Section 11 Trends in digital usage

1. Trends in digital usage in the daily life of the citizens

(1) Information and communication devices and terminals

Regarding the terminals necessary for connecting to the internet and utilizing digital services, the household ownership rate of information and communication devices in 2023 is 97.4% for "All Mobile Devices," with "Smartphones" accounting for 90.6% of that figure. Additionally, the ownership rate for personal computers is 65.3% (Figure 2-1-11-1).



(Source) MIC "Communications Usage Trend Survey"

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

(2) Internet

A Usage status

The internet usage rate (individual) in 2023 is 86.2% (Figure 2-1-11-2). When broken down by device, the internet usage rate (individual) for "Smartphones"

(72.9%) surpasses that for "Personal Computers" (47.4%) by 25.5 percentage points.



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

1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 (Year)

(Source) MIC "Communications Usage Trend Survey"



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Figure (related data) Devices types of Internet use (individuals)

Source: MIC "Communications Usage Trend Survey" URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/ja/r06/html/datashu.html#f00311 (Data collection)

Examining the internet usage rate by age group, it exceeds 90% for each group from ages 13 to 69, while it tends to decrease as the age group rises beyond 70 years old (**Figure 2-1-11-3**). Additionally, the internet usage rate by household income shows that it exceeds

80% for all income brackets above 4 million yen (Figure 2-1-11-4). Furthermore, by prefecture, 38 prefectures have an internet usage rate exceeding 80%, and in all prefectures, the usage rate for smartphones exceeds 50%.

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

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Figure 2-1-11-3 Internet usage by age group



(Source) MIC "Communications Usage Trend Survey"



Figure 2-1-11-4 Internet usage by annual household income



Figure (related data) Rate of Internet usage by prefecture and the status of usage by device (individuals) (2023) Source: MIC "Communications Usage Trend Survey" URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/ja/r06/html/datashu.html#f00314

URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/ja/r06/html/datashu.html#f00314 (Data collection)

B Concerns about internet usage

Approximately 70% of internet users feel some form of anxiety when using the internet (Figure 2-1-11-5). The specific concerns include "Leakage of Personal Information and Internet Usage History" at 89.4%, followed by "Infection by Computer Viruses" at 61.1%, and "Fraudulent Billing or Internet Scams" at 53.9% **(Figure 2-1-11-6)**.

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Figure 2-1-11-5 Percentage of individuals who feel anxiety when using the Internet



(Source) MIC "Communications Usage Trend Survey"





(Source) MIC "Communications Usage Trend Survey"

(3) Utilization of digital services

A General utilization of digital services

A survey was conducted in Japan, the U.S., Germany, and China regarding the digital services people commonly use. In Japan, the services with over 60% usage included "Internet Shopping," "Messaging Services," "social media," "Information Search and News," and "QR Code Payments," which were higher compared to other services. The relatively high usage of "QR Code Payments" in Japan can be attributed to the widespread use of smartphones, promotional campaigns by QR code payment providers, government initiatives to promote cashless transactions, and support for small and medium-sized enterprises (Figure 2-1-11-7).



Figure 2-1-11-7 Status of overall usage of digital services

(Source) MIC (2024) "Survey Research on R&D on the Latest Information and Communications Technologies and Trends of Use of Digital Technologies in Japan and Abroad"

Additionally, when asked whether they are aware of providing personal data when using services or applications offered by platform companies, the percentage of respondents who answered "Aware" (sum of "Very Aware" and "Somewhat Aware") was highest in the U.S. (87.7%), while in Japan it was about 40% (41.0%) (Figure 2-1-11-8).

When asked about their concerns, the most common

concern across all countries, including Japan, was that "registered information might be used for phone calls, door-to-door sales, social media advertisements, etc., without their intention." On the other hand, the percentage of respondents in Japan who answered "No Particular Concerns" was 21.7%, higher compared to around 10% in the U.S. and Germany (Figure 2-1-11-9).



Figure 2-1-11-8 Whether or not to be aware of the provision of personal data

(Source) MIC (2024) "Research and study on the latest trends in information and communication technology research and development, as well as digital utilization, both domestically and internationally'



and Trends of Use of Digital Technologies in Japan and Abroad"

Figure 2-1-11-9 Concerns to services which require the provision of personal data

When asked about the conditions under which they would be willing to provide personal data to platform companies, respondents in Japan, compared to other countries, particularly chose "no concern about data leakage," "no concern about misuse of data by companies," and "protection of privacy." The increase in opportunities to provide personal data and set conditions for its use may have raised awareness among users.

Figure (related data) Conditions under which they would be willing to provide personal data ЦŪ Source: MIC (2024) "Research and study on the latest trends in information and communication technology research and development, as well as digital utilization, both domestically and internationally URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/ja/r06/html/datashu.html#f00320 (Data collection)

B Utilization of digital services in virtual spaces (XR content)

The percentage of respondents who have used experiential entertainment services in virtual spaces³ (sum of "Use in Daily Life or Work" and "Have Used") was about 30-45% in the U.S., Germany, and China, while in Japan it was significantly lower at 9.6%. The percentage of respondents who indicated low intention to use such services (sum of "Not Necessary in Daily Life or Work" and "Not Interested in Using") was 65.4% in Japan, compared to 50.0% in Germany, which had the highest percentage (Figure 2-1-11-10). Looking at the usage in Japan by age group, the usage rate was highest among those in their 20s (13.6%), and the percentage of those who "Want to Try Using It in the Future" was also highest in their 20s (27.2%).



Figure 2-1-11-10 Usage of interactive entertainment services in virtual spaces (comparison by country)

⁽Source) "Research and study on the latest trends in information and communication technology research and development, as well as digital utilization, both domestically and internationally'



Figure (related data) Usage of interactive entertainment services in virtual spaces (by age) Source: MIC (2024) "Research and study on the latest trends in information and communication technology research and development, as well as digital utilization, both domestically and internationally URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/ja/r06/html/datashu.html#f00322 (Data collection)



Figure (related data) Reasons why people don't use entertainment services in virtual spaces Source: MIC (2024) "Research and study on the latest trends in information and communication technology research and development, as well as digital utilization, both domestically and internationally URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/ja/r06/html/datashu.html#f00323 (Data collection)

³ XR content (interactive entertainment services in virtual space) is a type of services 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's Institute for Information and Communications Policy has been conducting joint research with Professor Emeritus HASHIMOTO Yoshiaki of the University of Tokyo, Professor KITAMURA Satoshi of Tokyo Keizai University, and others⁴ on the us-

(A) Average usage time⁷ and user rate⁸ of major media

The average usage time and user rate of "Real-time TV Viewing,"⁹ "Recorded TV Viewing," "Internet Usage,"¹⁰ "Newspaper Reading," and "Radio Listening" are shown in **(Figure 2-1-11-11)**.

Across all age groups, the average usage time for "Internet Usage" was the longest on both weekdays and holidays, followed by "Real-time TV Viewing." The average usage time for "Internet Usage" on holidays exceeded 200 minutes for the first time. The user rate for "Internet Usage" also exceeded that of "Real-time TV Viewing" on both weekdays and holidays. age time, time slots, purposes, and reliability of information and communication media⁵. Below is an overview of the usage time of information and communication media based on the FY2023 survey results⁶.

By age group, the average usage time for "Internet Usage" on weekdays exceeded that of "Real-time TV Viewing" for the first time among those in their 50s. The user rate for "Internet Usage" exceeded that of "Real-time TV Viewing" on both weekdays and holidays for those in their teens to 50s. Additionally, the user rate for "Newspaper Reading" increased with age, but compared to the previous FY2022 survey results, the user rate for those in their 40s to 60s either decreased or remained almost flat.

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⁴ Assistant Professor KAWAI Daisuke in School of Cultural and Creative Studies in Aoyama Gakuin University

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 years increments) in proportion to the actual situation in the Basic Resident Register; the register of January 2023 was used for the FY2023 survey) were visited and received questionnaires based on random location quota sampling.

⁶ The FY2023 survey was conducted from December 2 to December 8, 2023

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 activities 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, website, social media, video sites, and online games, regardless of device.

Figure 2-1-11-11 Average usage time for major media and user ratio

<Weekday (one day)>

		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
	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
All age	2021	146.0	17.8	176.8	7.2	12.2	74.4	18.6	89.6	22.1	6.2
groups	2022	135.5	18.2	175.2	6.0	8.1	73.7	17.5	90.4	19.2	6.0
	2023	135.0	16.4	194.2	5.2	7.3	71.1	15.3	91.2	16.1	5.4
	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
10s	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
	2023	39.2	3.6	257.8	0.0	0.8	47.1	5.7	96.4	0.0	2.1
	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
20s	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
	2023	53.9	6.2	275.8	0.5	4.8	43.3	7.4	98.4	1.8	2.8
	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
30s	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
	2023	89.9	13.7	201.9	0.5	2.5	64.5	13.3	94.0	3.9	4.1
	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
40s	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
	2023	134.6	13.7	176.2	2.7	7.2	78.3	15.7	93.0	11.2	5.4
	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
50s	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
	2023	163.2	21.2	173.8	7.6	8.6	81.2	19.4	90.0	27.3	7.5
	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
60s	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
	2023	257.0	31.3	133.7	15.9	15.2	91.5	23.1	79!8	39.4	7.6

<Holiday (one day)>

		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
	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
All age	2021	193.6	26.3	176.5	7.3	7.0	75.0	21.3	86.7	19.3	4.2
groups	2022	182.9	30.2	187.3	5.6	5.5	72.2	22.7	88.5	17.7	4.1
	2023	176.8	23.6	202.5	5.0	4.1	69.3	18.0	88.2	14.7	3.0
	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
10s	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
	2023	56.8	4.8	342.2	0.0	0.0	42.9	6.4	95.0	0.0	0.0
	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
20s	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
	2023	66.0	15.0	309.4	0.2	1.0	41.0	11.1	97.2	0.9	1.4
	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
30s	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
	2023	121.2	17.8	218.3	1.6	2.3	57.3	14.5	92.1	4.6	2.5
	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
40s	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
	2023	188.2	23.1	176.2	2.8	3.1	78.6	21.4	90.7	10.2	2.6
	2019	277.5	48.0	107.9	12.9	6.6	90.3	30.6	77!3	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
50s	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
	2023	225.3	29.0	152.7	7.3	6.3	81.2	21.9	86.5	23.5	3.8
60s	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
	2023	307.6	39.8	119.3	14.4	8.6	91.9	24.1	73.0	37.0	5.9

(Source) MIC Institute for Information and Communications Policy "FY2023 Survey on Usage Time of Information and Communications Media and Information Behavior"

(B) Position of the internet as a medium

The comparison of the Internet with other media for different usage purposes is shown in (Figure 2-1-11-12).

The Internet was the most used medium for "quickly knowing about events and trends in the world" across all age groups. By age group, the "Internet" was most used by those in their teens to 50s, while "TV" was most used by those in their 60s.

For "obtaining reliable information about events and trends in the world," "TV" was the most used medium

across all age groups. By age group, the "Internet" was most used by those in their 20s, "TV" and the "Internet" were equally used by those in their 30s, and "TV" was most used by other age groups. "Newspapers" were used more than the "Internet" by those in their 60s.

For "obtaining information about hobbies and entertainment," the "Internet" was the most used medium across all age groups and within each age group, with the percentage of "Internet" usage being around 90% for those in their teens to 30s.



Figure 2-1-11-12 Media used by purpose

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

D Utilization of internet media, etc.

When asked about their actions when they want to know the latest news online, the percentage of respondents in Japan who "look at recommended information from news sites/apps" (65.7%) and "look at information on social media" (44.5%) was high, while relatively fewer people relied on traditional mass media such as TV, newspapers, and news agencies (**Figure 2-1-11-13**).





⁽Source) MIC (2024) Research and study on the latest trends in information and communication technology research and development as well as digital utilization, both domestically and internationally

When asked whether they check the source (organization or person) of the information flowing online, the percentage of respondents in Japan who answered check (sum of "Do for Almost All News" and "Often Do") was 19.0%, lower compared to other countries (Figure 2-1-11-14).



Figure 2-1-11-14 Frequency to check the source of information (organizations and persons) (by country)

(Source) MIC (2024) Research and study on the latest trends in information and communication technology research and development, as well as digital utilization, both domestically and internationally



Figure (related data) When to compare the news reports by multiple media (broadcasters, news media and news agency) Source: MIC (2024) "Research and study on the latest trends in information and communication technology research and development, as well as digital utilization, both domestically and internationally" URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/ja/r06/html/datashu.html#f00337 (Data collection)

国际运动现在 3	(

Figure (related data) When to check the official information announced by the government etc. Source: MIC (2024) "Research and study on the latest trends in information and communication technology research and development, as well as digital utilization, both domestically and internationally" URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/ja/r06/html/datashu.html#f00338 (Data collection)

Figure (related data) When to check the results of verification by experts and fact-checking organizations Source: MIC (2024) "Research and study on the latest trends in information and communication technology research and development, as well as digital utilization, both domestically and internationally" URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/ja/r06/html/datashu.html#f00339 (Data collection)

Additionally, when asked about their awareness of the characteristics of online services and apps (such as searching services and social media), including the "Information Displayed is Optimized (Personalized) for You," "Recommended Accounts or Content on social media may be Those that the social media Provider Wants You to See," and "Information Close to Your Opinions and Thoughts is Displayed on social media," the percentage of respondents in Japan who answered aware (sum of "Very Aware" and "Somewhat Aware") was below 50% for all items.



Figure (related data) Whether or not to recognize the personalization of information displayed in searching results and social media Source: MIC (2024) "Research and study on the latest trends in information and communication technology research and development, as well as digital utilization, both domestically and internationally" URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/ja/r06/html/datashu.html#f00340 (Data collection)



Figure (related data)Whether or not to recognize the cases that accounts and contents are displayed which service providers want to show Source: Source: MIC (2024) "Research and study on the latest trends in information and communication technology research and development, as well as digital utilization, both domestically and internationally" URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/ja/r06/html/datashu.html#f00341 (Data collection)



Figure (related data) Whether or not to recognize the cases that opinions and information are tend to be displayed which are close to themselves Source: MIC (2024) "Research and study on the latest trends in information and communication technology research and development, as well as digital utilization, both domestically and internationally" URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/ja/r06/html/datashu.html#f00342 (Data collection)

2. Trends in utilization in corporate activities

(1) The Status of digitalization in each country's companies

A Efforts in digitalization

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A survey was conducted on the efforts in digitalization among companies in Japan, the U.S., Germany, and China. After excluding those who responded with "Don't Know,"¹¹ it was found that in Japan, the proportion of companies that have not implemented digitalization efforts (combining "have not implemented and considering implementation in the future" at 10.6% and "have not implemented and no plans in the future" at 39.7%) was approximately 50%, indicating a delay in promoting digitalization compared to overseas. When looking at the efforts by company size in Japan, it was observed that about 25% of large companies and about 70% of small and medium-sized enterprises responded with "not implemented," showing differences in the status of digitalization efforts based on company size (Figure 2-1-11-15).

In Japanese companies, while there are many comprehensive efforts in digitalizing new ways of working (such as telework) and improving/reforming business processes (such as optimizing business flows with ERP), there are fewer comprehensive efforts in digitalizing new business creation and improving customer experiences. In Japanese companies, there is a tendency to focus more on defensive digitalization rather than proactive digitalization. In contrast, in the U.S. companies, there is a trend of comprehensive efforts in new business creation, but partial departmental efforts in improving customer experiences (Figure 2-1-11-16).

¹¹ The data were compiled based on the screening data collected until the number of samples for this study was secured.



Figure 2-1-11-15 Status of initiatives to promote digitalization (comparison by country)

* Based on screening research results to extract companies which is taking on digitalization.

(Source) MIC(2024) "Research and study on the latest trends in information and communication technology research and development, as well as digital utilization, both domestically and internationally"



Improving/refor (such as optimizing

(Such as Automa Realizing New

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

Source: MIC (2024) "Research and study on the latest trends in information and communication technology research and development, as well as digital utilization, both domestically and internationally"

URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/ja/r06/html/datashu.html#f00344 (Data collection)

US Japar 55.7% 21.49 22.3% 22.7% Creating New Business Improving/enhancing Customer Experiences 0.6% 26.4% 21.29 46.3% Adding High Value to Existing 30.9% 0.6% 46.6% Products/services Improving/reforming Business Processes .3% 39.4% 47.9% (such as optimizing business flows with ERP) Streamlining Operations (Such as Automation through AI/RPA) 2.3% 31.7% 45.3% Realizing New Ways of Working 1.0% 33.0% (such as telework)

Figure 2-1-11-16 Detailed initiatives to promotes digitalization (comparison by country)

		Germany		China
Creating New Business	38.5%	35.6% 9.4% 4.5%	55.3%	34.0% 5.5% 4.5%
Improving/enhancing Customer Experiences	35.3%	40.1% 4.2% 0.6% 16.8% 2.9%	36.2%	42.4% 17.5% 0.3% 3.6%
Adding High Value to Existing Products/services	36.2%	35.9% 5.8% 213%	39.8%	41.1% 15.2% 0.69
Improving/reforming Business Processes h as optimizing business flows with ERP)	37.2%	40.5% 6.5%1 6% 12.9% 1.3%	47.2%	2:9% 38.8% 10.0%
Streamlining Operations h as Automation through AI/RPA)	32.4%	35.6% 15.5% 97% 1.9%	50.5%	34.6% 10.4% 10% 32%
alizing New Ways of Working (such as telework)	35.9%	32.4% 15.9% 7.1% 1.9% 6.8%	48.5%	35.6% 10.4% 1.6%
				0.3 %
Company-wide	Multiple der	partments 🔚 Single department 🛛 Speci	fic tasks 🔲 Not er	igaged Don't know / Not sure

(Source) MIC (2024) "Research and study on the latest trends in information and communication technology research and development, as well as digital utilization, both domestically and internationally"

B Effects of digitalization

Regarding the effects of digitalization in terms of "Creating New Business," "Improving/enhancing Customer Experiences," "Adding High Value to Existing Products/services," "Improving/reforming Business Processes," "Streamlining Operations," and "Realizing New Ways of Working," it was found that in Japan, the proportion of responses indicating "Exceeding Expectations" was the lowest across all aspects, and the proportion of responses indicating "Not Achieving the Expected Effects" was the highest among the four countries.



Figure (related data) Effects of digitalization Source: MIC (2024) "Research and study on the latest trends in information and communication technology research and

Source: MIC (2024) "Research and study on the latest trends in information and communication technology research and development, as well as digital utilization, both domestically and internationally" URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/ja/r06/html/datashu.html#f00346 (Data collection)

C Challenges in digitalization

In terms of challenges and barriers currently recognized or anticipated in digitalization, Japanese companies had the highest response rate for "Insufficient human resources(42.1%)," which was overwhelmingly higher compared to companies in other countries. This was followed by the "Prevalence of Analog Culture/values (29.3%)" and "Unclear Role Allocation and Scope of DX (28.3%)" (Figure 2-1-11-17).





(Source) MIC (2024) "Research and study on the latest trends in information and communication technology research and development, as well as digital utilization, both domestically and internationally"

Particularly notable in Japanese companies is the scarcity of UI/UX designers and specialists in AI/digital analytics compared to other countries. The proportion of companies indicating the "Presence of UI/UX designers" was 18.3% in Japan, while it was approximately 60-

70% in other countries. Similarly, the proportion of companies indicating the "Presence of AI/digital analytics specialists" was 18.8% in Japan, while it was approximately 60-80% in other countries (Figure 2-1-11-18).

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Figure 2-1-11-18 Status of the specialized digital human resources

(Source) MIC(2024) "Research and study on the latest trends in information and communication technology research and development, as well as digital utilization, both domestically and internationally"



Figure (related data) Initiatives to secure digital human resources (comparison by country) Source: MIC (2024) "Research and study on the latest trends in information and communication technology research and

development, as well as digital utilization, both domestically and internationally" URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/ja/r06/html/datashu.html#f00349 (Data collection)

Furthermore, when asked about the internalization status of system development, it was found that in Japan, 41.3% of companies responded that they conduct system development under their own leadership ("almost all development is carried out by in-house engineers" and "mainly developed by in-house engineers, with some development outsourced to external vendors"). In contrast, overseas, approximately 85-95% of companies reported conducting development under their own leadership, showing a significant difference from Japan.

|--|

Figure (related data) In-house development of systems (comparison by country) Source: MIC (2024) "Research and study on the latest trends in information and communication technology research and development, as well as digital utilization, both domestically and internationally" URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/ja/r06/html/datashu.html#f00350 (Data collection)

(2) Telework and online meetings

A Adoption of telework in Japanese companies

The adoption of telework in private companies rapidly progressed after the spread of COVID-19 in 2020. According to the 2023 Communication Usage Trend Survey conducted by the MIC, about 50% of companies have introduced telework (Figure 2-1-11-19).

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Figure 2-1-11-19 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 that the usual work place 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 of introduction of teleworking Source: MIC "Communication Usage Trend Survey"

URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/ja/r06/html/datashu.html#f00355 (Data collection)



Figure (related data) Issues when to introduce teleworking (multiple answers allowed) Source: Prepared based on MIC "Survey Result of Teleworking Security in FY2023" URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/ja/r06/html/datashu.html#f00356 (Data collection)

B Utilization of telework and online meetings (individual and international comparison)

A survey was conducted among citizens of Japan, the U.S., China, and Germany regarding the utilization of telework and online meetings (hereinafter referred to as "Telework, etc.").

The percentage of respondents who answered that they "Use Telework, etc. in Their Daily Life and Work" slightly increased in the U.S., while it slightly decreased in Japan and Germany (Figure 2-1-11-20). In Japan, the most common reason cited for the difficulty in implementing telework, etc. was the lack of "Desired Services within the Company" at 30.5%. When examining the utilization of telework, etc. in Japan by age group, the highest utilization was among those in their 30s, followed by those in their 20s and 50s, with 39.3% in their 30s. Additionally, a high percentage of respondents in their 20s expressed a "Desire to Use Telework, etc. in the Future". On the other hand, the percentage of respondents who answered that telework, etc. is "Not Necessary in Their Daily Life and Work" increased with age, with 31.6% in their 20s and 55.8% in their 60s (Figure 2-1-11-21).



Figure 2-1-11-20 Usage of remote work and online meetings (international comparison)

(Source) MIC(2024) "Research and study on the latest trends in information and communication technology research and development, as well as digital utilization, both domestically and internationally"



Figure 2-1-11-21 Usage of remote work and online meetings (Japan, by age)

(Source) MIC(2024) "Research and study on the latest trends in information and communication technology research and development, as well as digital utilization, both domestically and internationally"



Figure (related data) Reasons why people don't use remote work or online meetings

Source: MIC (2024) "Research and study on the latest trends in information and communication technology research and development, as well as digital utilization, both domestically and internationally"

URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/ja/r06/html/datashu.html#f00359 (Data collection)

3. Trends in digital usage in administration

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

Regarding the usage of electronic administrative services (electronic applications, electronic tax filing, electronic notifications), only about 41% of people in Japan have experience using these services. Although this is an increase from the previous survey (about 35%)¹², it remains lower compared to the other three countries **(Figure 2-1-11-22)**. The main reasons for not using these services include "Security Concerns," "Not Know-

ing How to Use the Services or the Devices and Applications Required," and "Lack of Desired Services."

When examining the usage of electronic administrative services in Japan by age group, the percentage of people with experience using these services ranged from 34% to 44% across all age groups, showing little difference.



Figure 2-1-11-22 Usage of digital administrative services (by country)

(Source) MIC(2024) "Research and study on the latest trends in information and communication technology research and development, as well as digital utilization, both domestically and internationally"



Figure (related data) Usage of digital administrative services (Japan, by age)

Source: MIC (2024) "Research and study on the latest trends in information and communication technology research and development, as well as digital utilization, both domestically and internationally" URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/ja/r06/html/datashu.html#f00362 (Data collection)

Figure (related data) Reasons why people don't use public digital services (by country)

Source: MIC (2024) "Research and study on the latest trends in information and communication technology research and development, as well as digital utilization, both domestically and internationally" URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/ja/r06/html/datashu.html#f00363 (Data collection)

(2) Promotion of digital government in Japan

A International indicators

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An overview of Japan's position in the world regarding digitalization in the public sector based on international

indicators.

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

The UNDESA e-government survey aims to improve transparency and accountability in public policy through ICT and promote citizen participation in public policy. It has been conducted since 2003 and biennially since 2008. The survey ranks countries based on the average of three indicators: Online Service Index, Human Capital Index, and Telecommunications Infrastructure Index, resulting in the E-Government Development Index

¹² The 2023 White Pater on Information and Communications in Japan. MIC, 2023 "Research and study on the latest trends in information and communication technology research and development, as well as digital utilization, both domestically and internationally"

(EGDI).

In the 2022 World E-Government Ranking, Denmark ranked first, followed by Finland, the Republic of Korea, New Zealand, and Sweden. Japan ranked 14th, the same as in the previous survey, but its score improved. Historically, Japan has ranked between 10th and 18th (Figure 2-1-11-23).

Participation Index," up from fourth in the previous survey. The e-Participation Index scores countries based on three areas: "e-information (information provision)", "e-consultation (dialogue and opinion collection)", and "e-decision-making (decision-making)". Japan received high scores in all areas: Information 0.9818, Consultation 1.0000, and Decision-making 1.0000.

In individual indicators, Japan ranked first in the "e-



Figure 2-1-11-23 Changes in Japan's ranking in the UN (UNDESA) "World E-Government Ranking"

(B) Waseda University "World Digital Government Ranking"

The Waseda University Institute of e-Government has been publishing the "World Digital Government Ranking" annually since 2005, evaluating the progress of digital government promotion in 66 ICT-advanced countries using 10 main indicators (35 sub-indicators). The top five countries were Denmark, Canada, the UK, New Zealand, and Singapore, with Denmark ranking first for three consecutive years. Japan fell out of the top 10 for the first time since the survey began, due to insufficient progress in digitalization from a citizen's perspective and administrative and financial reforms. Challenges and structural weaknesses in Japan include the negative effects of siloed administration, lack of speed, and issues with the effectiveness of the Digital Agency as a control tower. Additionally, the complexity of decision-making due to the legal separation of government and local authorities, and the widening digital and administrative disparities among prefectures and municipalities were pointed out.



Figure (related data) Changes of the rank of Japan in Waseda University "World Digital Government Ranking" Source: Institute of Digital Government in Waseda University URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/ja/r06/html/datashu.html#f00365 (Data collection)

B Development of data linkage and authentication infrastructure

(A) My Number Card

As of March 17, 2024, the issuance rate of My Number Cards relative to the population reached 78.5% (excluding cards invalidated due to death or expiration, the possession rate is 73.3%). As of January 21, 2024, approximately 72.07 million cards were registered as health insurance cards, with a registration rate of 73.8% relative to the total number of issued My Number Cards. Regarding the registration of public money receiving accounts, as of January 21, 2024, the cumulative number of registrations was approximately 62.65 million, with a registration rate of 64.2% relative to the total number of issued My Number Cards.



Figure (related data) Status of issuance of My Number Card Source:Prepared based on MIC "The Status of Issuance of My Number Card" URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/ja/r06/html/datashu.html#f00366

(Data collection)

经常发展	1
回光的推动	(

Figure (related data) Changes in registration of My Number Card as health insurance cards
Source: Prepared based on Digital Agency "Dashboard on the proliferation of My Number Card" (data obtained on March 25, 2024)
URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/ja/r06/html/datashu.html#f00367

(Data collection)

1920 - 203 B.
新建筑
的时代的
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Figure (related data) Changes in public fund receipt account registrations
Source: Prepared based on Digital Agency "Dashboard on the proliferation of My Number Card" (data obtained on March 25, 2024)
URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/ja/r06/html/datashu.html#f00368
(Data collection)

C Digitalization efforts in local governments

(A) Current status of online procedures

According to the "Priority Plan for Realizing a Digital Society" (Cabinet decision on June 7, 2022), the online usage rate for 59 procedures that local governments should prioritize to digitalize promotion is as follows (Figure 2-1-11-24).



Figure 2-1-11-24 Changes in online usage 59 procedures which local governments must prioritize to digitalize

*1 Online usage for FY2020 and FY2019 was calculated based on a resurvey of the 59 procedures that local governments should prioritize in taking procesures 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 \times 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) Prepared based on MIC "Overview of Promotion of DX and Use of Information by Local Governments: Summary of FY2023 Survey on Promotion of Use of Administrative Information by Local Governments"¹³

(B) Promotion of AI and RPA utilization

As of FY2021, 100% of prefectures and designated cities have introduced AI. Among other municipalities, 45% have introduced AI, and including those in the process of verification, planning to introduce, or considering introduction, about 69% of local governments are working towards AI introduction (Figure 2-1-11-25). By function, the top three areas (voice recognition, character

recognition, chatbot responses) are being introduced across all sizes of local governments. The bottom four areas (matching, optimal solution display, image/video recognition, numerical prediction) have fewer examples of introduction even at the prefecture level, but have been consistently increasing since the survey began, except for numerical prediction.

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



Figure 2-1-11-25 Status of introduction of AI in local governments

(Source) MIC "Promotion of Utilization of AI and RPA in Local Governments" $^{\prime\prime\prime4}$



Figure (related data) Status of introduction of Al in local governments (by Al function) Source: MIC "Promotion of Utilization of Al and RPA in Local Governments" URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/ja/r06/html/datashu.html#f00371 (Data collection)

Additionally, the number of organizations that have implemented RPA has increased to 94% for prefectures and 100% for designated cities. For other municipalities, the implementation rate stands at 36%, but when including those in the trial phase, planning to implement, or considering implementation, approximately 67% of local governments are working towards RPA adoption (Figure 2-1-11-26). By sector, RPA is most commonly implemented in "Finance, Accounting, and Treasury," "Child Welfare and Childcare," "Health and Medical Care," and "Organization and Personnel (including administrative reforms)."

14 https://www.soumu.go.jp/main_content/000934146.pdf

Chapter 1



(Source) MIC "Promotion of Utilization of AI and RPA in Local Governments"¹⁵



Figure (related data) Status of introduction of RPA in local governments (by RPA field) Source: MIC "Promotion of Utilization of AI and RPA in Local Governments" URL: https://www.soumu.go.jp/johotsusintokei/whitepaper/ja/r06/html/datashu.html#f00373 (Data collection)

(C) Status of telework implementation for staffs

As of October 2023, all prefectures and designated cities have implemented telework. Among municipalities, the implementation rate was 62.9% as of October 2022, but slightly decreased to 60.1% as of October 2023, partly due to the reclassification of COVID-19 as a Category 5 infectious disease under the Infectious Diseases Control Law (Figure 2-1-11-27).



Figure 2-1-11-27 Status of telework implementation for staffs

(Source) Prepared based on MIC "Survey on Remote Work Initiatives by Local Government"¹⁶

15 https://www.soumu.go.jp/main_content/000934146.pdf

¹⁶ MIC "Survey on Remote Work Initiatives by Local Governments" (October 1, 2019, October 1, 2020, October 1, 2021, October 1, 2022, October 1, 2023) (https://www.soumu.go.jp/main_content/000920596.pdf)