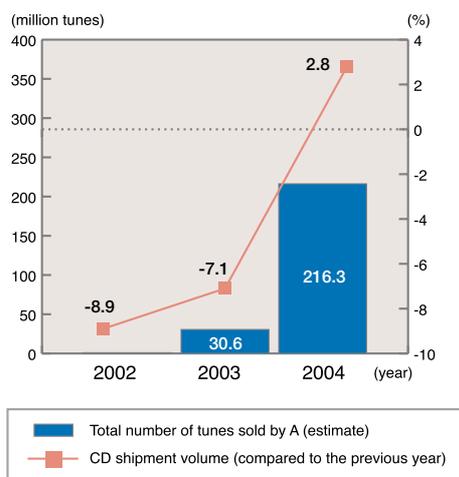
small" (15.2%) (Figure 1-2-20). This indicates that there is a high degree of dissatisfaction with the price, copy-right control, and the number of available tunes. As for the intent for using the service in the future, those who "want to use it" accounted for 42.9%.

## 6 Comparison of ICT use in Japan, the United States, and the Republic of Korea

### (1) Internet use through mobile phones

The Internet utilization rate of mobile phone users is the highest in Japan at 78.8%, followed by the Republic of Korea at 66.9%. In the United States the rate is 32.2%, a considerably low percentage compared to Japan and the Republic of Korea, indicating that Internet use through mobile phones is not in wide use in U.S. society.

**Figure 1-2-17 Status of music distribution services and CD shipment in the United States**

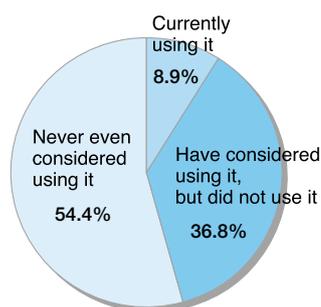


**Figure 1-2-18 Status of major Japanese music distributors (15 companies) (as of March 2005)**

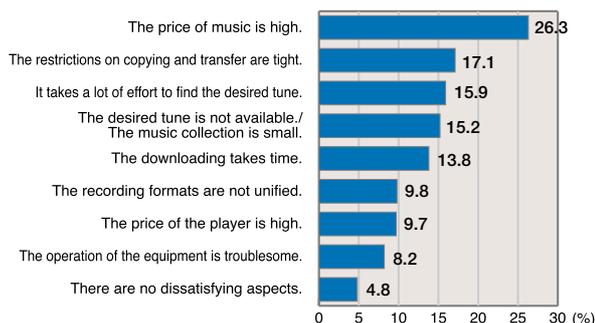
|                    |  |
|--------------------|--|
| Time of launch     | 1999 or earlier: 2 companies<br>2000-2003: 3 companies<br>2004 or after: 10 companies  |
| Compression format | Only WMA: 9 companies<br>Only ATRAC3: 3 companies<br>Both WMA and ATRAC3: 2 companies<br>Both WMA and MP3: 1 company   |
| Price per tune     | About 150 to 350 yen   |
| Tune available     | About 10,000 to 30,000 tunes: 3 companies<br>About 40,000 to 70,000 tunes: 2 companies<br>About 80,000 to 100,000 tunes: 7 companies<br>About 150,000 tunes: 1 company |
| Writing on a CD-R  | Prohibited: 5 companies<br>Prohibited except for certain labels/tunes: 10 companies  |

Source for Figures 1-2-17 and 1-2-18 Source: Survey on Networks and People's Lives

**Figure 1-2-19 Utilization rate of online music distribution**



**Figure 1-2-20 Dissatisfying aspects of online music distribution services**



Source for Figures 1-2-19 and 1-2-20 Source: Survey on Networks and People's Lives (Web Survey)

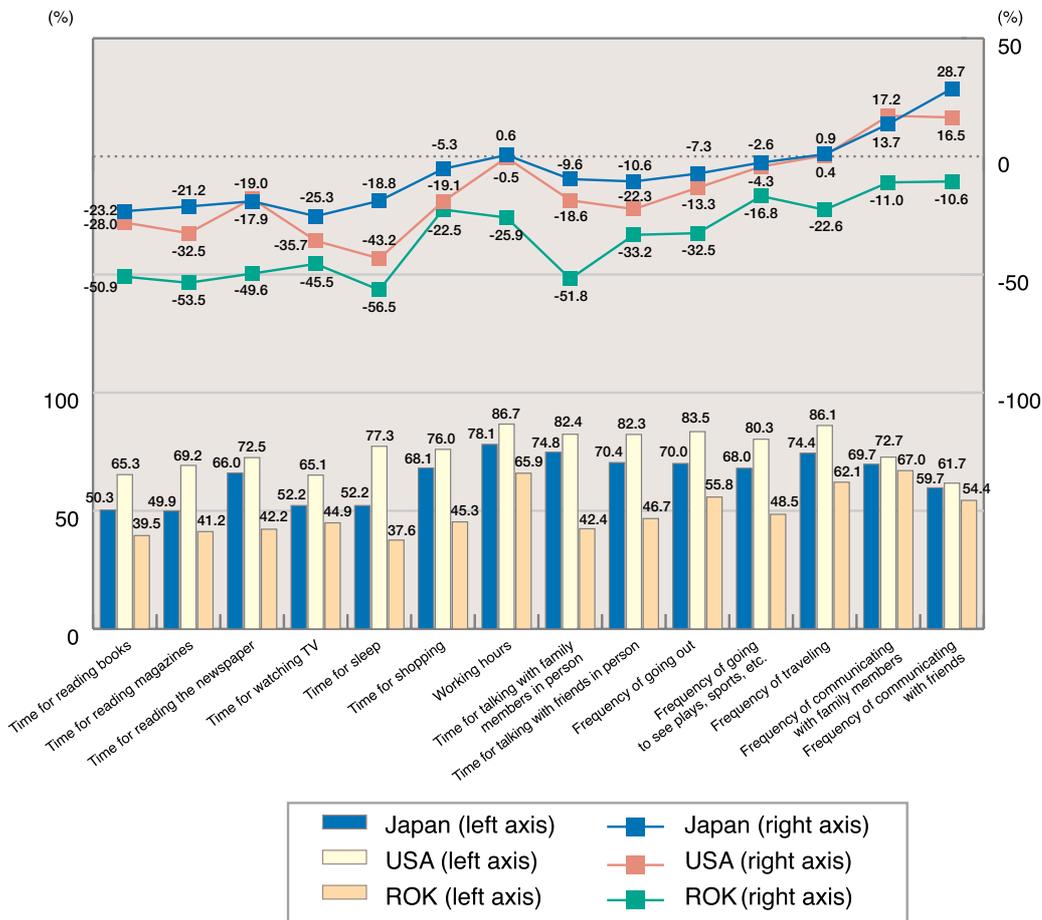
**(2) Changes in activity patterns in line with the use of the Internet**

With respect to changes in daily activity patterns in line with the use of the Internet, many users mentioned that the time in contact with other media (books, magazines, newspaper, and TV), the time for sleep, and the frequency of going out decreased in Japan, the United States, and the Republic of Korea. In Japan and the United States, the number of users who said the frequency of communicating with family members or friends and the frequency of traveling increased exceeded the

number who said the frequency decreased.

The number of users who said their daily activity pattern has “not changed” was the highest in the United States for all of the items, while in the Republic of Korea, the number of such users was the lowest and the number of users who said the frequency or length of time “decreased” was the highest for all of the items. This shows that Internet use has had the largest influence on people’s daily activity patterns in the Republic of Korea (Figure 1-2-21).

**Figure 1-2-21 Changes in activity patterns in line with the use of the Internet**



\* The line chart indicates the percentage of users who answered “increased” by deducting the percentage of users who answered “decreased” for each item. The bar chart indicates the percentage of users who answered “not changed.”

Source: Survey on Networks and People’s Lives (Web Survey)