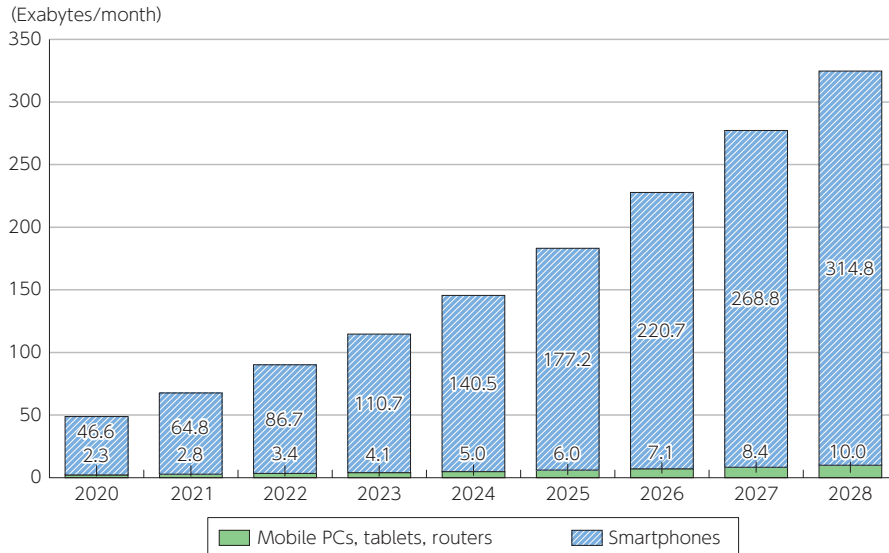


# Chapter 2

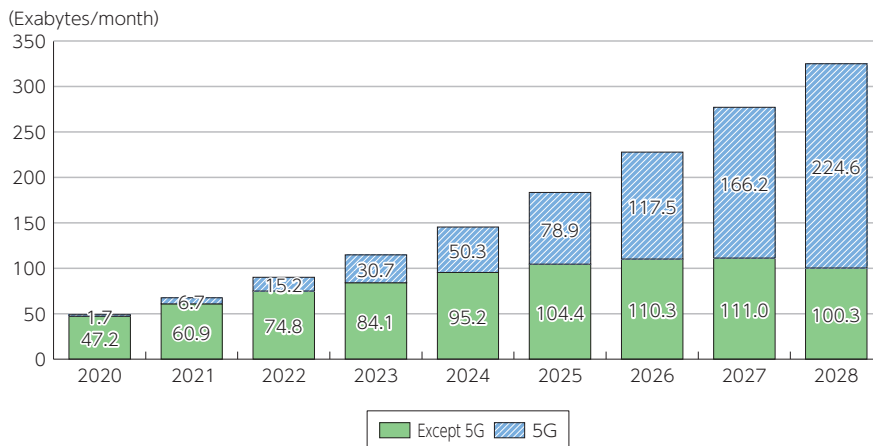
## Section 1

### 1. Predicted global mobile data traffic by device (Figure 2-1-1-1 in White Paper)



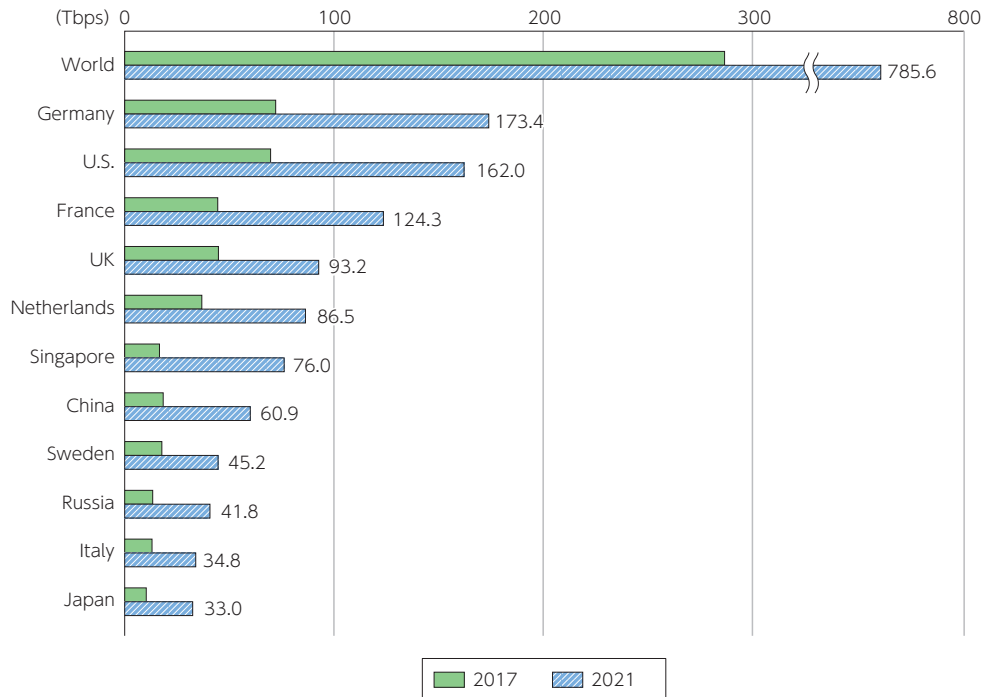
(Source) Prepared based on "Ericsson Mobility Visualizer by Ericsson"

### 2. Global mobile data traffic forecast (5G and Non-5G)



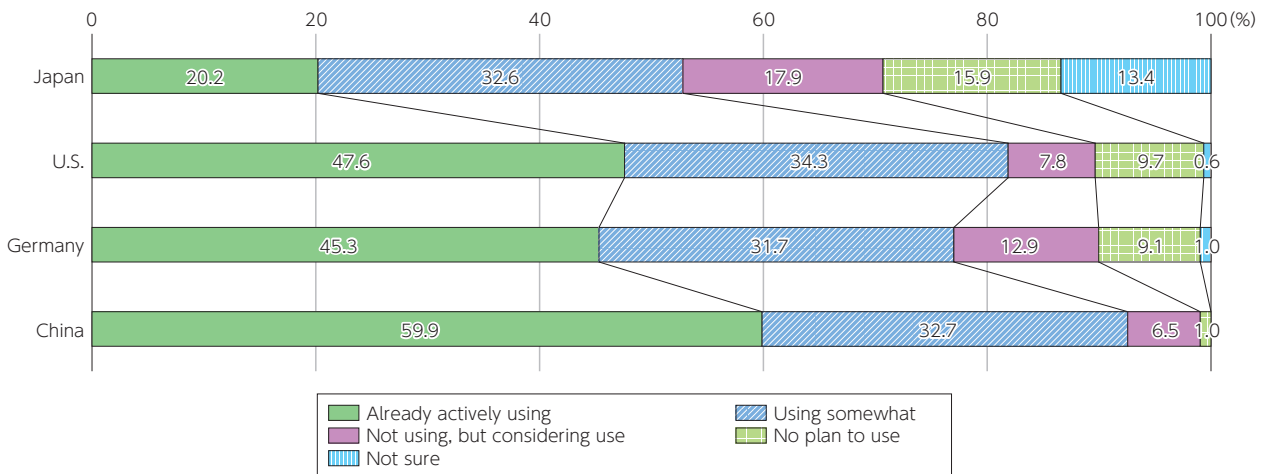
(Source) Prepared based on "Ericsson Mobility Visualizer by Ericsson"

### 3. Cross-border Internet bandwidth by top countries and regions (Figure2-1-1-2 in White Paper)



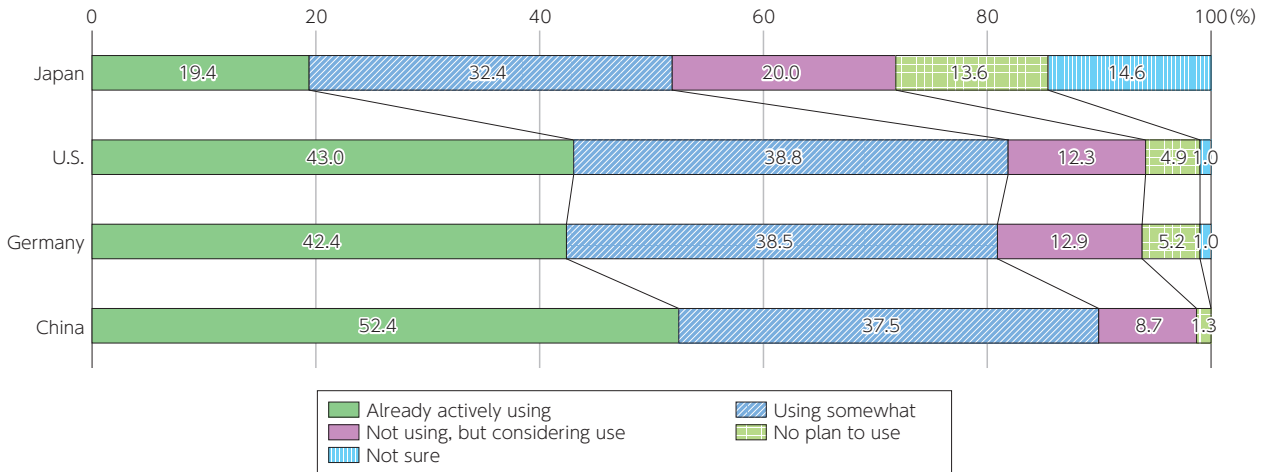
\* The classification of regions is based on TeleGeography's definition, and the regional totals are the sums of the countries for which data is available.  
 (Source) Japan External Trade Organization (JETRO) (Aug. 2, 2022) "The data environment is now (worldwide) - A look at cross-border data flows, investment and trade rules"

### 4. Utilization of personal data by companies in each country (Figure2-1-2-1 in White Paper)



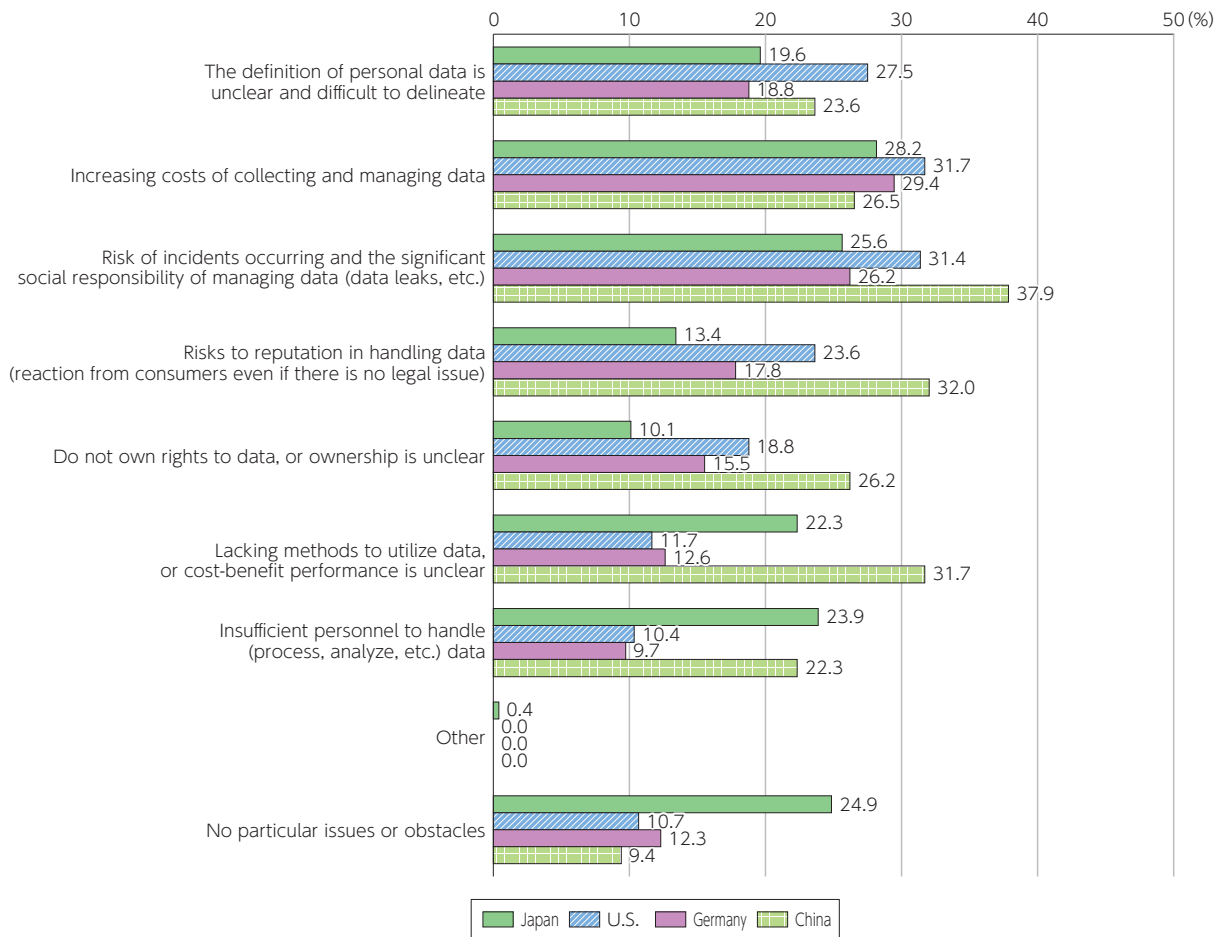
(Source) MIC (2023) "Survey Research on R&D on the Latest Information and Communications Technologies and Trends of Use of Digital Technologies in Japan and Abroad"

## 5. Utilization of data other than personal data



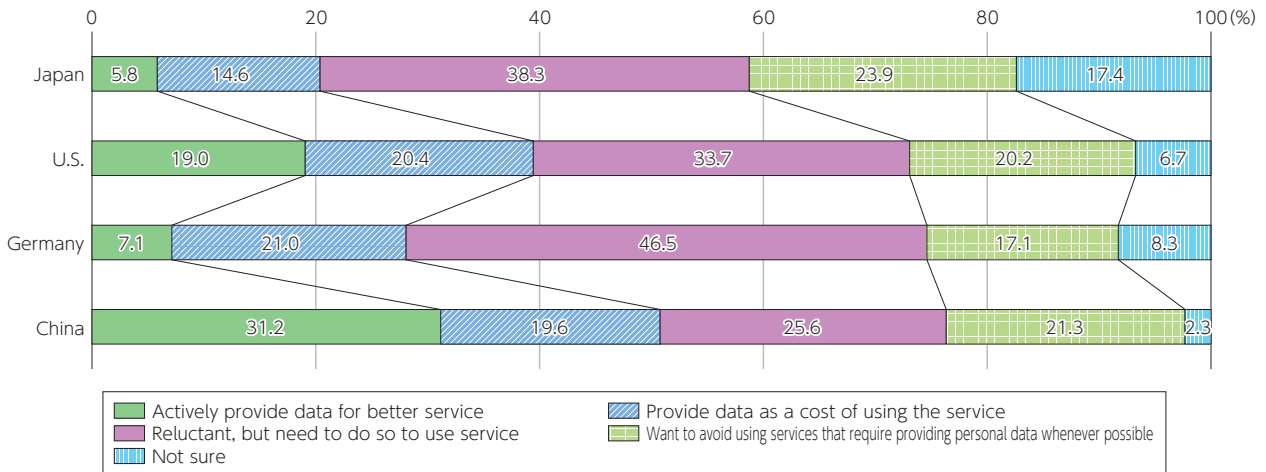
(Source) MIC (2023) "Survey Research on R&D on the Latest Information and Communications Technologies and Trends of Use of Digital Technologies in Japan and Abroad"

## 6. Issues and barriers envisaged in the handling and use of personal data (Figure2-1-2-2 in White Paper)



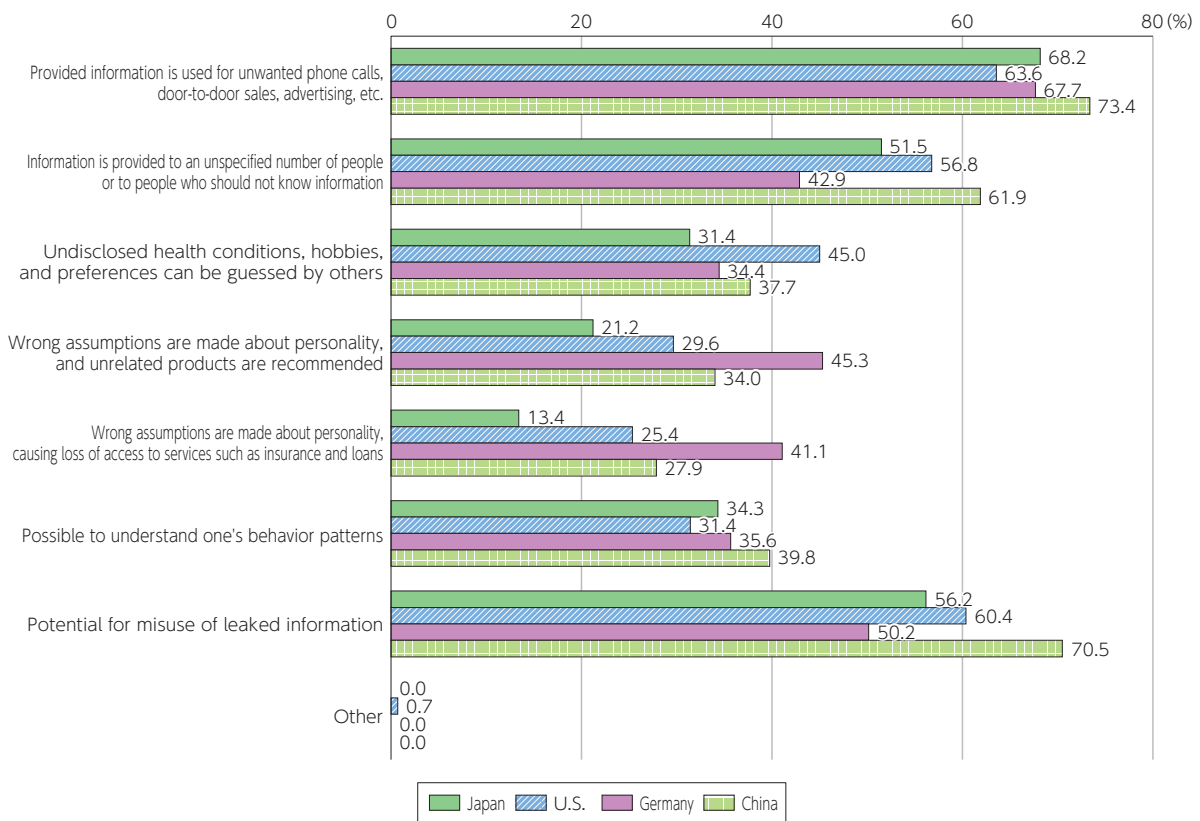
(Source) MIC (2023) "Survey Research on R&D on the Latest Information and Communications Technologies and Trends of Use of Digital Technologies in Japan and Abroad"

**7. Intent regarding using services that require the provision of personal data**  
**(Figure2-1-2-3 in White Paper)**



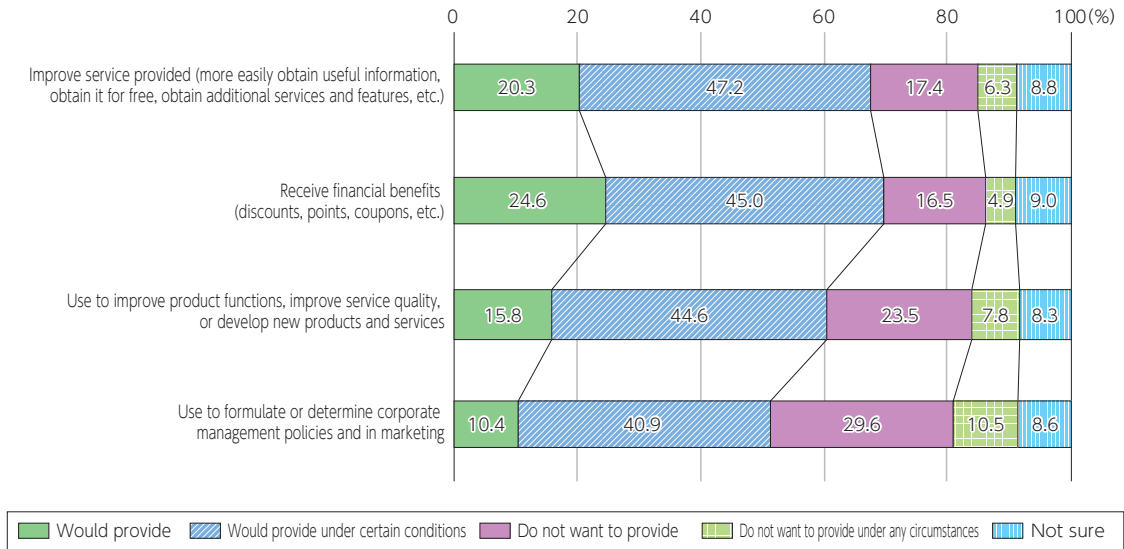
(Source) MIC (2023) "Survey Research on R&D on the Latest Information and Communications Technologies and Trends of Use of Digital Technologies in Japan and Abroad"

**8. Reasons for reluctance to provide personal data when using services**  
**(Figure2-1-2-4 in White Paper)**



(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"

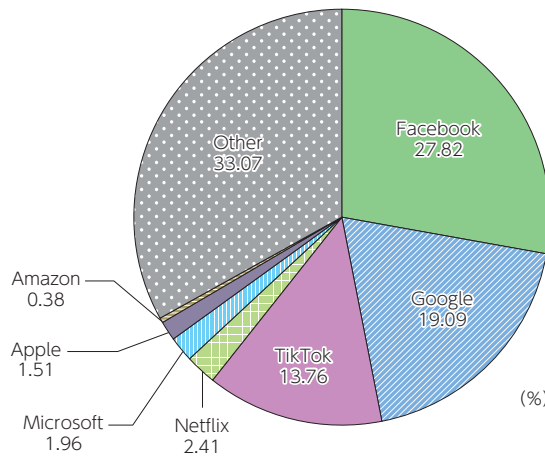
## 9. Conditions for providing personal data to companies



(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"

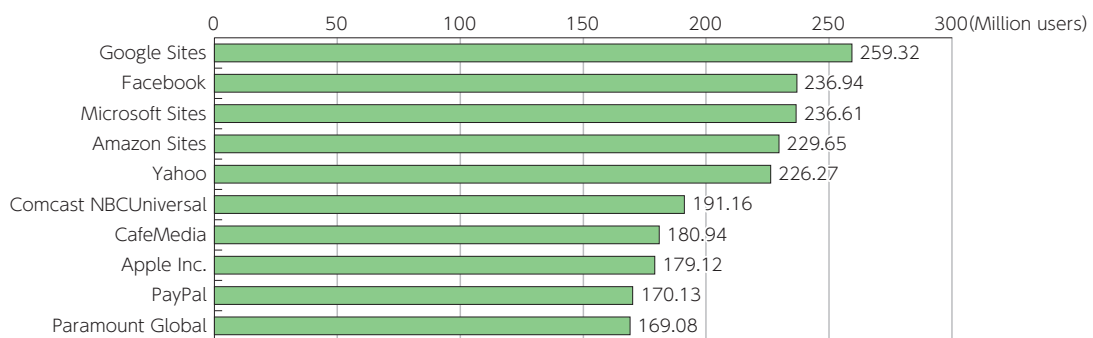
## Section 2

### 1. Mobile Internet traffic by application (first half of 2022) (Figure 2-2-1-1 in White Paper)



(Source) Prepared based on "PHENOMENA (THE GLOBAL INTERNET PHENOMENA REPORT JANUARY 2023)" by SANDVINE.

### 2. Platforms with the most monthly unique users in the U.S. (July 2022)



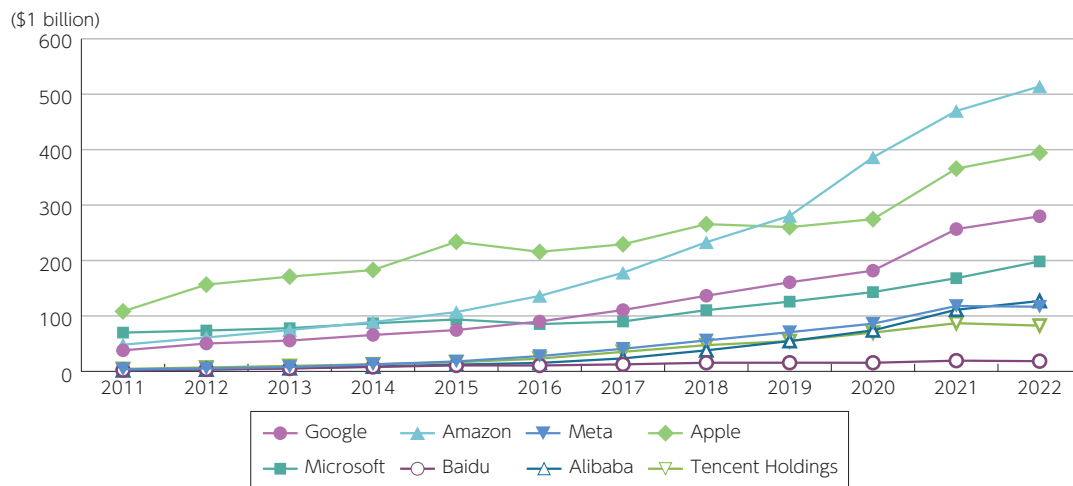
(Source) Statista "Most popular multi-platform web properties in the United States in July 2022, based on number of unique visitors"

### 3. Example of data items collected by platform providers (Figure2-2-1-2 in White Paper)

Data item	Platform			
	Google	Facebook	Amazon	Apple
Name	○	○	○	○
User name	—	—	○	—
IP address	○	○	○	○
Search word	○	—	○	○
Content	—	○	—	—
Link between content and displayed ads	○	○	—	—
Time, frequency, and duration of activity	○	○	—	○
Purchasing activity	○	—	○	—
Persons with whom you communicated	○	○	—	—
Activity in third-party apps	○	—	—	—
Browsing history	○	—	○	—

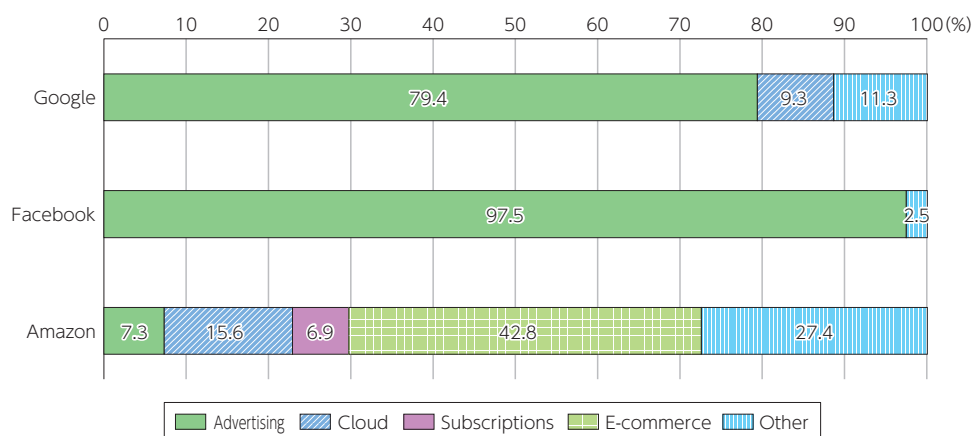
(Source) Prepared using an extract from "The Data Big Tech Companies Have On You" by Security.org

### 4. Sales trends of major platform providers (Figure2-2-2-1 in White Paper)



(Source) MIC (2023) "Survey Research on ICT Market Trends in Japan and Abroad"

### 5. Advertising spending as a percentage of platform provider sales (2022) (Figure2-2-3-1 in White Paper)



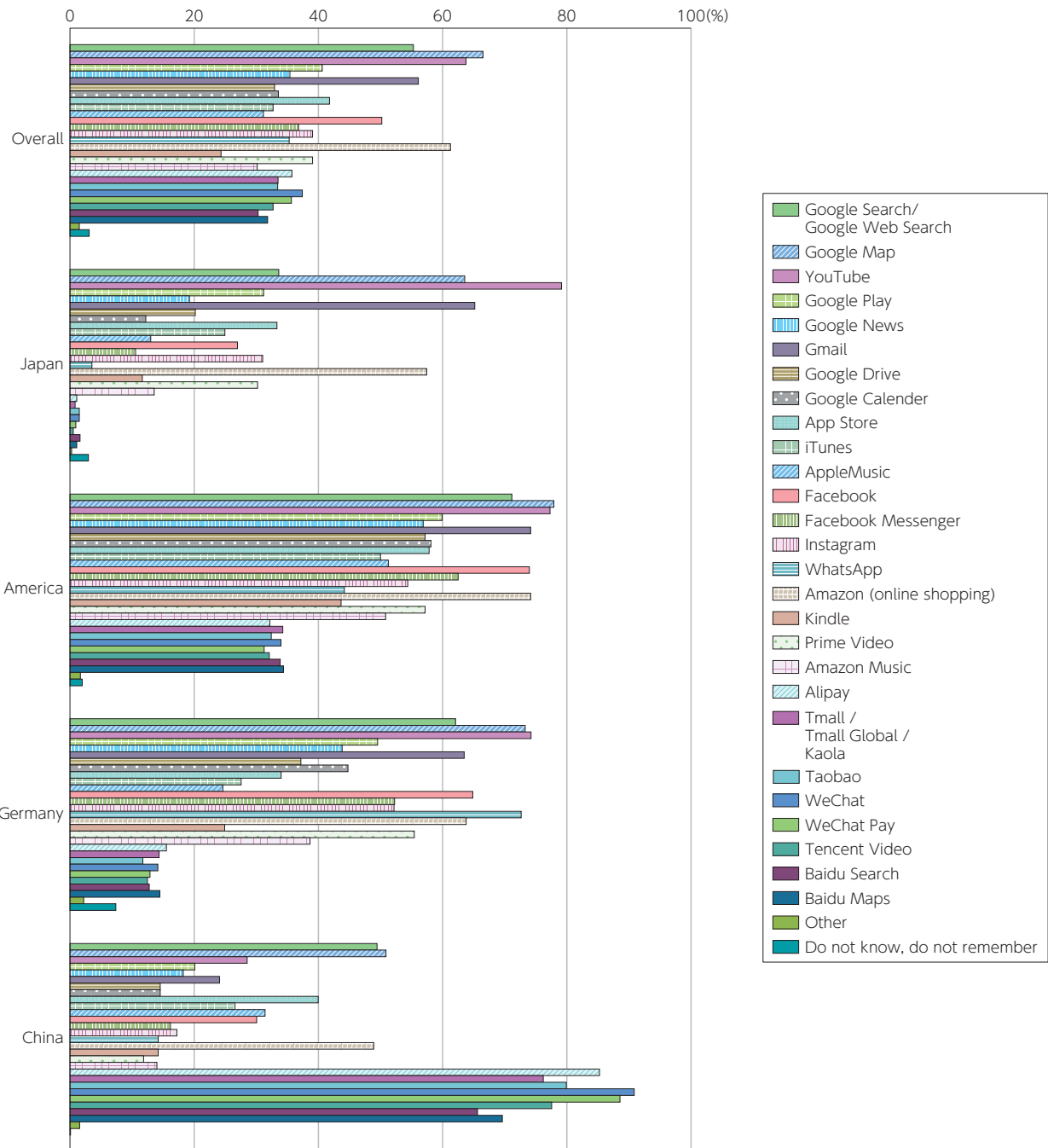
(Source) Prepared based on the published data of each company

**6. Cases of investigation and prosecution of platform providers  
(Figure2-2-3-2 in White Paper)**

Overview	Details
Use search data to lower search rankings of other companies' shopping sites (Google)	<ul style="list-style-type: none"> <li>• In December 2017, the European Commission sued Google for using user search data to rank its Google Shopping service higher than other similar services. In November 2021, the European General Court upheld the European Commission's complaint.</li> <li>• In February 2022, Swedish price comparison service PriceRunner sued Google for similar reasons.</li> </ul>
Leverage data from third-party sellers who use Amazon to develop their own products (Amazon)	<ul style="list-style-type: none"> <li>• In 2020, the Wall Street Journal reported that Amazon was using sales data for third-party products to develop its own products.</li> <li>• In April 2022, the U.S. Securities and Exchange Commission (SEC) began investigating the case.</li> </ul>
Facebook linked to Facebook Marketplace (Meta)	<ul style="list-style-type: none"> <li>• In December 2022, the European Commission linked Facebook to Facebook Marketplace, an advertising service for the sale of goods between individuals, and warned Meta for distorting competition in the market for similar services.</li> <li>• The European Commission also pointed out that Meta imposes adverse conditions on competing business operators that advertise on Facebook and Instagram, which allowed them to leverage data related to competing ads.</li> </ul>

(Source) MIC (2023) "Survey Research on the Advancement of ICT Infrastructure and Distribution of Digital Data and Information"

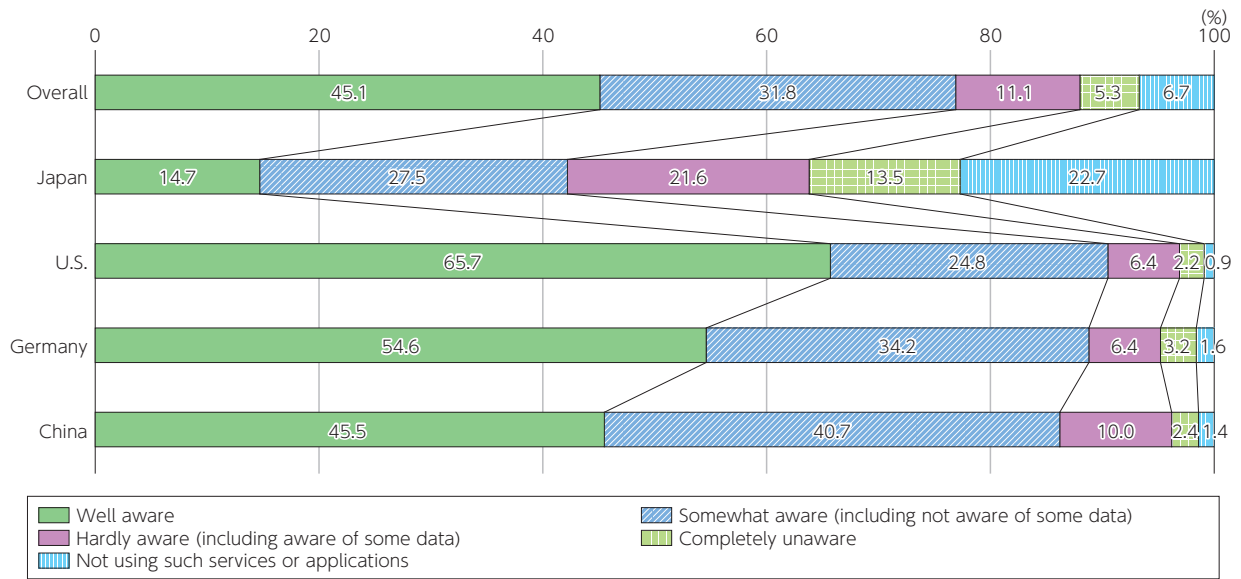
## 7. Services that individuals have used (multiple responses)



(Source) MIC (2023) "Survey Research on the Advancement of ICT Infrastructure and Distribution of Digital Data and Information"

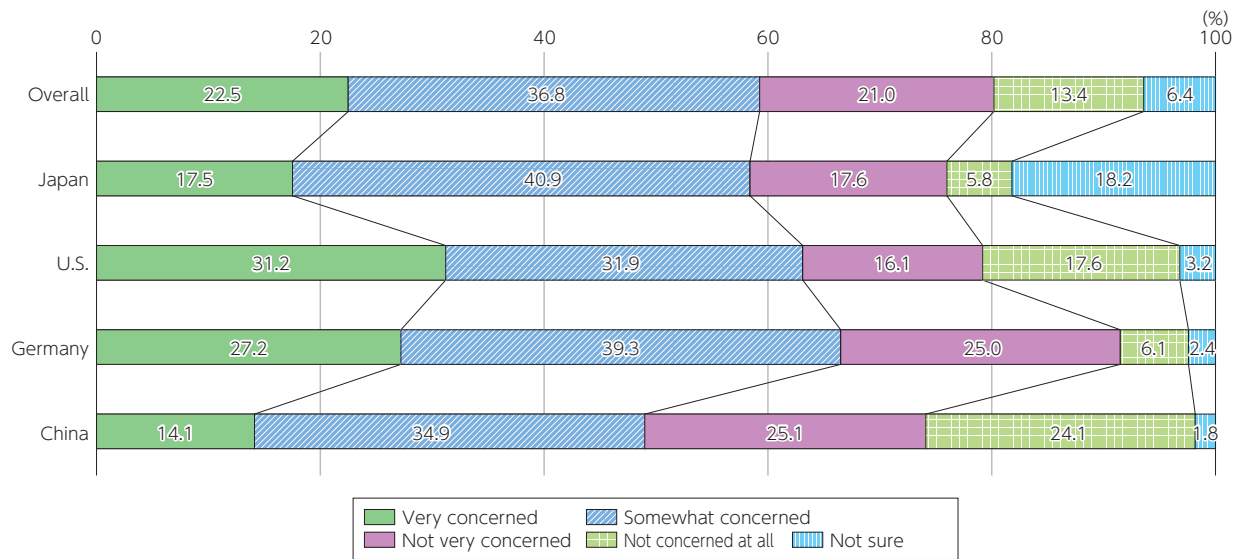


**8. Awareness regarding the provision of personal data  
(Figure2-2-3-3 in White Paper)**



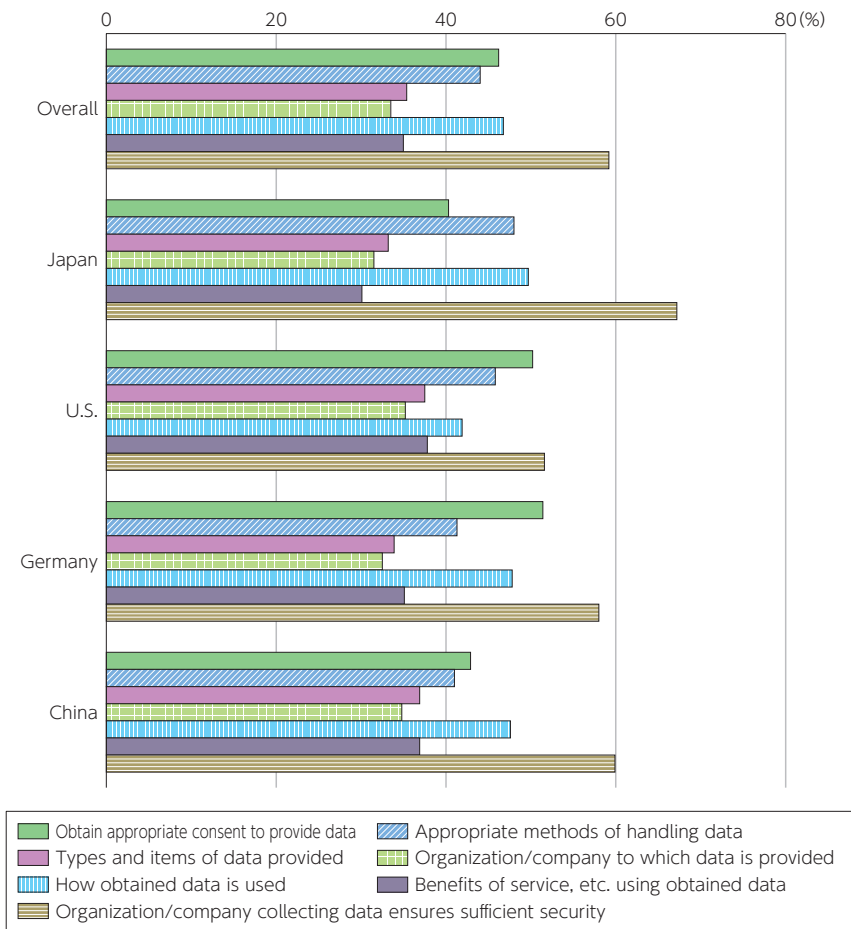
(Source) MIC (2023) "Survey Research on the Advancement of ICT Infrastructure and Distribution of Digital Data and Information"

**9. Concerns over the provision of personal data  
(Figure2-2-3-4 in White Paper)**



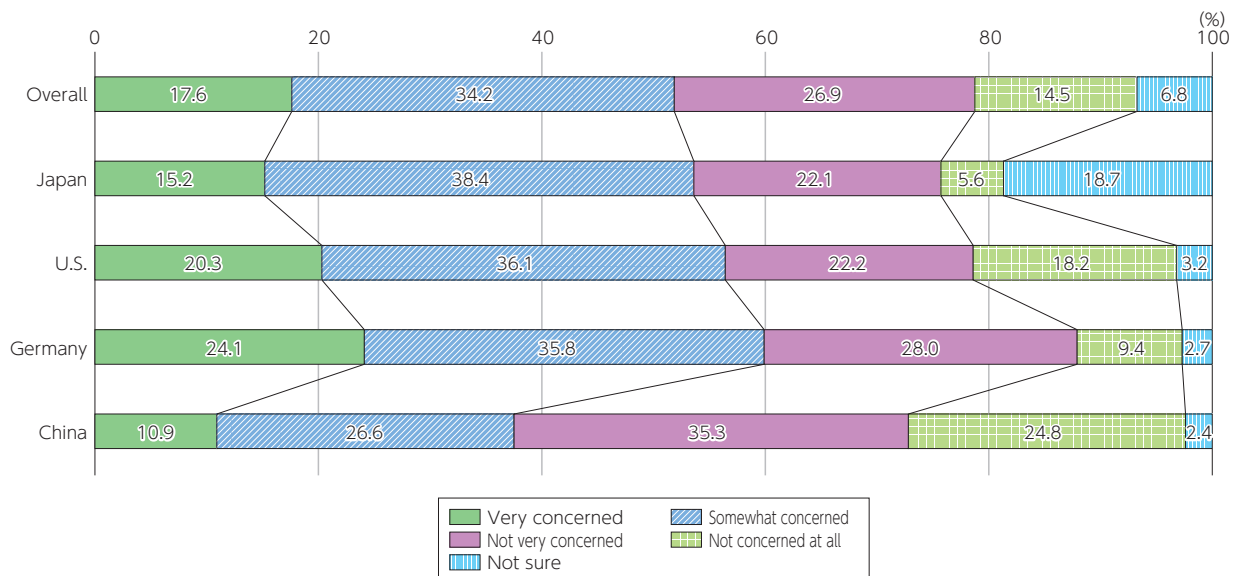
(Source) MIC (2023) "Survey Research on the Advancement of ICT Infrastructure and Distribution of Digital Data and Information"

**10. Points to consider when providing personal data**  
(Figure2-2-3-5 in White Paper)



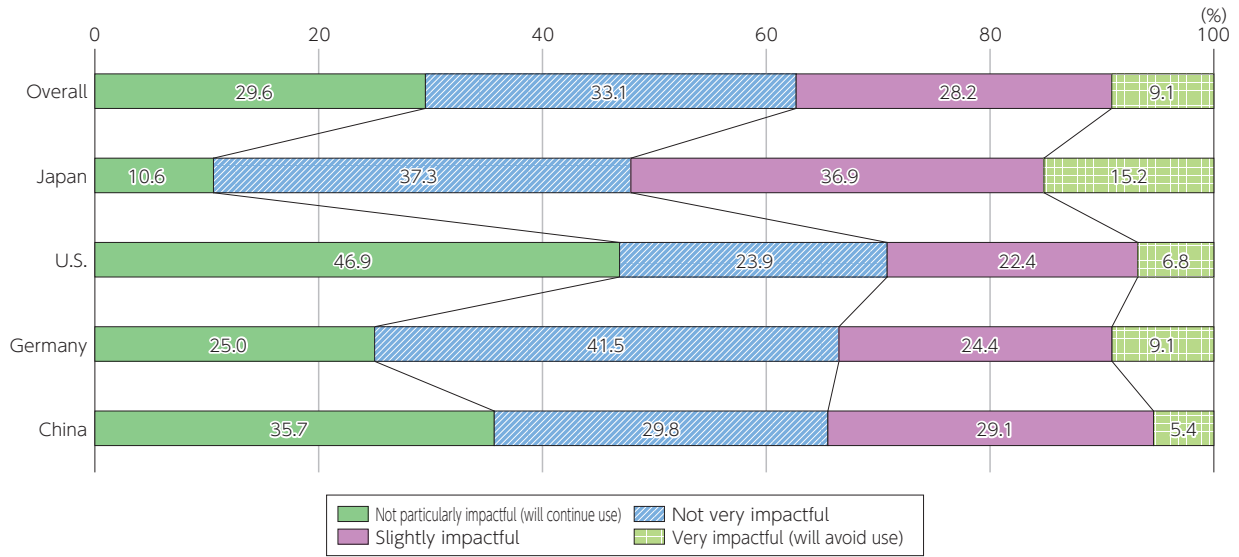
(Source) MIC (2023) "Survey Research on the Advancement of ICT Infrastructure and Distribution of Digital Data and Information"

**11. Concerns over the display of personalized search results and advertisements, etc.**  
(Figure2-2-3-6 in White Paper)



(Source) MIC (2023) "Survey Research on the Advancement of ICT Infrastructure and Distribution of Digital Data and Information"

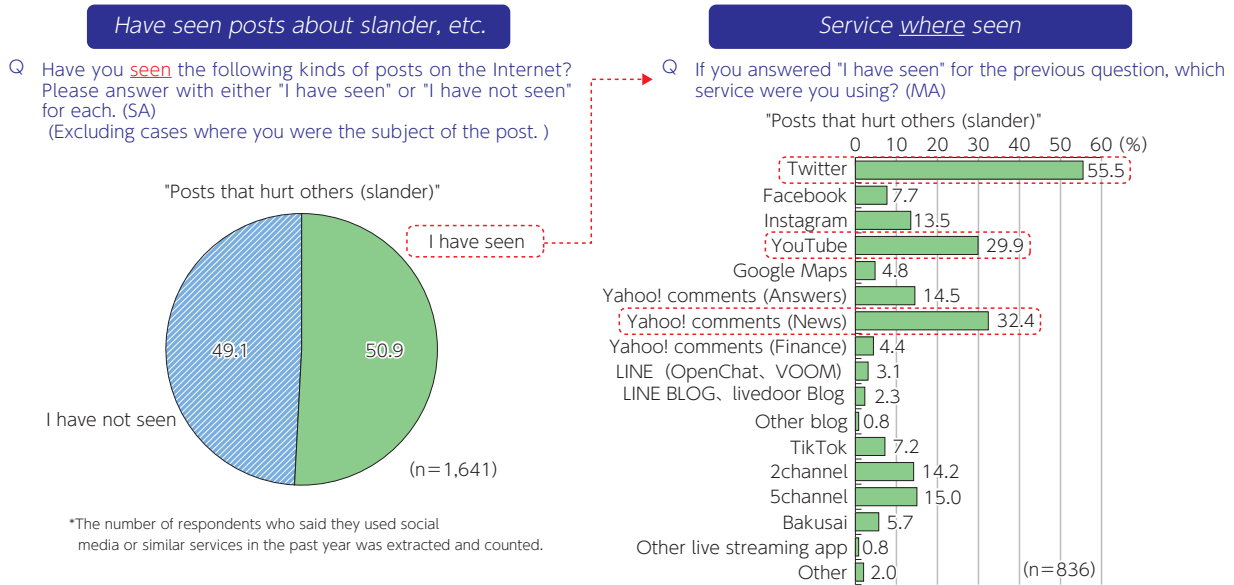
**12. Impact of the display of personalized advertising on usage**  
(Figure2-2-3-7 in White Paper)



(Source) MIC (2023) "Survey Research on the Advancement of ICT Infrastructure and Distribution of Digital Data and Information"

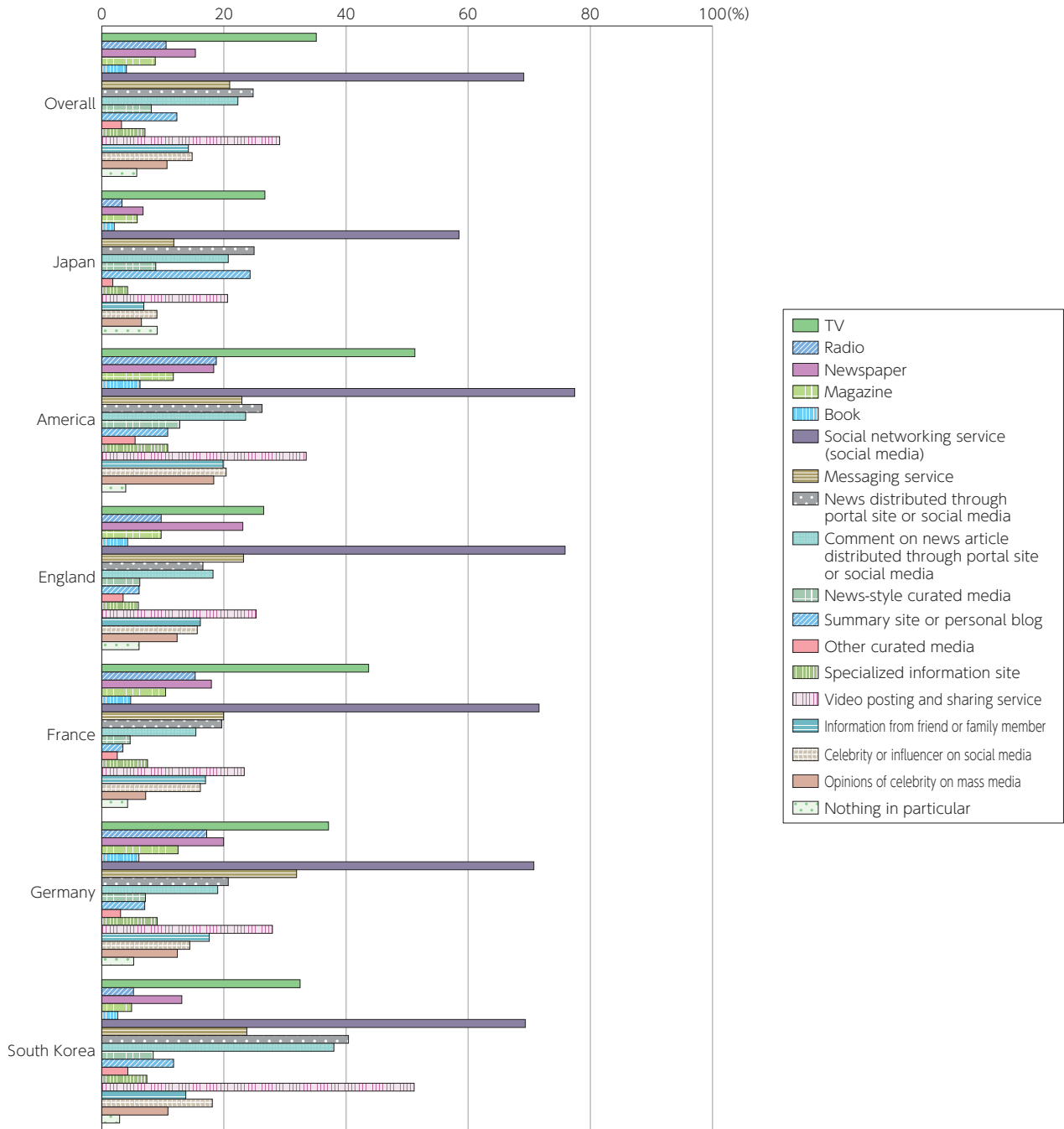
**Section 3**

**1. Questionnaire survey of social media users (personal experience)**  
(Figure2-3-1-1 in White Paper)



(Source) MIC Platform Service Study Group (40th meeting) - Material 2

## 2. Media services in which disinformation was seen



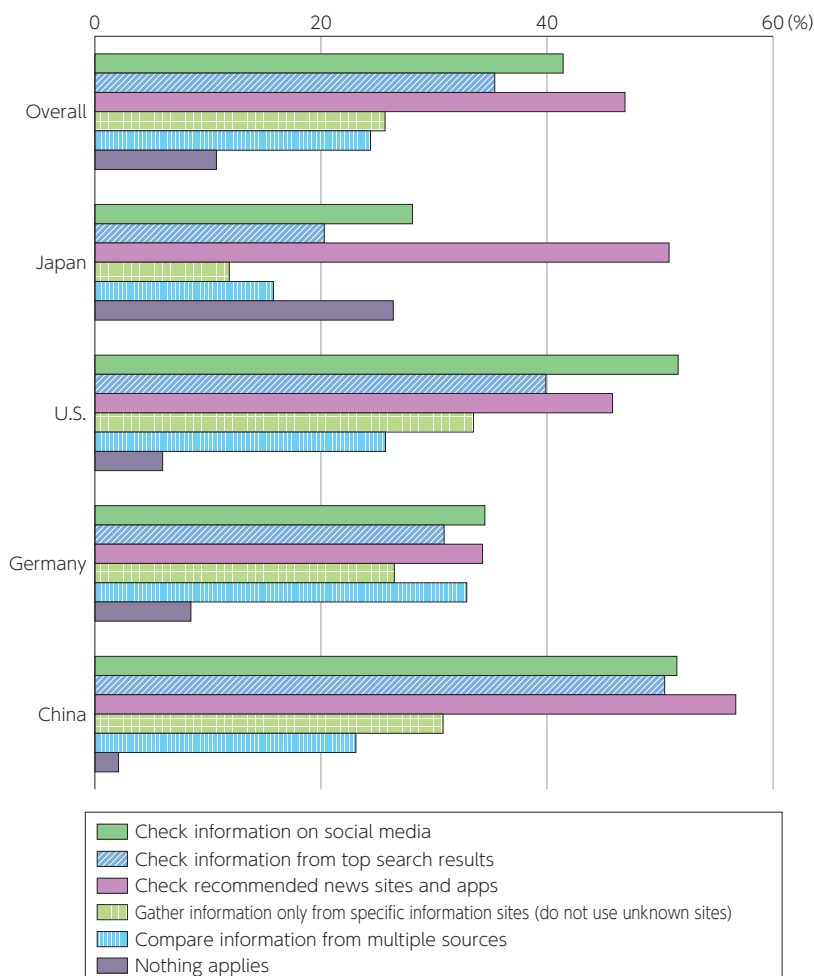
(Source) MIC "Fiscal 2021 Survey on Awareness of Disinformation in Japan and Other Countries"

### 3. Recent deepfake cases (Figure2-3-1-2 in White Paper)

Year	Area	Details
2021	U.S.	A mother was arrested for allegedly using deepfake technology to create obscene images and videos of her daughter's cheerleading teammates in order to get them removed from the team.
	Europe	European MPs conducted video conference calls with Russian MPs unaware that they were watching deepfakes.
2022	Global	A video of President Zelensky talking about surrendering to Russia was posted on YouTube.
	Japan	Stable Diffusion was used to create a hoax image of flooding in Shizuoka Prefecture caused by a typhoon, which was posted on Twitter.
	U.S.	The image generation AI called NovelAI Diffusion used images from the website Danbooru that may be reproducing other people's copyrighted works without permission for AI learning.
	UK	Pornographic videos of women campaigning against non-consensual deepfake pornography were created and published on Twitter.
2023	U.S.	A political activist created a video of President Biden announcing the start of World War III. The creator explained that it was created with AI, but many people shared the video without explanation.
	U.S.	The founder of Bellingcat used Midjourney to create and publish a fake image of former President Trump being arrested that went viral on Twitter.

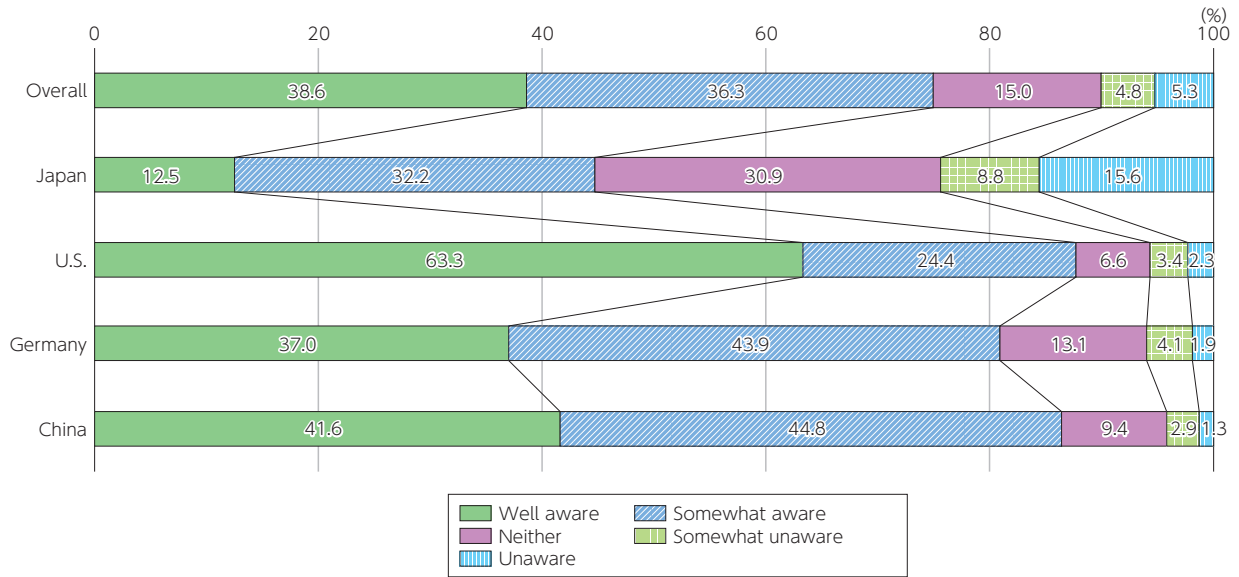
(Source) MIC "Fiscal 2021 Survey on Awareness of Disinformation in Japan and Other Countries"

### 4. What to do when you want the latest news online (Japan, U.S., Germany and China) (Figure2-3-2-1 in White Paper)



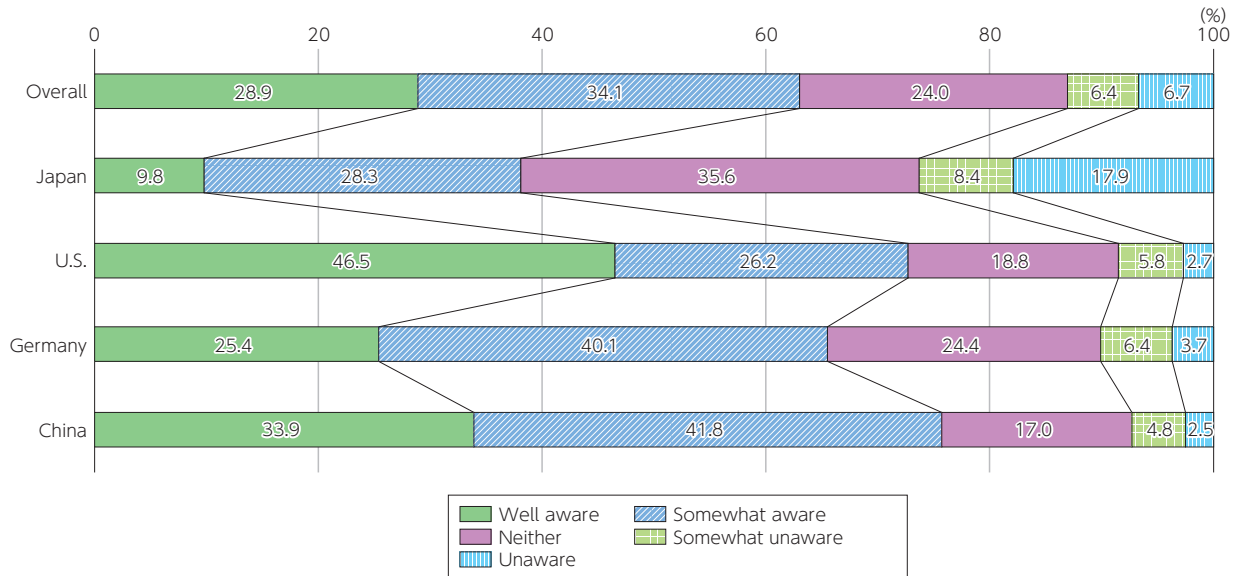
(Source) MIC (2023) "Survey Research on the Advancement of ICT Infrastructure and Distribution of Digital Data and Information"

**5. Awareness of whether or not the information displayed in search results, social media, etc. is personalized (Figure2-3-2-2 in White Paper)**



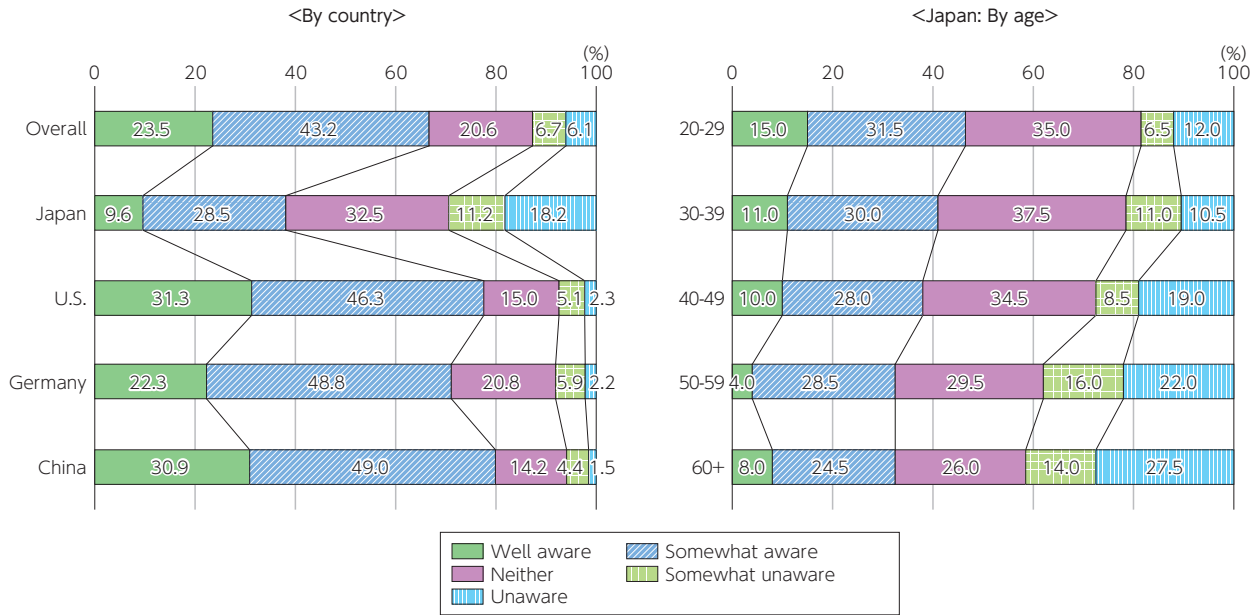
(Source) MIC (2023) "Survey Research on the Advancement of ICT Infrastructure and Distribution of Digital Data and Information"

**6. Awareness of whether or not the service provider is presenting you with accounts or content they want you to see (Figure2-3-2-3 in White Paper)**



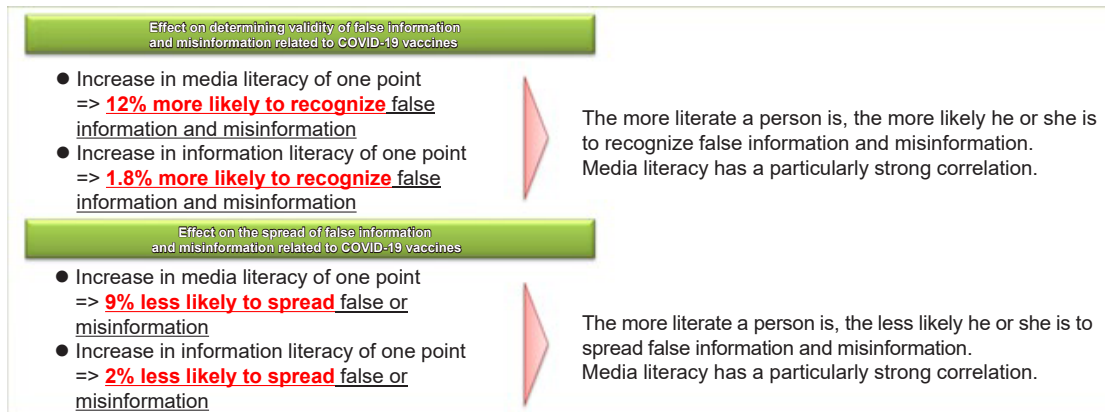
(Source) MIC (2023) "Survey Research on the Advancement of ICT Infrastructure and Distribution of Digital Data and Information"

**7. Awareness of the tendency for opinions and information close to your own views to be displayed in social media, etc. (Figure2-3-2-4 in White Paper)**



(Source) MIC (2023) "Survey Research on the Advancement of ICT Infrastructure and Distribution of Digital Data and Information"

**8. Regression analysis of media literacy and information literacy and the behavior of judging and spreading disinformation and misinformation (Figure2-3-3-1 in White Paper)**



(Source) Innovation Nippon Report (April 2022) "Understanding the Reality of Disinformation and Misinformation in Japan and Examining Social Countermeasures — Empirical Analysis of Disinformation and Misinformation Regarding Politics and Coronavirus Vaccines, etc."

## 9. Initiatives for improving digital literacy in Japan (Figure2-3-3-2 in White Paper)

Entity	Example	Details
Government (MIC, etc.)	Collection of Internet problems	•Case summaries of various problems that occurred on the Internet
	Educational website "Use the Internet wisely! Guide to Using the Internet Safely and Securely"	•An educational site for all generations regarding safe and secure Internet use. Posted "Slander on Social Media, etc." as a special feature
	Educational material for raising awareness about disinformation and misinformation "Facing the Internet: How to avoid being deceived by disinformation and misinformation"	•Developed and published educational materials and guidelines for instructors in fiscal 2021 created with the aim of contributing to comprehensively promoting media information literacy
	Spring Anshin Net - Simultaneous Action for the New Semester	•Awareness-raising activities conducted intensively in line with the new semester and enrollment period.
Private organizations and companies, etc.	Yahoo! Internet Common Sense Test, Yahoo! News Checkup	•Conducted the Internet Common Sense Skills Mock Exam in which one learns basic knowledge good to have when using the Internet and how to handle common Internet problems •Provided Yahoo! News Checkup to prevent readers being misled by uncertain information
	LINE MIRAI Foundation - Online visiting classes	•Carried out online visiting classes that provided information ethics training for children and parents at schools and local governments, etc. nationwide
	Google: First Media Literacy Course	•Online training to develop the ability to independently examine and use information
	Meta: Digital Classroom for All	•Provided visiting classes at schools, etc., online classes, and content on Instagram that anyone can learn from in order to help users acquire the skills required in the digital world and to build a global community of responsible digital citizens
	ByteDance	•Provided visiting classes at schools, etc. and awareness-raising seminars for parents and children •Raised awareness on safety and security together with video production experience
	Foundation for Multimedia Communications (FMCC) - e-Net Caravan	•Free on-site lectures held nationwide in school settings, etc. for students, parents/guardians, and teachers, etc.

(Source) Prepared by MIC based on various published materials

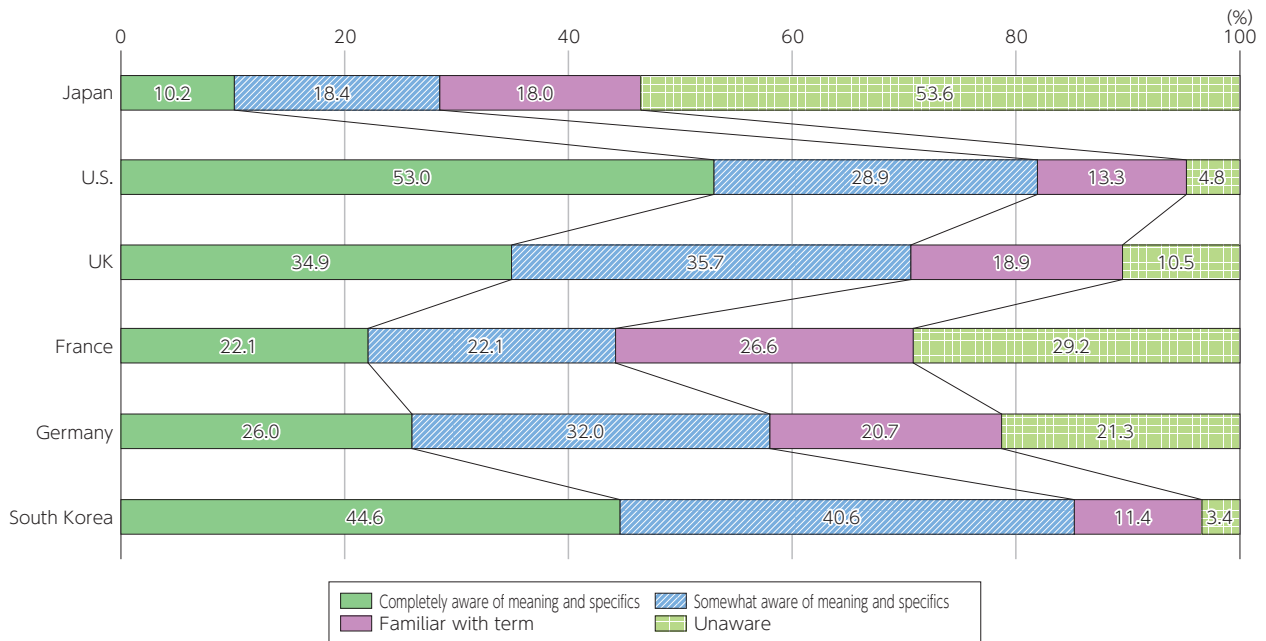
## 10. Precedents of media information literacy education in Europe and the U.S. (Figure2-3-3-3 in White Paper)

Entity	Case name	Details
State, international organization, etc.	EU: Spot and fight disinformation	Students learn about the risks of disinformation and misinformation and how to protect themselves through example exercises and group discussions, etc. Designed to be implemented within the school classroom framework
	UNESCO: Media and information literate citizens: think critically, click wisely!	Lectures in which one learns media information literacy, distinguishing disinformation and misinformation, reading advertisements and various media, and the structure of communication on platforms, etc.
	CISA: Resilience Series Graphic Novels	Graphic novels in which one learns about the risks of disinformation and misinformation through fictional stories inspired by the real world
Platform providers	Google: Be Internet Awesome	Learn the five principles of becoming a digital citizen (e.g., Share with Care) in an online game
	Meta: Get Digital!	Literacy programs customized for youth, educators and parents/guardians. Learn how to use digital tools
Academic research institutions	Washington State University, Check Please! Starter Course	Online course for learning how to research sources, evaluate highly specialized information, and find reliable and similar information

(Source) MIC (2022) "Report on the Survey on the Current Status and Issues of Measures for Improving Media Information Literacy"



**11. Level of awareness of fact-checking**  
**(Figure2-3-4-1 in White Paper)**



(Source) MIC "Fiscal 2021 Survey on Disinformation Awareness in Japan and Other Countries"

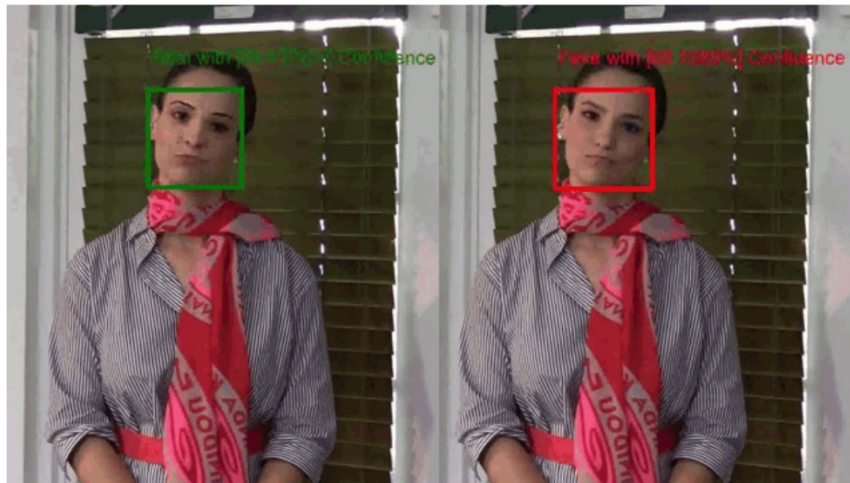
**12. Activities of fact-checking organizations, etc. in other countries**  
**(Figure2-3-4-2 in White Paper)**

Name and location of the organization	Overview, etc.
Name and location of the organization	<ul style="list-style-type: none"> <li>The Poynter Institute is a media research and professional development organization. IFCN is an internal organization</li> <li>Partnerships with Google, Facebook, Tiktok and others to support the work of the world's leading fact-checking organizations.</li> <li>Establishes standards for fact-checking organizations and implements certification. Signatory organizations carry out activities while presenting their certification marks.</li> <li>Signatory fact-checking organizations collaborate to fact-check issues of international concern, including COVID-19 and the Ukraine crisis.</li> </ul>
Poynter Institute IFCN (U.S.)	<ul style="list-style-type: none"> <li>Runs a website called Politifact that examines the veracity of statements made by politicians. Transcribes and evaluates statements for verification on a six-point scale called the Truth-O-Meter in addition to making their own evaluation comments.</li> </ul>
Full Fact (United Kingdom)	<ul style="list-style-type: none"> <li>Established to publicize fact-checking results and suggest ways to reduce misinformation</li> <li>Fact-checking of high-interest issues in the UK</li> </ul>
Seoul National University (SNU) Fact-Check Center (Korea)	<ul style="list-style-type: none"> <li>Organization affiliated with the Seoul National University's Institute of Communication Research</li> <li>Results of fact-checking conducted by mass media and online media in Korea are summarized and published on the center's website, SNU FactCheck.</li> <li>Fact-checked articles published on the center's website, in conjunction with the major portal site NAVER, are also published on NAVER's Fact-Check page.</li> </ul>
Taiwan Fact-Check Center	<ul style="list-style-type: none"> <li>Taiwan's first fact-checking organization and center established in 2018 provides educational content on its website to enable ordinary users to determine the authenticity of information on their own.</li> </ul>

(Source) Prepared by MIC based on various published materials

### 13. An example of a confidence score using Microsoft Video Authenticator (Figure2-3-5-1 in White Paper)

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\* The trustworthiness of the video is shown in real time. The red box indicates the deepfaked part.

(Source) Microsoft "New Steps to Combat Misinformation"