

Section 11 Digital Usage Trends

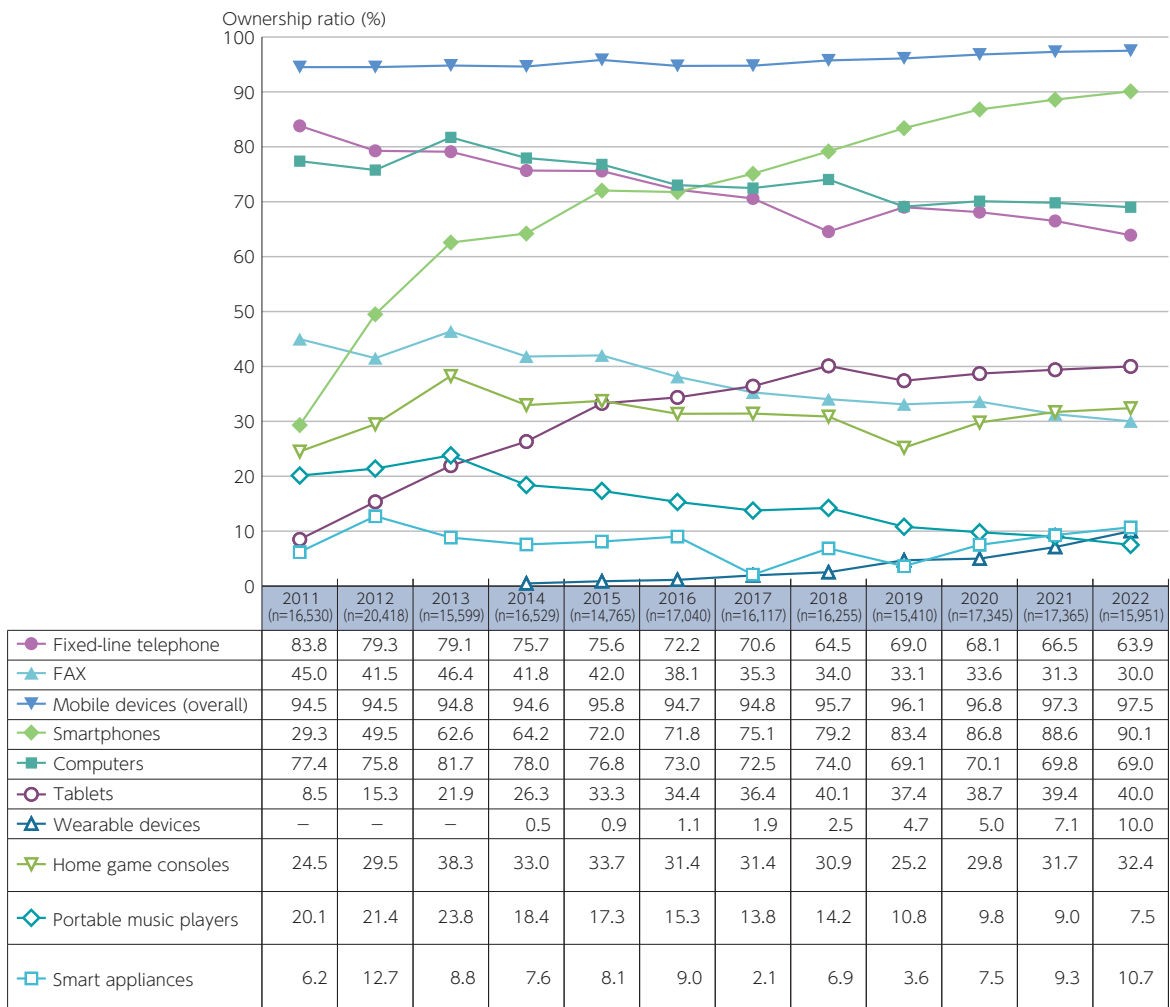
1. Digital usage trends in the daily life of the public

(1) ICT devices and terminals

The Internet is now crucial in order to make use of digital technologies. In 2022, the household ownership rate of ICT devices for connecting to the Internet was

97.5% for “mobile devices” including 90.1% for “smart-phones.” The rate was 69.0% for PCs (Figure 4-11-1-1).

Figure 4-11-1-1 Changes in household ownership of ICT devices



(Source) MIC “Communications Usage Trend Survey”¹

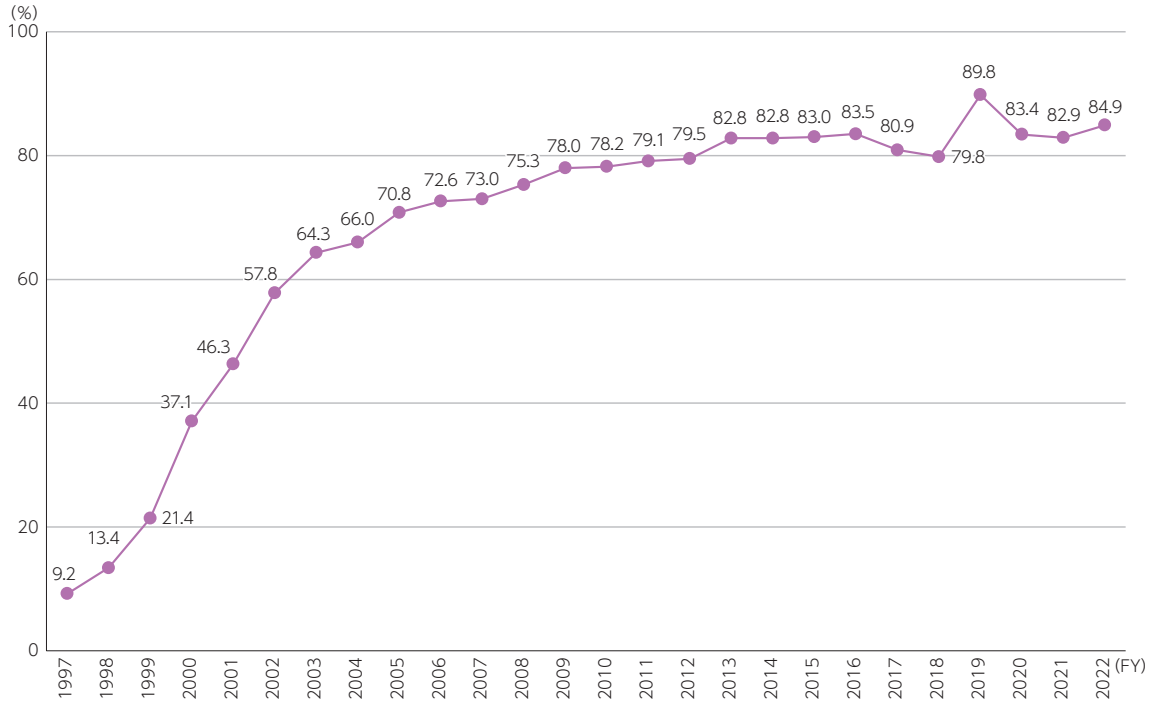
¹ <https://www.soumu.go.jp/johotsusintokei/statistics/statistics05.html>

(2) Internet**a Usage**

In 2022, the Internet usage rate for individuals was 84.9% (**Figure 4-11-1-2**), and the Internet usage rate for

individual devices was 22.6 percentage points higher for smartphones (71.2%) than for PCs (48.5%).

Figure 4-11-1-2 Changes in Internet usage rate (individuals)²



(Source) MIC "Communications Usage Trend Survey"



Figure (related data) Types of Internet devices (individual)

Source: MIC "Communications Usage Trend Survey"

URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/eng/WP2023/data_collection.html#f00281

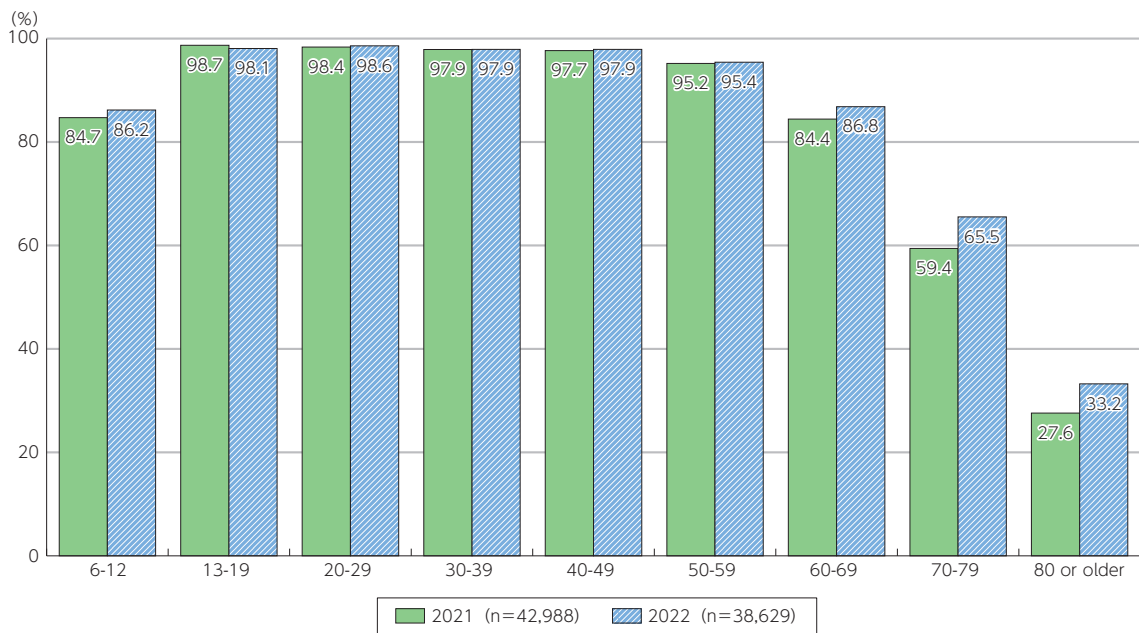
(Data collection)

Looking at Internet usage by age group of individuals reveals that the rate exceeds 90% in each age group from 13 to 59 years old, but tends to decrease after 60 years old (**Figure 4-11-1-3**). Internet usage by annual house-

hold income also exceeded 80% in each category of four million yen or more (**Figure 4-11-1-4**). By prefecture, Internet usage exceeds 80% in 34 prefectures, and smartphone usage exceeds 50% in all prefectures.

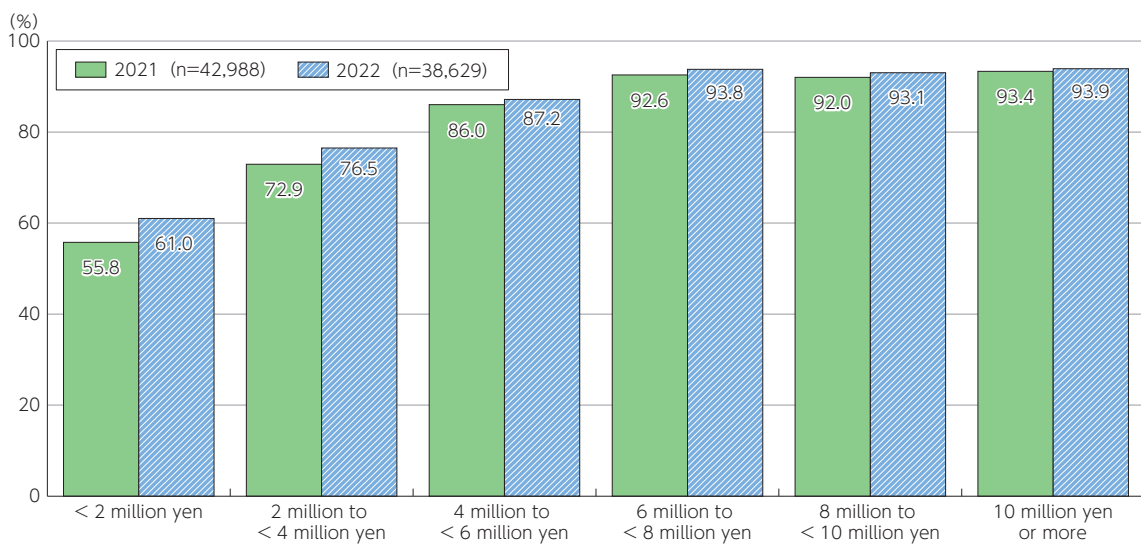
² The design of the questionnaire in the 2019 survey was partially different from that in previous years, so care should be taken when comparing over the years.

Figure 4-11-1-3 Internet usage by age group



(Source) MIC "Communications Usage Trend Survey"

Figure 4-11-1-4 Internet usage by annual household income



(Source) MIC "Communications Usage Trend Survey"



Figure (related data) Internet usage by prefecture and usage by device (individual) (2022)

Source: MIC "Communications Usage Trend Survey"

URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/eng/WP2023/data_collection.html#f00284

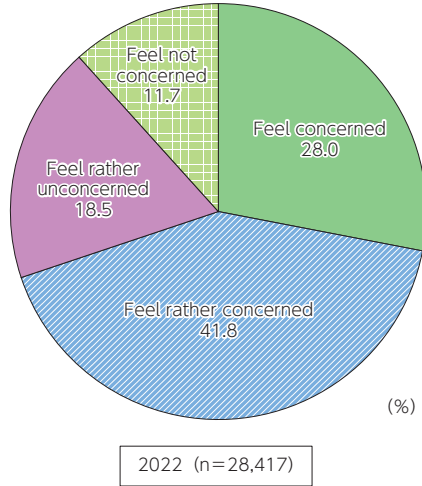
(Data collection)

b Anxiety over using the Internet

Approximately 70% of Internet users feel some kind of anxiety when using the Internet (Figure 4-11-1-5). When asked why, the largest number of those “leaks of personal information and internet usage history” at

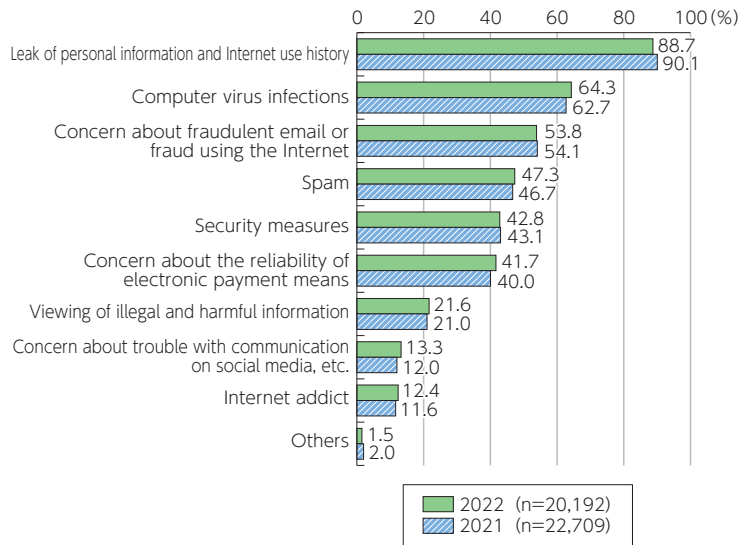
88.7%, followed by “computer virus infections” (64.3%) and “fraudulent billing or fraud using Internet” (53.8%) (Figure 4-11-1-6).

Figure 4-11-1-5 Percentage of individuals who feel anxiety when using the Internet



(Source) MIC “Communications Usage Trend Survey”

Figure 4-11-1-6 Anxiety felt when using the Internet (multiple answers allowed)



(Source) MIC “Communications Usage Trend Survey”

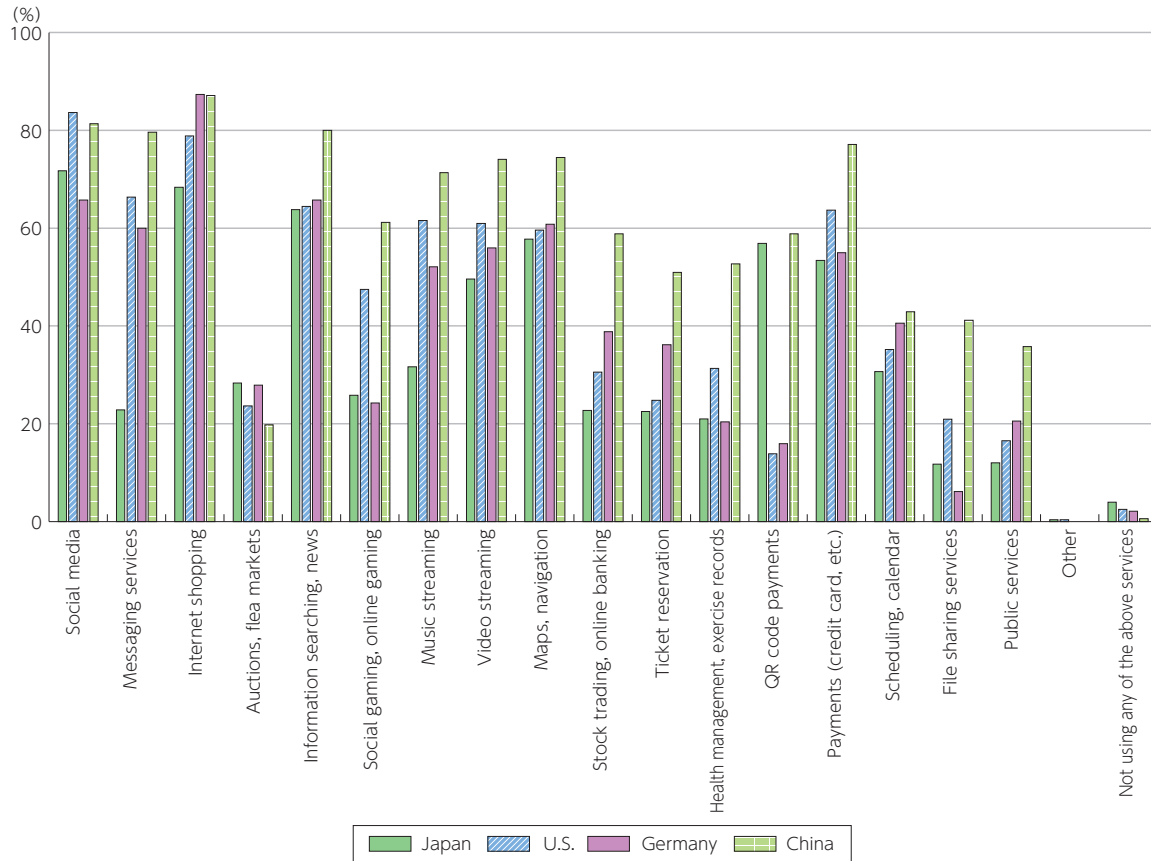
(3) Utilization of digital services (international comparison)

a Overall usage of digital services

Questionnaire surveys conducted in Japan, the U.S., Germany, and China on digital services regularly being used found that respondents in China were overall more likely to use each service than those in other countries.

In Japan, more than 60% of respondents use services such as “social media,” “Internet shopping,” and “information searching and news,” which is higher than that of other services (**Figure 4-11-1-7**).

Figure 4-11-1-7 Overall usage of digital services



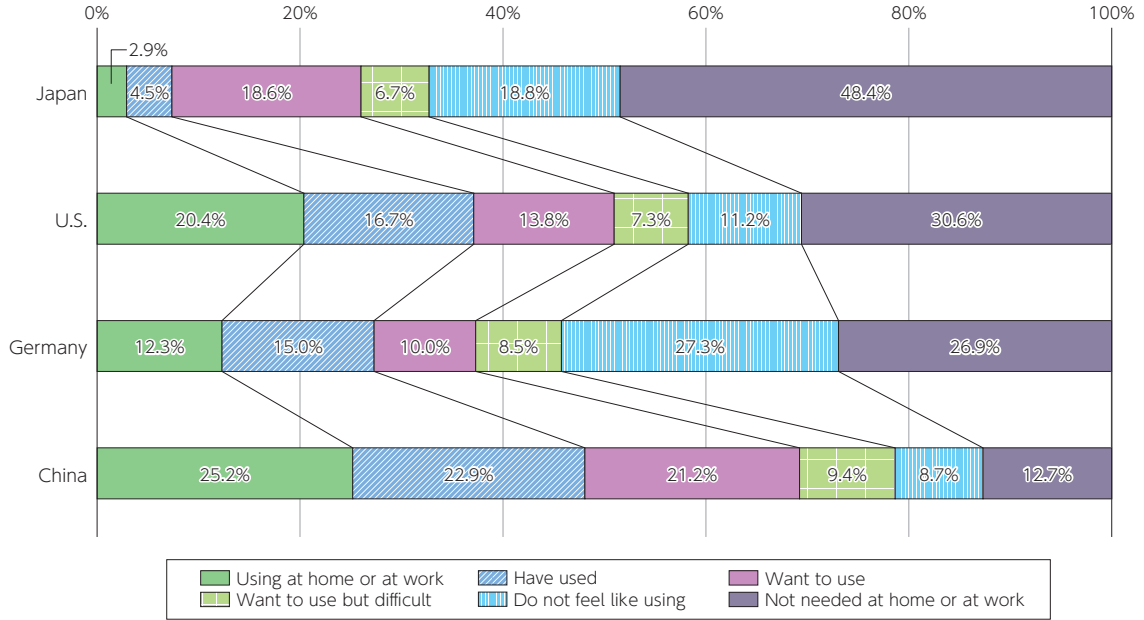
(Source) MIC (2023) “Survey Research on R&D on the Latest Information and Communications Technologies and Trends of Use of Digital Technologies in Japan and Abroad”

b Digital service usage in virtual spaces (XR content)

Between 20% and 30% of respondents in the U.S. and Germany, more than 50% of respondents in China, and only 7.4% of respondents in Japan answered that they had used XR content³ (Figure 4-11-1-8). Looking at us-

age in Japan by age group reveals that those in their 20s had the highest usage (12.6%) and also the highest rate responding with “want to use” (30.6%).

Figure 4-11-1-8 Usage of interactive entertainment services in virtual spaces (comparison by country)



(Source) MIC (2023) “Survey Research on R&D on the Latest Information and Communications Technologies and Trends of Use of Digital Technologies in Japan and Abroad”



Figure (related data) Usage of interactive entertainment services in virtual spaces (by age)

Source: MIC (2023) “Survey Research on R&D on the Latest Information and Communications Technologies and Trends of Use of Digital Technologies in Japan and Abroad”

URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/eng/WP2023/data_collection.html#f00289
(Data collection)



Figure (related data) Reasons why entertainment services in virtual spaces are unavailable

Source: MIC (2023) “Survey Research on R&D on the Latest Information and Communications Technologies and Trends of Use of Digital Technologies in Japan and Abroad”

URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/eng/WP2023/data_collection.html#f00290
(Data collection)

³ XR content (interactive entertainment services in virtual space) is a type of service in which users have interactive relationships with others in real-time, such as online games and virtual events.

c Media usage time

Since 2012, the MIC Institute for Information and Communications Policy has conducted research studies on the usage time, time slots of usage, purpose, and reliability of information and communications media, as joint research with Professor Yoshiaki Hashimoto

(a) Average usage time for major media⁷ and user ratio⁸

The average usage time and user ratio for “television viewing (real-time),”⁹ “television viewing (recorded program),” “Internet use,”¹⁰ “newspaper reading,” and “radio listening” are shown in **(Figure 4-11-1-9)**.

The average usage time for “television viewing (real-time)” and “Internet use” tended to be long on both weekdays and holidays for all ages, but “Internet use” exceeded “television viewing (real-time)” for the third year in a row on weekdays and (for the first time) on holidays. The user ratio for “television viewing (real-

time)” is lower than the ratio of “Internet use,” on both weekdays and holidays.

By age group, average usage time for “Internet use” decreased or remained almost unchanged on weekdays except for those in their 30s, and increased on holidays except for those in their 30s and 40s. The user ratio for “Internet use” among users in their teens to 50s (weekdays) and teens to 40s (holidays) exceeds the user ratio for “television viewing (real-time).” For “newspaper reading,” the user ratio increases with age.

⁴ Professor Satoshi Kitamura (Faculty of Communication Studies, Tokyo Keizai University) and Project Assistant Professor Daisuke Kawai (Center for Integrated Disaster Information Research (CIDIR), Interfaculty Initiative in Information Studies, the University of Tokyo).

⁵ “Survey on Usage Time of Information and Communications Media and Information Behavior”: 1,500 men and women aged 13 to 69 (selected by sex and age group [in 10 year increments] in proportion to the actual situation in the Basic Resident Register; the register of January 2022 was used for the fiscal 2022 survey) were visited and received questionnaires based on random location quota sampling.

⁶ The fiscal 2022 survey was conducted from November 5 to November 11, 2022.

⁷ The total number of hours of all people surveyed for a particular information behavior per survey day, divided by the number of people surveyed. The average time is calculated by including the respondents who did not do the activity throughout the day.

⁸ For weekdays, the ratio of people who performed a particular information behavior for each day of the two survey days was calculated and averaged over the two days. For holidays, this is the ratio of survey days.

⁹ Television viewing (real-time): Real-time television viewing with any device not limited to TV receiver

¹⁰ Internet use: The use of services over an Internet connection, including email, websites, social media, video sites, and online games, regardless of device.

Figure 4-11-9 Average usage time for major media and user ratio

		Average usage time (minute)					Doers' ratio				
		Television viewing (real-time)	Television viewing (recorded program)	Internet use	Newspaper reading	Radio listening	Television viewing (real-time)	Television viewing (recorded program)	Internet use	Newspaper reading	Radio listening
<Weekday (one day)>											
All age groups	2018	156.7	20.3	112.4	8.7	13.0	79.3	18.7	82.0	26.6	6.5
	2019	161.2	20.3	126.2	8.4	12.4	81.6	19.9	85.5	26.1	7.2
	2020	163.2	20.2	168.4	8.5	13.4	81.8	19.7	87.8	25.5	7.7
	2021	146.0	17.8	176.8	7.2	12.2	74.4	18.6	89.6	22.1	6.2
	2022	135.5	18.2	175.2	6.0	8.1	73.7	17.5	90.4	19.2	6.0
10s	2018	71.8	12.7	167.5	0.3	0.2	63.1	15.2	89.0	2.5	1.1
	2019	69.0	14.7	167.9	0.3	4.1	61.6	19.4	92.6	2.1	1.8
	2020	73.1	12.2	224.2	1.4	2.3	59.9	14.8	90.1	2.5	1.8
	2021	57.3	12.1	191.5	0.4	3.3	56.7	16.3	91.5	1.1	0.7
	2022	46.0	6.9	195.0	0.9	0.8	50.7	10.0	94.3	2.1	1.8
20s	2018	105.9	18.7	149.8	1.2	0.9	67.5	16.5	91.4	5.3	0.7
	2019	101.8	15.6	177.7	1.8	3.4	65.9	14.7	93.4	5.7	3.3
	2020	88.0	14.6	255.4	1.7	4.0	65.7	13.6	96.0	6.3	3.1
	2021	71.2	15.1	275.0	0.9	7.0	51.9	13.7	96.5	2.6	3.0
	2022	72.9	14.8	264.8	0.4	2.1	54.4	11.8	97.7	2.8	2.3
30s	2018	124.4	17.4	110.7	3.0	9.4	74.1	19.1	91.1	13.0	4.3
	2019	124.2	24.5	154.1	2.2	5.0	76.7	21.9	91.9	10.5	2.2
	2020	135.4	19.3	188.6	1.9	8.4	78.2	19.4	95.0	8.8	6.0
	2021	107.4	18.9	188.2	1.5	4.8	65.8	20.9	94.9	5.9	3.2
	2022	104.4	14.6	202.9	1.2	4.1	67.1	14.9	95.7	4.1	3.9
40s	2018	150.3	20.2	119.7	4.8	16.6	79.2	18.8	87.0	23.1	7.4
	2019	145.9	17.8	114.1	5.3	9.5	84.0	18.9	91.3	23.6	6.0
	2020	151.0	20.3	160.2	5.5	11.7	86.2	23.0	92.6	24.1	6.0
	2021	132.8	13.6	176.8	4.3	12.9	77.8	15.3	94.6	17.9	5.4
	2022	124.1	17.2	176.1	4.1	5.5	75.7	18.0	91.5	16.5	6.3
50s	2018	176.9	20.8	104.3	12.9	17.2	88.5	20.6	82.0	43.9	9.3
	2019	201.4	22.5	114.0	12.0	18.3	92.8	21.9	84.2	38.5	12.2
	2020	195.6	23.4	130.0	11.9	26.9	91.8	20.7	85.0	39.4	13.4
	2021	187.7	18.7	153.6	9.1	23.6	86.4	20.9	89.4	33.8	11.1
	2022	160.7	18.6	143.5	7.8	14.0	84.0	19.5	88.8	29.6	8.6
60s	2018	248.7	27.3	60.9	23.1	22.8	91.6	19.7	59.0	52.8	11.7
	2019	260.3	23.2	69.4	22.5	27.2	93.6	21.2	65.7	57.2	13.4
	2020	271.4	25.7	105.5	23.2	18.5	92.9	22.3	71.3	53.7	12.1
	2021	254.6	25.8	107.4	22.0	14.4	92.0	23.0	72.8	55.1	10.0
	2022	244.2	30.5	103.2	17.7	16.7	92.8	25.2	78.5	46.1	9.9
<Holiday (one day)>											
All age groups	2018	219.8	31.3	145.8	10.3	7.5	82.2	23.7	84.5	27.6	5.1
	2019	215.9	33.0	131.5	8.5	6.4	81.2	23.3	81.0	23.5	4.6
	2020	223.3	39.6	174.9	8.3	7.6	80.5	27.6	84.6	22.8	4.7
	2021	193.6	26.3	176.5	7.3	7.0	75.0	21.3	86.7	19.3	4.2
	2022	182.9	30.2	187.3	5.6	5.5	72.2	22.7	88.5	17.7	4.1
10s	2018	113.4	28.6	271.0	0.9	0.7	67.4	27.7	91.5	3.5	2.1
	2019	87.4	21.3	238.5	0.1	0.0	52.8	17.6	90.1	0.7	0.0
	2020	93.9	29.8	290.8	0.9	0.0	54.9	25.4	91.5	1.4	0.0
	2021	73.9	12.3	253.8	0.0	0.0	57.4	14.9	90.8	0.0	0.0
	2022	69.3	17.4	285.0	1.0	2.8	46.4	19.3	92.9	2.1	2.1
20s	2018	151.0	32.8	212.9	2.1	2.1	66.5	24.9	95.7	6.2	2.4
	2019	138.5	23.0	223.2	0.9	1.2	69.7	19.9	91.0	3.3	1.9
	2020	132.3	26.5	293.8	2.0	1.9	64.3	20.2	97.7	6.6	2.3
	2021	90.8	17.2	303.1	0.7	1.8	49.3	14.0	97.2	2.3	1.4
	2022	89.6	25.1	330.3	0.5	1.0	48.4	16.1	96.8	2.3	1.4
30s	2018	187.2	26.6	150.2	3.5	3.9	79.8	19.1	92.6	11.7	3.5
	2019	168.2	31.0	149.5	2.5	2.0	78.3	23.3	90.1	9.9	2.0
	2020	198.1	45.0	191.3	1.6	7.4	77.2	31.6	91.2	5.6	3.2
	2021	147.6	30.3	212.3	1.5	3.2	69.6	22.7	92.3	4.0	1.2
	2022	152.5	25.9	199.9	0.8	6.9	63.3	19.6	92.7	3.3	4.1
40s	2018	213.9	39.0	145.3	6.4	8.2	82.7	25.9	90.4	25.3	3.4
	2019	216.2	37.5	98.8	6.0	5.0	83.7	25.5	84.7	20.2	3.7
	2020	232.7	41.5	154.5	5.2	4.2	85.3	28.5	89.3	19.9	3.1
	2021	191.1	28.5	155.7	4.9	6.3	79.0	21.0	91.0	14.8	3.4
	2022	191.0	29.7	157.5	4.6	4.8	76.5	22.9	89.0	16.3	2.8
50s	2018	260.8	22.9	115.0	15.3	10.4	91.9	21.5	80.7	42.2	7.0
	2019	277.5	48.0	107.9	12.9	6.6	90.3	30.6	77.9	37.4	6.5
	2020	256.5	49.8	127.8	12.5	16.3	91.6	31.4	81.5	36.6	7.7
	2021	242.6	28.9	119.0	9.2	14.2	84.8	24.9	82.2	29.6	8.1
	2022	220.5	33.0	134.9	7.6	5.6	85.7	24.8	85.3	24.4	4.6
60s	2018	315.3	34.6	64.3	26.1	14.1	93.0	24.4	63.2	56.9	10.0
	2019	317.6	28.1	56.1	21.8	18.5	94.5	19.0	60.7	51.7	10.3
	2020	334.7	37.2	83.7	22.0	10.9	91.8	25.9	63.1	50.4	9.2
	2021	326.1	31.4	92.7	22.3	11.2	93.5	25.4	71.0	50.4	8.0
	2022	291.4	42.2	105.4	15.0	10.1	92.3	29.8	78.7	45.2	8.5

(Source) MIC Institute for Information and Communications Policy "Fiscal 2022 Survey on Information and Communications Media Usage Time and Information Behavior"

(b) Positioning of the Internet as media

A comparison of the use of Internet as media with other media for each purpose of use is provided in (Figure 4-11-1-10).

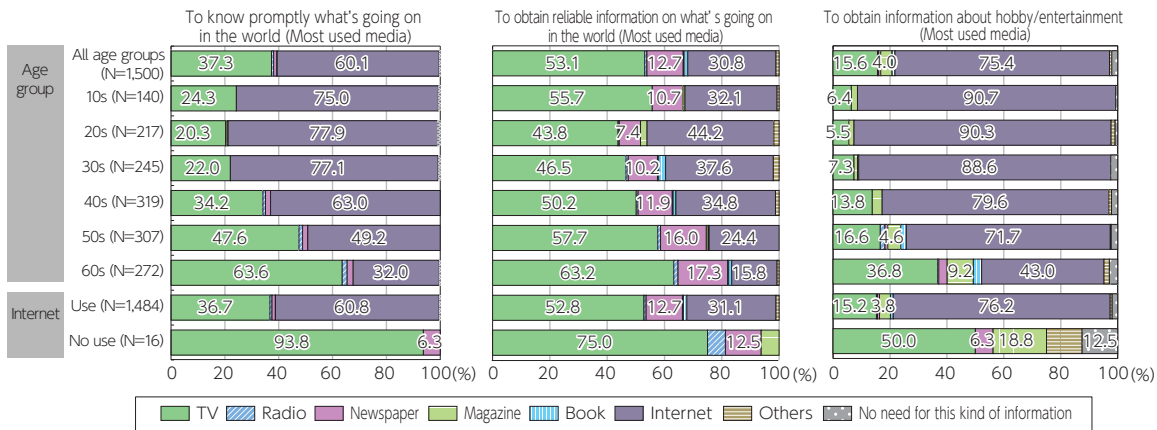
The most used media “to know promptly what’s going on in the world” of all respondents is “Internet.” By age group, those in their teens to 50s use the “Internet” the most, while those in their 60s use “television” the most.

The most used media “to obtain reliable information on what’s going on in the world” is “television” for all age

groups in total, and this is also true for each age group excluding those in their 20s. “Newspapers” are used by people in their 60s more than the “Internet.”

The most used media “to obtain information about hobby/entertainment” is the “Internet” in all age groups in total, as well as in each age group. The ratio is around 90% among respondents in their teens through 30s.

Figure 4-11-1-10 Media used by purpose (most used media; for all age groups, by age group, and by using or not using the Internet)



(Source) MIC Institute for Information and Communications Policy “Fiscal 2022 Survey on Information and Communications Media Usage Time and Information Behavior”

2. Trends in utilization in corporate activities

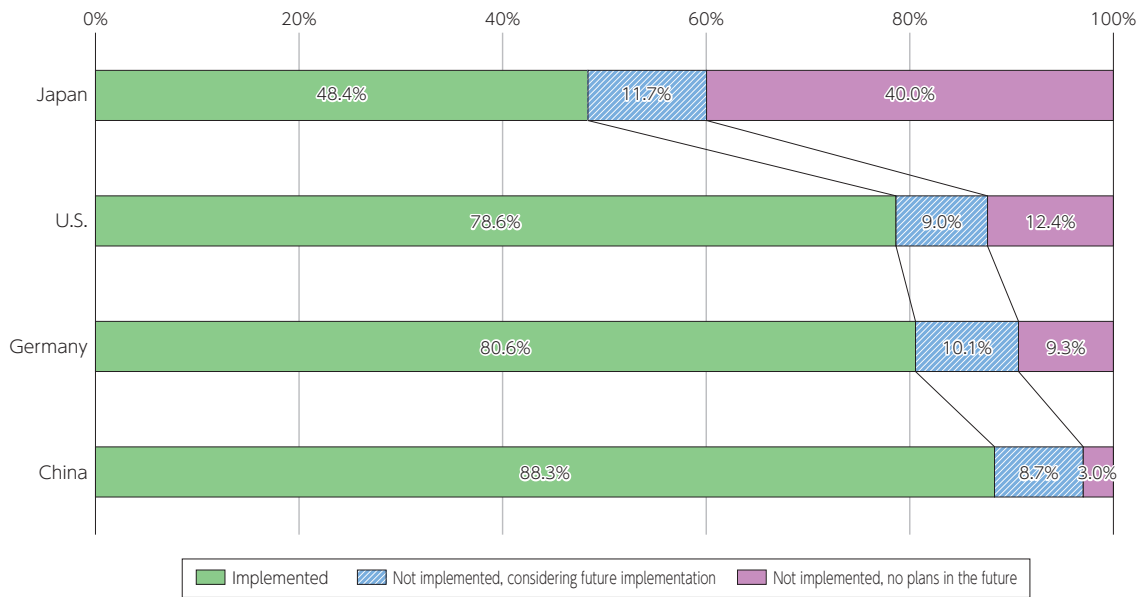
(1) Status of digitalization among enterprises in each country

a Digitalization

Regarding the ratio of digitalization implementation among enterprises in Japan, the U.S., Germany, and China, more than 50% of Japanese companies answered that they had not yet begun to implement digitalization. Looking at the status of initiatives in Japan by enterprise size reveals that approximately 25% of large enterprises and more than 70% of small-to-medium-sized enterprises answered that they had not implemented such initiatives, indicating that digitalization efforts vary depending on the size of the enterprise (Figure 4-11-2-1).

With regard to specific measures taken to promote digitalization, the most common responses in Japan were “improving/reforming business processes,” “reducing labor,” and “realizing new work styles.” In other countries, the most common responses were “creating/improving customer experiences” and “enhancing added value of existing products/services,” in addition to reforming work styles and businesses (Figure 4-11-2-2).

Figure 4-11-2-1 Status of digitalization (comparison by country)



*Based on the results of a screening survey conducted to identify companies engaged in digitalization

(Source) MIC (2023) "Survey Research on R&D on the Latest Information and Communications Technologies and Trends of Use of Digital Technologies in Japan and Abroad"

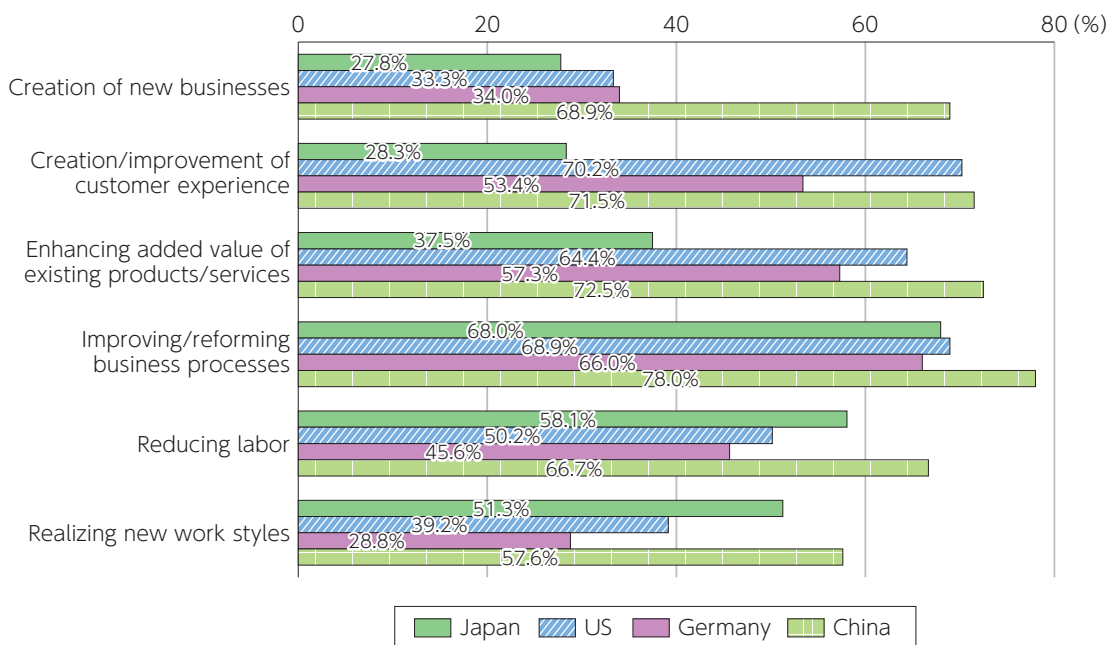


Figure (related data) Status of digitalization (Japan: Comparison by company size)

Source: MIC (2023) "Survey Research on R&D on the Latest Information and Communications Technologies and Trends of Use of Digital Technologies in Japan and Abroad"

URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/eng/WP2023/data_collection.html#f00304
(Data collection)

Figure 4-11-2-2 Initiatives to promote digitalization (comparison by country)



(Source) MIC (2023) "Survey Research on R&D on the Latest Information and Communications Technologies and Trends of Use of Digital Technologies in Japan and Abroad"

b Results of digitalization

Surveying the results of promoting digitalization from the viewpoints of “creating new business,” “creating/improving customer experiences,” “enhancing added value of existing products/services,” “improving/reforming business processes,” “reducing labor,” and “re-

alizing new work styles” reveals that Japanese respondents selected “greater than expected” the least and “not having the desired effect” the most for all viewpoints, among the four countries.



Figure (Related Data) Results of digitalization in creating new business

Source: MIC (2023) “Survey Research on R&D on the Latest Information and Communications Technologies and Trends of Use of Digital Technologies in Japan and Abroad”

URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/eng/WP2023/data_collection.html#f00306
(Data collection)



Figure (related data) Results of digitalization in creating/improving customer experiences

Source: MIC (2023) “Survey Research on R&D on the Latest Information and Communications Technologies and Trends of Use of Digital Technologies in Japan and Abroad”

URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/eng/WP2023/data_collection.html#f00307
(Data collection)



Figure (related data) Results of digitalization in enhancing added value of existing products/services

Source: MIC (2023) “Survey Research on R&D on the Latest Information and Communications Technologies and Trends of Use of Digital Technologies in Japan and Abroad”

URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/eng/WP2023/data_collection.html#f00308
(Data collection)



Figure (related data) Results of digitalization in improving/reforming business processes

Source: MIC (2023) “Survey Research on R&D on the Latest Information and Communications Technologies and Trends of Use of Digital Technologies in Japan and Abroad”

URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/eng/WP2023/data_collection.html#f00309
(Data collection)



Figure (related data) Results of digitalization in reducing labor

Source: MIC (2023) “Survey Research on R&D on the Latest Information and Communications Technologies and Trends of Use of Digital Technologies in Japan and Abroad”

URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/eng/WP2023/data_collection.html#f00310
(Data collection)



Figure (related data) Results of digitalization in realizing new work styles

Source: MIC (2023) “Survey Research on R&D on the Latest Information and Communications Technologies and Trends of Use of Digital Technologies in Japan and Abroad”

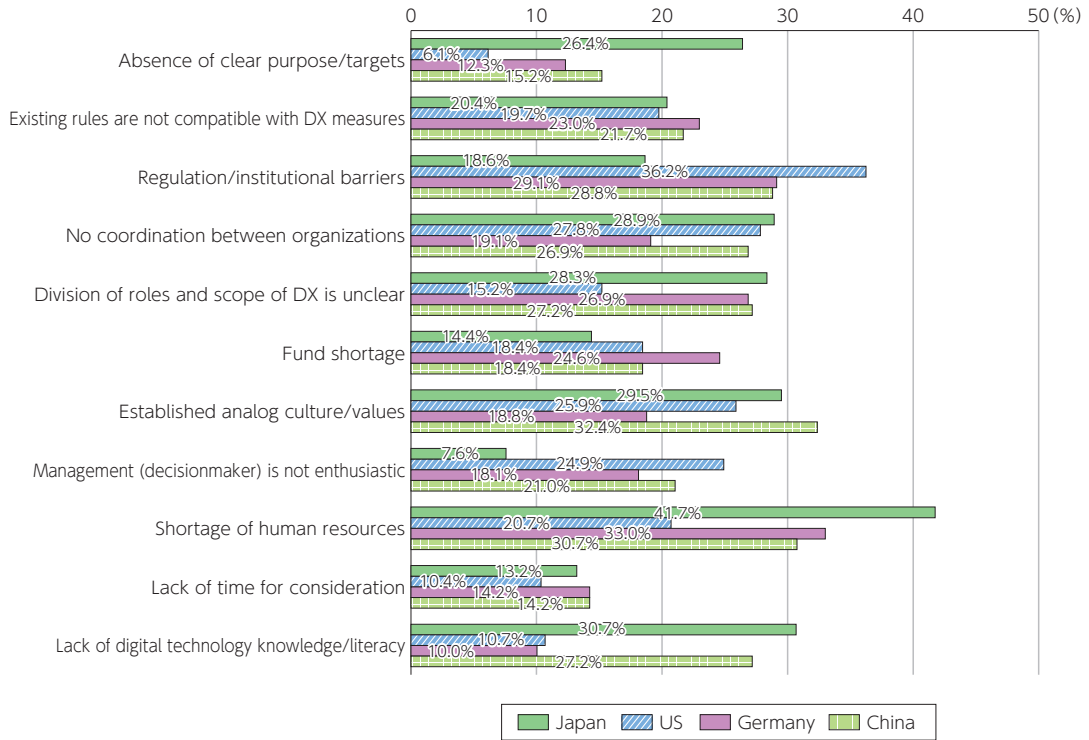
URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/eng/WP2023/data_collection.html#f00311
(Data collection)

c Challenges in promoting digitalization

As for the challenges and barriers in the way of digitalization, many more Japanese companies indicated “shortage of human resources” (41.7%) compared to respondents in the U.S., China, and Germany, followed by “lack of digital technology knowledge/literacy” (30.7%).

As in the survey conducted for the 2022 White Paper on Information and Communications in Japan, there were many challenges and barriers related to human resources (Figure 4-11-2-3).

Figure 4-11-2-3 Challenges in promoting digitalization (comparison by country)

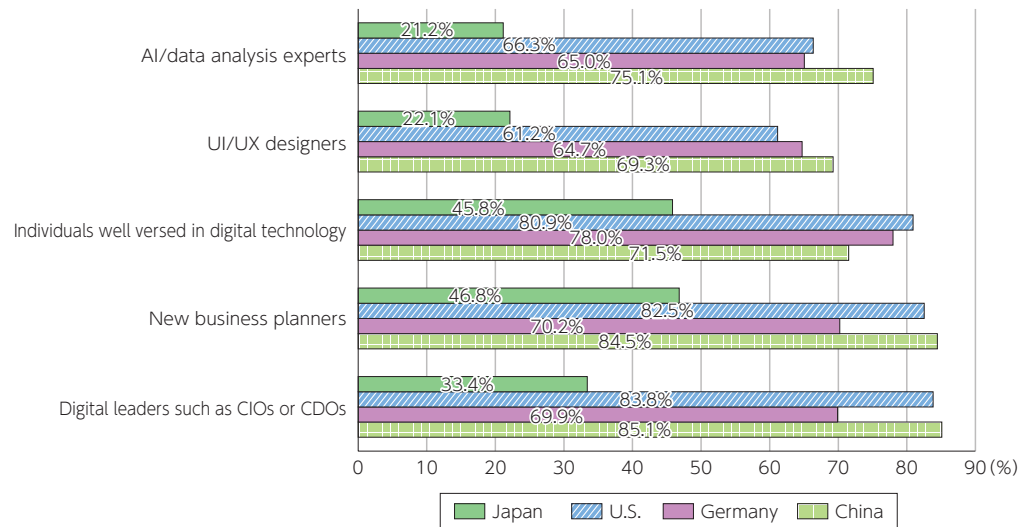


(Source) MIC (2023) “Survey Research on R&D on the Latest Information and Communications Technologies and Trends of Use of Digital Technologies in Japan and Abroad”

Companies in Japan actually have an overall shortage of digital human resources (such as CIOs, CDOs, and other digital technology leaders) compared to companies in other countries. In particular, only 21.2% of companies have “AI/data analysis experts” on staff, and the shortage is serious compared to the other three coun-

tries with more than 60% of companies (Figure 4-11-2-4). Among the companies that responded that they use personal data or information other than personal data, 26.8% and 29.2% of the companies, respectively, indicated that they have “AI/data analysis experts” on staff, which is much lower than in the other three countries.

Figure 4-11-2-4 Specialized digital human resources on staff



(Source) MIC (2023) "Survey Research on R&D on the Latest Information and Communications Technologies and Trends of Use of Digital Technologies in Japan and Abroad"



Figure (related data) "AI/data analysis experts" in companies making use of personal data

Source: MIC (2023) "Survey Research on R&D on the Latest Information and Communications Technologies and Trends of Use of Digital Technologies in Japan and Abroad"

URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/eng/WP2023/data_collection.html#f00314

(Data collection)



Figure (related data) "AI/data analysis experts" in companies making use of information other than personal data

Source: MIC (2023) "Survey Research on R&D on the Latest Information and Communications Technologies and Trends of Use of Digital Technologies in Japan and Abroad"

URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/eng/WP2023/data_collection.html#f00315

(Data collection)



Figure (related data) Initiatives to secure digital human resources (by country; individuals capable of integrating digital human resources with business division personnel to build systems for DX)

Source: MIC (2023) "Survey Research on R&D on the Latest Information and Communications Technologies and Trends of Use of Digital Technologies in Japan and Abroad"

URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/eng/WP2023/data_collection.html#f00320 (Data collection)



Figure (related data) Initiatives to secure digital human resources (by country; AI/data analysis experts)

Source: MIC (2023) "Survey Research on R&D on the Latest Information and Communications Technologies and Trends of Use of Digital Technologies in Japan and Abroad"

URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/eng/WP2023/data_collection.html#f00321

(Data collection)

When asked about the status of in-house system development, about 44% of Japanese companies indicated that they are developing their own systems, while approximately 80% of companies in other countries are, which make a big difference. As stated in the 2019 White

Paper on Information and Communications in Japan, Japan is highly dependent on external vendors, and user companies are unlikely to be able to develop and secure ICT human resources within their organizations.



Figure (related data) In-house development of systems (comparison by country)

Source: MIC (2023) "Survey Research on R&D on the Latest Information and Communications Technologies and Trends of Use of Digital Technologies in Japan and Abroad"

URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/eng/WP2023/data_collection.html#f00316

(Data collection)

(2) Remote work and online meetings

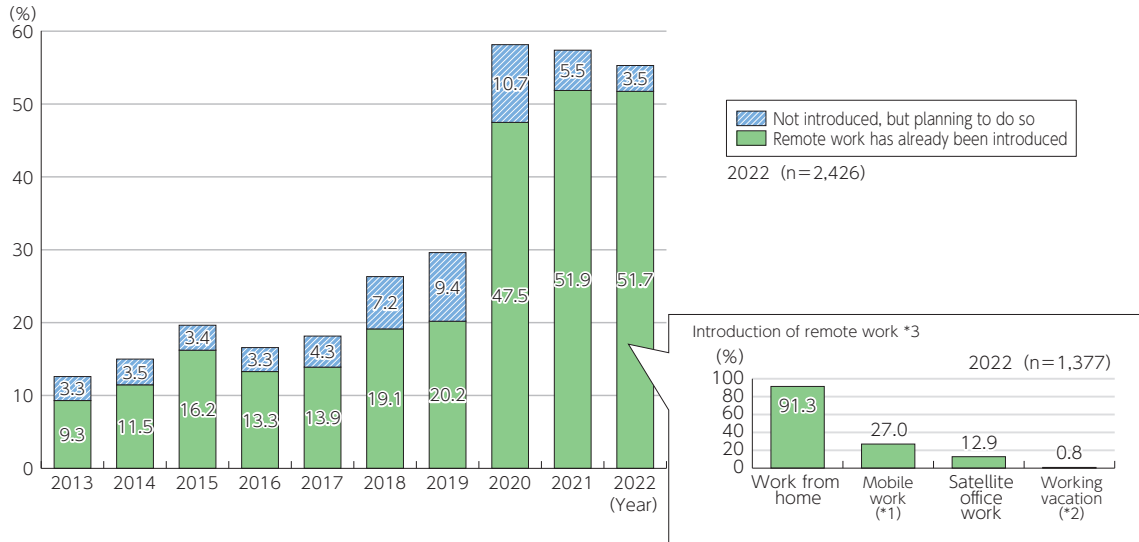
a Remote work in Japanese companies

Private companies began to rapidly introduce remote work following the COVID-19 outbreak in 2020.

According to the Communications Usage Trend Sur-

vey conducted by MIC in 2022, more than 50% of companies have introduced remote work (**Figure 4-11-2-5**).

Figure 4-11-2-5 Changes in introducing remote work



*1 Working outside of the office for sales activities and other similar work, including work such as checking email and writing daily reports during commutes or at locations such as cafes.

*2 Remote work performed in a location other than the usual workplace or the home, combined with personal time.

*3 Total includes entities that provided no response to introduction type.

(Source) MIC "Communications Usage Trend Survey"



Figure (related data) Purpose for introducing remote work (multiple answers allowed)

Source: MIC "Communications Usage Trend Survey"

URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/eng/WP2023/data_collection.html#f00323

(Data collection)



Figure (related data) Challenges for introducing remote work (multiple answers allowed)

Source: Based on MIC "Fiscal 2022 Result of Survey on Actual Condition of Telework Security"

URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/eng/WP2023/data_collection.html#f00328

(Data collection)

b Usage of remote work and online meetings (individuals; international comparison)

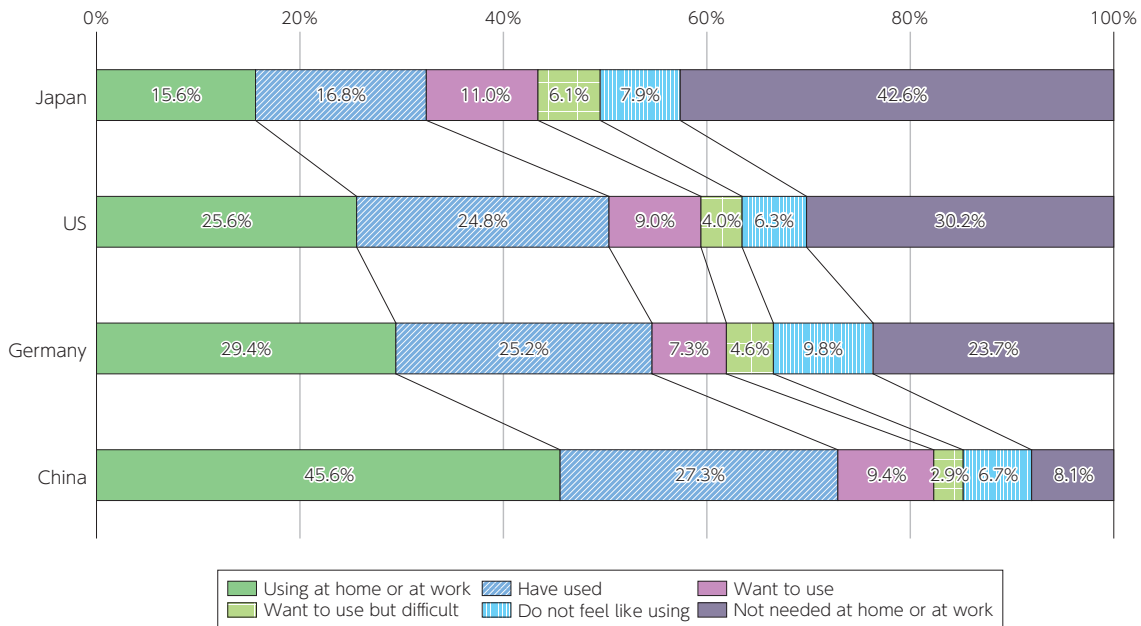
We conducted a questionnaire on the usage of remote work and online meetings (“remote work, etc.”) among individuals in Japan, the U.S., China, and Germany.

More than 50% of respondents in the U.S. and Germany, more than 70% of respondents in China, and only around 30% of respondents in Japan answered that they had made use of remote work, etc. (Figure 4-11-2-6). In Japan, the most frequently cited reason for difficulty introducing remote work, etc., was “not interested in

any services” within the company” (35.7%).

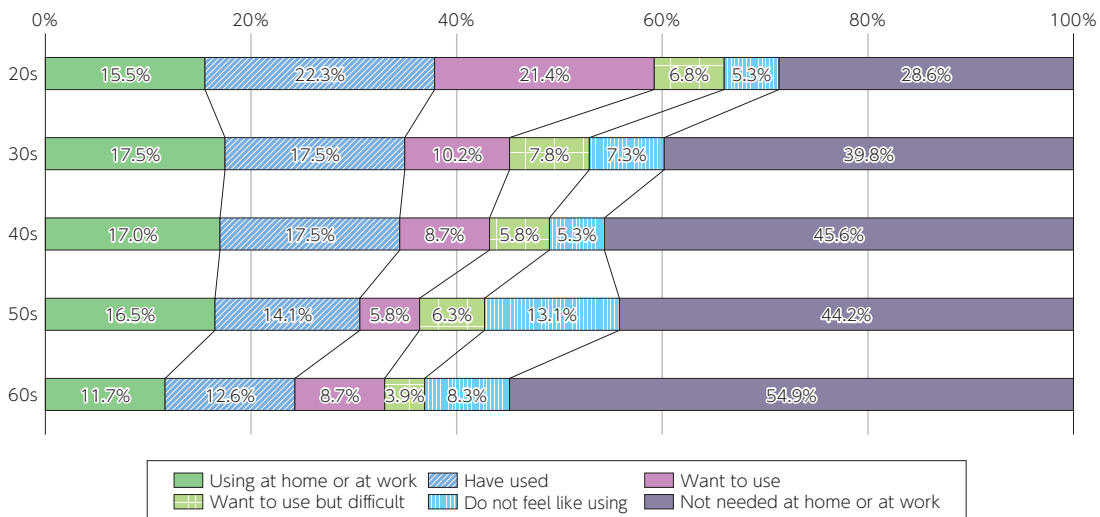
Looking at remote work usage in Japan by age group reveals that younger people tend to be more positive about remote work. The largest percentage of individuals with experience using remote work were those in their 20s (37.8%), while the same group made up the smallest percentage of respondents indicating that it was “not needed at home or at work” (28.6%) (Figure 4-11-2-7).

Figure 4-11-2-6 Usage of remote work and online meetings (international comparison)



(Source) MIC (2023) “Survey Research on R&D on the Latest Information and Communications Technologies and Trends of Use of Digital Technologies in Japan and Abroad”

Figure 4-11-2-7 Usage of remote work and online meetings (Japan; by age)



(Source) MIC (2023) “Survey Research on R&D on the Latest Information and Communications Technologies and Trends of Use of Digital Technologies in Japan and Abroad”




Figure (related data) Reasons why remote work or online meetings are unavailable
 Source: MIC (2023) “Survey Research on R&D on the Latest Information and Communications Technologies and Trends of Use of Digital Technologies in Japan and Abroad”
 URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/eng/WP2023/data_collection.html#f00326
 (Data collection)

3. Trends in regard to digital usage in administration

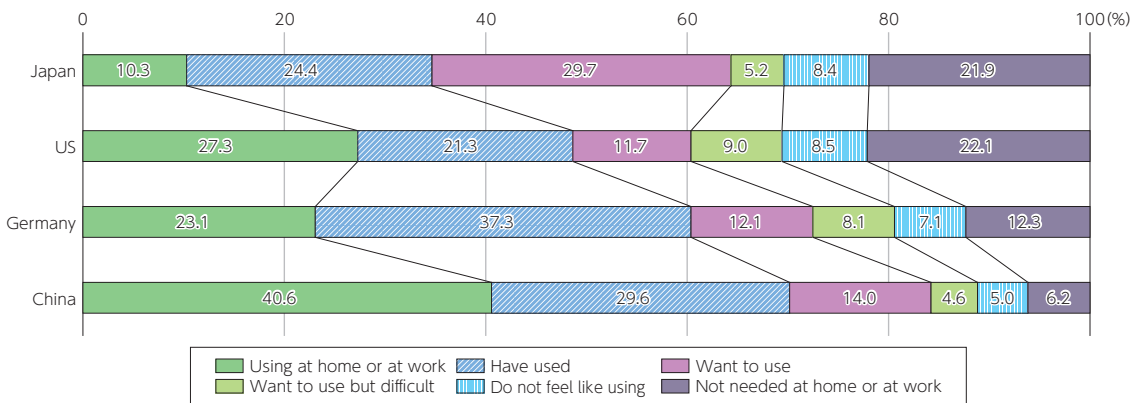
(1) Usage of digital administrative services (electronic applications, electronic filing, and electronic notifications)

Only about 35% of individuals in Japan have used digital administrative services (electronic applications, electronic filing, and electronic notifications). Despite an increase over the previous survey (approximately 24%)¹¹, it is still lower than in the other three countries (Figure 4-11-3-1). “Security concerns” was cited as a major reason for not using services in all four countries. Additionally, in Japan, many respondents indicated that they “do not know how to use the device or application” or are “not interested in any services.” On the other hand, Japan had the lowest rate (9.2%) for “Internet connection

slow or unstable” which was often cited in the other three countries.

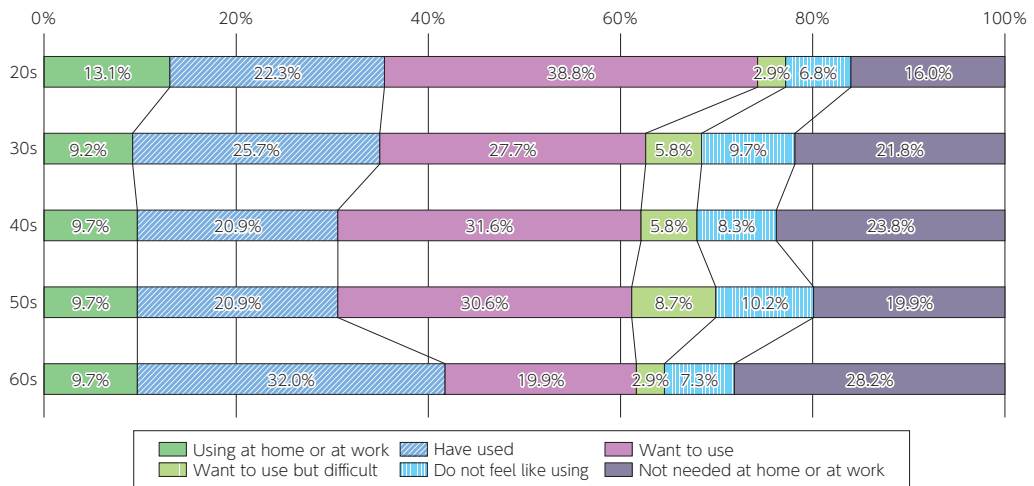
Looking at usage in Japan by age group reveals that the number of people who have used digital administrative services ranged from 30% to 40% in all age groups, up from 20% to 25% in all age groups in the previous survey. In particular, 41.7% of those in their 60s had experience using such services (highest among all age groups), while “not needed at home or at work” was most often selected at 28.2% (Figure 4-11-3-2).

Figure 4-11-3-1 Usage of digital administrative services (by country)



(Source) MIC (2023) “Survey Research on R&D on the Latest Information and Communications Technologies and Trends of Use of Digital Technologies in Japan and Abroad”

Figure 4-11-3-2 Usage of digital administrative services (Japan; by age)



(Source) MIC (2023) “Survey Research on R&D on the Latest Information and Communications Technologies and Trends of Use of Digital Technologies in Japan and Abroad”



Figure (related data) Reason why public digital services are unavailable (by country)

Source: MIC (2023) “Survey Research on R&D on the Latest Information and Communications Technologies and Trends of Use of Digital Technologies in Japan and Abroad”

URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/eng/WP2023/data_collection.html#f00331
(Data collection)

¹¹ 2022 White Paper on Information and Communications in Japan MIC (2022) “Survey Research on R&D on the Latest Information and Communications Developments and Trends of Use of Digital Technologies in Japan and Abroad”

(2) Promotion of digital government in Japan

a International indicators

This section provides an overview of Japan's global position on the use of digital technologies in the public

sector based on international indicators.

(a) United Nations Department of Economic and Social Affairs (UNDESA) "World E-Government Ranking"

The United Nations Department of Economic and Social Affairs (UNDESA) began conducting e-government surveys in 2003, and has been conducting these surveys every two years since 2008. The goal of the survey is to improve the transparency and accountability of public policies through ICT in UN member countries and encourage public participation in public policies. The survey produces an averaged E-Government Development Index (EGDI) based on an Online Service Index, Human Capital Index, and Telecommunications Infrastructure Index, to determine rankings.

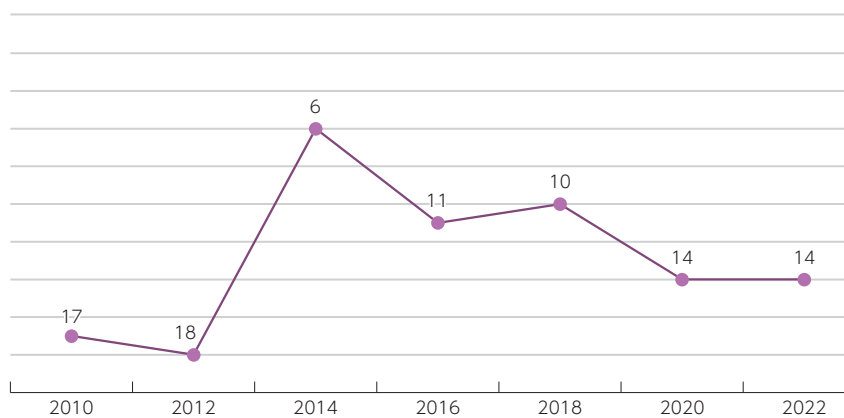
In the 2022 World E-Government Ranking, Denmark once again ranked first place (the same result from the previous survey of 2020), followed by Finland, South Korea, New Zealand, and Sweden. Japan ranked 14th place again, but with a higher score than the previous survey.

Japan has generally ranked between 18th and 10th place in previous surveys (**Figure 4-11-3-3**).

Japan ranked first place in the "e-Participation Index" category, up from fourth place last time. According to the e-Participation Index, Japan received high scores in all three areas: "e-information (0.9818)," "e-consultation (1.0000)," and "e-decision-making (1.0000)."

According to the Digital Agency of Japan,¹² Japan rapidly began promoting open government initiatives following the Great East Japan Earthquake in 2011, and had been highly rated even until then (between second to fifth place). This time, the government was highly praised for its efforts on open data, its use of a platform to collect opinions and ideas to create an entry point for dialogue with the public, its leadership, and the fact that it reflected the opinions it received in its plans.

Figure 4-11-3-3 Changes in Japan's ranking in the UN (UNDESA) "World E-Government Ranking"



(Source) Changes in Japan's individual indicator scores in the UN (UNDESA) "World E-Government Ranking" (data collection)

(b) Waseda University "World Digital Government Rankings"

In 2005, the Waseda University Institute of d-Government began publishing yearly "World Digital Government Rankings," which assess the progress of digital government in 64 leading ICT countries using 10 major indicators (and 35 sub-indicators). In 2022, Japan was ranked 10th place, down one place from the previous ranking, with the top three countries being Denmark, New Zealand, and Canada. Several issues and structural

weaknesses in Japan were indicated, such as the vertical division of government offices revealed by the response to COVID-19; a lack of digital transformation (DX) and sense of urgency; the complexity of decision-making due to the legal separation of e-government (central) and e-local government (regional); and the widening of administrative, financial, and digital disparities between prefectures and municipalities.



Figure (related data) Changes to Japan's ranking in Waseda University's "World Digital Government Rankings"

Source: Waseda University Institute of d-Government

URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/eng/WP2023/data_collection.html#f00334

(Data collection)

¹² Digital Agency Data Strategy Team "Why Japan is No. 1 in the UN e-Participation Index" (October 4, 2022) (<https://data-gov.note.jp/n/nb11a924f4f00>)

b Development of data linkage and authentication infrastructure

(a) Individual Number Cards

With regard to spreading the use of Individual Number Cards, the “Basic Policy on Economic and Fiscal Management and Reform 2022 (Outline 2022)” and the “Priority Policy Program for Realizing Digital Society” of June 2022 state that the government aims to have Individual Number Cards available to nearly all citizens by the end of fiscal 2022. Since then, the government has

been engaged in efforts to increase the convenience of citizens and conduct public relations, such as expanding the use of Individual Number Cards. As of the end of March 2023, 67.0% of all Individual Number Cards had been issued, a significant improvement from 42.4% at the end of March 2022.



Figure (related data) Individual Number Cards Delivery Status

Source: Based on MIC “Individual Number Card Delivery Status”

URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/eng/WP2023/data_collection.html#f00337
(Data collection)



Figure (related data) Changes in registrations of Individual Number Cards for use as health insurance cards

Source: Based on Digital Agency “Policy Data Dashboard (Beta)” (data obtained May 30)

URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/eng/WP2023/data_collection.html#f00338
(Data collection)



Figure (related data) Changes in public fund receipt account registrations

Source: Based on Digital Agency “Policy Data Dashboard (Beta)” (data obtained May 30)

URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/eng/WP2023/data_collection.html#f00339
(Data collection)

c Efforts to switch to digital at local governments

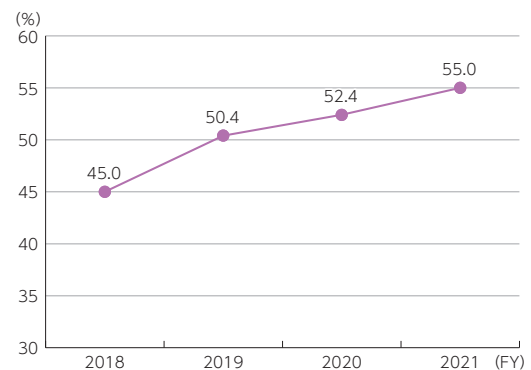
(a) Current status of online procedures

The “Priority Policy Program for Realizing Digital Society” (approved by the Cabinet on June 7, 2022) lists 59 procedures that local governments should prioritize in

taking procedures online. Progress in this area is described below (Figure 4-11-3-4).

Figure 4-11-3-4 Changes in online usage of 59 procedures local governments must prioritize taking online

FY	Annual number of all procedures (10,000)	Number of online use (10,000)	Online usage (%)
2018	47,749	21,507	45.0
2019	47,635	24,007	50.4
2020	47,287	24,781	52.4
2021	50,595	27,810	55.0



*1 Online usage for fiscal 2020 and fiscal 2019 was calculated based on a resurvey of the 59 procedures that local governments should prioritize in taking procedures online as listed in the “Priority Policy Program for Realizing Digital Society” (approved by the Cabinet on June 7, 2022).

*2 Online usage rate (%) = Number of procedures used online / Total number of procedures per year × 100

The total number of procedures per year is a national estimate based on the total number of procedures and the population of organizations that have already gone online for these procedures.

The number of procedures used online is estimated in the same way as the total number of procedures per year, in order to more precisely calculate online usage.

(Source) Based on MIC “Overview of Promotion of DX and Use of Information by Local Governments: Summary of Fiscal 2022 Survey on Promotion of Use of Administrative Information by Local Governments”¹³

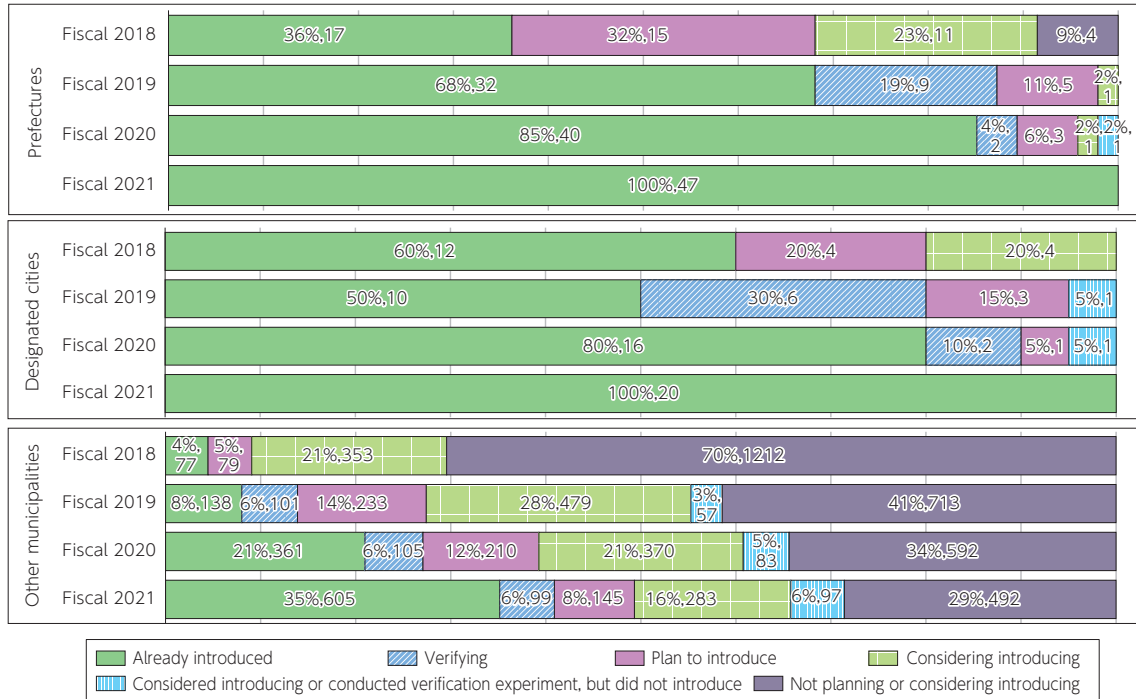
¹³ https://www.soumu.go.jp/denshijiti/060213_02.html

(b) Promotion of AI/RPA usage

As of fiscal 2021, 100% of prefectures and designated cities had already introduced AI. 35% of other municipalities had also introduced the technology, and roughly 66% of local governments were working toward doing so (including those verifying, planning to introduce, or considering introducing AI) (Figure 4-11-3-5). Looking at functions reveals that the top three areas (voice recogni-

tion, character recognition, and chatbot support) are being introduced by local governments of all sizes. Although there were few cases in the bottom four categories (matching, optimal solution display, image/video recognition, and numerical forecasts) even at the prefectural level, the number has been increasing consistently since the survey began.

Figure 4-11-3-5 Introduction of AI in local governments



(Source) MIC "Promotion of AI/RPA Usage by Local Governments" (June 27, 2022)¹⁴



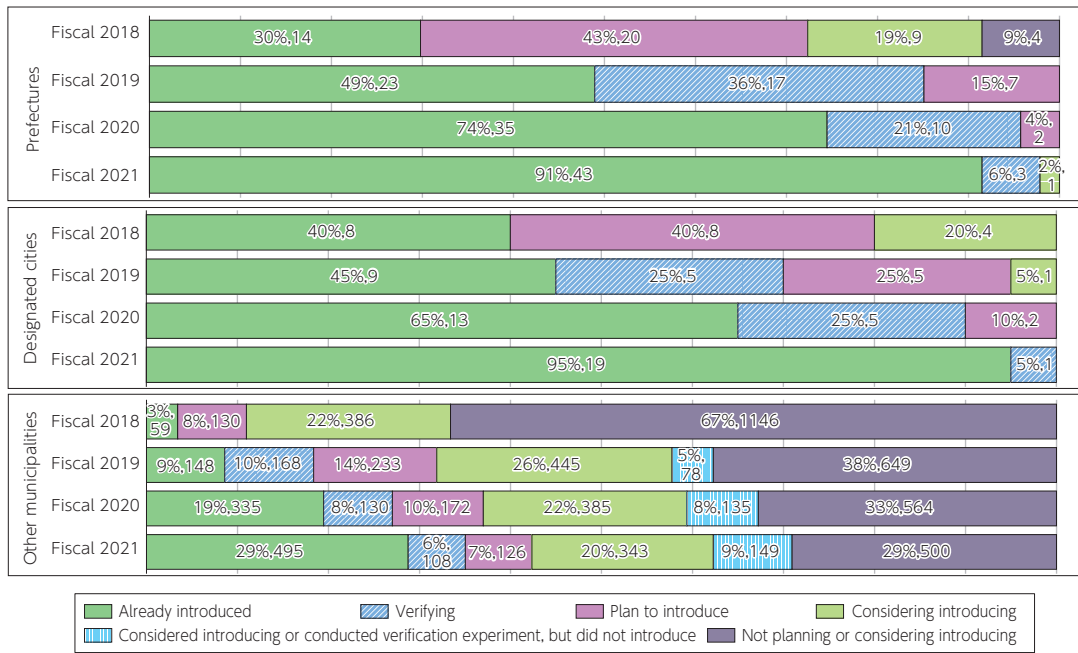
Figure (related data) Status of Introduction of AI in local governments (introduction by AI function)
 Source: MIC "Promotion of AI/RPA Usage by Local Governments"
 URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/eng/WP2023/data_collection.html#f00341
 (Data collection)

The number of organizations that have introduced RPA increased to 91% in prefectures and 95% in designated cities. 29% of other municipalities had also introduced the technology, and roughly 62% of local governments were working toward doing so (including those verifying, planning to introduce, or considering intro-

ducing RPA) (Figure 4-11-3-6). Looking by field reveals that the technology was introduced mostly into "Finance, accounting, and financial affairs," "child welfare and child care," and "organizations ad employees (including administrative reform)."

¹⁴ https://www.soumu.go.jp/main_content/000822108.pdf

Figure 4-11-3-6 Status of Introduction of RPA in local governments



(Source) MIC "Promotion of AI/RPA Usage by Local Governments" (June 27, 2022)¹⁵



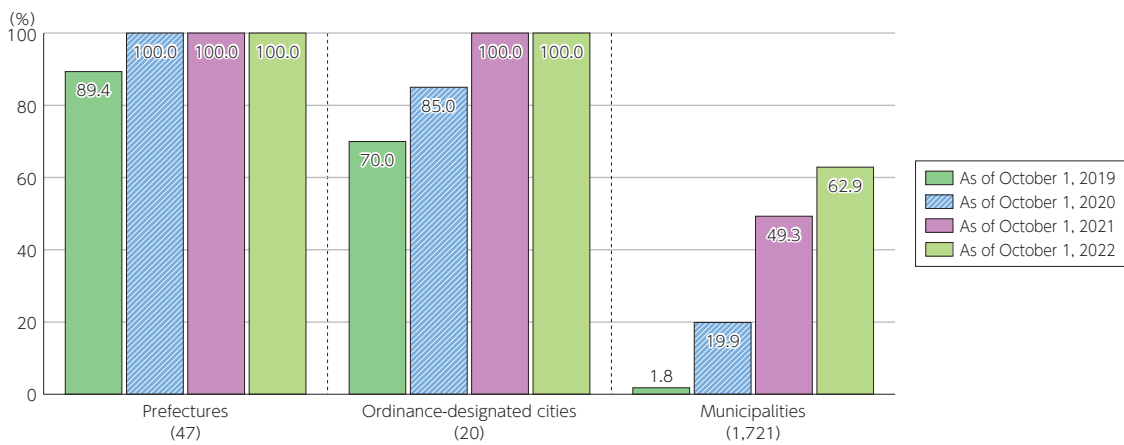
Figure (related data) Status of Introduction of RPA in local governments (status of introduction by RPA field)
 Source: MIC "Promotion of AI/RPA Usage by Local Governments"
 URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/eng/WP2023/data_collection.html#f00343
 (Data collection)

(c) Status of remote work by employees

As of October 2022, this had been adopted by all organizations in prefectures and ordinance-designated cities and by 1,083 organizations in municipalities (62.9%), which represents a steady increase from 849 organizations (49.3%) in the previous year (Figure 4-11-3-7). The most common reasons for not adopting this were "concerns over ensuring information security" and

"many employees engaged in duties incompatible with remote work." Meanwhile, the most common benefit of introducing remote work was "ensuring business continuity in the event of an emergency" (76.5%), followed by "reducing/streamlining employee commutes" and "handling employees balancing work and family life."

Figure 4-11-3-7 Status of introducing remote work by employees



(Source) Based on MIC "Survey on Remote Work Initiatives by Local Governments"¹⁶

¹⁵ https://www.soumu.go.jp/main_content/000822108.pdf

¹⁶ MIC "Survey on Remote Work Initiatives by Local Governments" (October 1, 2019, October 1, 2020, October 1, 2021, and October 1, 2022) (https://www.soumu.go.jp/main_content/000853597.pdf)