

July 22, 2016

Communications Usage Trend Survey in 2015 Compiled

The Ministry of Internal Affairs and Communications (MIC) has compiled its Communications Usage Trend Survey, a survey of the communication services usage by households and businesses at the end of 2015.

For the highlights and an outline of the survey, please see Attachment 1 and Attachment 2, respectively.

Details of the survey will be posted on the website for the MIC's Information & Communications Statistics Database and released in a machine-readable data format (CSV format).

(URL: <http://www.soumu.go.jp/johotsusintokei/statistics/statistics05.html>)

[Highlights of the Survey]

- 1. The smartphone ownership rate among individuals surpassed 50 percent for the first time (44.7 percent in 2014 → 53.1 percent in 2015).**
- 2. The percentage of businesses which have introduced telework continued to rise (11.5 percent in 2014 → 16.2 percent in 2015).**
- 3. Although the percentage of businesses which reported a security breach declined, the percentages of businesses which cited security problems in particular, including “concern about virus infections” and “difficulties in establishing security measures” rose. (Virus infections: 39.7 percent in 2014 → 47.8 percent in 2015; security measures: 36.3 percent in 2014 → 44.2 percent in 2015)**

Survey Outline

MIC has conducted the Communications Usage Trend Survey annually since 1990, targeting households (households and household members) and businesses, as a general statistics survey in accordance with the Statistics Act (Act No. 53 of 2007). (Business surveys have been conducted each year since 1993, except for 1994. Surveys of household members started in 2001.) MIC has conducted the household survey by prefecture since 2010.

	Households	Businesses
Survey period	January – February 2016	
Survey area	Nationwide	
Scope of attributes / Level of survey	Households headed by someone aged 20 or older (as of April 1, 2015) and household members aged 6 or older	Businesses with 100 or more regular employees in industries other than public affairs
Number of samples [Effective mails]	40,592 [39,428]	5,140 [3,464]
Effective responses [%]	14,765 households (36,402 persons) [37.4%]	1,845 businesses [53.3%]
Survey items	Communication services usage, communication-device ownership, etc.	
Survey method	Survey form sent and collected by postal mail or online (email)	

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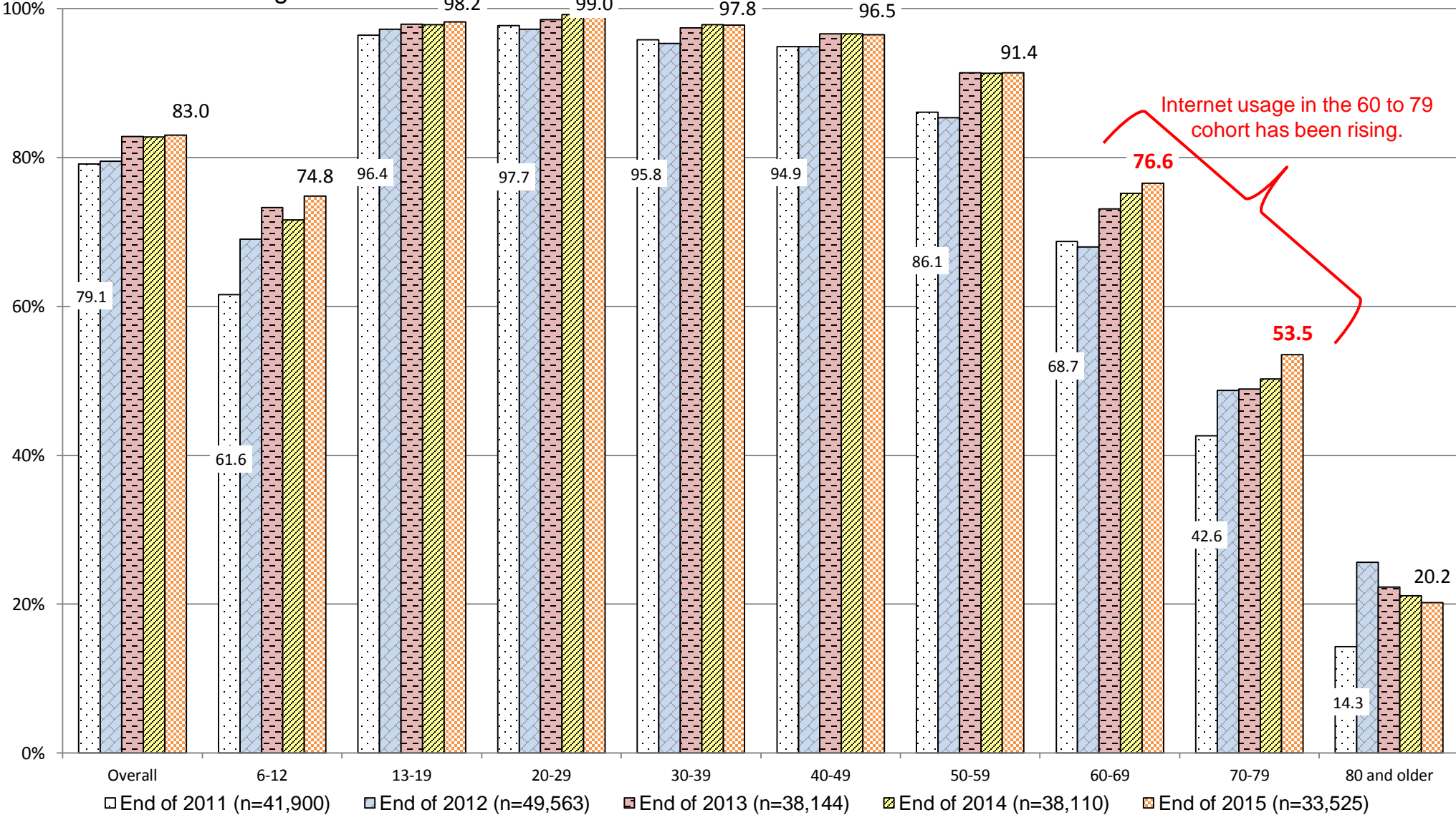
Highlights of the Communications Usage Trend Survey in 2015

Note: Household survey items are indicated with (households) in the title, business survey items with (businesses) in the title, and household members survey items with (individuals) in the title.

*Non-responses were excluded except in the graph of "Ownership of common communication devices (households)."

1. Internet Usage Trends (1) — Internet Usage by Age Group

Internet usage in the 13 to 59 cohort has exceeded 90 percent, while Internet usage in the 60 to 79 cohort has been rising.



Internet usage in the 60 to 79 cohort has been rising.

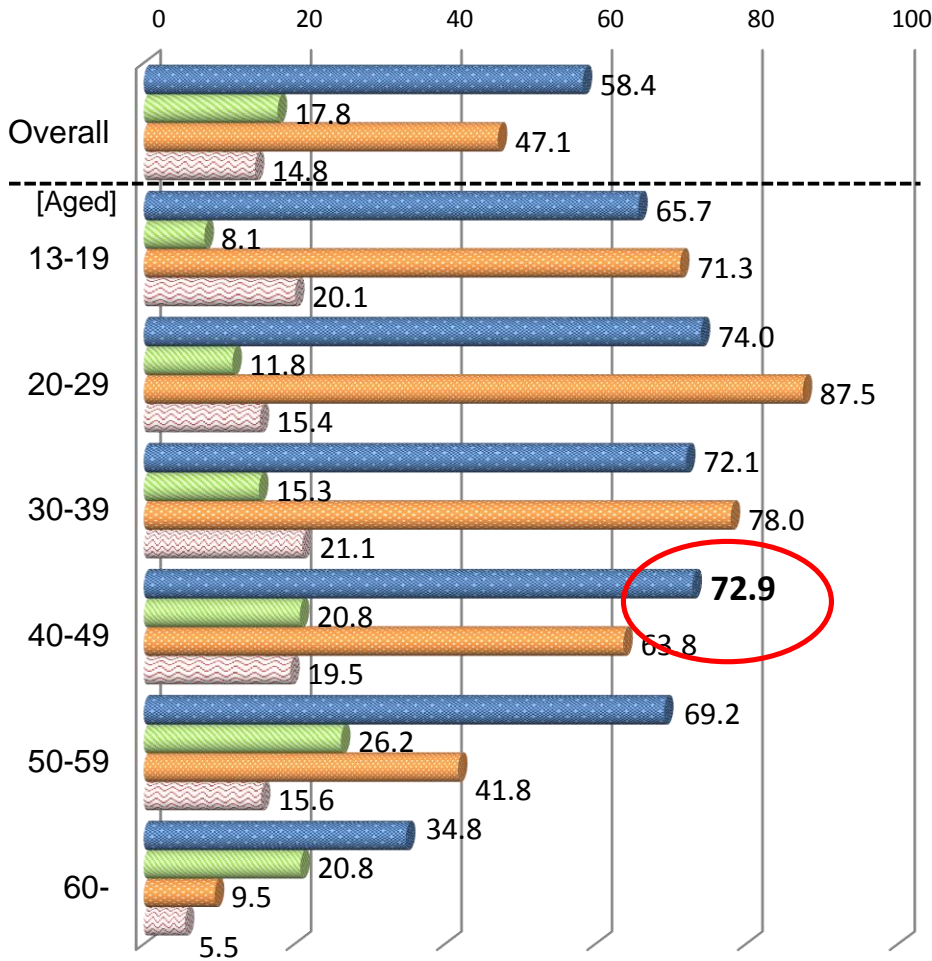
* "Overall" refers to the surveyed individuals aged 6 or older

2. Internet Usage Trends (2)

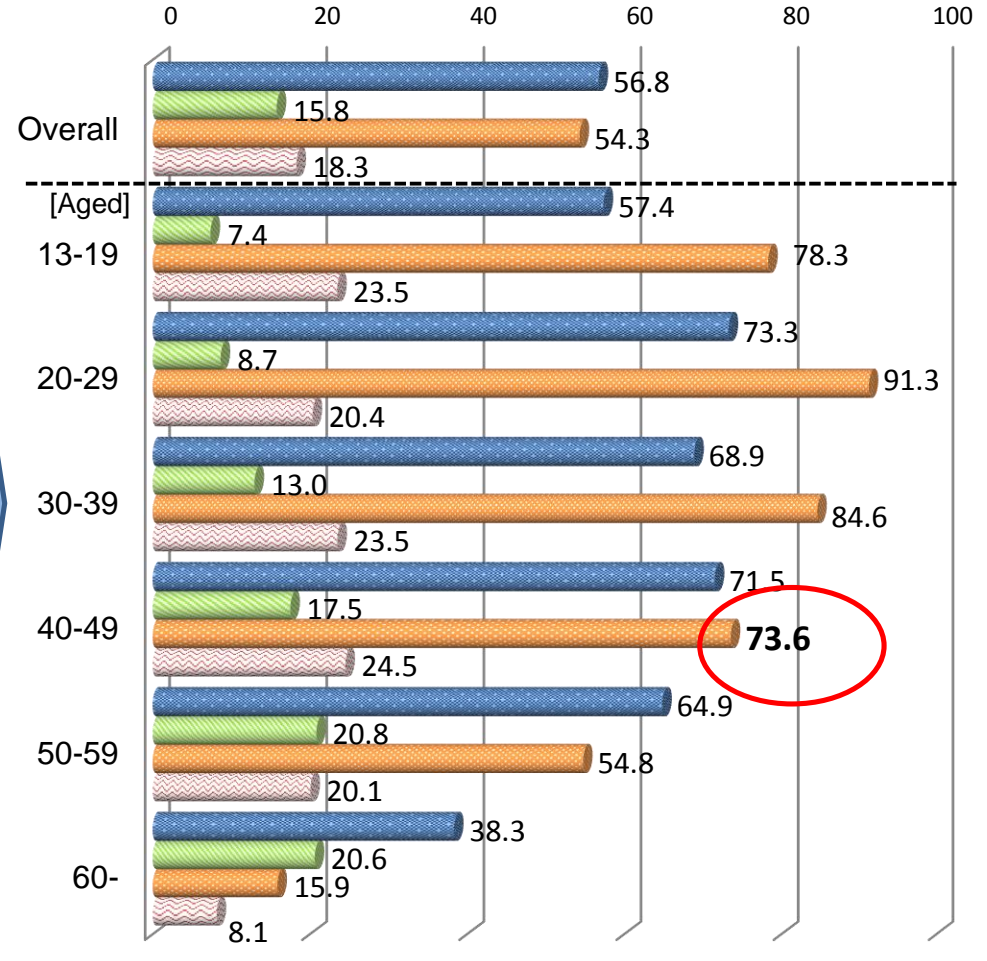
Internet device usage by age group

The percentage of individuals using smartphones to access the Internet rose in all age groups: and in particular, in the 40-49 age group, the usage rate for smartphones surpassed the usage rate for computers for the first time. In addition, the usage rate for tablets also rose in all age groups.

[End of 2014]



[End of 2015]



■ Computers ■ Mobile phones and PHS handsets ■ Smartphones ■ Tablets

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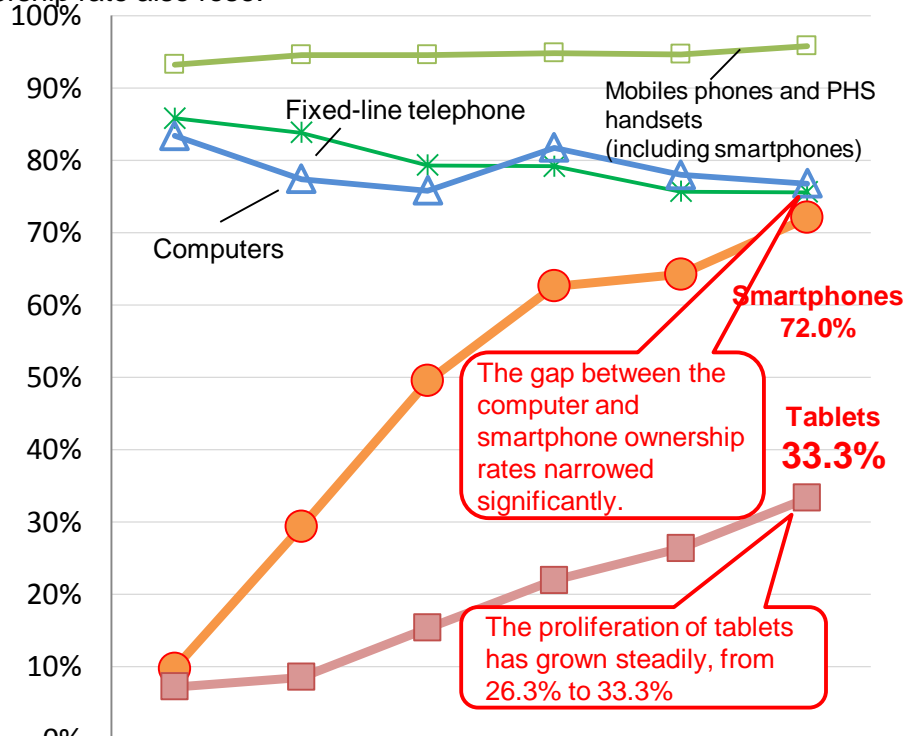
Note: Each figure is the Internet usage rate among surveyed household members (individuals) for the respective device and age group.

Note: Mobile phones and PHS handsets exclude smartphones.

3. Proliferation of Communication Devices

Ownership of common communication devices (households) (2010-2015)

The smartphone ownership rate among households continued to rise, narrowing the gap with the computer ownership rate. The tablet ownership rate also rose.

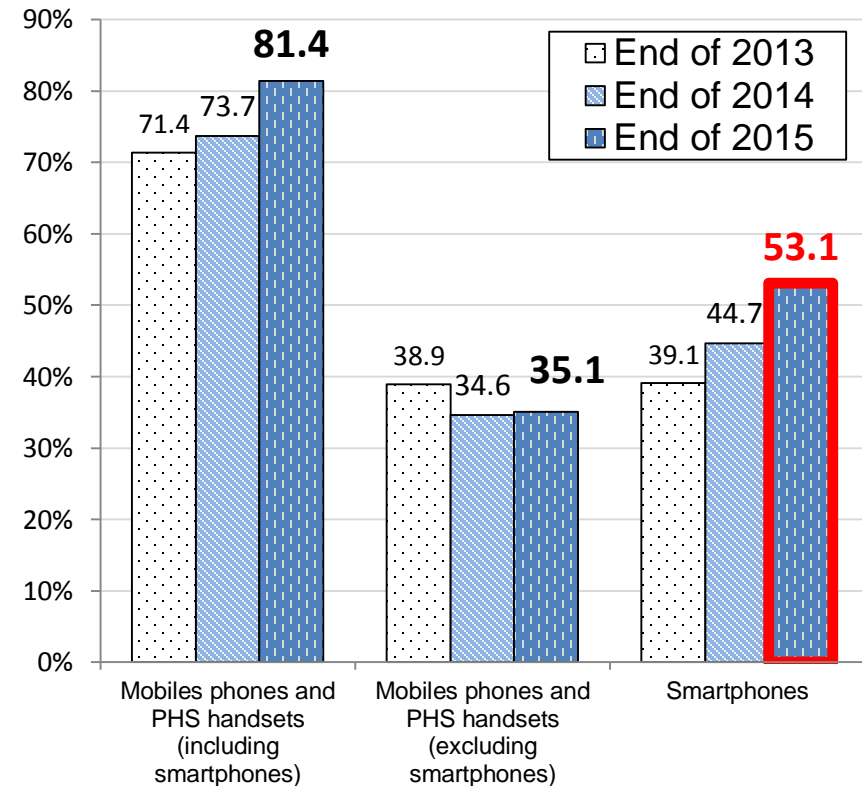


	End of 2010	End of 2011	End of 2012	End of 2013	End of 2014	End of 2015
Fixed-line telephones	85.8	83.8	79.3	79.2	75.7	75.6
Computers	83.4	77.4	75.8	81.7	78.0	76.8
Smartphones	9.7	29.3	49.5	62.6	64.2	72.0
Mobiles phones and PHS handsets	93.2	94.5	94.5	94.8	94.6	95.8
Tablets	7.2	8.5	15.3	21.9	26.3	33.3

Note: Each figure is the percentage of all households in each year's survey that own the respective communication device.

Ownership of common communication devices (individuals) (2013-2015)

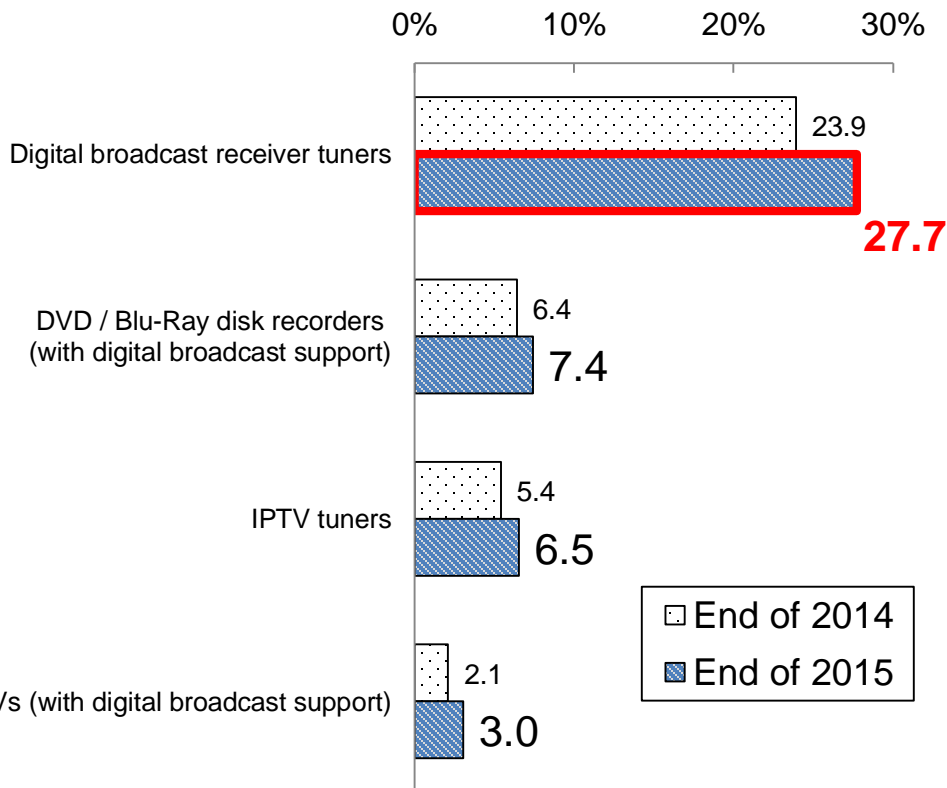
The smartphone ownership rate among individuals continued to rise and surpassed 50 percent for the first time.



4. Internet usage via digital TV, etc. (households)

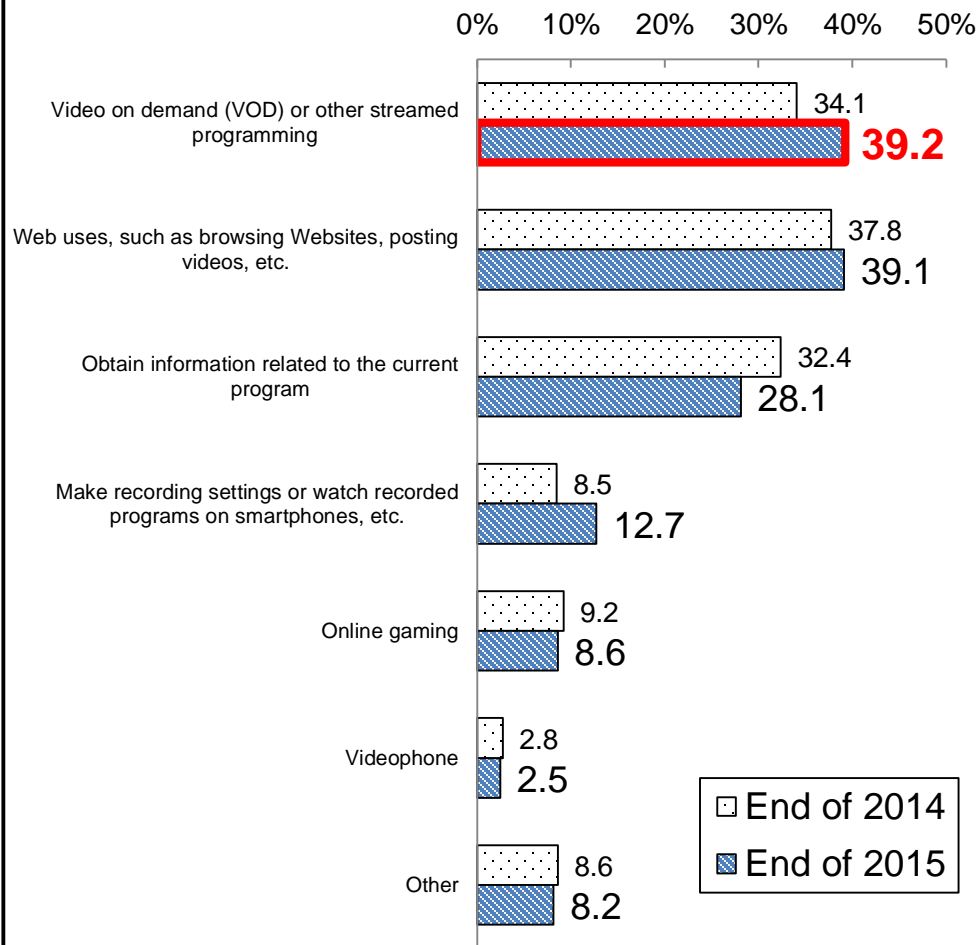
Internet connection of digital TV, etc.

The percentage of households with Internet-connected digital TV rose to around 30 percent.



Purposes of Internet access function usage of digital television, etc.

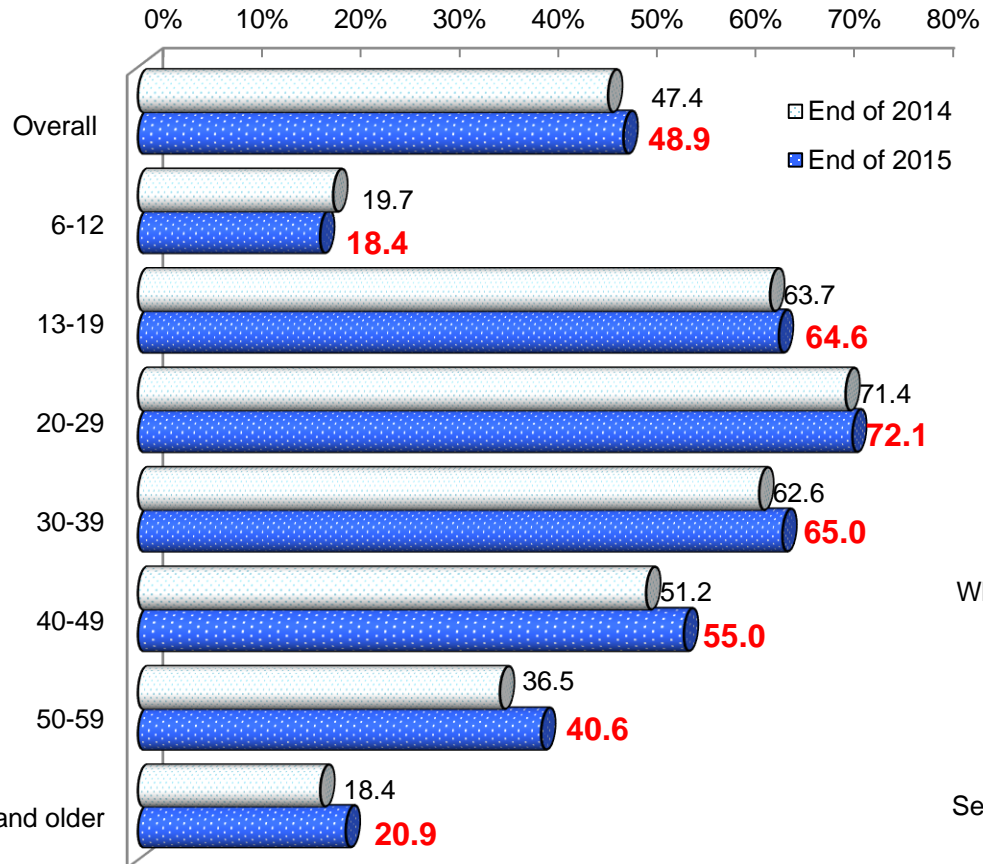
Concerning the purpose of Internet connection of digital TV, the percentage of households citing "video on demand (VOD) or other streamed programming" rose.



5. Social Media Usage Trends

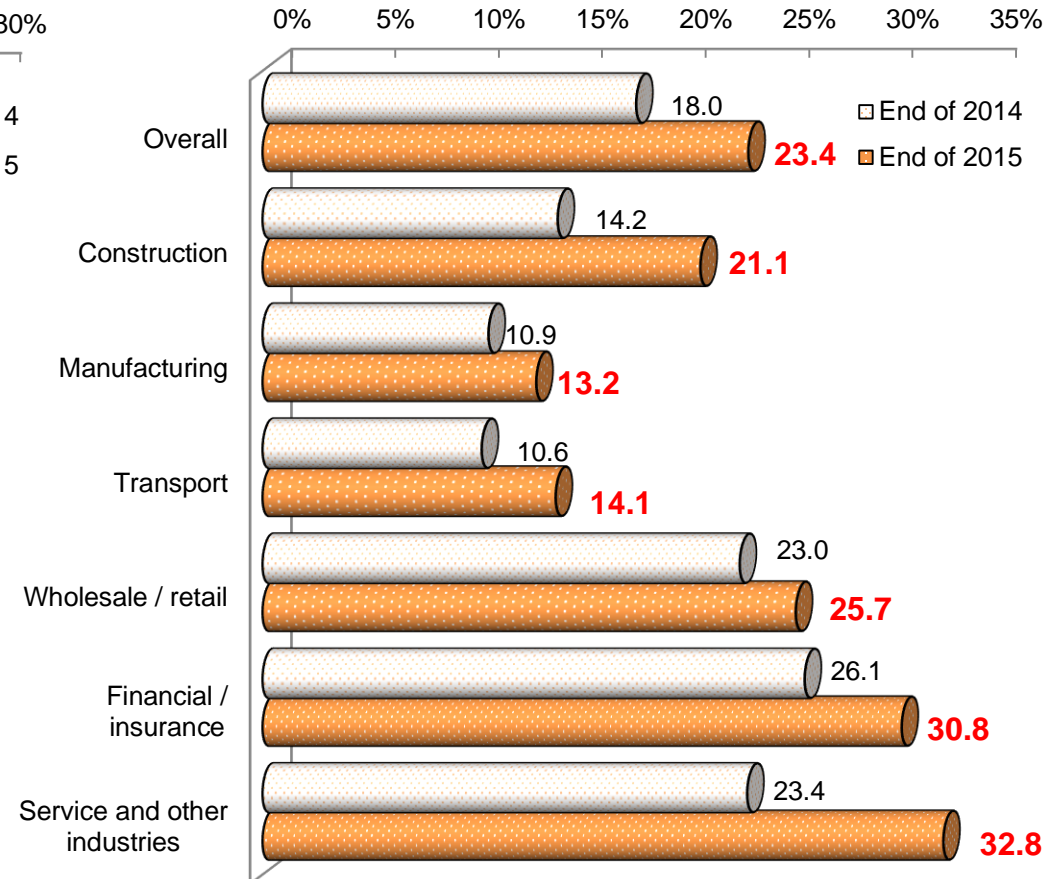
Social networking service usage (individuals)

The percentage of individuals who used social networking services rose in the age groups between 40 and 59 in particular.



Social media usage (businesses)

The percentage of businesses which used social media services rose in all industries.

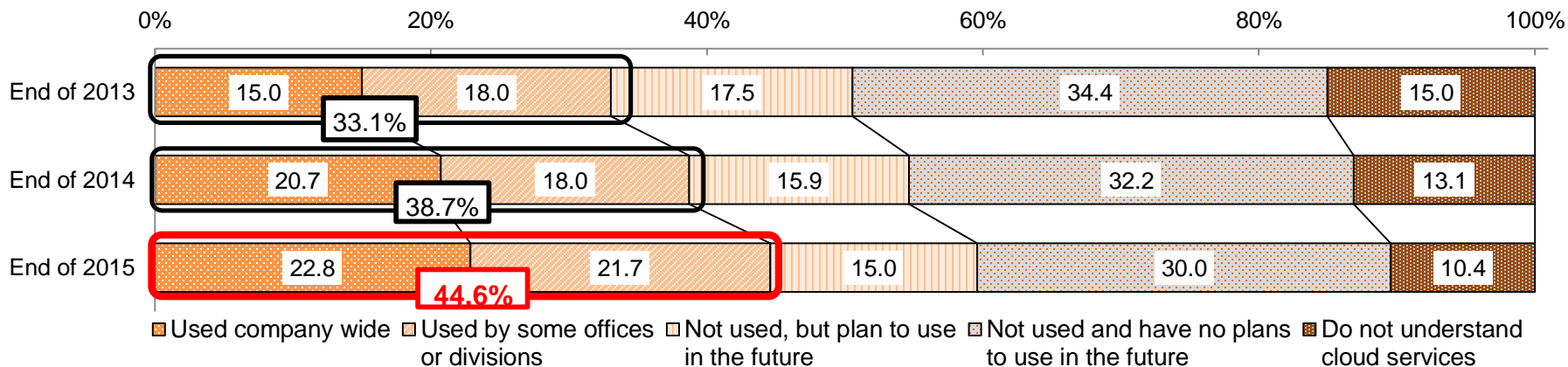


(Note) Social media refers to information services in which one can communicate with multiple people on the Internet.

6. Cloud Service Usage (businesses)

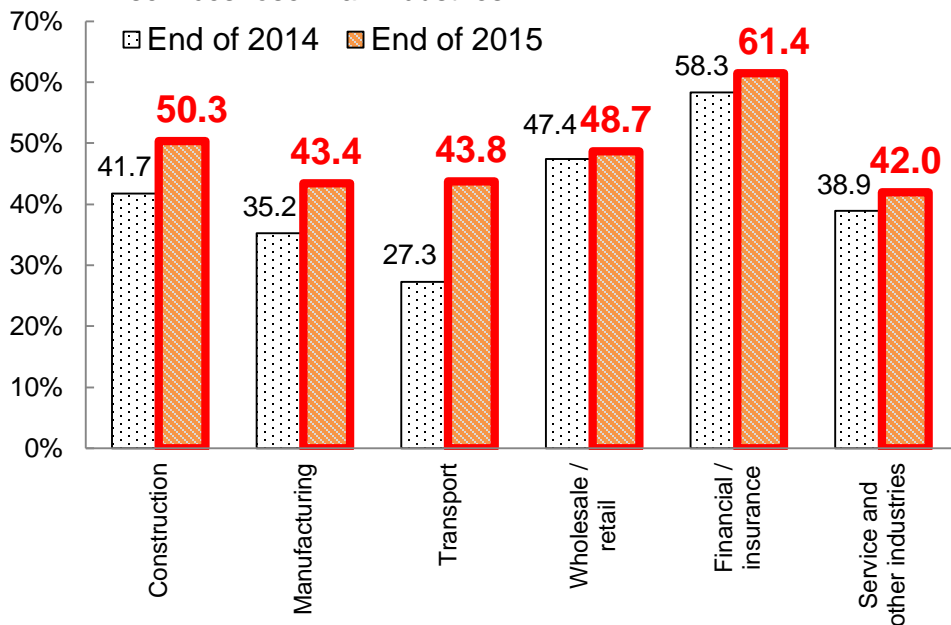
Cloud service usage

The percentage of businesses which used cloud services has continued to rise year after year, surpassing 40 percent by the end of 2015.



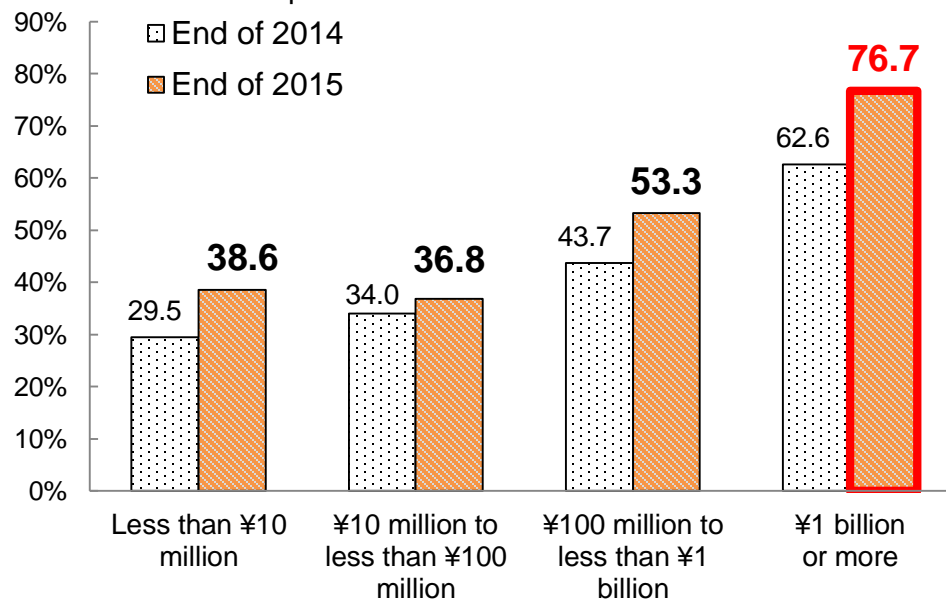
Cloud service usage by industry

The percentage of businesses which used cloud services rose in all industries.



Cloud service usage by capitalization

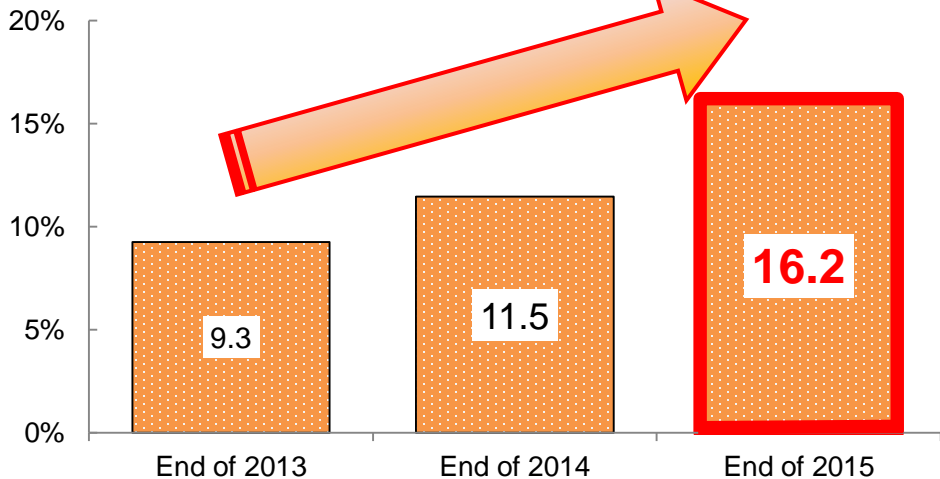
More than 70 percent of businesses with 1 billion yen or more in capital used cloud services.



7. Introduction of Telework (businesses)

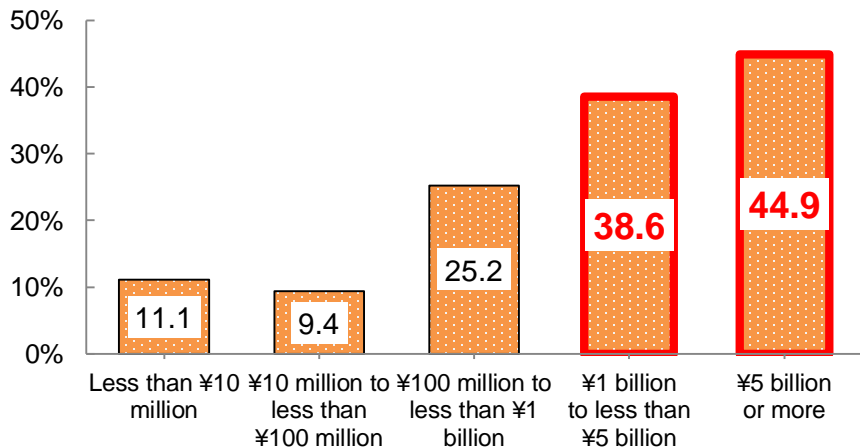
Introduction of telework

The percentage of businesses which have introduced telework has been rising year after year.



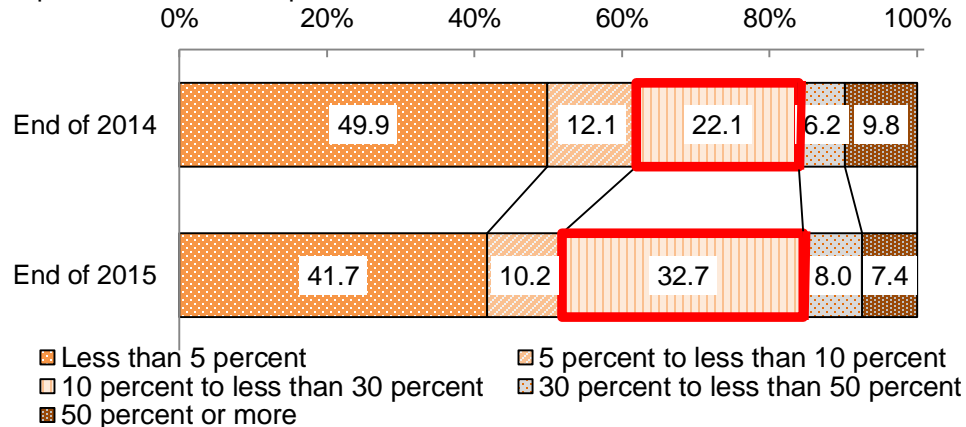
Telework introduction by capitalization

Of businesses with 1 billion yen or more in capital, around 40 percent have introduced telework.



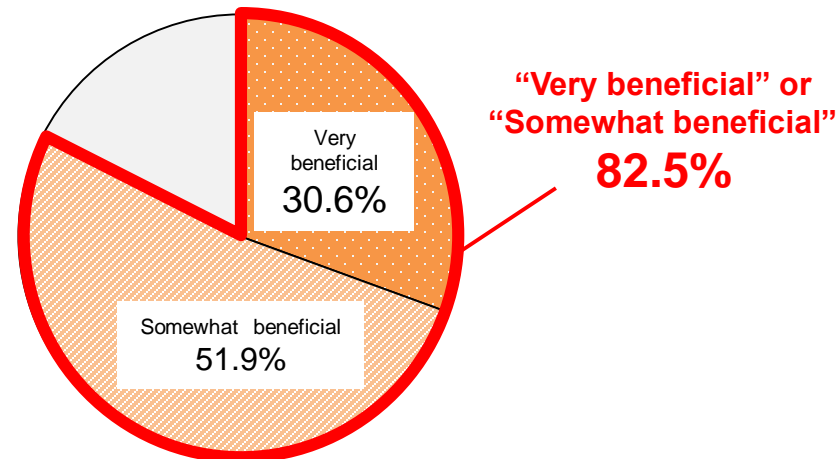
Percentage of employees using telework

The percentage of businesses at which “less than 5 percent” of all employees engaged in telework declined while the percentage of businesses at which “10 percent to less than 30 percent” engaged in telework rose from around 20 percent to around 30 percent.



Telework benefits

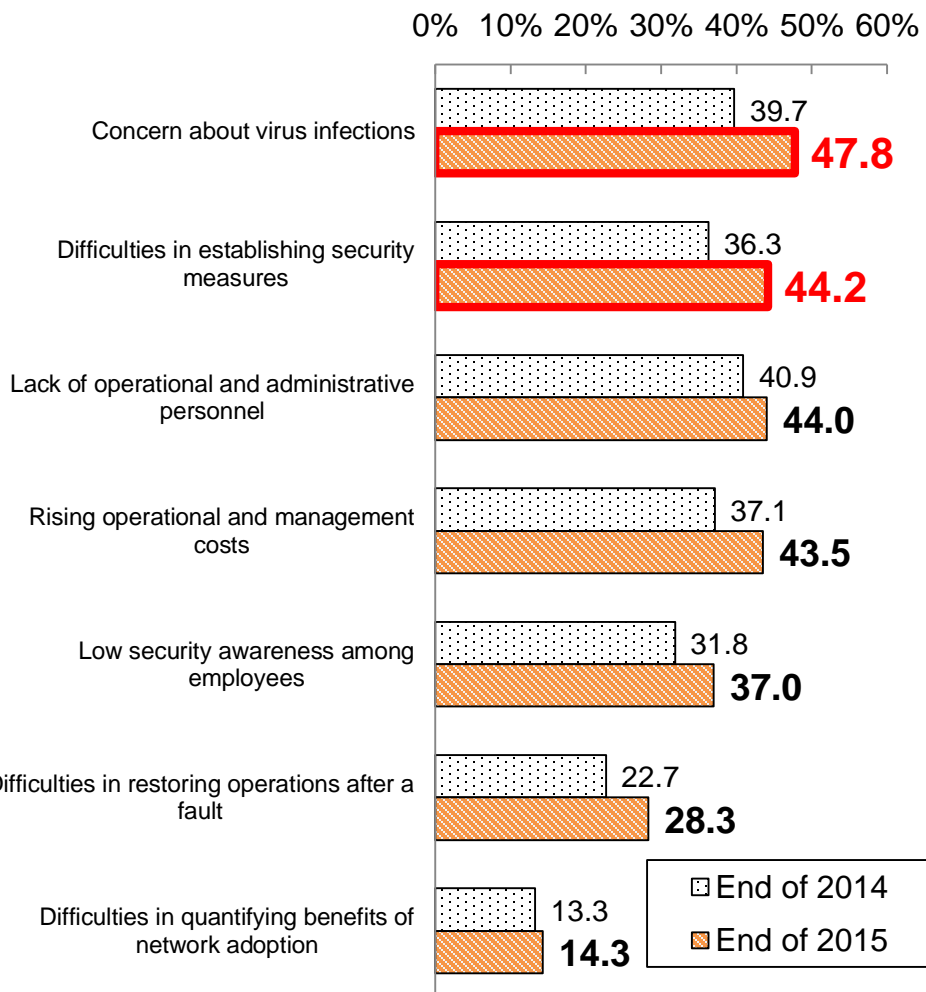
Concerning the effects of the introduction of telework for purposes such as “raise efficiency (productivity) of routine business processes” and “reduce workers’ transportation times,” 82.5% recognized either “very beneficial” or “somewhat beneficial” effects.



8. Issues associated with information-communication networks and security measures implemented (businesses)

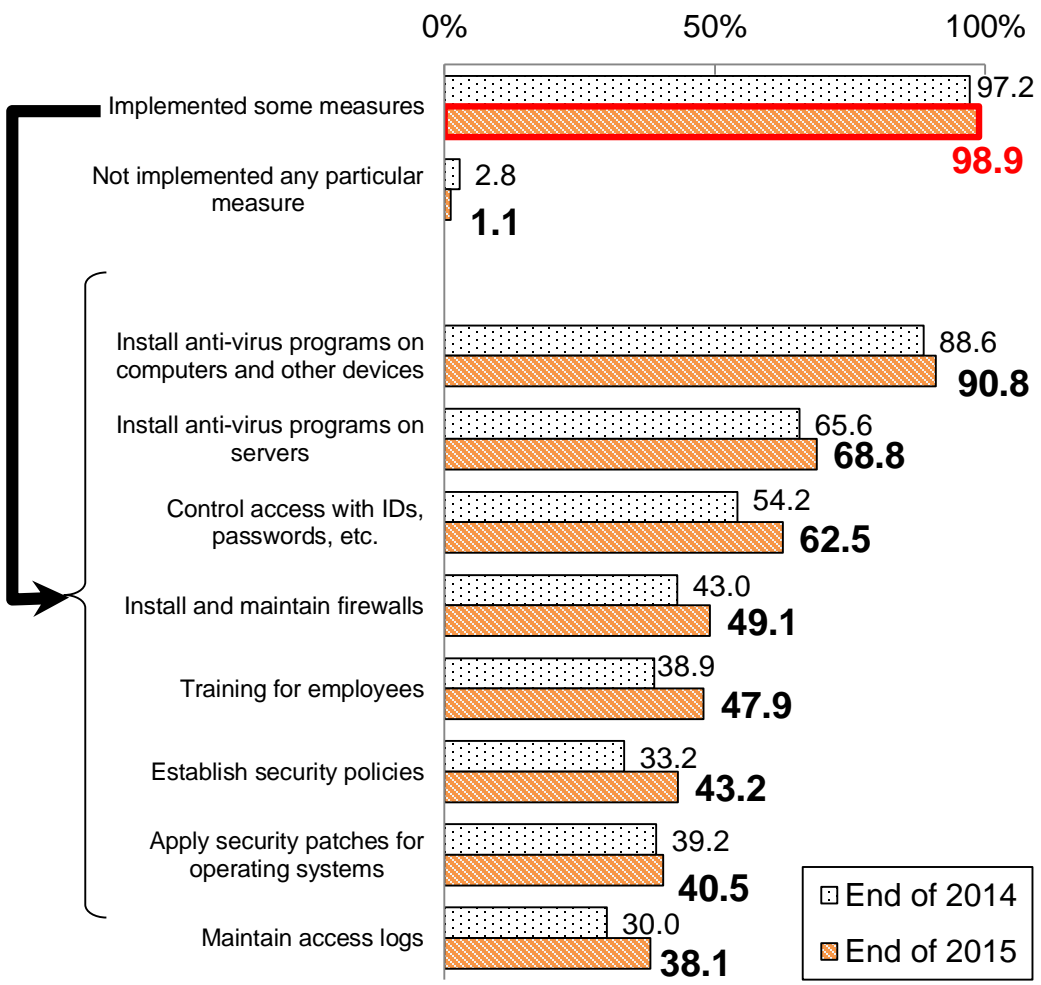
Issues associated with use of information-communication networks

The percentage of businesses which cited security-related issues in particular, including “concern about virus infections” and “difficulties in establishing security measures” as issues associated with use of information-communication networks rose.



Information security measures taken by businesses

Of the surveyed businesses, around 99 percent implemented some information security measures. The implementation rate rose with respect to specific measures.



Summary Findings of the 2015 Communications Usage Trend Survey
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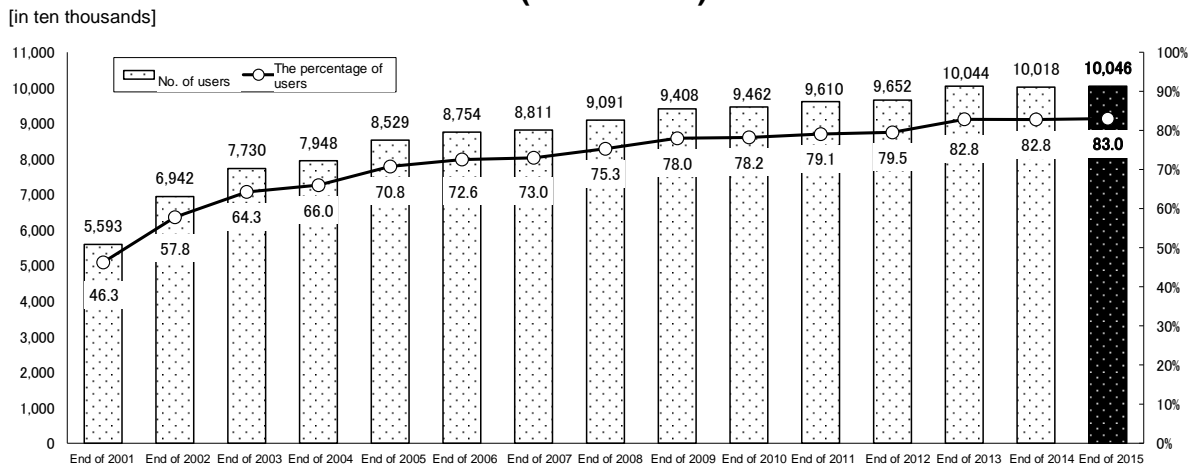
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1. Proliferation of the Internet and Other Networks

(1) Transitions in the number of Internet users (individuals)

The number of people who used the Internet over the course of 2015 (Internet users; estimate) was 100.46 million, while the Internet usage rate among individuals was 83.0 percent, unchanged from the previous year.

Figure 1-1: Transitions in the number of Internet users and Internet usage rates (individuals)



Notes: 1. The survey questioned persons aged six and older.

2. The number of Internet users was estimated from the survey results and includes all people aged six and older who had used the Internet over the preceding year. The estimate included computers, mobile phones, PHS handsets, smartphones, tablets, game consoles, and all other devices used to access the Internet and included personal use, work use, school use, and all other purposes.

3. The number of Internet users was calculated by multiplying the estimated population aged six and older (estimated from census returns and mortality tables) by the Internet usage rate among those six and older found with the survey.

4. Calculations excluded non-responses. (This holds for all findings in this document.)

(2) Internet usage (individuals)

By gender, the Internet usage rate was 84.9 percent among men and 81.2 percent among women, with the rate gap between men and women narrowed to 3.7 points from 6.9 points in the previous year.

By age group, the Internet usage rate was higher than 90 percent in the age groups between 13 and 59 years old.

Figure 1-2: Transitions in Internet usage by gender (individuals)

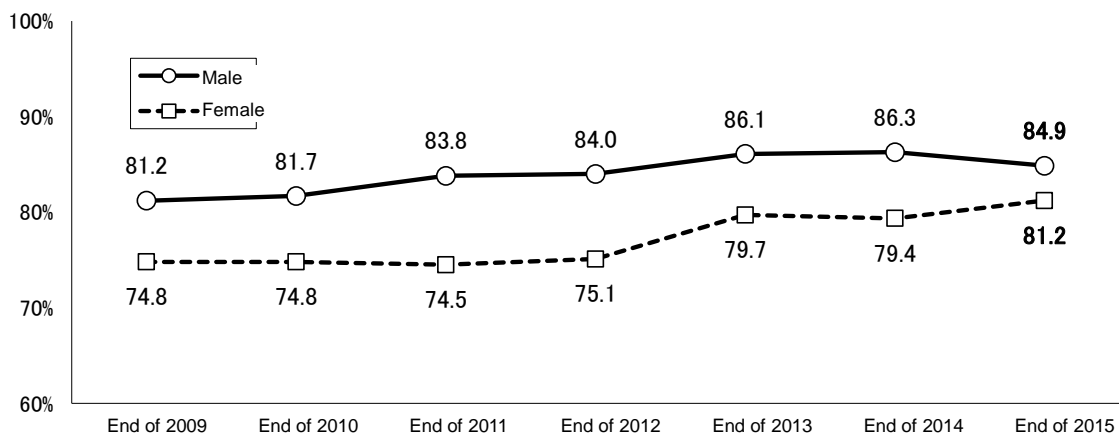


Figure 1-3: Transitions in Internet usage by age group (individuals)

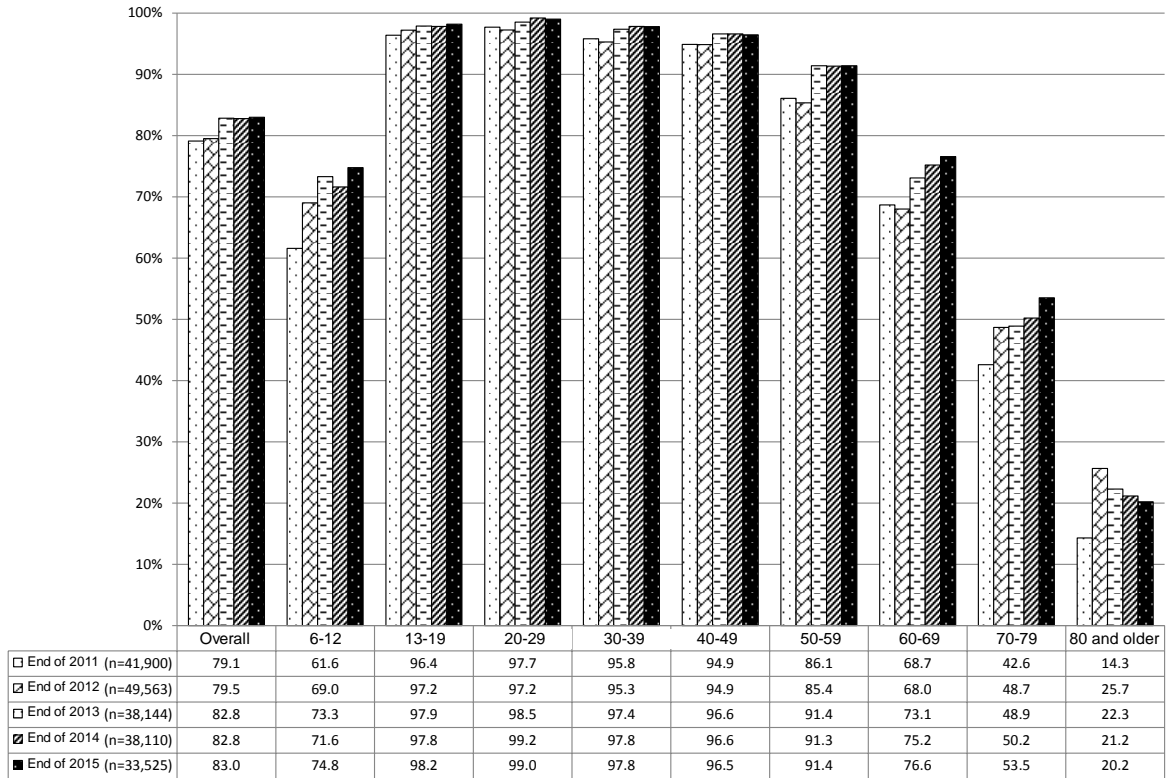
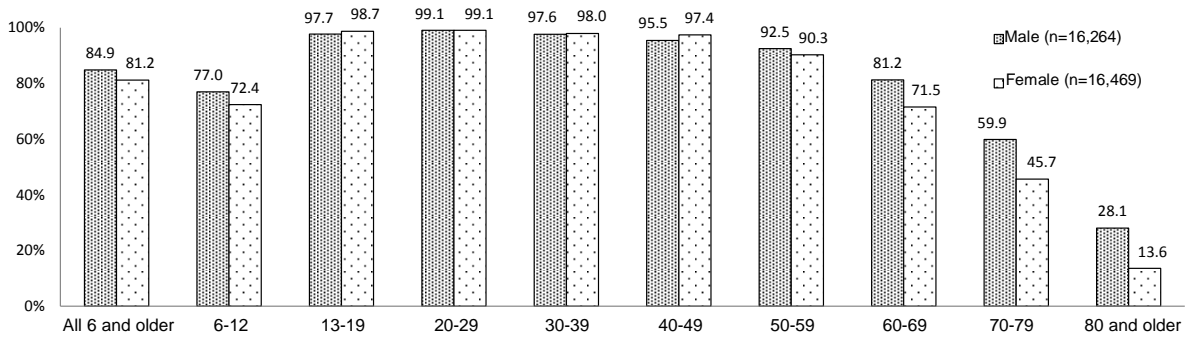


Figure 1-4: Internet usage by age and gender — end of 2015 (individuals)



(3) Internet usage by device (individuals)

By type of device used to access the Internet, “computers” were used by the largest percentage, 56.8 percent, followed by “smartphones” (54.3 percent). The gap between computers and smartphones narrowed to 2.4 points from 11.3 points in the previous year.

By age group, more than 70% used “smartphones” in the age groups between 13 and 49 years old, and this was higher than the usage rate for “computers.”

Figure 1-5: Internet usage by device (individuals)

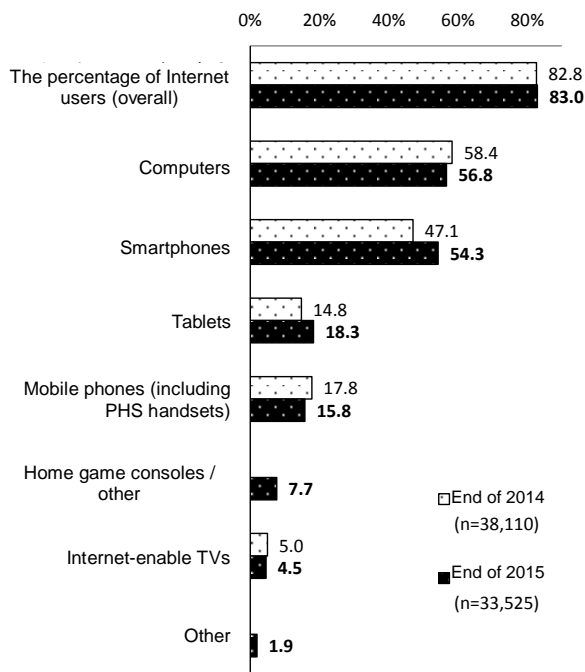
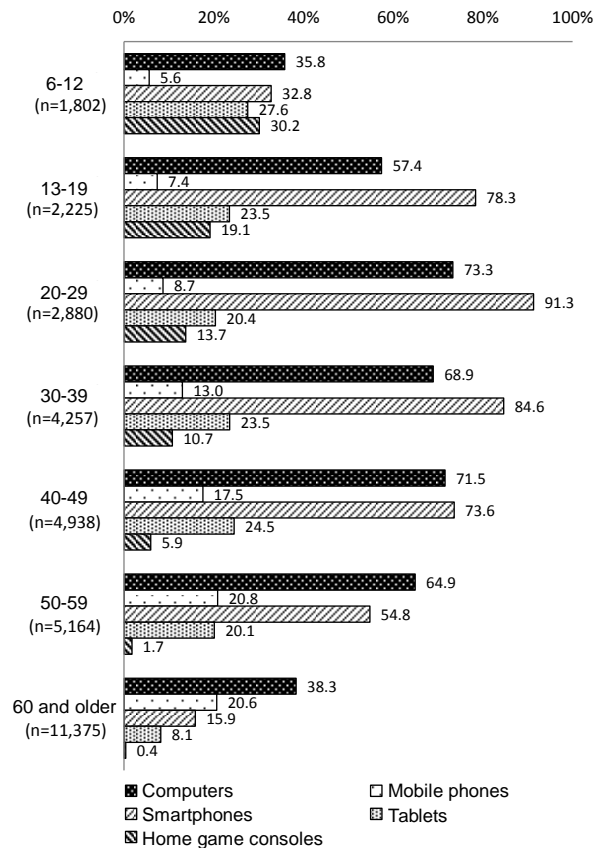


Figure 1-6: Use of Internet devices by age group — end of 2015 (individuals)



(4) Internet usage by prefecture (individuals)

Examining Internet usage rates by prefecture found that the usage rates were higher in the National Capital Region. Twelve prefectures had above-average usage rates: Ibaraki, Saitama, Chiba, Tokyo, Kanagawa, Ishikawa, Shizuoka, Shiga, Kyoto, Osaka, Fukuoka and Okinawa.

Figure 1-7: Internet usage by prefecture and device — end of 2015 (individuals)

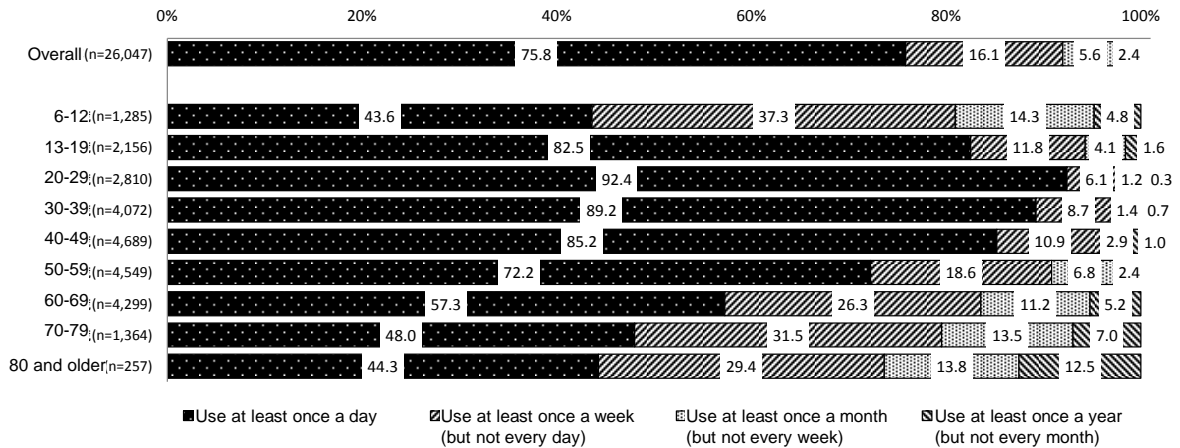
Prefecture (n)	Percentage of Internet users				
	Total	Computers	Mobile phones	Smartphones	Tablets
Hokkaido (545)	81.9	54.7	25.2	46.9	17.1
Aomori (517)	72.2	43.7	21.8	42.7	12.8
Iwate (766)	72.8	45.0	22.9	45.3	13.6
Miyagi (685)	82.9	52.8	19.0	54.6	15.6
Akita (755)	78.8	49.8	23.2	46.5	13.0
Yamagata (862)	78.5	47.9	21.7	49.9	13.6
Fukushima (919)	79.0	45.8	19.1	47.2	16.0
Ibaraki (555)	83.3	52.4	16.7	55.2	16.4
Tochigi (788)	79.3	52.2	17.0	51.0	15.4
Gunma (731)	82.8	53.4	21.2	51.1	14.8
Saitama (874)	87.7	59.5	23.1	54.9	17.1
Chiba (827)	85.6	62.4	16.9	58.0	22.0
Tokyo (872)	89.7	70.0	19.2	62.1	21.4
Kanagawa (638)	86.1	61.8	19.9	60.7	23.6
Niigata (1,087)	77.5	45.4	22.1	47.1	17.6
Toyama (885)	81.9	57.0	17.4	50.4	16.3
Ishikawa (677)	84.4	56.9	15.1	53.8	14.0
Fukui (970)	79.4	54.0	18.5	50.9	17.7
Yamanashi (714)	80.7	51.4	21.9	52.2	18.9
Nagano (887)	81.2	57.2	19.6	48.6	16.9
Gifu (812)	79.8	55.1	18.7	49.1	16.2
Shizuoka (732)	83.3	58.5	18.4	54.0	18.6
Aichi (824)	82.2	57.9	18.1	56.0	20.0
Mie (732)	82.1	52.4	18.6	52.4	17.4
Shiga (795)	83.9	55.2	18.7	56.6	16.9
Kyoto (648)	85.6	60.3	19.2	56.1	17.4
Osaka (396)	83.8	60.7	16.2	56.7	17.8
Hyogo (758)	82.8	56.2	17.5	56.4	18.6
Nara (712)	82.9	60.5	14.9	52.8	18.5
Wakayama (781)	78.0	51.3	18.0	51.4	17.8
Tottori (876)	74.1	47.7	23.5	44.7	14.1
Shimane (641)	76.3	48.2	16.8	47.3	14.1
Okayama (780)	80.1	51.5	21.8	50.1	12.1
Hiroshima (748)	82.4	55.0	17.9	54.9	19.4
Yamaguchi (778)	78.3	50.5	21.9	44.5	19.2
Tokushima (571)	78.9	49.9	15.0	51.4	16.4
Kagawa (718)	76.5	48.1	16.3	50.6	18.6
Ehime (749)	80.7	47.1	22.5	48.9	18.5
Kochi (573)	74.0	50.1	18.5	43.7	16.5
Fukuoka (641)	83.5	55.8	16.0	56.0	19.5
Saga (680)	80.6	50.2	16.9	50.2	17.7
Nagasaki (535)	77.9	48.4	20.6	51.0	17.1
Kumamoto (422)	75.4	38.7	21.2	49.0	16.3
Oita (543)	77.8	46.6	16.4	50.4	12.6
Miyazaki (625)	79.3	49.3	14.1	47.0	14.6
Kagoshima (458)	74.9	42.7	17.3	52.9	13.4
Okinawa (443)	83.1	51.4	15.0	50.6	18.8
Total (33,525)	83.0	56.8	15.8	54.3	18.3

(5) Frequency of Internet use (individuals)

Examining the frequency of Internet use found that 70 percent or more users use the Internet at least once a day.

By age group, 80 percent or more of each age bracket between 13 and 49 use the Internet at least once a day.

Figure 1-8: Frequency of Internet use by age group — end of 2015 (individuals)



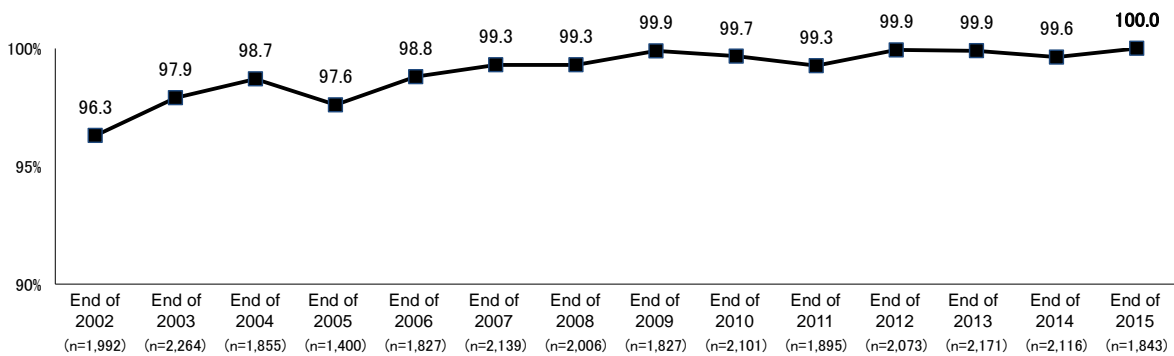
Note: as a percentage of Internet users

(6) Internet usage (businesses)

The rate of Internet usage among businesses was 100 percent.

The Internet usage rate among businesses has remained flat at above 99% since 2007.

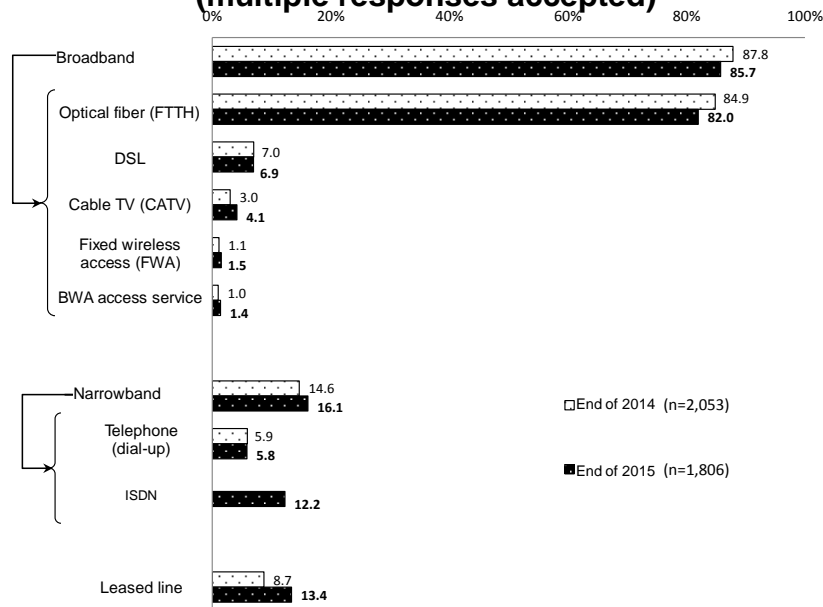
Figure 1-9: Transitions in Internet usage (businesses)



(7) Types of Internet connections (businesses)

Of businesses using the Internet, 85.7 percent used a broadband connection. Of businesses using a broadband connection, a great majority, 82.0 percent, used an optical fiber connection.

**Figure 1-10: Internet connection types (businesses)
(multiple responses accepted)**

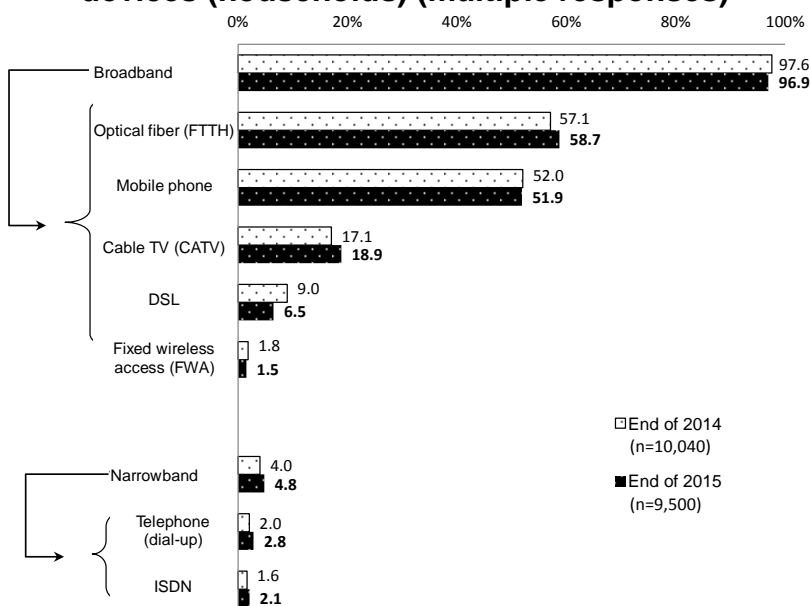


Note: as a percentage of businesses using the Internet

(8) Types of Internet connections (households)

Of households using a broadband connection to access the Internet from computers at home, tablets, and other devices, 96.9 percent used a broadband connection. Of households using a broadband connection, 58.7 percent used an optical fiber connection and 51.9 percent used a mobile phone connection.

Figure 1-11: Types of Internet connections for computers at home and other devices (households) (multiple responses)

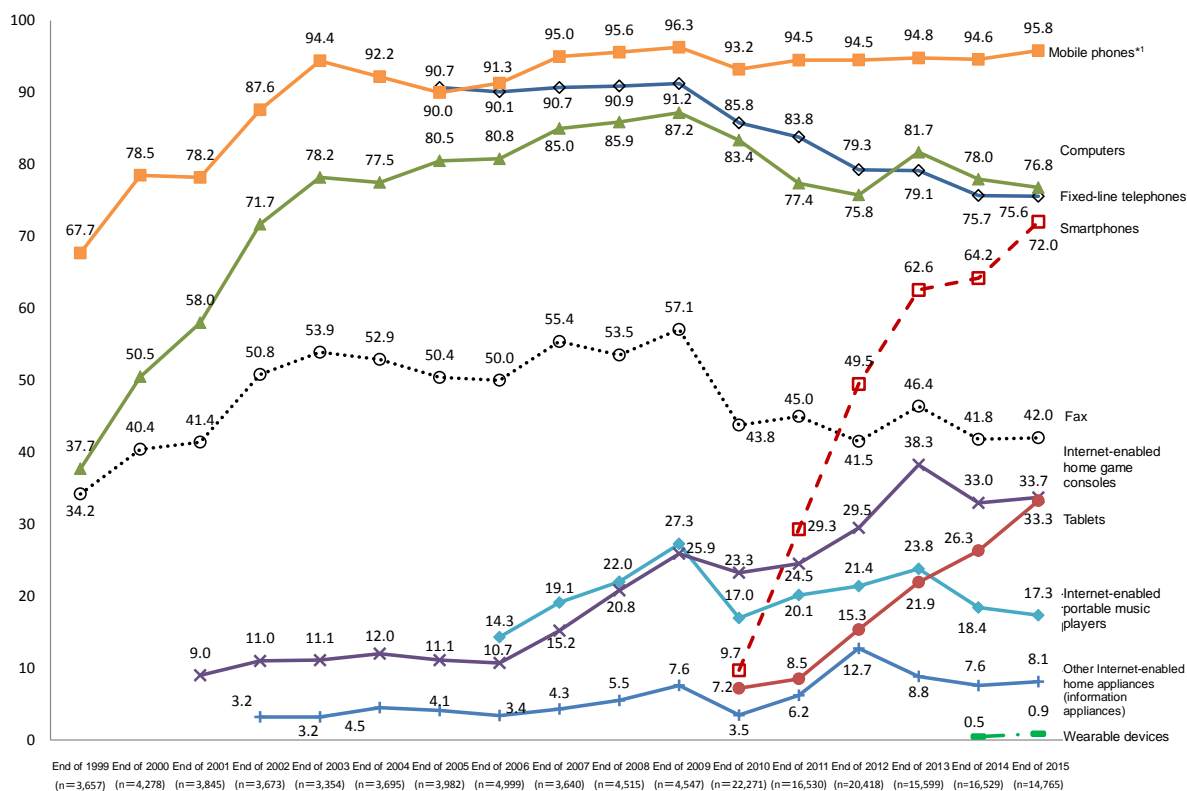


Note: as a percentage of households accessing the Internet from computers at home and other devices.

(9) Ownership of communication devices (households)

As for ownership of communication devices by households by type of device, 95.8 percent owned “mobile phones.” The ownership rate for “smartphones,” which were included in the “mobile phones” category, continued to rise, to 72.0 percent, narrowing the gap with the ownership rate for “computers” (76.8 percent) to 4.8 points from 13.7 points in the previous year. The ownership rate for “tablets” also rose 7.0 points from 26.3 percent in the previous year to 33.3 percent.

Figure 1-12: Transitions in ownership of communication devices (households)



Notes: 1. The “mobile phones” category includes PHS handsets. From the end of 2009 to the end of 2012, personal digital assistants were also included in this category, and since the end of 2010, smartphones have been included.
 2. For comparison purposes between years, these calculations do include non-responses.

(10) Ownership of common communication devices (individuals)

Regarding ownership of communication devices by individuals, “computers” were owned by the largest percentage, 57.0 percent, followed by “smartphones” (53.1 percent) and “mobile phones/PHS handsets” (35.1 percent). While the ownership rate for “computers” remained flat compared with the previous year, the ownership rate for “smartphones” rose 8.4 points, resulting in the narrowing of the ownership rate gap between these two categories.

By age group, the ownership rate for “smartphones” was higher than the ownership rate for “mobile phones” in the age groups between 6 and 49 years old. In the age groups between 13 and 49 years old, the ownership rate for “smartphones” was higher than the rates for all other devices including “computers.”

Figure 1-13: Transitions in ownership of common communication devices (individuals)

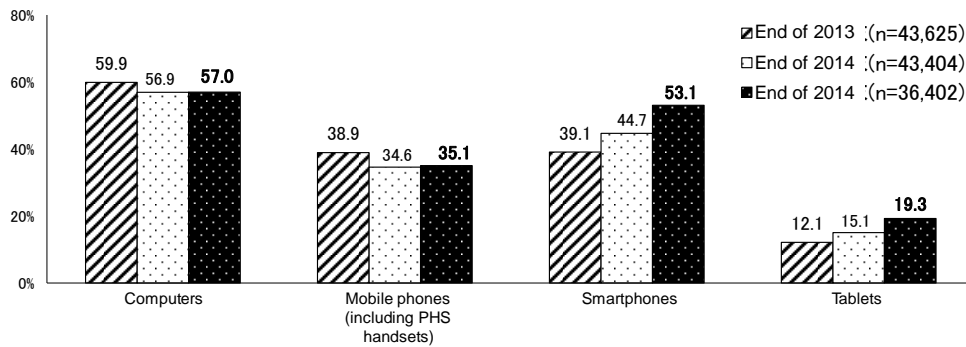
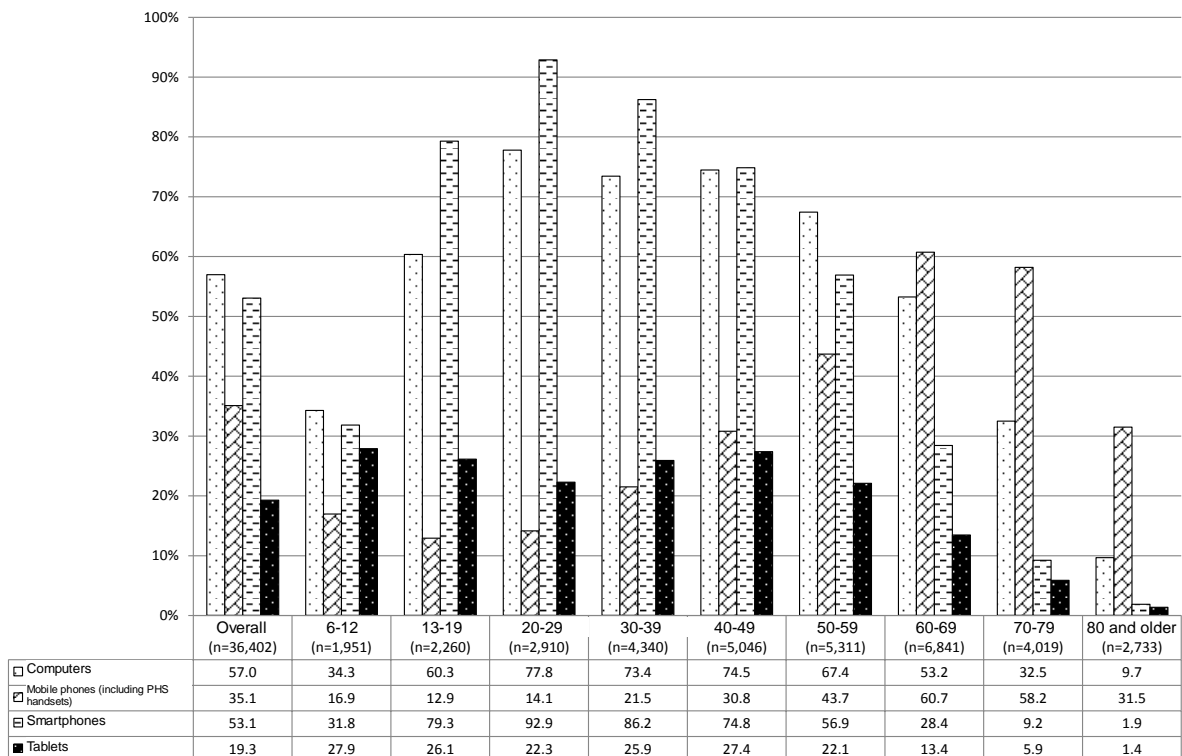


Figure 1-14: Ownership of common communication devices by age group — end of 2015 (individuals)



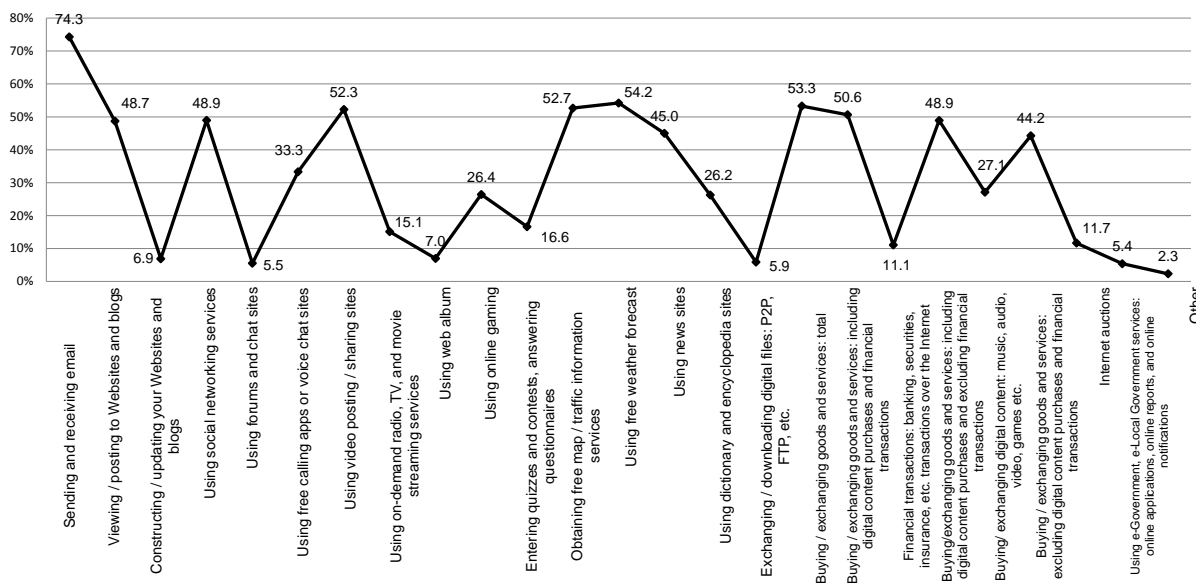
2. Current ICT Usage by Individuals

(1) Purposes of using the Internet

The most common use of the Internet was “sending and receiving email,” at 74.3 percent. This was followed by “using free weather forecast” (54.2 percent) and “buying / exchanging goods and services” (53.3 percent).

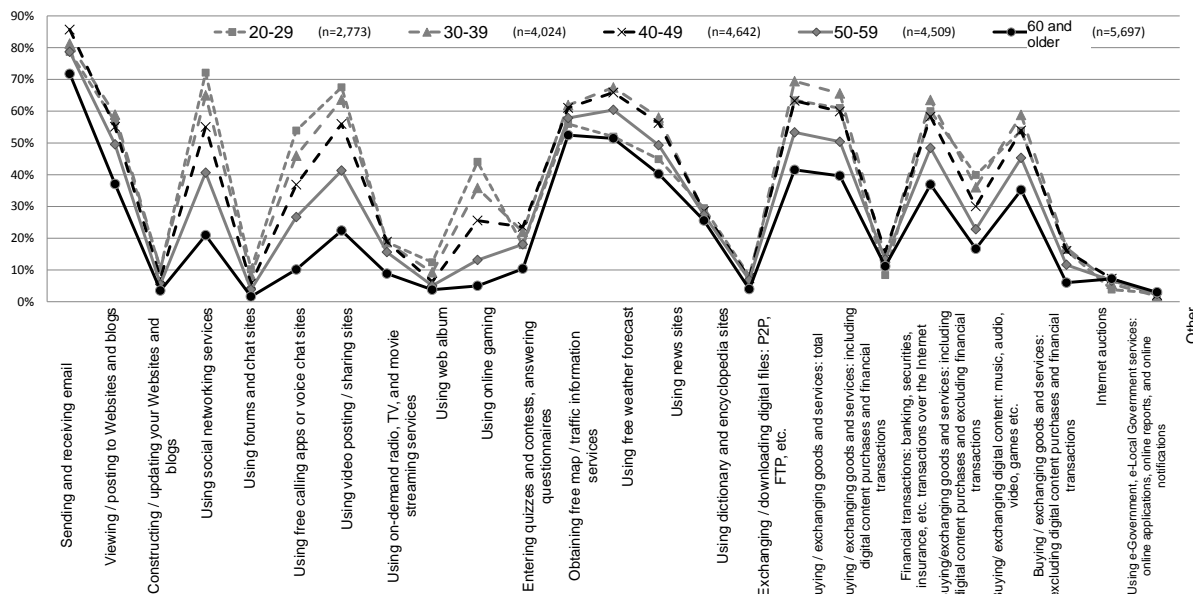
By age group, more than half of the 20 to 59 cohort used the Internet for “sending and receiving email,” “obtaining free map / traffic information services,” “using free weather forecast” and “buying / exchanging goods and services.”

**Figure 2-1: Purposes of using the Internet — end of 2015
(multiple responses accepted)**



Note: as a percentage of Internet users

**Figure 2-2: Purposes of using the Internet by age group — end of 2015
(multiple responses accepted)**



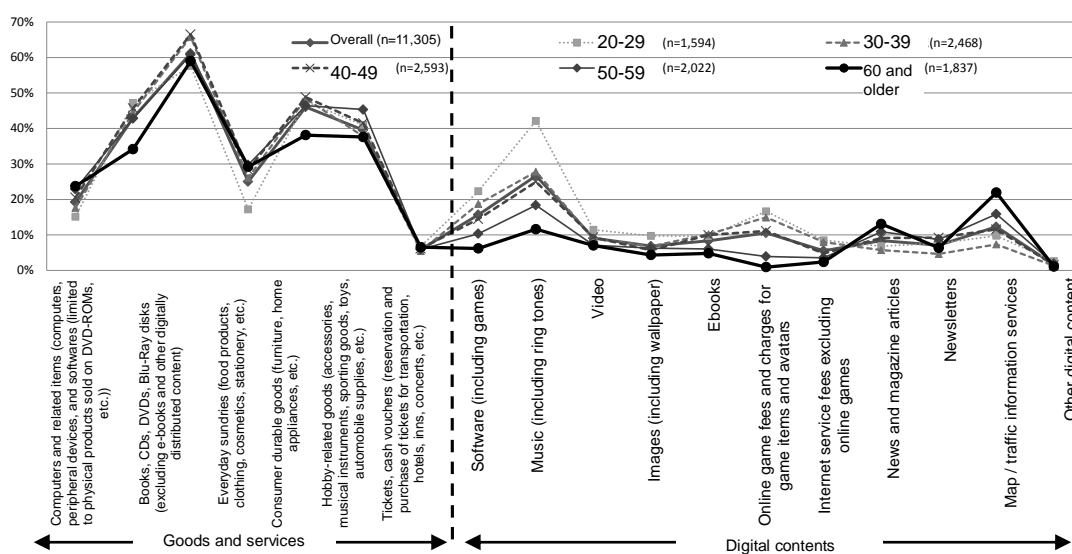
Note: as a percentage of Internet users

(2) Goods and services bought / exchanged over the Internet

By type of goods and services bought and exchanged via the Internet, “everyday sundries” were purchased by the largest percentage, 61.2percent, of people with the experience of making such purchases and transactions, followed by “hobby-related goods” (46.1 percent) and “books, CDs, DVDs, Blu-Ray disks” (43.0 percent).

By age group, the percentage of individuals who purchased “music (including melodic ringtones)” was higher in the 20-29 age group than in other age groups, while the percentage of individuals who purchased “consumer durable goods (furniture, home appliances, etc.)” was lower in that age group. Meanwhile, in the age groups over 60 years old, the percentage of individuals who made Internet-based purchases tended to be low on the whole compared with in other age groups, but the percentage of individuals who purchased “map/ traffic information services” was the highest in those age groups.

Figure 2-3: Goods and services bought over the Internet by age group — end of 2015 (multiple responses accepted)

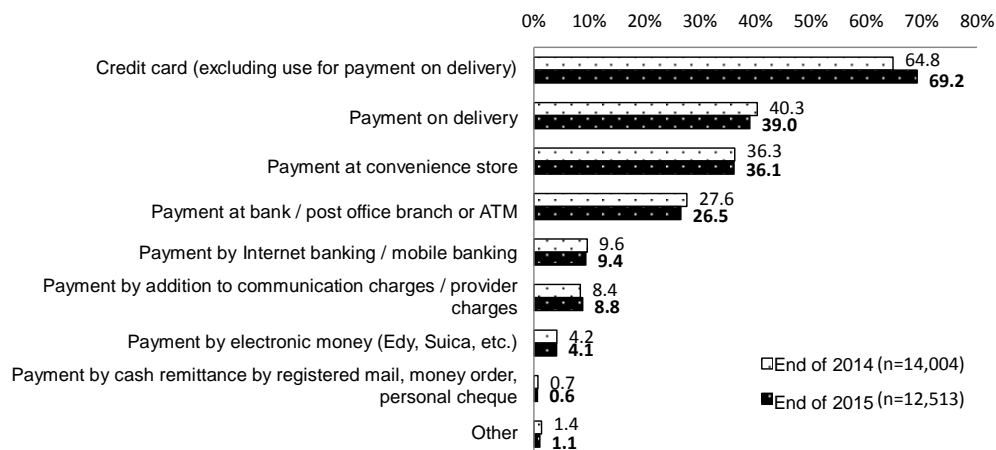


Note: as a percentage of individuals aged 15 or older with the experience of Internet-based purchases

(3) Payment methods for purchases over the Internet

The most common payment method for purchases made over the Internet was “credit card (excluding use for payment on delivery),” at 69.2 percent. This was followed by “payment on delivery” (39.0 percent) and “payment at convenience store” (36.1 percent).

Figure 2-4: Payment methods for purchases over the Internet (multiple responses accepted)



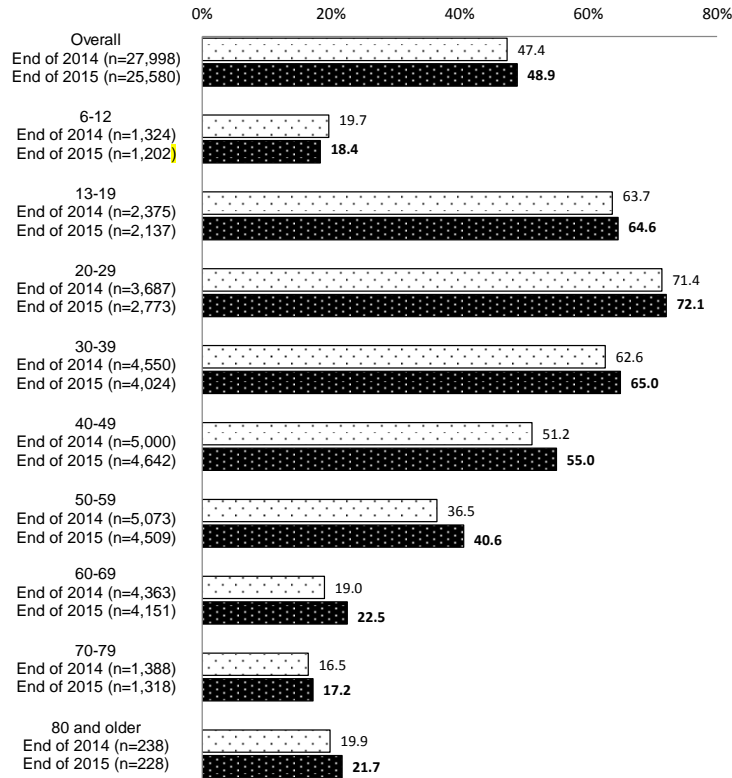
Note: as a percentage of individuals aged 15 or older with the experience of Internet-based purchases

(4) Social networking service usage

Of Internet users, 48.9 percent used social networking services.

The most common purpose of the use of social networking services was “to communicate with current friends,” which was cited by 86.4 percent, followed by “to find information on topics of interest” (39.3 percent) and “to kill time” (27.6 percent).

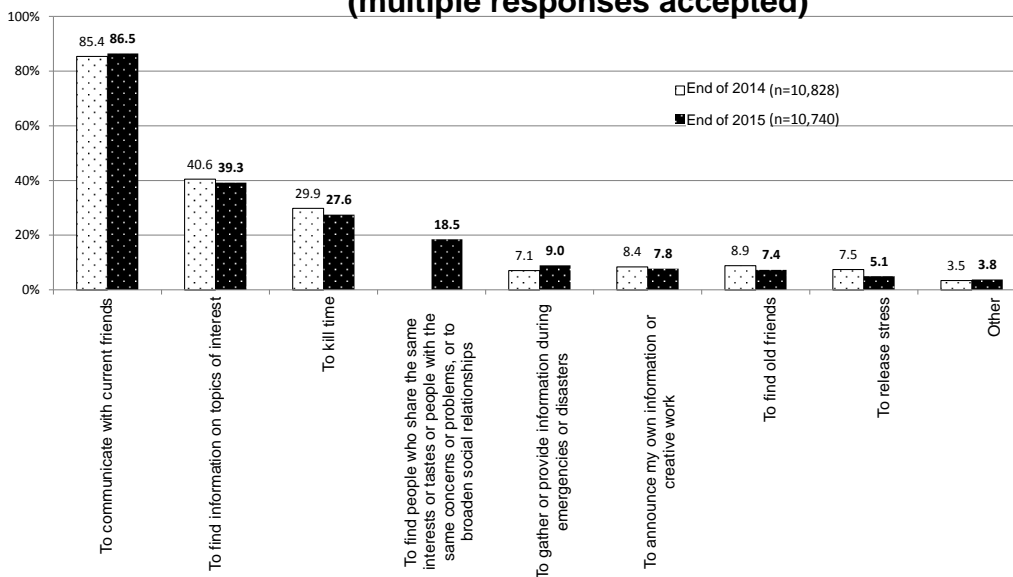
Figure 2-5: Social networking service usage by age group



Note: as a percentage of Internet users

The figures as of the end of 2014 are the percentages of social media users.

Figure 2-6: Purposes of social networking service usage (multiple responses accepted)



Note: as a percentage of social networking service users

The figures as of the end of 2014 are the percentages of social media users.

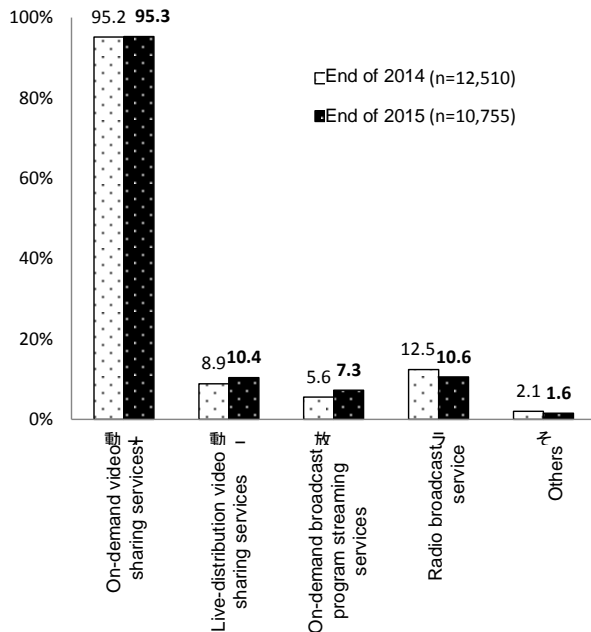
(5) Usage of audio and video content

The most common audio and video content service used was “on-demand video sharing services,” at 95.3 percent.

The most common device used to access audio and video content was “smartphones,” which was cited by 69.6 percent, followed by computers (48.5 percent)

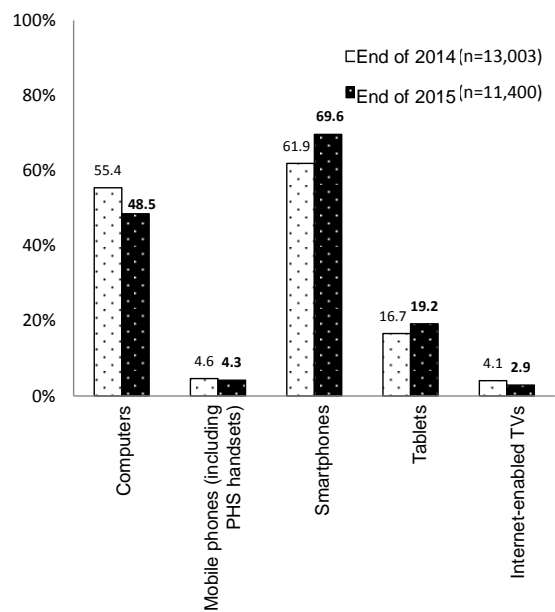
The most common purpose was “to watch videos by artists, etc., that I like,” at 62.3 percent. This was followed by “to watch popular / talked-about videos / programs” (46.2 percent).

Figure 2-7: Audio and video content services used (multiple responses accepted)



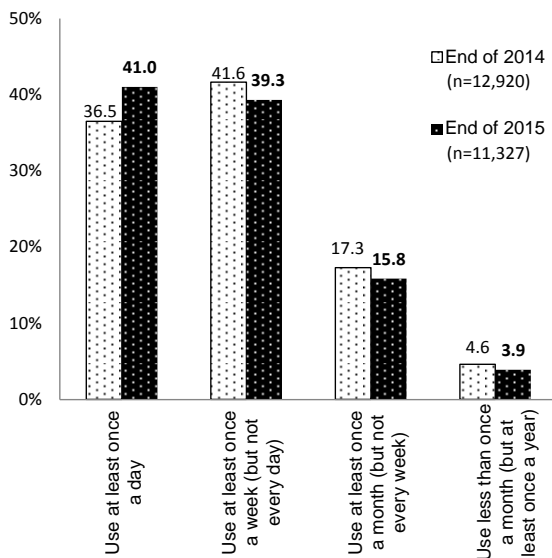
Note: as a percentage of audio and video content users

Figure 2-8: Devices used to access audio and video content (multiple responses accepted)



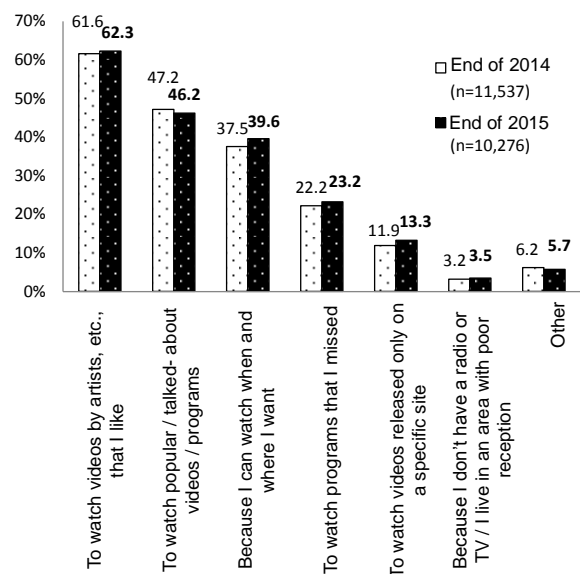
Note: as a percentage of audio and video content users

Figure 2-9: Frequency of audio and video content usage



Note: as a percentage of audio and video content users

Figure 2-10: Purposes of audio and video content usage (multiple responses accepted)



Note: as a percentage of audio and video content users

3. Current ICT Usage by Businesses

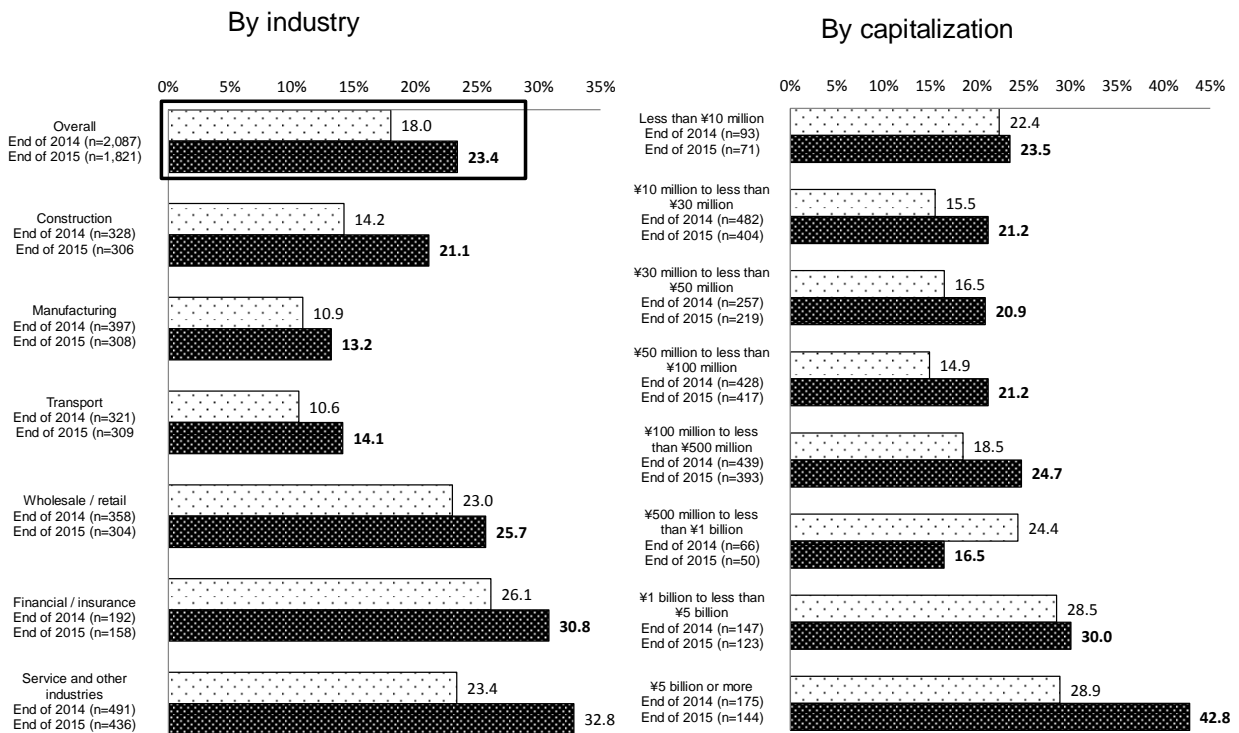
(1) Social media usage

Of businesses using the internet, 23.4 percent used social media services in at least some of their operations, up 5.4 points from 18.0 percent in the previous year.

By industry, “service and other industries” had the highest social media usage rate, at 32.8 percent. This was followed by “financial / insurance” (30.8 percent) and “wholesale / retail” (25.7 percent).

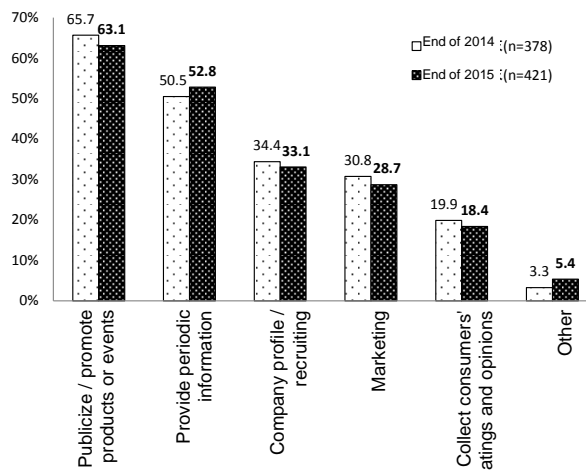
By capitalization, the Internet usage rate among businesses with ¥5 billion or more in capital was the highest at 42.8 percent, up 13.9 points from 28.9 percent in the previous year.

Figure 3-1: Social media usage by industry and capitalization



Note: as a percentage of businesses using the Internet

Figure 3-2: Purpose / application of social media usage (multiple responses accepted)



Note: as a percentage of businesses using social media services

(2) E-commerce usage

48.8 percent of businesses engaged in e-commerce (purchasing or selling over the Internet).

By industry, “wholesale / retail” had the highest usage rate, at 61.3 percent. This was followed by “financial / insurance” (60.4 percent) and “manufacturing” (48.6 percent).

Among businesses that used the Internet for sales, the most common Internet sales model was “e-store (own site),” at 63.8 percent. This was followed by “e-store (store in an e-mall)” (37.9 percent).

Figure 3-3: E-commerce usage by industry and capitalization — end of 2015 (multiple responses accepted)

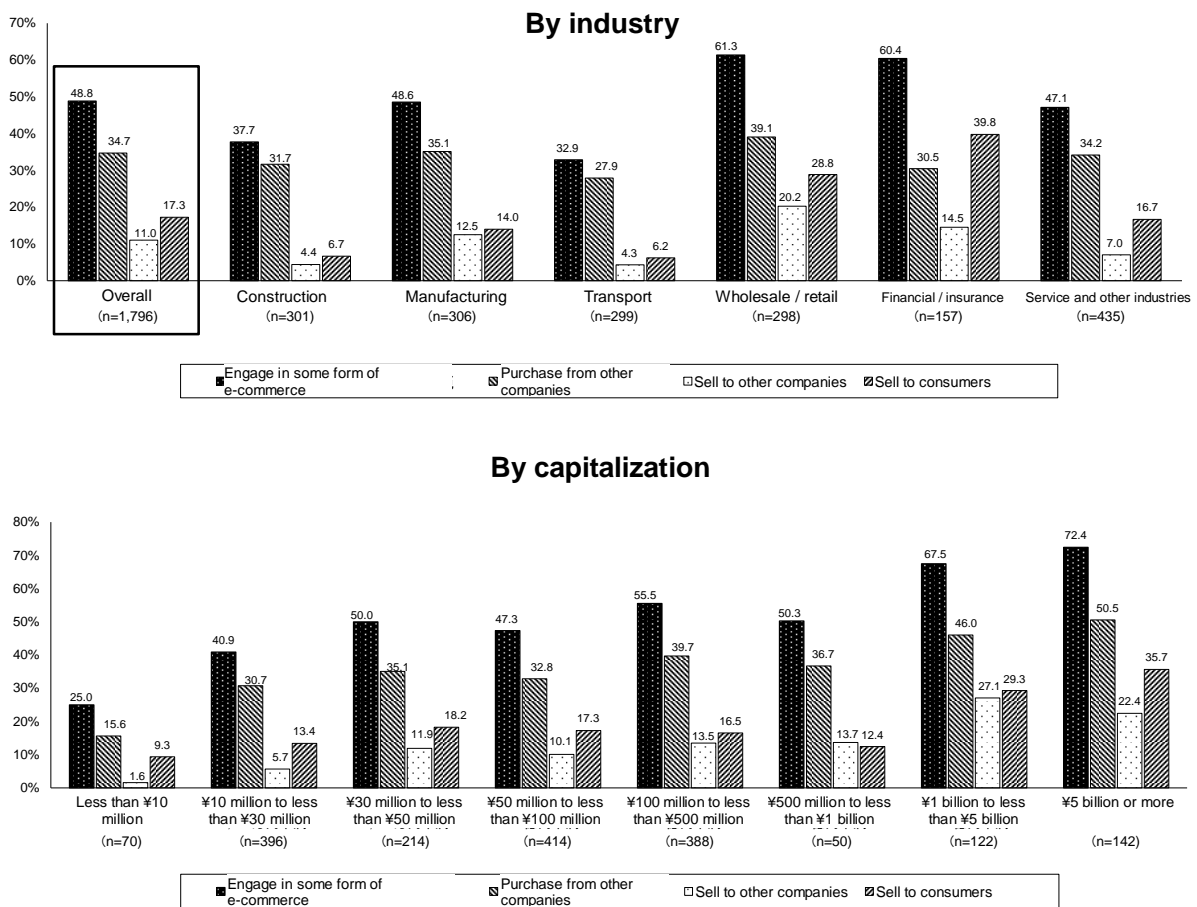
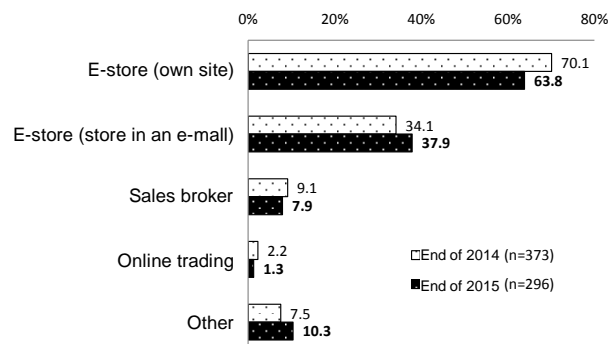


Figure 3-4: Internet sales models (multiple responses accepted)



Note: as a percentage of businesses that used the Internet for sales

(3) Use of Internet advertising

Of the surveyed businesses, 27.5 percent used Internet advertising.

By industry, “financial / insurance” had the highest social media usage rate, at 57.4 percent. This was followed by “service and other industries” (37.1 percent) and “wholesale / retail” (33.7 percent).

The most common type of Internet advertisement was “banner ads,” at 52.8 percent. This was followed by “newsletters” (32.4 percent) and “text ads” (28.9 percent).

Figure 3-5: Internet advertising usage by industry and capitalization

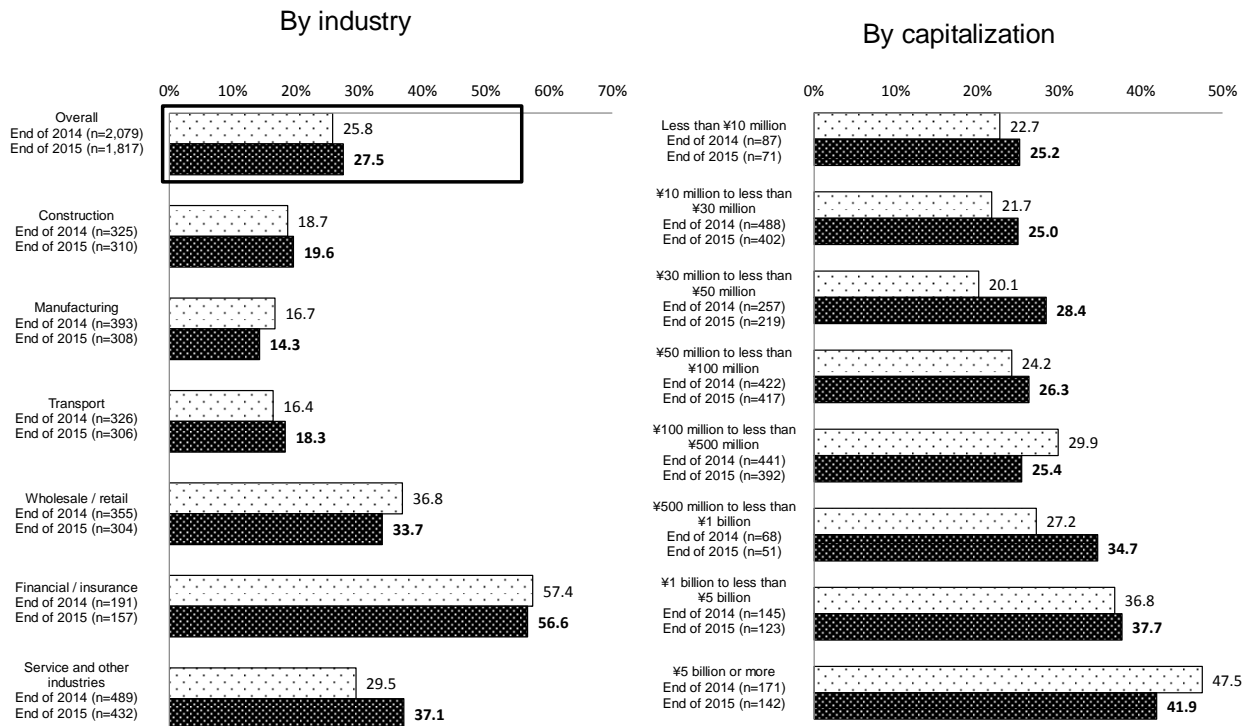
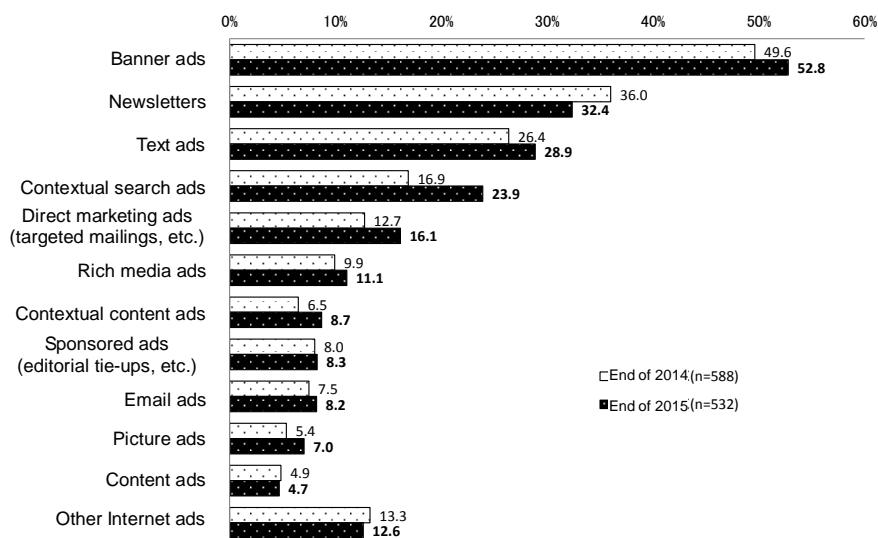


Figure 3-6: Types of Internet advertisements (multiple responses accepted)



Notes: As a percentage of businesses using Internet advertising

1. Text ads are ads composed only of text.
2. Banner ads are images placed on Websites that advertise a different Website. When clicked, banner ads jump to the advertised Website.
3. Rich media ads are ads that use audio and images that move in response to mouse movements or display video with streaming technology.
4. Servers of contextual content ads analyze the context or keywords in the content on a Web page and display ads with the most relevance to the content.

(4) Adoption of ICT tools* using wireless communication technology

Of the surveyed businesses, 49.0 percent have adopted ICT tools using wireless communication technology. The most common tool was “contactless IC cards,” at 29.9 percent.

By industry, the usage rate for contactless IC cards was high, around 60%, in the “financial/insurance” industry.

Of the surveyed businesses, 69.7 percent selected the reply “Neither using nor planning to use ICT tools.”

* This survey uses the term “ICT tools” as a general name for business tools equipped with communication devices, such as RFID tags, contactless IC cards, network cameras, sensors, or other network-enabled devices, and GPS, mobile phone, or other location devices.

Figure 3-7: Adoption of services or systems using ICT tools

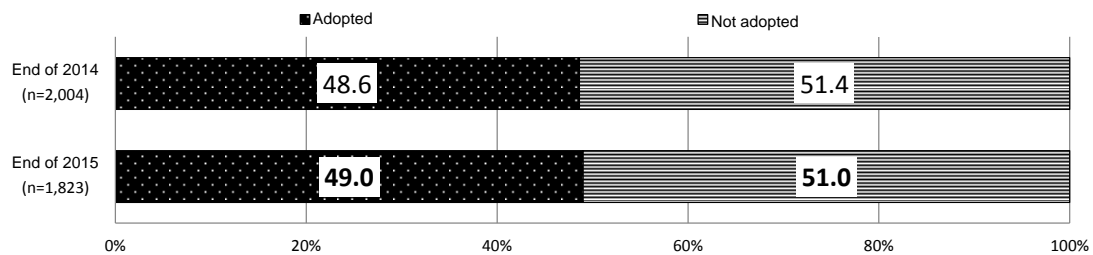


Figure 3-8: Adoption of ICT tools by industry and capitalization — end of 2015

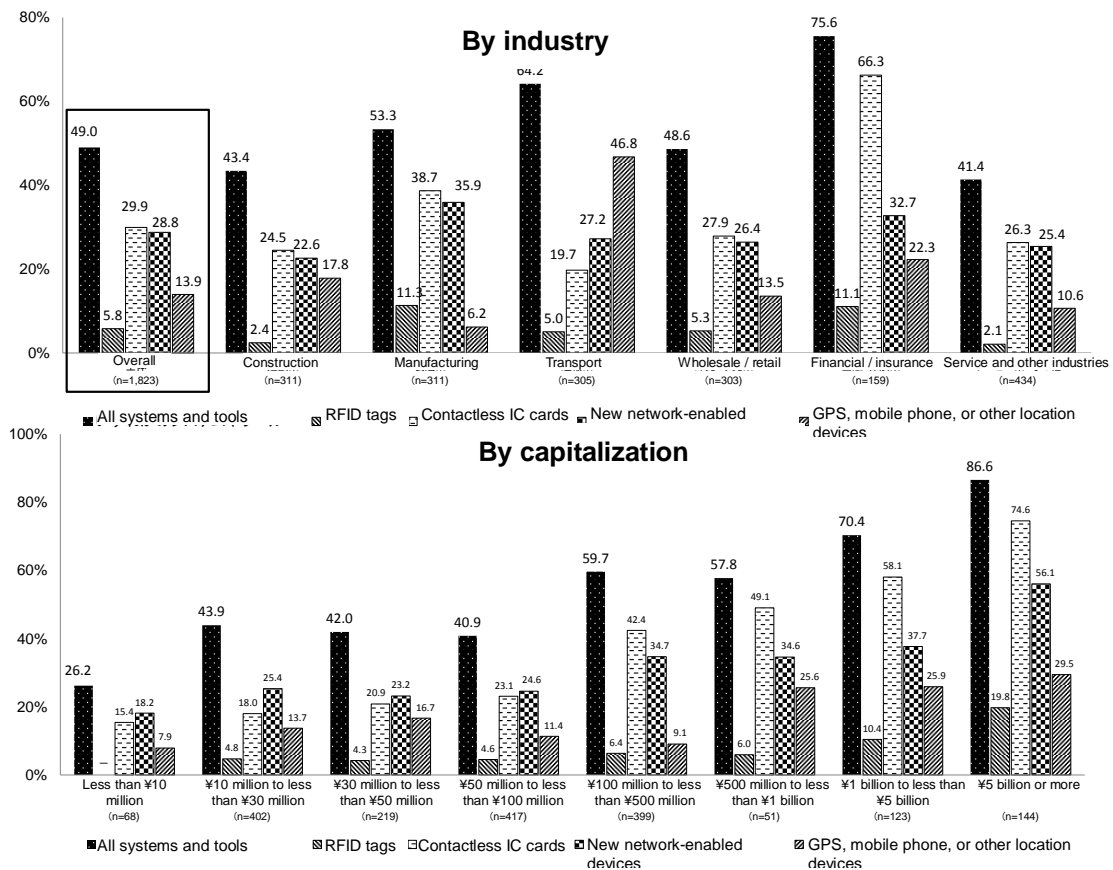
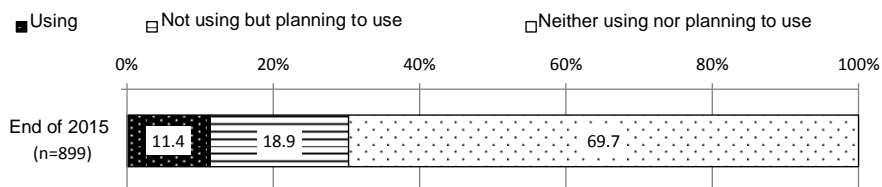


Figure 3-9: Usage of information collected through ICT tools — end of 2015



Note: as a percentage of companies which have introduced ICT tools

(5) Cloud computing service usage

Of the surveyed businesses, 44.6 percent used cloud computing services (cloud services), up 5.9 points from 38.7 percent in the previous year.

By type of cloud service used, “email” was used by the largest percentage, 51.9 percent, followed by “file management / data storage” (51.3 percent) and “server applications” (42.9 percent).

As for the impact of the use of cloud services, 83.1 recognized either a “very beneficial” or “somewhat beneficial” impact.

Figure 3-10: Transitions in cloud service usage

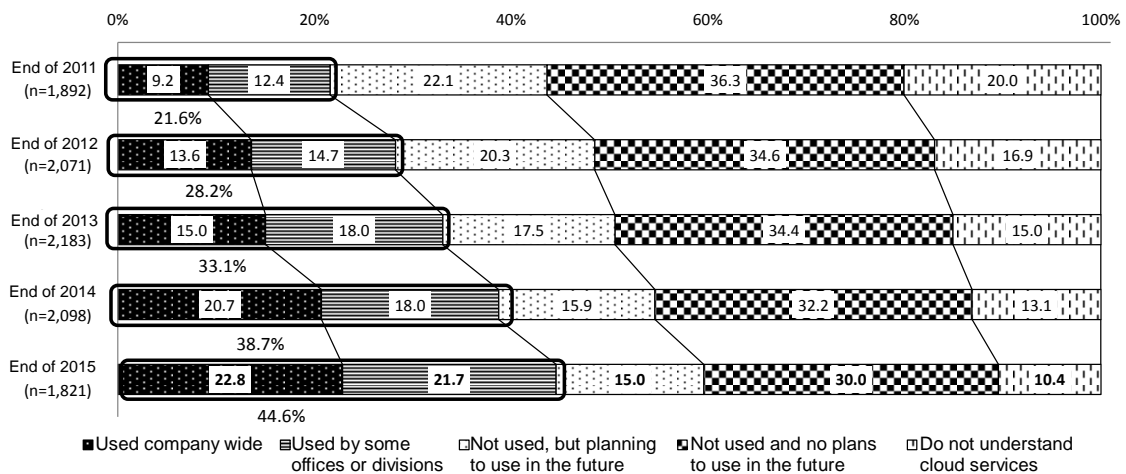


Figure 3-11: Cloud service usage by industry and capitalization

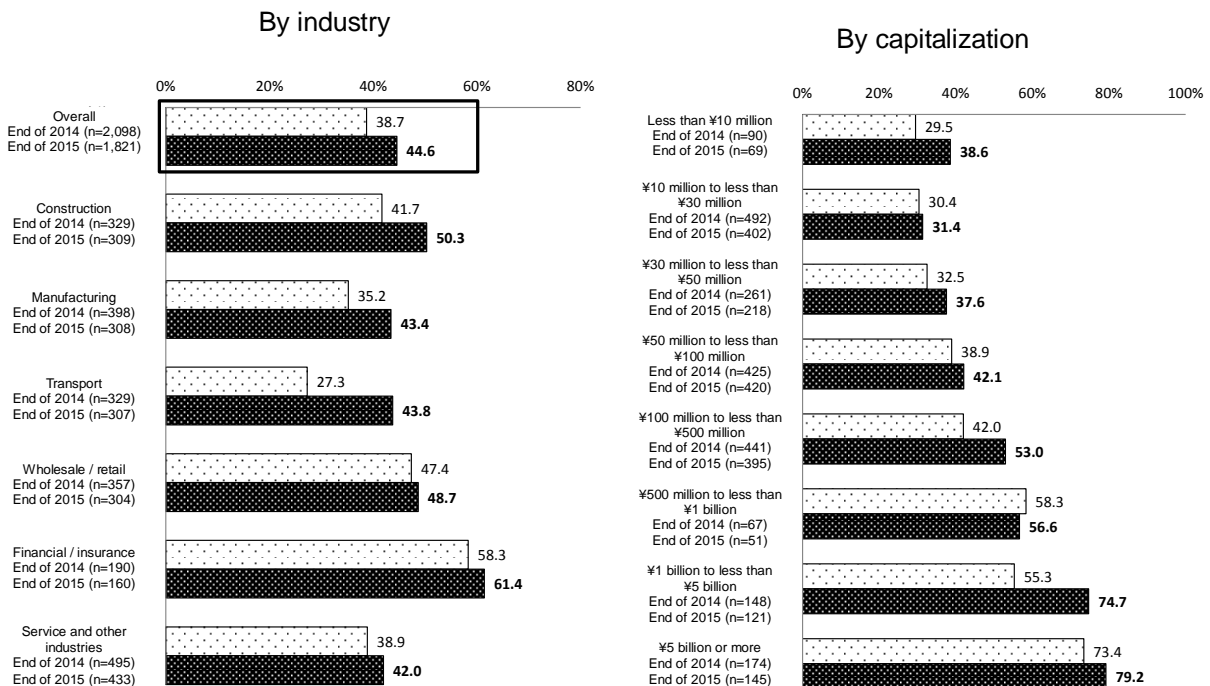


Figure 3-12: Impact of cloud computing services — end of 2015

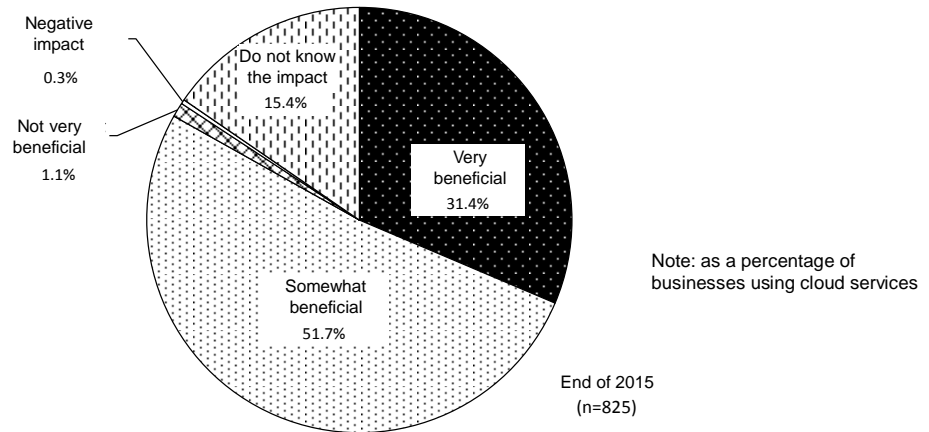
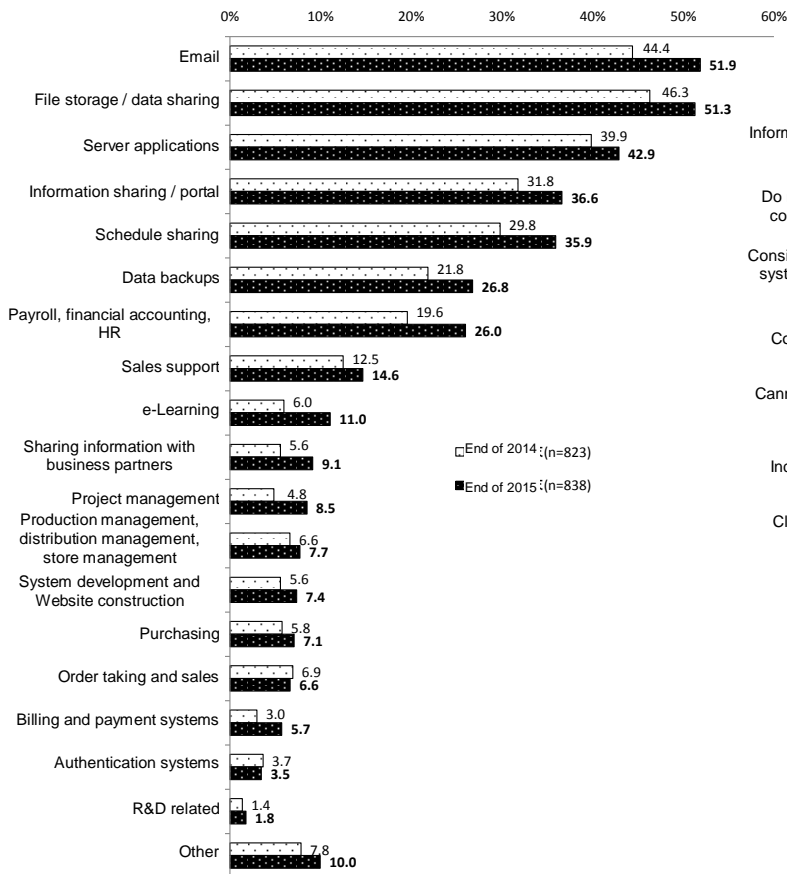
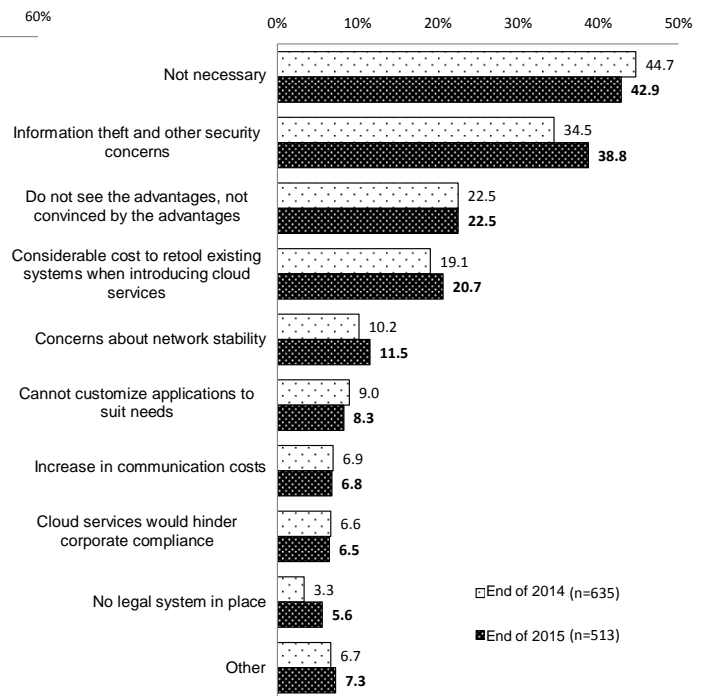


Figure 3-13: Cloud services used by businesses (multiple responses accepted)



Note: as a percentage of businesses using cloud services

Figure 3-14: Reasons for not using cloud services (multiple responses accepted)



Note: as a percentage of businesses which neither used nor planned to use cloud services.

(6) Introduction of Telework*

Of the surveyed businesses, 16.2 percent have introduced telework, up 4.7 points from 11.5 percent in the previous year.

By capitalization size, more than 40 percent of businesses with 5 billion yen or more in capital have introduced telework.

By type of telework, “mobile work” was introduced by the largest percentage, 60.3 percent.

The highest ranked purpose for introducing telework was “raise efficiency (productivity) of routine business processes,” at 49.5 percent. This was followed by “reduce workers’ transportation times” (45.8 percent) and “prepare for business continuity in the event of emergencies (earthquakes, super-flu outbreaks, etc.)” (21.3 percent).

Concerning the percentage of employees using telework, “less than 5%” was the most common reply as it was cited by 41.7%, down 8.1 points from 49.9 percent in the previous year. Meanwhile, the percentage of businesses which selected the reply “10 percent to less than 30 percent” rose 10.6 points from 22.1 percent in the previous year to 32.7 percent.

Among businesses that have introduced telework, more than 80 percent recognized the benefits of telework: 82.5 percent replied that they have found telework to be either “very beneficial” or “somewhat beneficial.”

(Note) Telework includes working from home, satellite office work, and mobile work.

Figure 3-18: Transitions in telework introduction

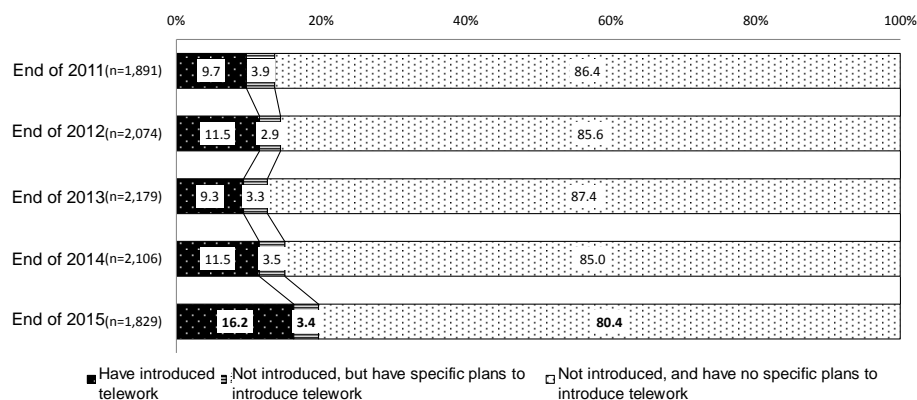


Figure 3-19: Telework introduction by capitalization — end of 2015

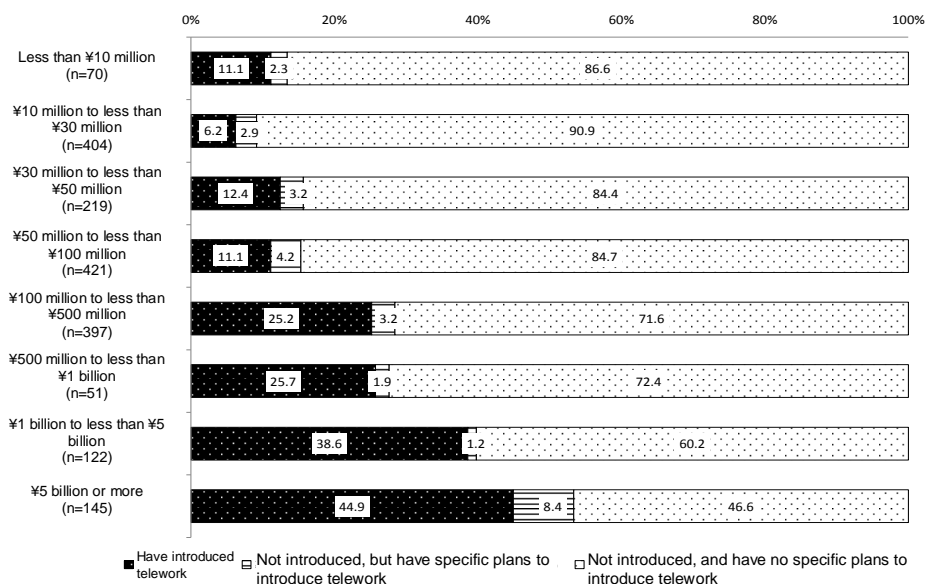
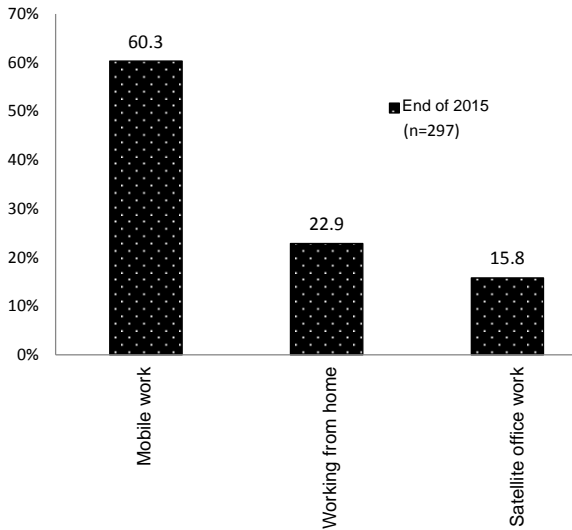
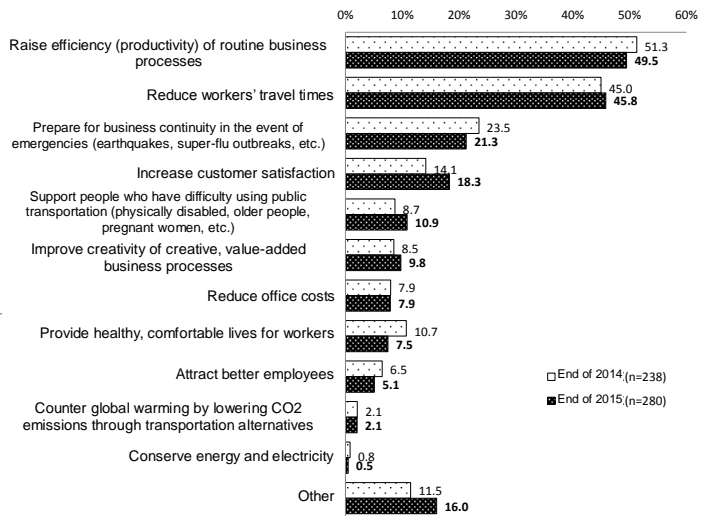


Figure 3-20: Type of telework introduced — end of 2015



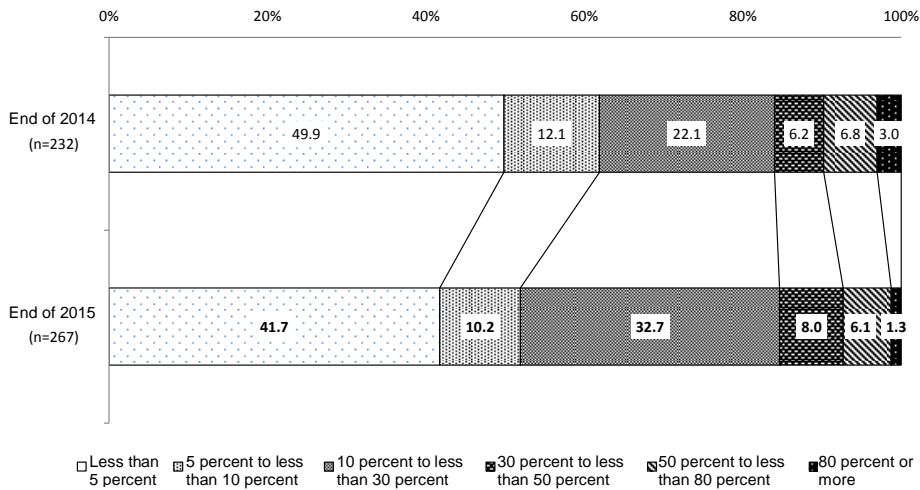
Note: as a percentage of businesses which have introduced telework

Figure 3-21: Purposes of introducing telework (multiple responses accepted)



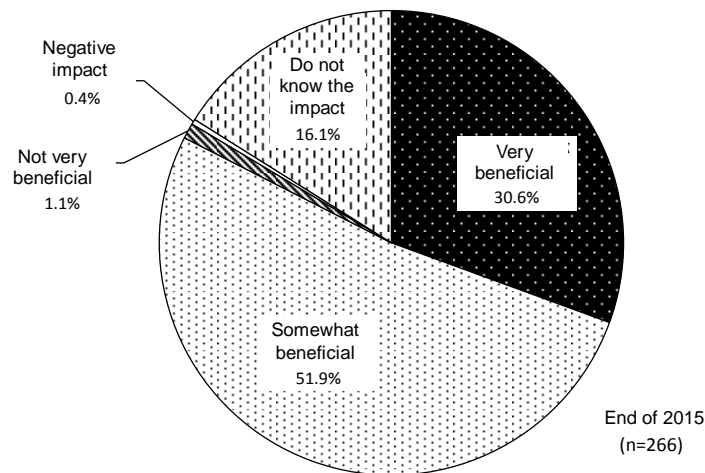
Note: as a percentage of businesses which have introduced telework

Figure 3-22: Percentage of employees using telework



Note: as a percentage of businesses which have introduced telework

Figure 3-23: Telework benefits — end of 2015



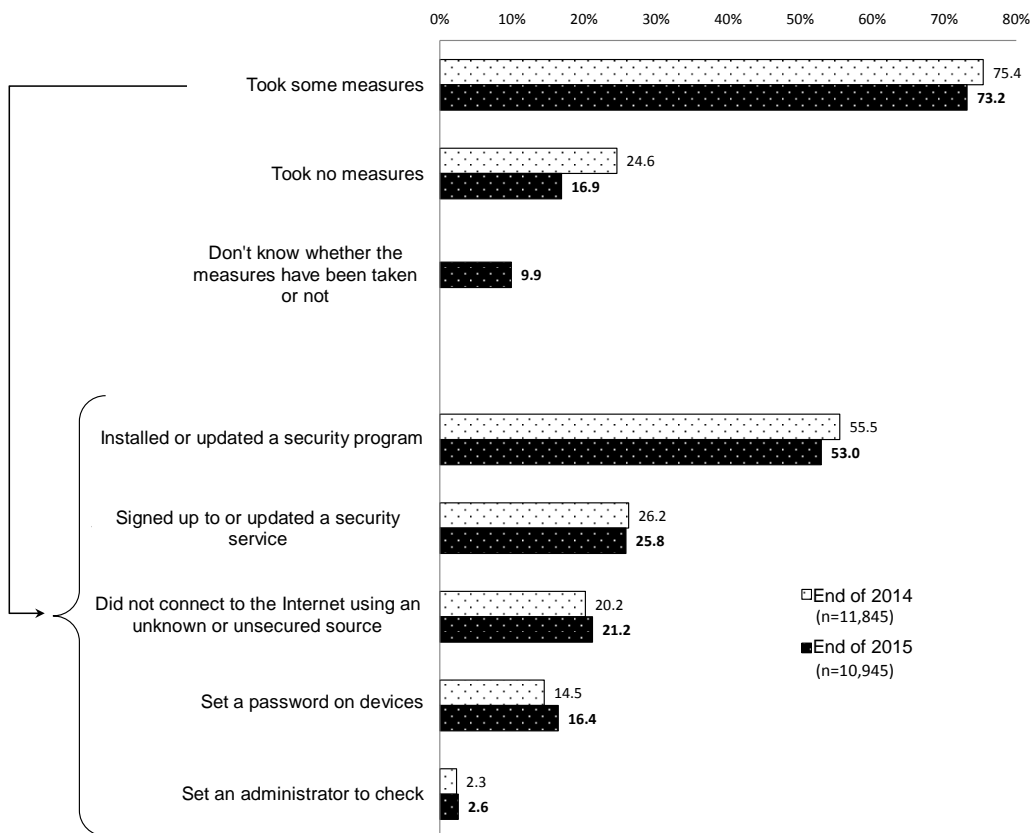
Note: as a percentage of businesses which have introduced telework

4. Safety and security efforts

(1) State of security measures (households)

Among households that use the Internet, 73.2 percent have taken some security measures. The most common security measures taken were “installed or updated a security program,” at 53.0 percent. This was followed by “signed up to or updated a security service” (25.8 percent) and “did not connect to the Internet using an unknown or unsecured source” (21.2 percent).

**Figure 4-1: State of security measures (households)
(multiple responses accepted)**



Note: as a percentage of households with at least one person who used the Internet in the past one year. In the previous year's survey, the reply option "Don't know whether the measures have been taken or not" was available, so care should be taken when comparison is conducted.

(2) Concerns about using the Internet (households)

Among households that use the Internet, nearly 80 percent of households (78.6 percent) feel some concern — either “feel a little concerned” or “feel concerned” — about using the Internet.

Among households with concerns, the largest concern was “concern about leak of personal information” at 80.4 percent. This was followed by “concern about computer virus infections” (77.9 percent) and “concern about receiving spam” (47.3 percent).

Figure 4-2: Concerns about using the Internet (households)

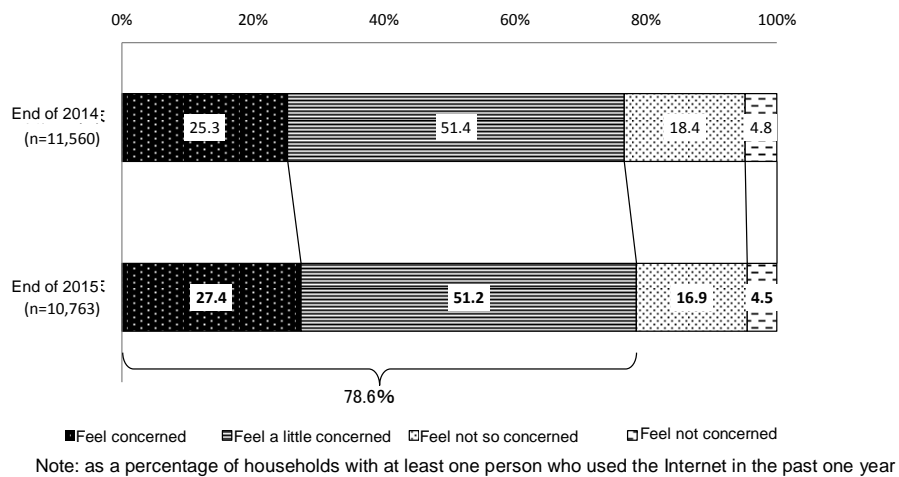
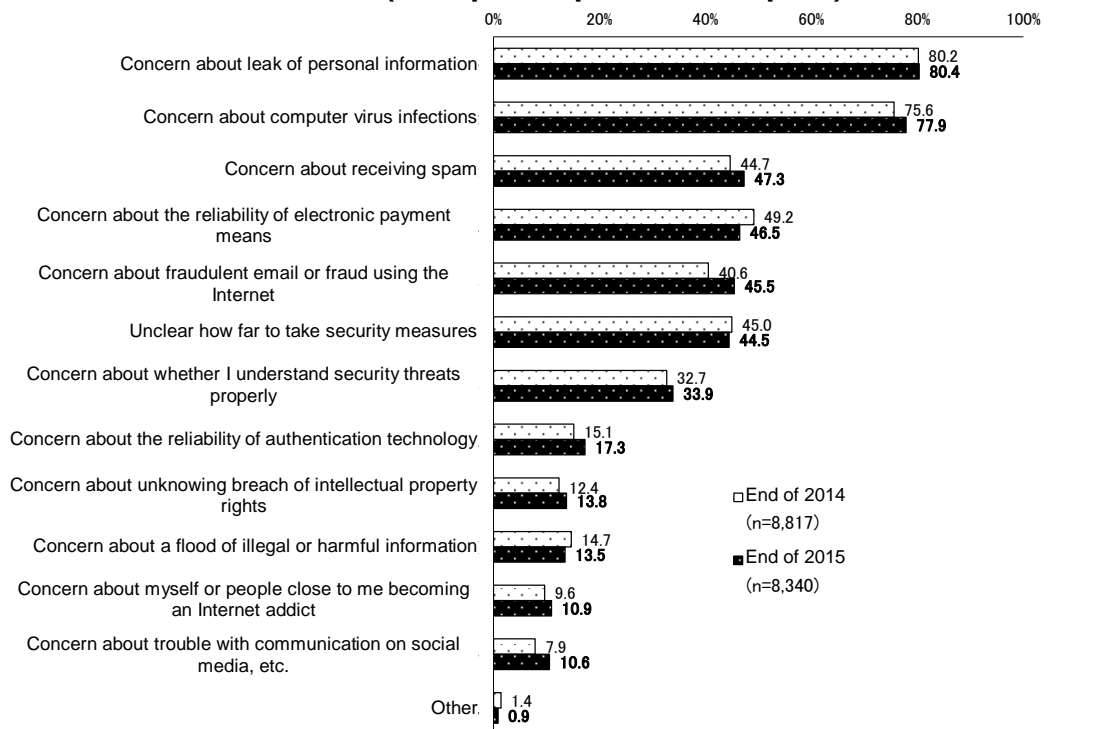


Figure 4-3: Types of concerns about using the Internet (households) (multiple responses accepted)



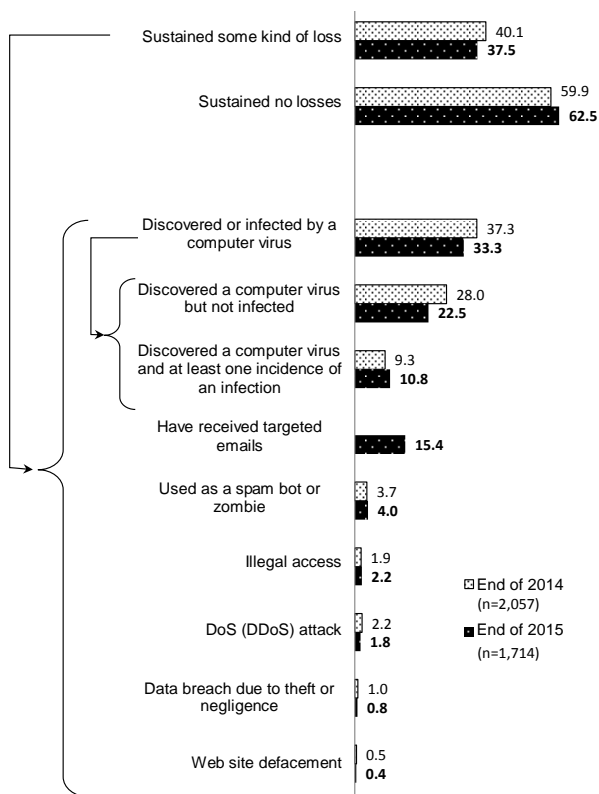
Note: as a percentage of households which replied that they “feel concerned” or “feel a little concerned” about using the Internet

(3) Security breaches on company communication networks and security measures taken (businesses)

Among businesses that used information-communication networks, 37.5 percent reported some type of loss resulting from a security breach during the use of information-communication networks in the past year. By type of security breach, 33.3 percent discovered or were infected by a computer virus and 15.4 percent received targeted emails.

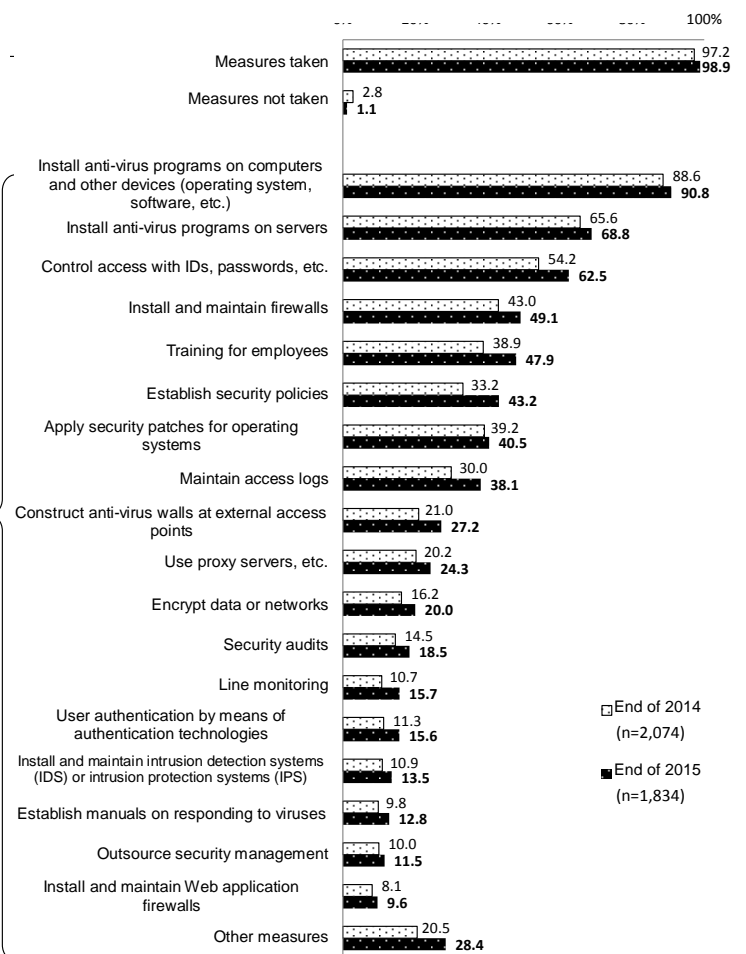
The percentage of businesses that implemented some security measures was 98.9 percent. By type of security measure, the implementation rate was highest, 90.8 percent, for “install anti-virus programs on computers and other devices (operating system, software, etc.), which was followed by “install anti-virus programs on servers” (68.8 percent) and “control access with IDs, passwords, etc.” (62.5 percent).

Figure 4-4: Security breaches that occurred in the past year during the use of information-communication networks (businesses) (multiple responses accepted)



Note: as a percentage of businesses using company communication networks or the Internet

Figure 4-5: State of security measures (businesses) (multiple responses accepted)



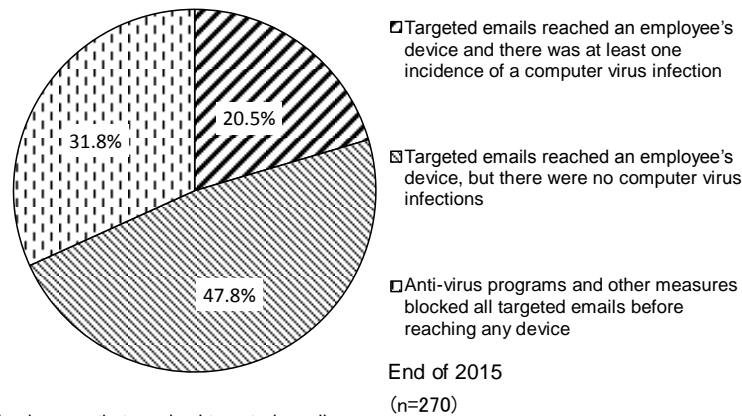
Note: as a percentage of businesses using company communication networks or the Internet

(4) Targeted email losses and security measures taken (businesses)

Of businesses which received targeted emails, 47.8 percent selected the reply “Targeted emails reached an employee’s device, but there were no computer virus infections,” while 20.5 percent selected “Targeted emails reached an employee’s device and there was at least one incidence of a computer virus infection.”

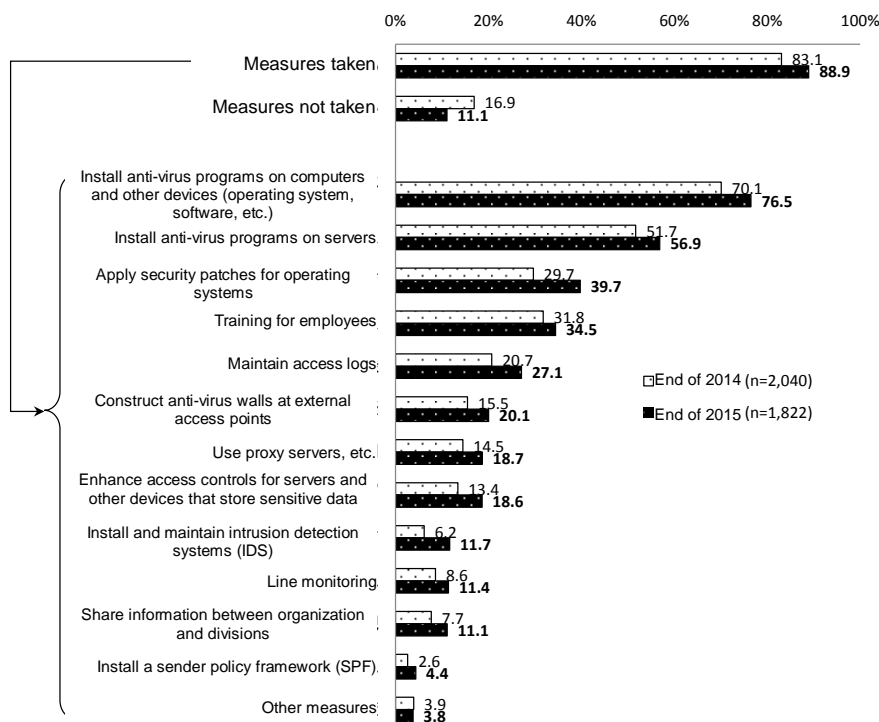
Of businesses that used information-communication networks, 88.9 percent implemented some security measures against targeted emails, up 5.9 points from 83.1 percent in the previous year. By type of security measure, “Install anti-virus programs on computers and other devices (operating system, software, etc.) was the most common measure, as it was cited by 76.5 percent, followed by “Install anti-virus programs on servers” (56.9 percent) and “Training for employees” (39.7 percent). The Implementation ratios for all these measures were up more than 5 points from the previous year.

Figure 4-6: Losses from targeted emails — end of 2015 (businesses)



Note: as a percentage of businesses that received targeted emails

Figure 4-7: Security measures against targeted emails (businesses) (multiple responses accepted)

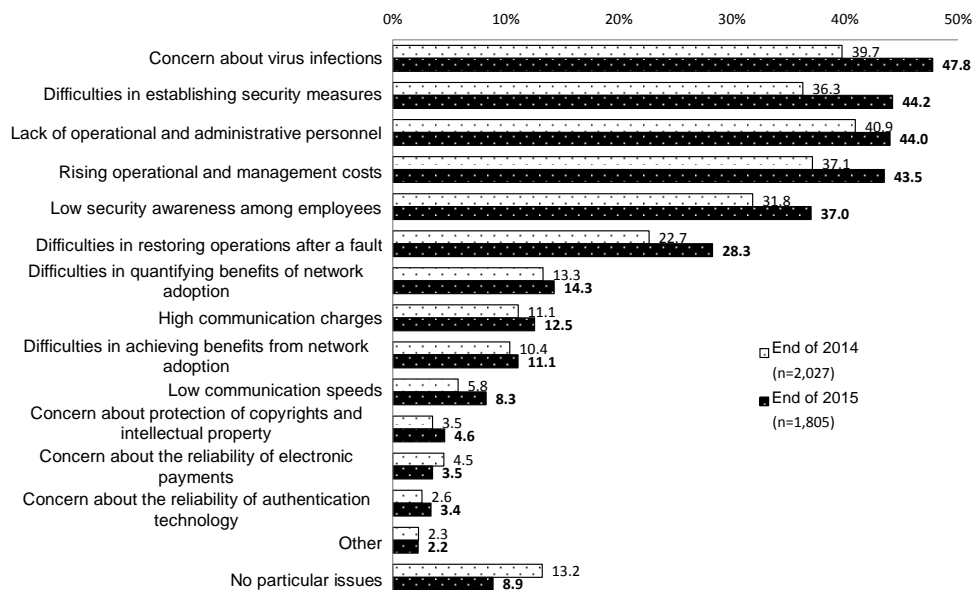


Note: as a percentage of businesses using company communication networks or the Internet

(5) Issues associated with Internet, intranets, and other network usage (businesses)

Among issues associated with usage of the Internet, intranets, and other networks, “concern about virus infections” was cited by the largest percentage of businesses, 47.8 percent, up 8.0 points from 39.7 percent in the previous year. It was followed by “difficulties in establishing security measures” (44.2 percent) and “lack of operational and administrative personnel” (44.0 percent). Most reply options were cited by a larger percentage of businesses than in the previous year.

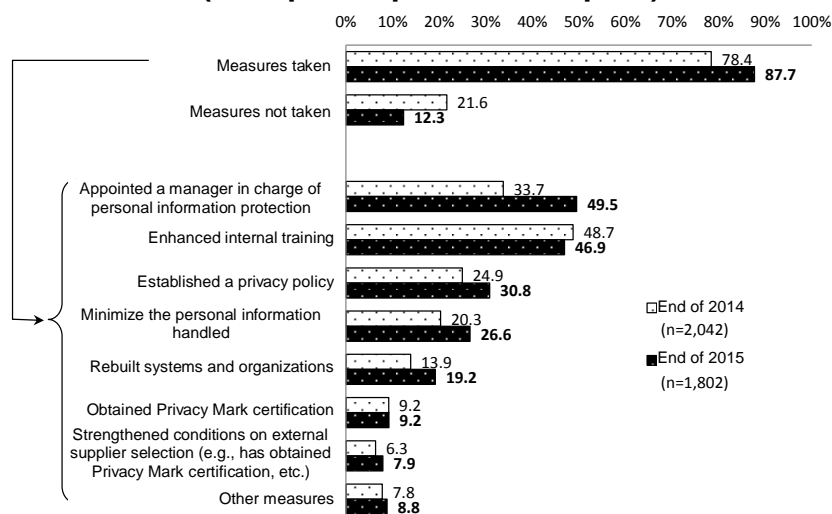
Figure 4-8: Issues associated with Internet, intranets, and other network usage (businesses) (multiple responses accepted)



(6) State of personal information protection measures (businesses)

87.7 percent of businesses, a 9.3 percentage point increase from the previous year (78.4%), have taken some personal information protection measures. By type of information protection measure, “appointed a manager in charge of personal information protection” was cited by the largest percentage, 49.5 percent, up 15.8 points from 33.7 percent in the previous year. This was followed by “enhanced internal training” (46.9 percent) and “established a privacy policy” (30.8 percent).

Figure 4-9: State of personal information protection measures (businesses) (multiple responses accepted)

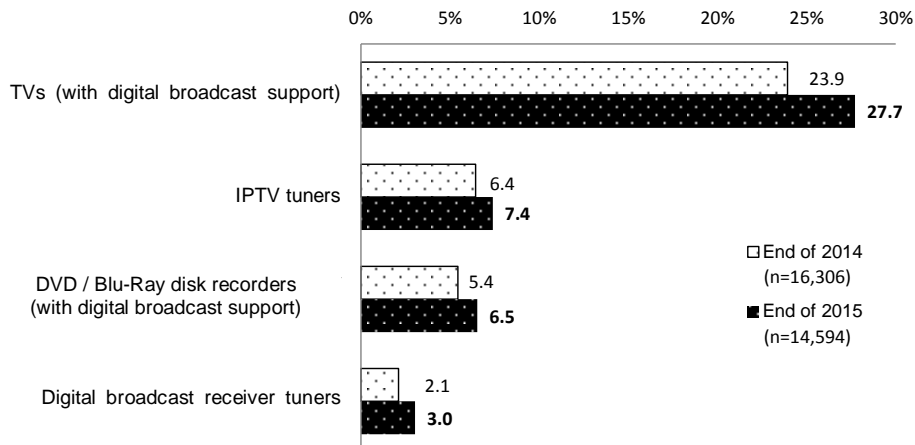


5. Usage of Digital Television Broadcasting

(1) Internet connection of digital TV, etc. (households)

Of the surveyed households, 27.7 percent used Internet-connected TVs (with digital broadcast support), while 7.4 percent used Internet-connected IPTV tuners.

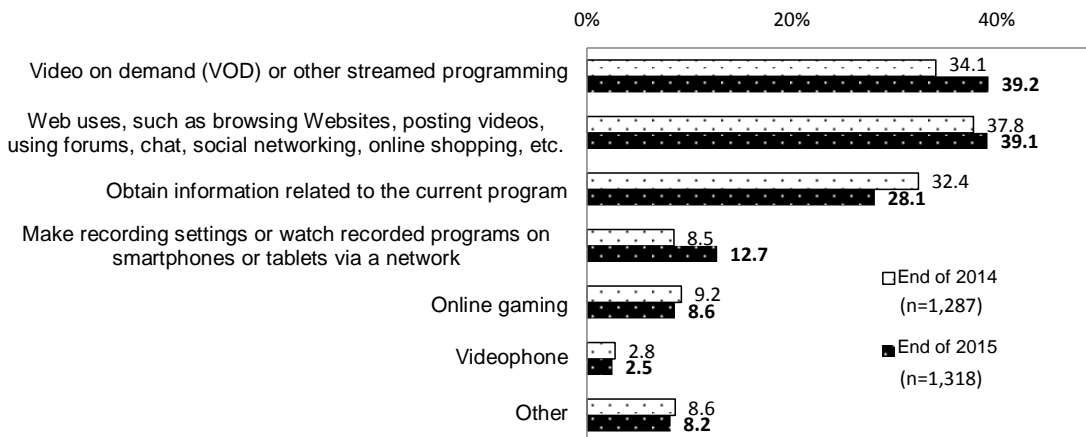
Figure 5-1: Internet connection of digital TV, etc. (households)



(2) Purposes of Internet access function usage of digital television, etc. (households)

As for the purpose of Internet access function usage, “video on demand (VOD) or other streamed programming” was cited by the largest percentage, 39.2 percent, up 5.1 points from 34.1 percent in the previous year. This was followed by “web uses” (39.1 percent) and “obtain information related to the current program” (28.1 percent).

Figure 5-2: Purposes of Internet access function usage (households) (multiple responses accepted)



Note: as a percentage of households using the Internet access function of digital TV tuners.