# Interim Assessment of Competition within the Mobile Ecosystem

Conference on Digital Markets Competition
April 26, 2022

## Introduction

- In order to promote competition and innovation in the globally operating and rapidly changing digital markets, the Cabinet has established the Headquarters for Digital Markets Competition (hereinafter referred to as the "Headquarters"), which is in charge of evaluating the digital markets, planning and formulating competition policies, and coordinating comprehensively with relevant domestic and foreign organizations for the purpose of prompt and effective implementation of competition policies. (September 2019)

- The Digital Markets Competition Council and the Working Group of Digital Markets Competition Council have been established under the Headquarters for Digital Markets Competition in order to analyze the current situation and to deepen its examination of specialized and multifaceted issues specific to the digital markets. The Council has been reviewing and establishing new systems from a cross-sectoral perspective.

  Specifically, with respect to the relationship between digital platforms and the businesses that use them, the Digital Platform Transparency Act was passed in May 2020 and went into effect on February 1 of 2021 in order to improve the transparency and fairness of platforms by, for example, disclosing transaction terms and conditions and establishing procedures and systems for certain large-scale digital platforms. On April 1 of the same year, businesses above a certain size operating a " general merchandise online mall " or "app store" were designated as "Specified Digital Platform Providers" subject to the law.

  The final report on the evaluation of the competitive environment of the digital advertising markets was compiled in April last year, and the relevant ministries and agencies are currently working on the development of a system to apply the Digital Platform Transparency Act to the market.

- In the “Final Report on the Competition Assessment of the Digital Advertising Market" compiled by the Digital Markets Competition Council”, (April 2021), the <u>following were mentioned as issues which should be continuously monitored</u> regarding the competition structure and competition prospects in the digital markets as a whole in the future.

(Hereinafter referred to as " Final Report on Competition Assessment of the Digital Advertising Markets " (excerpted from p. 246-247)) When platform providers "<u>provide interfaces from OS to app stores, browsers, and search, and thereby also design the market rules themselves, there is concern that the oligopolistic structure will remain unchanged in the future</u>. This concern is not necessarily limited to digital advertising, but could arise in other applications as well. (omitted) From the standpoint of actively promoting competition, the impact of these OSs, etc. on the competition structure of the digital markets should be studied further in the future, focusing first on an analysis of the current situation, while also keeping a close eye on the Digital Markets Act released by the EU. "

- In light of the aforementioned points, starting on June 30 of 2021, the Digital Markets Competition Council has decided to conduct a competition assessment of the impact the layered structure with the mobile OS at the base poses on the competitive environment of the digital markets.

- In the digital markets, it is extremely important to form connections with customers. Ever since iPhone was launched in 2007, in addition to its widespread use, the smartphone has played an important role as a gateway to the digital space for users due to its characteristic of being carried by people at all times, and has been instrumental in forming "strong connections with customers" for businesses that provide products and services.

- Based on these strong connections created by smartphones, a robust ecosystem has also been formed to connect many users with a large number of products and service providers.

  In other words, a "layered structure " has been formed, where an OS layer connects the hardware (smartphones) and software (various services), and an additional set of layers (app stores, browsers, etc.) has emerged based on the first layer. This phenomenon creates two strong ecosystems (hereafter referred to as the "mobile ecosystem") backed by strong network effects and other factors. For businesses accessing customers via mobile devices, it is necessary to provide services in accordance with specifications and "rules" set by operating systems, app stores and browsers, etc. The digital platform providers that control this ecosystem have a strong influence on determining the state of the digital space.

- As mentioned above, we have focused on individual digital markets such as online malls, app stores, and digital advertising, and have worked to resolve issues in the competitive environment in each of these markets, but many of these individual digital markets also function within the mobile ecosystem described above. However, it is difficult to understand structural issues related to the competitive environment in digital markets by looking at individual digital markets alone.

- With these issues in mind, we have decided to conduct a competition assessment of how the layered structure in the mobile ecosystem affects the competitive environment.

- In addition, there are various discussions in countries around the world regarding issues related to the competitive environment in digital markets and the necessary policies to address them.

  In Germany, the Act Against Restraints of Competition (GWB), which regulates a set of acts (preferential treatment of their own companies, elimination of competitors, and a certain manner of data use) by businesses with market influence across multiple sectors, was amended and has gone into effect (January 2021).

  In December 2020, the Digital Markets Act (hereinafter referred to as "DMA"), which stipulates a list of prohibited acts by companies (preferential treatment of

their own companies, tie-in sale, use of data), was proposed to Congress by the European Commission as the ex-ante regulation measure of large digital platforms. Discussions have been held in Congress and elsewhere to pass it into law. The bill was tentatively agreed to by the European Parliament and the Council in March 2022. If the agreement is approved by both the Council and Parliament, the bill is expected to go into effect six months after it is passed.

Also in the U.S., from June to October 2021, a bipartisan group of senators and representatives proposed several pieces of legislation, including a bill prohibiting large platforms from engaging in unfair preferential treatment of their own companies and a bill prohibiting large platform operators from requiring the use of their own payment systems on their app stores.

Moreover, the UK government published in July 2021 a "New Pro-Competition Regime for Digital Markets " to clarify the concept of the system to be introduced in the future. Furthermore, just as in Japan, the Competition and Markets Authority (CMA) is conducting a market study on the mobile ecosystem (the interim report is scheduled for December 2021, and the final report for June of this year).

- The Digital Markets Competition Council has been exchanging views with policy makers in various countries, as competition in the digital markets is global and many of the issues involved are shared by these countries.

  In this competition assessment, we will also consider and analyze such policy trends in each country.

- With the aforementioned issues in mind, since June of last year, we have been working with all parties concerned to evaluate the actual state of the market, as well as what the market should aim for and the possible measures to take. This interim report is based on the information gathered to date, and is an evaluation of the state of the market as it stands today. In the evaluation, the report summarizes the issues surrounding the competitive environment in the mobile ecosystem, and presents a hypothesis of what is desirable at this point in time, as well as possible options and points to keep in mind in order to achieve this goal.

  However, as the name "interim report " suggests, these hypotheses and possible options are only tentative proposals at this time and no decisions have been made. Rather, the purpose is to solicit the knowledge of a wide range of interested parties by clarifying and publicizing issues that should be discussed and examined in the future. For this reason, in this interim report, public comments are to be made, and questions to all concerned parties on the main issues are to be clearly stated for the reference of all concerned parties.

- Considering that the mobile ecosystem is an issue that affects a wide range of stakeholders in the digital markets, we would like to stimulate a broad discussion and solicit opinions. After the interim report, the Competition Council will conduct further studies and compile a final competition assessment based on these opinions. We would appreciate the cooperation of all concerned.

- Regarding the mobile ecosystem, the Japan Fair Trade Commission (JFTC) has

been conducting a study on the mobile OS, etc., since October 2021. The Digital Markets Competition Council will collaborate with the JFTC's study for its final competition assessment.

- In addition, a separate competition assessment has been conducted in parallel with the competition assessment of the mobile ecosystem since last June regarding the competitive environment of forming new connections with customers, specifically on voice assistants and wearables. Its interim report was also published today. We hope you will also take a look at this report.

# I. General Remarks

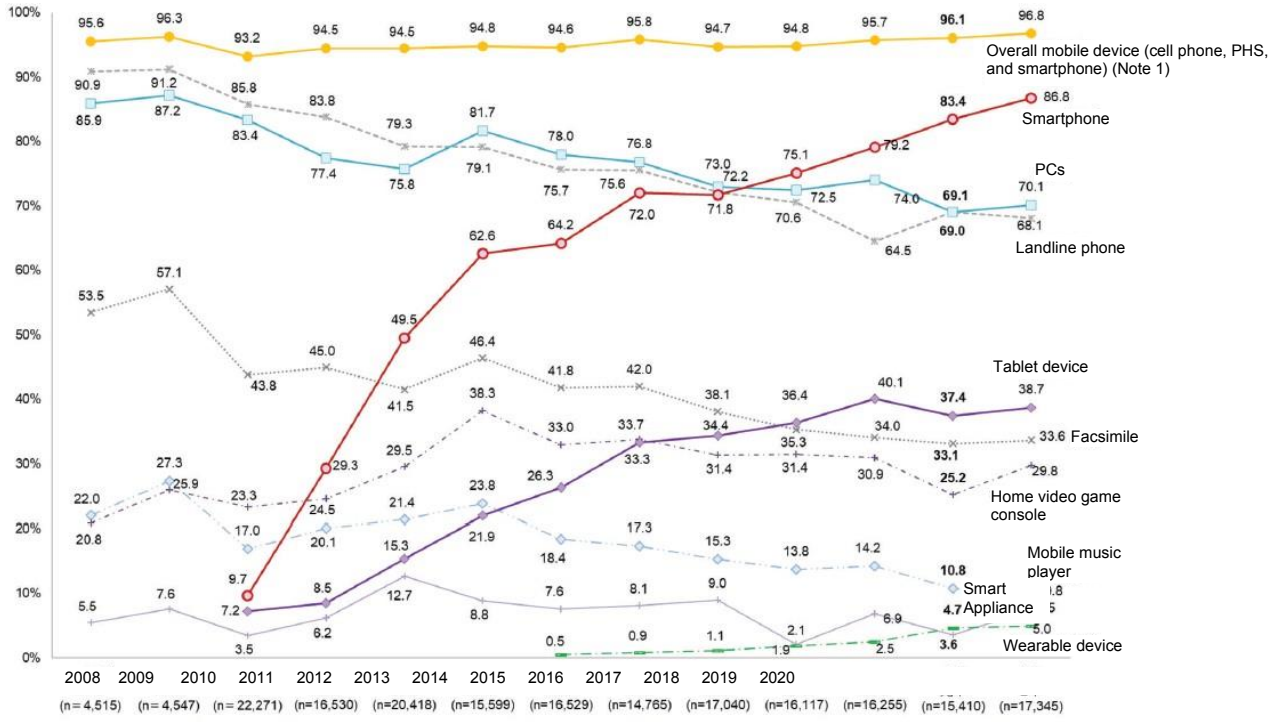
## 1. Market Structure and Its State

### 1. Mobile ecosystem based on a layered structure

(1) **Smartphones forming strong connections with customers**

- Regarding the competition in the digital markets, where maintaining and forging connections with customers is crucial, smartphones play a fundamental role in creating these connections.

- According to a survey[1] by the Ministry of Internal Affairs and Communications, more than 90% of households own mobile devices such as cell phones and smartphones, and among these, smartphones are becoming increasingly popular, with 86.8% (in2020) of households now owning smartphones.



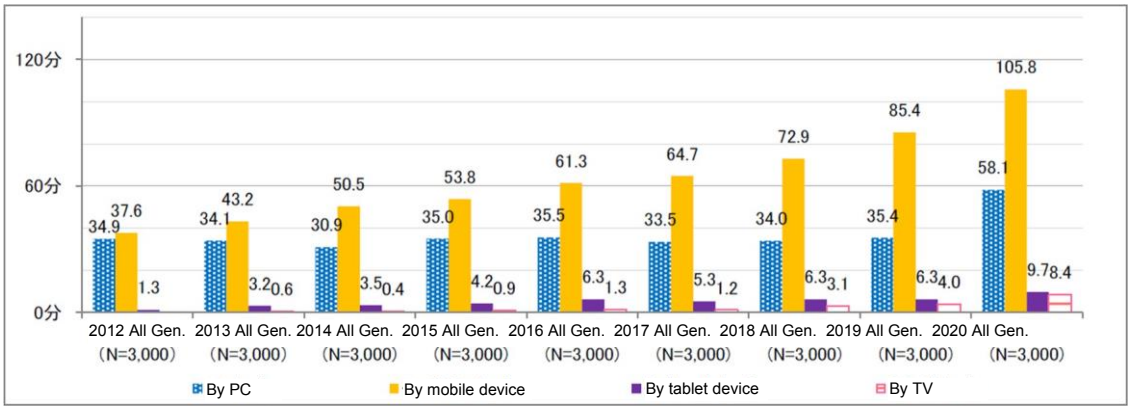

(Note) 1. The "Overall mobile devices" includes cell phone, PHS, Personal Digital Assistant (PDA) (2009-2012), and smartphone (from 2010 on).
2. The graph was totaled including the non-response for a chronological comparison.

(Results of the 2020 Survey on Telecommunications Usage Trends Chart 1.1)

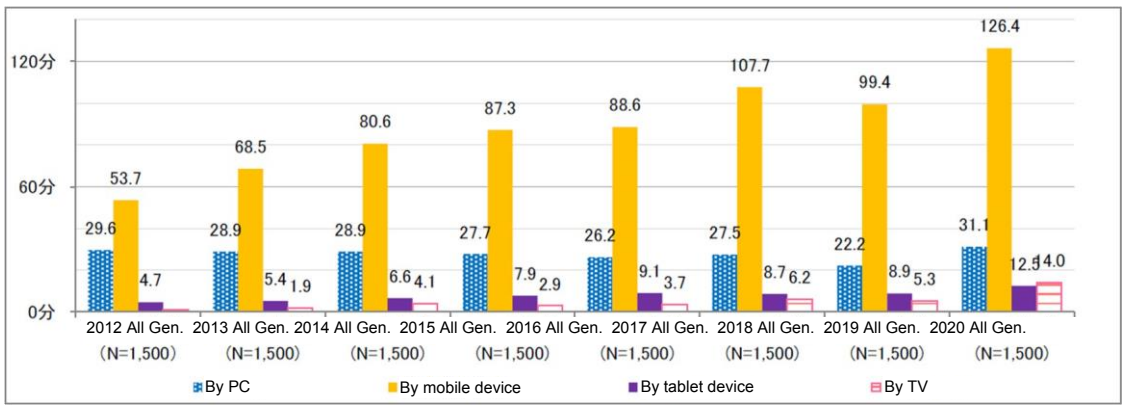
[1] 2020 Survey on Telecommunications Usage Trends

- Furthermore, the percentage of individuals owning smartphones in Japan in 2020 is 69.3%[2].

- When it comes to smartphones' ability to form connections with customers, the amount of screen time also becomes important. According to a survey[3] conducted by the Ministry of Internal Affairs and Communications, when it comes to the average time spent on the Internet by main devices, the use of the Internet on mobile phones is increasing by the year. In the 2020 survey, although "it should be noted that the survey was conducted under the state of emergency declared in 11 prefectures due to the spread of COVID-19," the use of the Internet on mobile phones was greater than on PCs on both weekdays and holidays.




(2020 Survey on the Amount of Time Spent Consuming Information and Communications Media and on Information Behavior Figure 3-1-1
[Longitudinal Study] [Weekdays] Average time spent on the Internet by main devices (all ages))




(2020 Survey on the Amount of Time Spent Consuming Information and Communications Media and on Information Behavior Figure 3-1-2
[Longitudinal Study] [Holidays] Average time spent on the Internet by main devices (all ages))

[2] 2020 Survey on Telecommunications Usage Trends

[3] Source: "2020 Survey on the Amount of Time Spent Consuming Information and Communications Media and on Information Behavior" by Information and Communications Policy Research Institute, Ministry of Internal Affairs and Communications

○ Also, according to a private-sector survey[4], the mobile-content-related market, including the e-commerce, has grown to more than 7 trillion yen by 2020.

(Unit: 100 million Yen)

| | 2017 年 | 2018 年 | 2019 年 | Previous year's comparison | 2020 年 | Previous year's comparison |
|---|---|---|---|---|---|---|
| Mobile content market | 21,109 | 22,261 | 23,378 | 105% | 26,295 | 112% |
| Mobile commerce market | 36,182 | 39,941 | 45,493 | 114% | 44,863 | 99% |
| Mobile content related market | 57,291 | 62,202 | 68,871 | 111% | 71,158 | 103% |

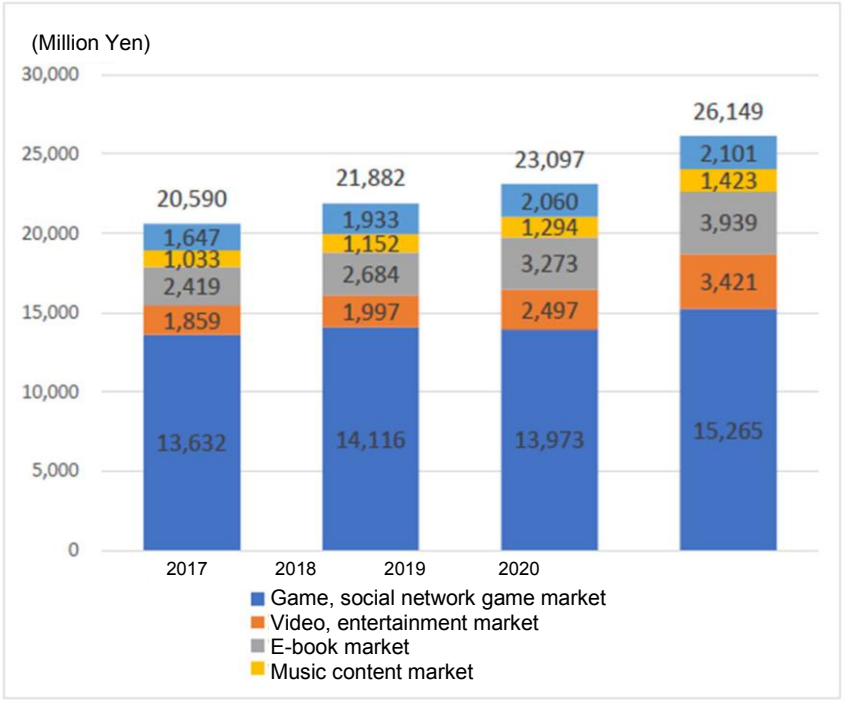
Surveyed by Mobile Content Forum

Of these, when it comes to the mobile-content market, the market size related to smartphones and other mobile devices[5] continues to grow, including the markets for mobile games and social-network games.

[4] Source: a survey by Mobile Content Forum.

[5] We define “smartphones and other mobile devices” (including tablets) as devices that can be used for general purposes with applications, browsers, etc. on an open OS with Internet access. We define “market related to smartphones and other mobile devices” as the market where digital contents (including applications) are sold for smartphones and other similar devices. The mobile content market excludes the market for feature phones.

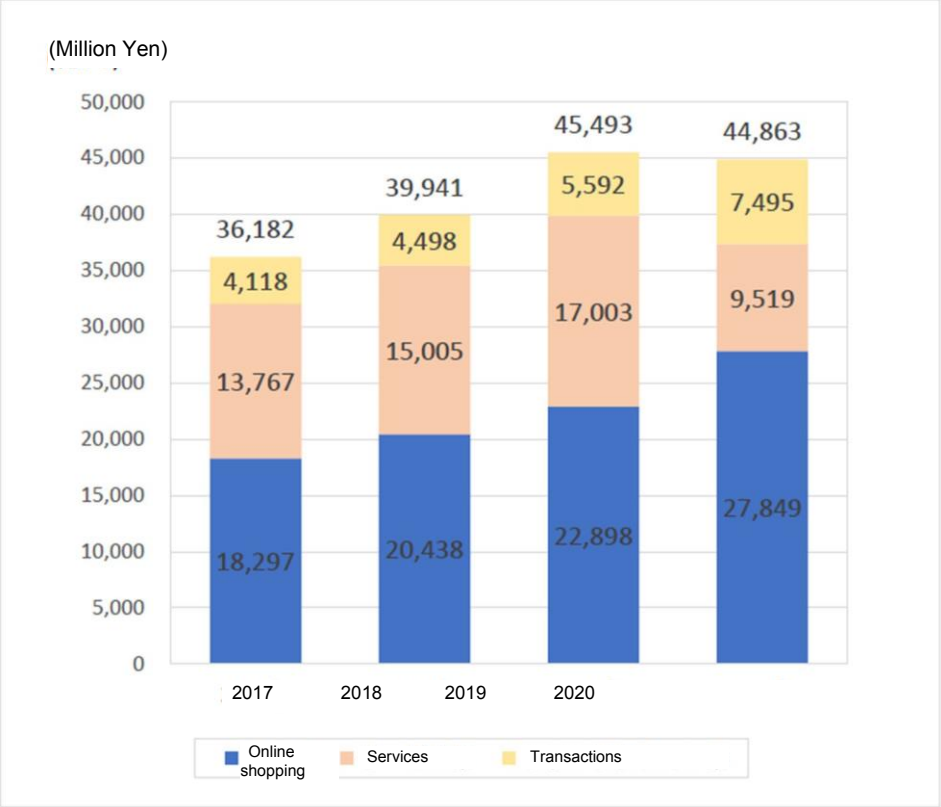
Surveyed by Mobile Content Forum




*1 Game, social network game market: Paid contents on online games or SNS, which includes purchasable tools such as avatars and items.
*2 Video, entertainment market: Video and other contents available on smartphone and other devices.
*3 E-book market: Books, comics, and magazines available on smartphone and other devices.
*4 Music content market: Music contents available on smartphone and other devices.

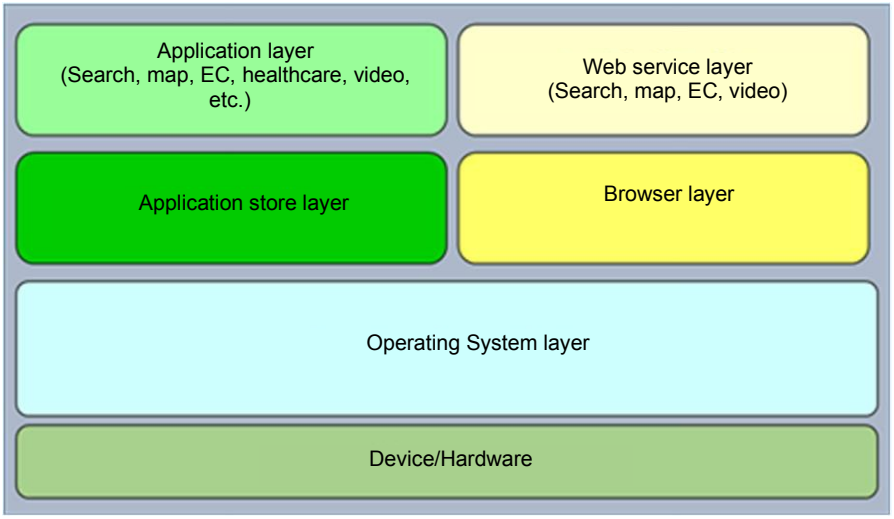
In the mobile commerce market, although the "service market" (market for procuring box office tickets, travel tickets, airlines tickets, train tickets, etc.) decreased in 2020, the "retail market" (market for online shopping in general) and the "transaction market" (market for handling fees for securities exchange, auction, government-controlled sports betting, etc.) have been increasing by the year.

Surveyed by Mobile Content Forum




**(2) Layered structure and ecosystem formed based on smartphones**

- Based on the strong connections with customers made possible by smartphones, a hierarchical, layered structure is formed: an OS layer with only a few players, and additional layers of app stores, browsers, etc., based on the OS layer.




- Here, the OS layer is the foundation of the ecosystem as it connects the hardware of the smartphone and the software in which various services are deployed.

  On the other hand, the application layer and the web service layer, which form the topmost layers in the above diagram, are competitive areas where a variety of players are involved in developing various services.

  The app store layer and the browser layer, which are formed on top of the OS layer, serve as gateways to users for service providers on the application layer and the web service layer in the competitive area.

  Note that even the players at the topmost layer shown in the diagram may operate some services that play an important role as gateways to users.

- The layered structure formed in this way has led to the formation of a robust ecosystem that connects many users with many product and service providers.

  Many service providers in the digital markets operate their businesses within this ecosystem, and are affected in various ways by the state of this ecosystem.

  In this competition assessment, the ecosystem formed in this way will be referred to as the "mobile ecosystem".

(3) The role played by the mobile ecosystem

- The mobile ecosystem that has been formed in this way has contributed enormously in terms of creating the opportunity for developers offering apps and web services to reach a broad user base in a way they could not before. In particular, mobile devices are extremely effective in forming connections with customers thanks to the fact that users carry and use them at all times, and this has created opportunities on an unprecedented level for these developers to connect with customers with increasing usage time and occasions.

- For users, mobile devices provide an integrated user interface for a variety of services including search, shopping, entertainment, communication, finance, and smart homes. As a gateway to enter the digital space and use a variety of services regardless of time and place, mobile devices have made a significant contribution to enriching people's lives.

- This way, the mobile ecosystem has become an indispensable foundation in our increasingly digital society for the daily lives of consumers and for the economic activities of business providing services.

## 2. Roles and characteristics of each layer in the mobile ecosystem

### (1) **Roles and characteristics of mobile OS**

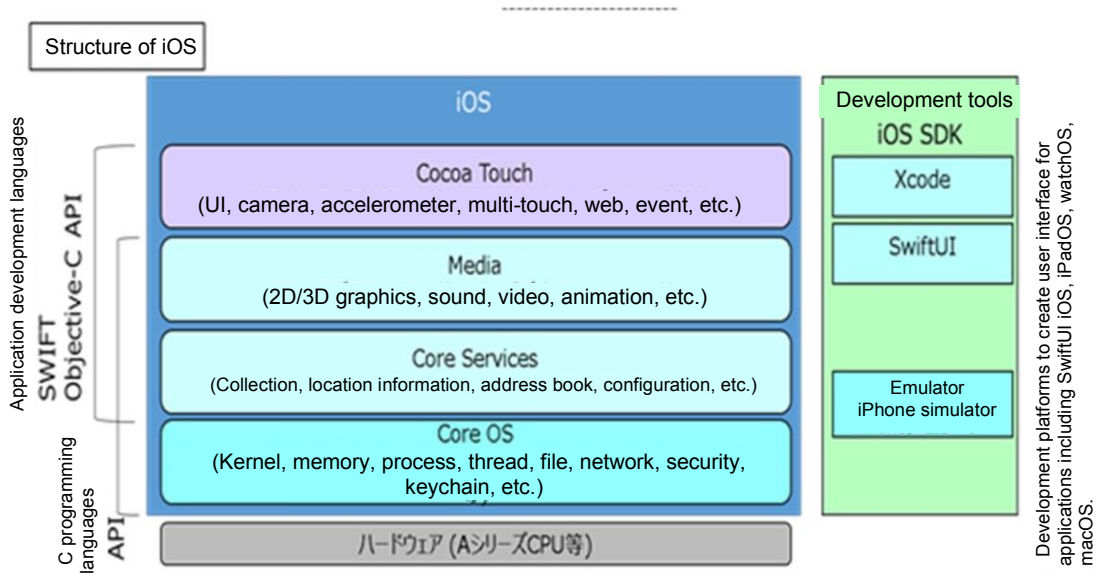
1) Role of mobile OS

- In general, the OS provides a standard interface for running application programs. Specifically, its roles can include the following.
  - Abstraction of hardware: Even in smartphones, different computers are often equipped with hardware that has the same functionality but differs in detailed specifications due to varying manufacturers. Providing a unified and abstracted use of such hardware facilitates application software development.
  - Resource management: Manage hardware and other resources so that multiple application software can operate independently of each other when they are used simultaneously. If a conflict occurs with resource requests from a program, appropriate actions must be taken such as making the program wait and returning an error.
  - Improved utilization efficiency of computer: When multiple tasks are executed simultaneously, the overall throughput can be improved by devising a resource-allocation order and time allocation for processing. This is important for tasks such as web servers and databases that handle large numbers of accesses.

- Specifically, the OS is responsible for the following functions.
  - File management, memory management, process management for multitasking, user interface (UI), provision of application program interface (API), device management, network management, etc.

○ In addition to the basic functions described above, the OS also performs the following diverse functions.

(Reference) Structure (Architecture) of iOS




(Source) Source: iOS SDK from the Basics by Kengo Tsuruzono, Softbank Creative Corporation, 2010: Developer Documentation Archive
Edited by the secretariat from "https://developer.apple.com/library/archive/navigation/

- The framework of the Core OS layer provides services such as resource management related to hardware and network as well as process management.
- The framework of the Core Service layer provides the basic services required by applications. However, since it is not directly related to the user interface, it is called Core Service. It is dependent on the Core OS layer technology.
  For example, functions such as location information, payment, voice recognition, health information management, home appliance operation, and login with ID are included in this layer.
- The framework of the Media layer provides 2D/3D graphics, animation, image effects, and audio/video functions to applications.
- The Cocoa Touch layer provides the application's user interface and the functions of responding to user operation. In addition, functions such as notifications, full-screen mode, and autosave are implemented by this layer.

2) Characteristics of Mobile OS
(i) Barriers to entry for a new mobile OS (need for great development resources)
○ In OS development, continuous support as well as the manpower and funds for the following points will be essential.
- Coordination in acquiring various types of equipment such as microchips

- Prepare and maintain efficient libraries for developers
- Monitoring vulnerabilities such as bugs and security issues
- New developments and frequent updates among others

- As it is clear, implementation of a new mobile OS requires end enormous amount of development resources. Moreover, when it comes to merchantability, unless an ecosystem similar to that of existing OSs is created, the product will not present an attractive proposition for users and will not be regarded as a purchase option for them, making it difficult to achieve profitability. Therefore, at this point in time and for the foreseeable future, developing a business using an OS other than the existing mobile OSs is not a realistic option.
- It is said to cost tens of billions of yen per year to maintain a mobile OS. On the other hand, there is a fundamental first-mover advantage when it comes to the OS business. In other words, if the OS itself can be popularized, services on the OS can be developed simultaneously as the OS version is upgraded. This has the "hidden advantage" of allowing the company to launch its own complete service the moment an OS version upgrade is released, enabling the company to capture the market at the service layer. This structure enables only the OS providers to do this, not leaving any room for competition from other companies.

(ii) Barriers to entry for a new mobile OS (indirect networks and vendor lock-in of a massive amount of attractive apps by existing OSs)

- Currently, iOS and Android are the leading mobile OSs, but it is virtually impossible for new participants to enter the mobile OS market due to the need to migrate the vast number of apps on iOS and Android. Users would not be attracted to a new OS if the applications they use have not been ported.
- App providers also would find less incentive to respond to an OS that does not possess a certain scale of users or to devices using such an OS. Especially in the case of popular applications, which are must-haves for smartphone vendors, it may be difficult to even begin to consider implementing dedicated support for devices that are only shipped in small quantities. If essential applications for users are not provided or are only implemented in a limited manner, it will be extremely difficult to popularize such an OS or the devices with such an OS in the market.
- In this way, an indirect network effect is at work: as more users are attracted, more developers join the ecosystem, which in turn increases the value of the OS, attracting even more users.
- Under these circumstances, it would be difficult for a new participant to enter the market unless it either shares the implementation environment with the existing OS by providing an implementation environment compatible with the Android OS, or it focuses on a very narrow, targeted market without the need for compatibility or a sufficient number of applications.

(iii) Switching costs for consumers changing the OS

- For users, there are hurdles to switching smartphone OSs, not only because of brand loyalty, but also because of having to leave a familiar UI and concept, the hassle of installing apps they use often, as well as the time and effort required for moving a large amount of data already stored on the device and in the cloud.
- Also, the ability to link products that only work within the same ecosystem (e.g., a smartwatch) can be a factor in increasing the switching costs for users.
- As for how much difference in price would make users switch from an iPhone to an Android-based smartphone, it was noted that users would not do so if the difference was within 15,000 yen.

(iv) Fixing status through rule-making

- A monopoly or oligopoly of browsers or OSs by a few set of players also enables them to control web technologies and make rules for existing websites and ecosystems, thereby strengthening and fixing the position of their own services in the ecosystem through their influence.

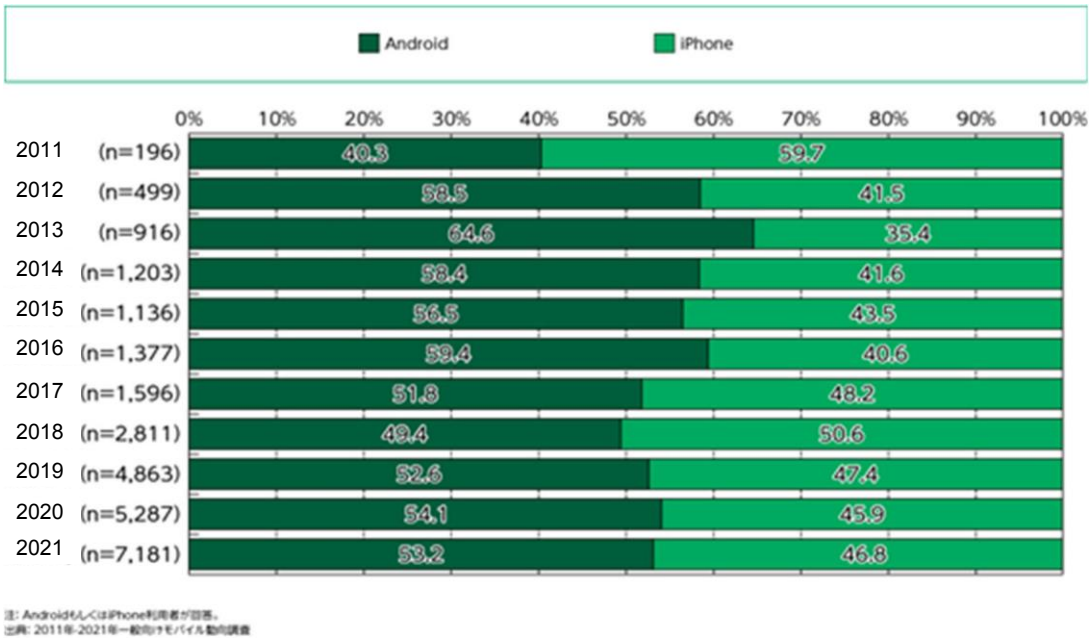
(v) A market share of mobile OSs

- Several private organizations have released data on the market share of mobile OSs. Market share is calculated based either on: (1) the number of units shipped each year, or (2) the actual number of units in operation. Since data indicates that consumers often use one smartphone for more than one year,[6] and the number of years of use can vary by the user, it is necessary to keep in mind that the share calculated based on the number of units shipped in the latest year is a "flow" figure representing the number of new purchases and may differ from the "stock" figure representing the number of units in use at that point.

- In the "2021 Mobile Society White Paper"[7], the OS market share was calculated based on the number of units in operation through a web-based survey of those registered at a private research firm. According to this survey in 2021, when it comes to the OS of mobile phones used most frequently by the participants, the market share stood at 53.2% for Android and 46.8% for iOS (iPhone).

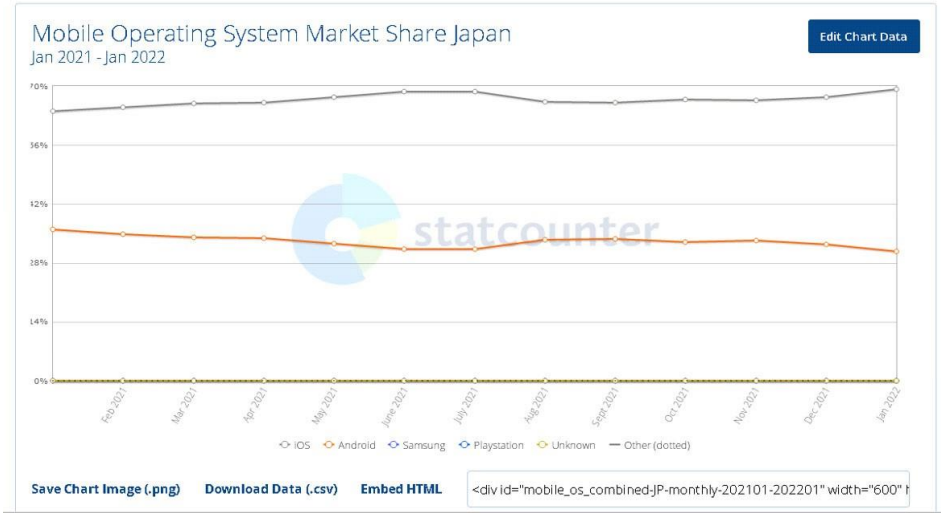
[6] According to the 2021 Mobile Society White Paper, the average period of time for owning the same smartphone is 1 year and 11 months.

[7] NTT Docomo Inc. Mobile Society Research Institute




注: Androidもしくは iPhone利用者が回答。
出典: 2011年-2021年一般向けモバイル動向調査

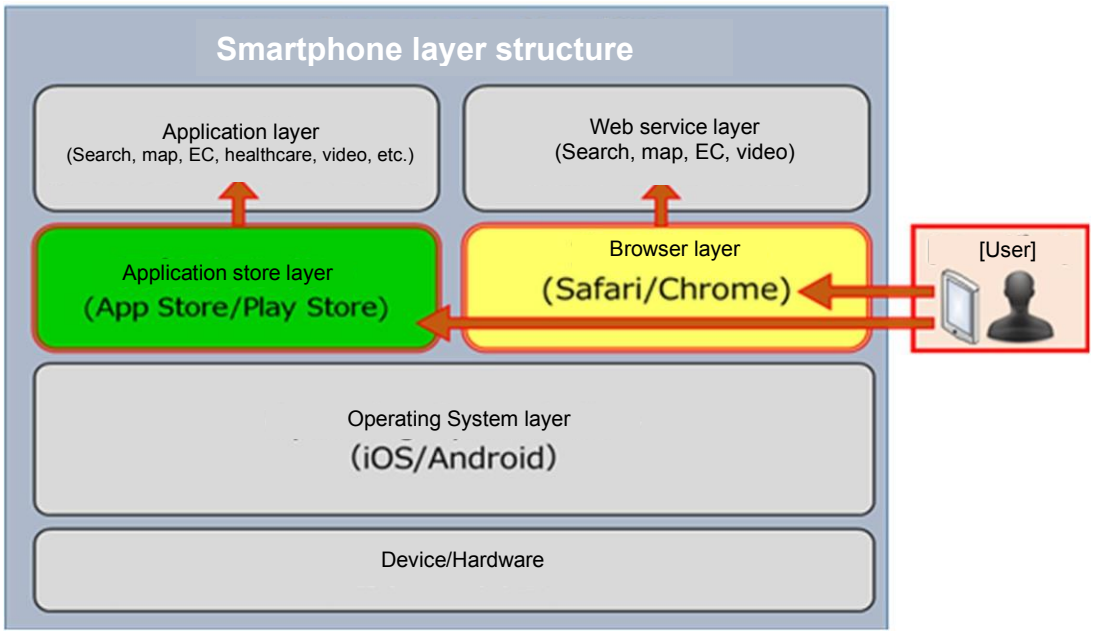
- In another study, Stat counter assessed the OS market share by measuring the number of pageviews with embedded measurement tags and determining which mobile OS was used to access the page. The study shows that the OS market share in 2022 is estimated to be just under 70% for iOS (Apple) and just over 30% for Android (Google).


Source: https://gs.statcounter.com/browser-market-share/mobile/japan

○ Although the figures of the market share differ depending on whether they are based on the number of units in operation derived from active users or on the number of pageviews, as well as on the interpretation of these calculations, these surveys clearly indicate all the same that Android and iOS are fixed as the two dominant mobile OSs used in Japan with no major changes in this trend.

**(2) User access to apps and web services: app store and browser**




○ There are two ways for smartphone users to use applications and web services such as search and maps: (1) downloading applications from app stores (so-called native apps), or (2) using web services that function in the browser on the browser.

○ In this sense, the (1) app store layer and (2) browser layer are powerful "access points" for users to select and use apps and web services.

**(3) Role and characteristics of app stores**

1) Role of app stores

○ In order to download an application to a mobile device, it must be done through an app store.

On Apple's iOS, only the app store (App Store) provided by Apple is allowed. On the other hand, most smartphones with Android OS provided by Google have Google's app store (Google Play) pre-installed, but it is possible to download apps directly from the Internet or from third-party app stores.

<Guidelines governing the rules of the app stores>

○ Apple and Google have created guidelines for app stores, and app vendors must be approved by Apple or Google as conforming to these guidelines in order to offer their apps to users from the App Store or Google Play. Therefore, from the perspective of app vendors, whether or not they can offer their apps to customers

on mobile devices equipped with either app stores is dependent on the decisions of Apple and Google.

- Under these circumstances, various issues have been pointed out regarding the transparency and fairness of rule operation in app stores by Apple and platform operators, which have already been designated as the subject of the Digital Platform Transparency Act and subject to regulation such as disclosure of transaction terms and conditions and ensuring fairness of procedures.

[App Store Guidelines]

● App Store Review Guidelines
1. Safety
1.1 Objectionable Content
1.2 User-Generated Content
1.3 Kids Category
1.4 Physical Harm
1.5 Developer Information
1.6 Data Security
1.7 Reporting Criminal Activity
2. Performance
2.1 App Completeness
2.2 Beta Testing
2.3 Accurate Metadata
2.4 Hardware Compatibility
2.5 Software Requirements
3. Business
3.1 Payments
3.2 Other Business Model Issues
4. Design
4.1 Copycats
4.2 Minimum Functionality
4.3 Spam
4.4 Extensions
4.5 Apple Sites and Services
4.6 Alternate App Icons
4.7 HTML5 Games, Bots, etc.
4.8 Sign in with Apple
4.9 Streaming games
5. Legal
5.1 Privacy
5.2 Intellectual Property
5.3 Gaming, Gambling, and Lotteries
5.4 VPN Apps
5.5 Mobile Device Management
5.6 Developer Code of Conduct

https://developer.apple.com/app-store/review/guidelines/#legal

● Android Developer Policy

Restricted Content
Intellectual Property
Monetization and Ads
Span and Minimum Functionality
Mobile Unwanted Software (MUwS)
Other Programs
Impersonation
Privacy, Deception and Device Abuse
Store Listing and Promotion
Malware
Families
Enforcement

https://play.google.com/intl/ja/about/developer-content-policy/

(2) Characteristics of app stores

(i) Barriers to entry of app stores (network effects)

- When users are attracted to an app store, an indirect network effect kicks in, such as more app vendors are attracted to the app store, which in turn attracts more users to the app store, which in turn attracts more apps to the app store, which in turn attracts more users to the app store.
- Thus, once an app store attracts a large number of users and app vendors, it becomes very difficult for other app stores to enter the market with fewer users and app vendors.

(ii) Barriers to entry of app stores (barriers to entry due to pre-installation)

- As mentioned above, Apple's App Store is preinstalled on the iPhone as a policy of Apple, the OS vendor, and the use of other app stores is not permitted.

  In addition, although Google allows the OEM's to chose which app store is installed on their devices, it is difficult for OEMs not to install Google Play, and Google's Google Play is basically preinstalled on Android smartphones.
- In the case of Android smartphones, it is not prohibited for users to download other app stores, but it is not easy for users to use app stores other than the preinstalled app stores on these smartphones due to operability restrictions, etc.
- This makes it extremely difficult for other app stores to enter the market (not allowed in the case of the iPhone).

(iii) Switching costs between app stores

- Furthermore, mutual entry and competition between the two app stores where the indirect network effect brings in many users and app vendors are also limited as Android smartphone users do not have access to Apple' s App Store and iPhone users do not have access to Google Play.

**(4) Role and characteristics of browsers**

1 ) Role of browsers

- A browser is software that allows users to view websites on their devices via the Internet, enabling them to access content and various services on the Web.

- A browser engine is one that converts the source code of a web page through a browser into a web page or web application that can be viewed by the user.

- Mobile browsers include Google' s Chrome, Apple's Safari, Mozilla' s Firefox, and Brave 's Brave and each has its own privacy and other features. However, Google' s Chrome and Apple's Safari currently hold a large share of the Japanese market.[8]


Source: https://gs.statcounter.com/browser-market-share/mobile/japan

2) Browser characteristics
(i) Browser barriers to entry (website compatibility and resulting network effects)

- In the browser market, there is not only the network effect of "many people choose certain browsers because there are many users," but also the oligopoly of browsers, which creates website compatibility problems, making it impossible to successfully view websites using browsers other than the existing oligopoly, which in turn makes it more difficult for other browsers to enter the browser market as a result of the interaction.

  In other words, in the Web, there is also a network effect in the sense that there are significant barriers to entry and diffusion by browsers that are incompatible with existing sites.

[8] For information on how to obtain data from Stat counter, the source of the data, see the OS section (see I. 1.2.(1)(2)(v)).

- Note that the percentage of content that works only with Chrome or Safari is different in Japan, China, and the West, respectively. In Japan and China, functions that only work with certain browsers have increased on web platforms where iOS and Android are expanding, due in part to the practices since the days of i-mode. These factors have in part led to the decision that carriers cannot adopt browsers other than Chrome or Safari because of compatibility issues on the site side. In other words, there is an aspect of the content industry situation that has a significant impact on the browser market.

  In fact, compared to other countries, some data indicate that Japanese sites are particularly browser-dependent (according to the Top 100 + Mobile Site Survey (conducted in 2015), about 30% of Japanese sites use Chrome and Safari-only code). If a large number of sites implement browser type-specific codes, other browsers will be at a disadvantage as a result.

(ii) Advantage of Default

- The impact of defaults is so great that it is virtually impossible for third-party browsers to take significant market share. In Japan, the default browsers have a market share of over 90%, making it difficult for browsers other than the default browsers to enter the market.

(iii) Switching costs for users (due to browser registration and data linkage)

- From the users' perspective, for example, there is a hurdle in switching to a new browser when they have registered their IDs, passwords and bookmarks on a particular browser. One aspect of the situation is that users are enclosed by the data they have registered in their browsers by then.

- For example, for users of Google products, Chrome, the browser provided by Google, will be the easiest browser to use because of its data linkage and functional linkage. Default settings by the OS make it very difficult for operators with different amounts of data input to compete.

(iv) Browser barriers to entry (ongoing development investment)

- With the development of Web technologies, the barriers to entry to browsers markets have increased. The development cost of the browser engine is estimated to be at least $300 million per year. Browser engine development costs continue to increase, and in the current market environment and rules, barriers to new entrants are high.

- In terms of the cost of engineers, the difference in the number of engineers between Google and other browser vendors is several times greater, and since the unit cost of Google' s engineers is higher, there is a considerable difference in the amount of money spent on engineers. This may also be an economic barrier to new entry.

- As for the development aspect of browser functionality, in the past, Microsoft essentially disbanded its Internet Explorer (IE) development team and halted IE's progress, resulting in IE no longer being the exclusive desktop browser at that time. However, it has been pointed out that currently there is very little room for new entrants into the browser market for mobile OSs as long as Google continues to invest in ongoing development.

(v) Convergence to a small number of browser engines due to barriers to entry, etc.

- The world's browser engines have converged on three: Blink (Chrome), Webkit (Safari), and Gecko (Firefox).

  Considering that Google also entered the browser market using its search service as a lever, it could be considered difficult for anyone other than OS vendors and platform operators with a dominant position on the Web into the browser market.

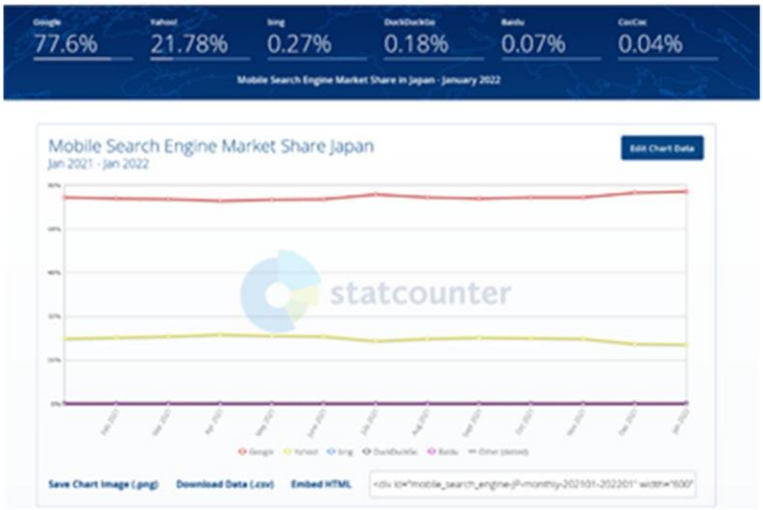
**(5) Role and characteristics of search services (major applications and major web services)**

1) Role of search services: impact on web business

- Search services have a public nature and broad influence, like transportation in the real world. Search services are the help line to the Web, and their role and impact are significant. For businesses providing services on the Web, whether or not they can reach users is strongly influenced by the results, presentation, and technology employed by search services, and search services can be said to influence all business services on the Web platform.

- Looking at the share of online search services on mobile devices in Japan, Google has about 78%, Yahoo! has about 22%, and Bing has about 0.3%[9] (as of January 2022).

[9] https://gs.statcounter.com/search-engine-market-share/mobile/japan




Share of searches on mobile devices in Japan

- In addition, as mentioned later, Google is oriented toward an open architecture, in which pre-installation and default settings are important elements in forming an ecosystem. Although OEMs can choose what to pre-install and what to set as default, Google' s revenue sharing with OEMs strongly induces them to pre-install and set as default Google apps. And one of the most important sources of revenue is the search-based advertising business.

  From this perspective, the search service can be evaluated as playing an indispensable role in terms of pre-installation and default settings, which are important elements in the formation of Google's ecosystem.

(2) Characteristics of search services

(i) Significant investment to support differentiating factors

- In the quality of search services, it is important to present search results that are highly relevant to the query entered by the user (the combination of terms or words that the user wants to search for), and large investments in algorithm development, etc. are made for this purpose. User interface, such as the ease of viewing results, and privacy considerations are also important factors of search engine "quality.
- Of these, displaying relevant search results is the most important factor for users, and all search engines are expected to provide the same level of search results as market leaders such as Google.

(ii) Importance of click & query data and network effects

- Accumulation of data on what queries users enter and which websites they visit as a result (click and query data) is important for presenting relevant search results.
- The more it is used by more users, the more click-and-query data it accumulates and the more it can display the search results that users want,

thus creating a "network effect" where the more users there are, the better the quality of search services, and the better the quality of search services, the more users there are. This has contributed to barriers to entry in search services.

(iii) Indexing of websites

- In order for search engines to produce optimal search results, they need to collect and index the most up-to-date information available on a website. While the cost of collecting this data is enormous, it is characterized by "economies of scale" where the more information is collected, the lower the cost. This is a characteristic of search services that favors large search engines and creates a barrier to new entrants.

(iv) Response to blocking code

- Websites may restrict the retrieval of information by automated crawling by search services (blocking code), for example to reduce the cost of maintaining the website. In order for a search service provider to retrieve information from a website with a blocking code, it needs to ask the website owner to remove the code. Since a search service that is used by a large number of users can provide more opportunities for website owners to have their websites viewed by many users, it is easier for such provider to have it removed, which is one reason for the barrier to entry for search services.

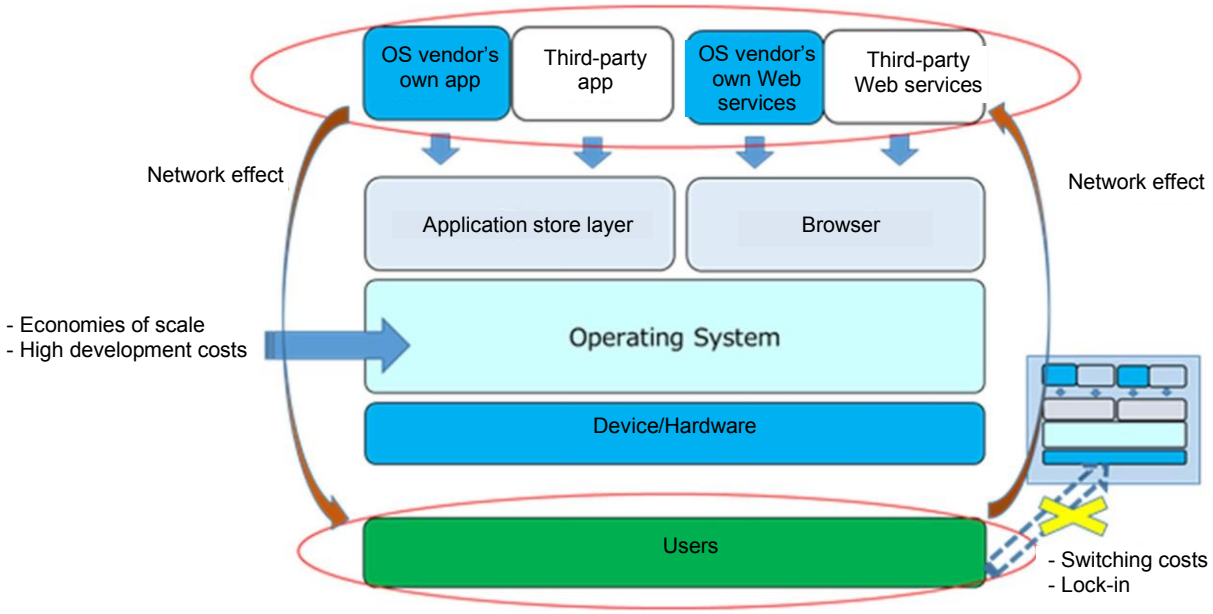
(v) Default setting

- In the competition among search services to attract more users, the search function itself, such as improved algorithms, is important, but whether it is set as the default setting on the device is also important. Thus, for example, Google has achieved default search engine status by entering into incentive agreements with OEMs.

### 3. Characteristics, etc. of the mobile ecosystem consisting of the entire layered structure

(1) **Mobile Ecosystem Characteristics**

- Each layer, with the roles and characteristics we have seen so far, builds a layered structure as a whole, which in turn forms the mobile ecosystem. And the interplay of the roles and characteristics of each of these layers, as well as the ecosystem as a whole, has led to the construction of the following characteristics and the high barriers to entry that result.




(i) Network effect

- In addition to its own apps, web services, etc., which attract users, third-party apps, web services, etc., are brought in to form an ecosystem and increase the number of users. As the number of users grows, the number of third-party app and web service providers participating in the ecosystem will further increase.

(ii) High switching costs for users

- Users are locked in by familiarity with the UI design, the hassle of moving data and reinstalling applications, etc.

(iii) Economies of scale

- Economies of scale work because of the high cost of development.

(iv) Accumulation of data

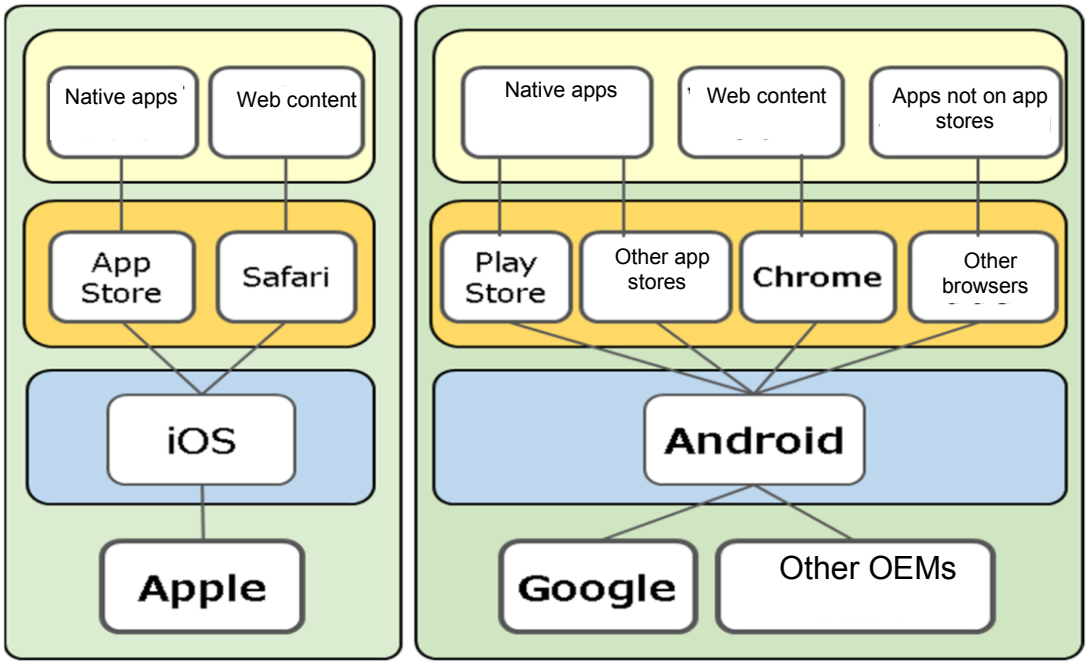
- In addition to the above, the OS, app stores, browsers, and search services accumulate a wide variety and large volume of data, including data related to various apps and web services at the app layer and web service layer, as well as data associated with user usage. This includes, for example, location and payment data.

  The collection and use of such data, which cannot be obtained by other operators, at each layer create a cycle in which the competitiveness of each layer (OS, app store, browser, search service, etc.) is further enhanced, and the competitiveness of the apps and web services developed by the company at the higher layers is also enhanced.

<High barriers to entry>

- The network effects, switching costs, and economies of scale described above, as well as the accumulation of data, create high barriers to entry for the ecosystem as a whole.

**(2) Ecosystems consisting of two different business models: Apple and Google**




- The ecosystem of layered structures based on mobile OS is formed by Apple and Google, each of which has its own characteristics.

- Apple manufactures its own devices and hardware (iPhones), and this strength in devices and hardware is one of the strengths of the ecosystem.
  The OS of Apple's devices is limited to iOS provided by Apple, and the app store is also *limited to* the company's own *App Store*. Safari provided by Apple is preinstalled as the default browser. Third-party browsers can also be downloaded, but even then they must be built on Webkit, the browser engine provided by Apple.

- In contrast, Google licenses Android OS, Google's OS, to OEMs other than itself, and those OEMs provide devices Although it is possible to install an app store on the Android OS other than Google Play provided by Google, Google Play is pre-installed in most cases.
  Browsers other than Google's Chrome can also be installed, but Chrome is often preinstalled or set as the default browser depending on the contracts between Google and OEMs.

## 2. The Basic Concept of What to Aim for and How to Respond to the Situation

- In this section, we will outline our basic approach in considering perception and current assessment of the overall mobile ecosystem in terms of market realities and characteristics, what we should aim for in the future based on these, and how to respond to various concerns, based on the information obtained from the interviews described in "1. Market Structure and Reality" and the various competition concerns detailed in the "II. Specifics" section.

### 1. Perception of the mobile ecosystem as a whole

- Due to characteristics such as barriers to entry, indirect network effects, and switching costs, it could be said that each major layer of the ecosystem is an oligopoly dominated by a small number of platform operators.

- In particular, among the two oligopolies, (i) Google has adopted a strategy of widely supplying key products such as mobile OS and search engines to third parties, while maintaining a leading position in each layer of mobile OS, app stores, browsers, and applications, and (ii) Apple has adopted a vertically-integrated strategy in which it basically decides the specifications of devices and preinstalled software on its own. Although the figures vary depending on the statistical data, a look at the changes in mobile OSs used in Japan over the past 10 years suggests that the situation is fixed with an almost oligopoly between the two OSs of Google and Apple.

- Under such circumstances, these platform operators may leverage their strengths in each layer to (1) secure or strengthen their position in the layer in which they have strengths and (2) strengthen the competitiveness of their own services in other layers by taking actions such as effectively determining the various rules governing the competitive conditions in other layers.

- The combined and synergistic effects of these actions by a small number of platform operators within each layer and across layers further strengthen the dominant position of the platform operators in each layer, which together strengthen and consolidate their influence in the entire ecosystem. This cycle of strengthening and consolidating influence in the entire ecosystem is a characteristic of the current mobile ecosystem from a bird's eye view.

- As we discussed earlier, the mobile ecosystem is playing an important role in the digitalizing society in the sense that its formation is giving users access to a wide variety of apps and web services, and app and web service providers are being given the opportunity to provide value to many users. society.

- However, discussed in detail in "II. Specifics" section, various actions by platform operators to form and strengthen the ecosystem are causing various competitive concerns at each layer and in the mobile ecosystem as a whole, as described below.
  - Level playing field exacerbation (concerns in equal footing between platform operators and third parties or between third party operators)
  - Increased cost and reduced viability for each player on the platform
  - The elimination of competitive pressures through innovation, including exclusivity and restricted entry at each layer and across the mobile ecosystem, and technological innovation

- In contrast to this situation, as we have seen, with high barriers to entry and little competitive pressure at each layer, and the resulting extreme difficulty in achieving alternative mobile ecosystem s, the current state of the mobile ecosystem with these various competitive concerns is unlikely to be corrected, at least in the short term, and is likely to continue in the medium to long term..

  Furthermore, if platform operators expand new customer contact points beyond mobile devices based on the mobile ecosystem, there may be concerns that a fair and equitable competitive environment cannot be fostered in the first place in relation to other operators.

- If the current state of affairs continues, platform operators will further extend their ecosystem by leveraging the powerful, always-connected point of contact with customers in the form of smartphones, and by deepening their influence on people's economic and social activities, further strengthening their power. There may be concerns that they will continue to stifle innovation by diverse actors and undermine opportunities for diverse choices by consumers.

**2. What the entire mobile ecosystem should look like**

- As we have seen above, platform operators that form the mobile ecosystem have a strong position in multiple layers and can use their position as leverage to influence other layers and strengthen their own services. In this context, there are concerns about the exacerbation of the level playing field in the ecosystem, exclusivity and entry restraints, and stifling of innovation.

- In response to the above situation, we suggest that the following should be the ideal state of the mobile ecosystem as a whole.

Ensure opportunities for innovation and consumer choice by diverse actors at each layer (and surrounding areas) in the mobile ecosystem.
To achieve this, the following shall be ensured

A) Competitive pressures on the mobile ecosystem as a whole and on each of its layers will encourage innovation through technological innovation, etc. Furthermore, a competitive environment that does not nip in the bud the potential for future paradigm shifts that could significantly alter the current competitive environment of the mobile ecosystem should be ensured.

B) Ensure a fair and equitable competitive environment in other layers of the mobile ecosystem where each layer affects competition in other layers.

C) Ensure that a fair and equitable competitive environment is not impeded by the use of influence in the mobile ecosystem as leverage in competition in extending to new customer touch points.

- In order to achieve this, since each layer in the mobile ecosystem has different characteristics and influence, it is necessary to consider the characteristics of each layer and its influence on other layers or the entire ecosystem, and then combine measures according to the characteristics and influence of each layer in order to realize the ideal state of the entire ecosystem.

○ Specifically, the following points should be considered: (i)how much room for competitive pressure exists in the relevant layer,(ii) to what extent the vertical integration between the relevant layer and other layers is justified from the perspective of the efficiency brought about by the vertical integration model, etc., and(iii)how to evaluate the degree of concern caused by the actions and impacts of the relevant layer on other layers.

While taking these points into consideration, it is basically possible to combine measures to increase competitive pressure in any layer with measures to eliminate concerns about actions and impacts on other layers, but it may be necessary to consider the balance between the two in accordance with the characteristics of each layer and other factors.

○ Based on the above, at this point, for example, it can be summarized as follows.

(i) In cases where there is not expected to be much room for competitive pressure in the layer concerned (including cases where vertical integration of the layer concerned with other layers is justified): considering the possibility that competition may not function well in the layer concerned, checks and balances against actions in other layers will be strengthened. However, based on the perspective of A) above, checks and balances will also be applied to actions that may unjustifiably restrain new entrants or lead to the nipping in the bud of future paradigm shifts through technological innovation.

(ii) When there is expected to be room for competitive pressure in the layer: Combine with checks and balances against actions by the layer to other layers, while increasing the competitive pressure in the layer.

(iii) In cases where value provision by diverse players is inherently required, such as apps and web service: From the perspective of ensuring innovation by diverse actors in the relevant layer and securing opportunities for consumer choice, checks and balances should be applied against influence from other layers.

○ In this competition evaluation, the evaluation will be conducted mainly from the viewpoints of A) and B). As for the viewpoint of C), please refer to the related evaluation in the interim report "Competition Evaluation on New Customer Contact Points (Voice Assistants and Wearables)" being conducted alongside A and B.

［We would like to receive any comments you may have on the following points］

1. "Perceptions of the mobile ecosystem as a whole."
- What are your opinions on the "perceptions about the mobile ecosystem as a whole" as mentioned in the text?

2. "What the overall mobile ecosystem should look like."
- What do you think about the "Ideal state of the mobile ecosystem as a whole" as described in the text? Are there any other considerations that should be taken into account?

**3. Viewpoints in considering response options.**

**(1) The importance of the mobile ecosystem as the foundation of the economy and society**

- In the mobile ecosystem, user interfaces for various services such as shopping, entertainment, communication, financial services, smart home, etc. are provided in a centralized manner on mobile devices and are used at all times. Therefore, the mobile ecosystem can be seen as serving a core function for the daily lives of consumers who use these services as well as for the economic activities of business users who provide these services.

- The mobile ecosystem, which is positioned as the foundation for these various activities, is designed to be an engine of social welfare and convenience, as well as an engine of growth for Japan's economy by ensuring a fair and equitable competitive environment, thereby attracting innovation through the participation of various businesses and the use of advanced technologies, presenting consumers with a wide variety of choices, and providing them with opportunities to make choices, etc. This is expected to become an opportunity to provide more attractive services, thereby increasing social welfare and convenience, as well as an engine for the growth of the Japanese economy.

**(2) Current competitive environment for the mobile ecosystem**

- Currently, platform operators in the mobile ecosystem have a strong position not only in the mobile OS, but also in multiple layers, such as app stores, browsers, apps and web services (e.g., search), and can leverage their position to influence other layers and enhance their services in other layers. Together, they are in a position to strengthen the ecosystem as a whole, and thus exert a strong and long-lasting influence on the ecosystem as a whole.

- As a result, we believe that, at present, as a result of the combined and synergistic effects of the said actions, the following competition concerns have arisen, as discussed above:
  - Deterioration of the level playing field at each layer (inhibiting equal footing);
  - Increased cost and reduced viability for each player on the platform; and
  - Exclusion and suppression of entry into each layer and the mobile ecosystem as a whole, reducing the possibility of innovation that could trigger major changes in the current oligopoly structure.

**(3) Difficulty in having the current situation repaired, further concerns in the future**

- In transactions using digital technology, the network effect is generally strong and often works rapidly because the costs associated with transaction participation are small, and once tipping occurs, it becomes a winner-takes-all situation (or oligopoly) that is difficult to cure by the market. Among other things, with regard to the current mobile ecosystem, these digital characteristics are compounded in multiple layers, resulting in a situation in which the position of platform operators is extremely strong and fixed.

- In this case, information asymmetry may exist due to the fact that the process of business decisions is black boxed because of the use of algorithms, and platform operators may also be in a position where it is easy for them to exercise their influence at each layer of the mobile ecosystem.

- In addition, transactions using digital technology are characterized by the fact that a two-sided market consisting of a group of businesses on one side of the transaction and a group of consumers on the other side tends to be formed on a large scale due to strong network effects. When a platform operator acts as an intermediary in a two-sided market, depending on the characteristics of the market, such as price elasticity, it may, for example, offer low or free prices to consumers, while offering unfavorable terms to the business side to obtain rent. Since the business is locked in by controlling access to consumers, it is difficult for the business to cure the situation, and since this situation is difficult for consumers to see and detect, it is also difficult to expect a natural cure by the market function from the consumer side.

- In addition, the small screen size of mobile devices, the characteristics of the situation in which they are used (e.g., while on the move), and the associated operability restrictions, etc., limit the user's awareness of his or her options, and the status quo bias is likely to be activated, making the rationality of consumer choice and judgment more vulnerable (limited rationality of consumers). This trend is a stronger concern in the case of mobile, as it is strongly linked to consumer purchasing activities and payments due to constant connectivity. Under such circumstances, if platform operators themselves impose restrictions or inducements on consumers' choices while taking into account their cognitive limitations and biases, there may be a concern that this may further reduce the room for consumers to make rational judgments.

- There is concern that these platform operators will continue to extend their influence in the mobile ecosystem by leveraging mobile devices, a powerful point of contact that provides constant connectivity to customers, while also deepening their influence on various consumer and business activities. This current situation is not expected to change significantly, at least in the short term, and highly likely to continue in the medium to long term.

**4. Ability to respond through existing framework**

- The usual approach in competition law to date, including in Japan as well as in other countries, has been to identify the theory that a particular action causes harm to competition in a particular market (Harm), prove that harm has occurred in accordance with the theory, and the implementing a proper remedy to correct the harm.

- However, we believe that competitive problems in the mobile ecosystem caused by the actions of platform operators in the digital market, particularly those in a position to exercise influence in multiple layers and are the subject of this competition assessment, are typically caused by irregular and simultaneous (usually multiple) actions taken in any given layer in which the platform operator is able to exert leverage. It is considered typical that competition problems in the mobile ecosystem caused by the actions of platform operators in a position to

exercise influence in multiple layers, subject to the evaluation of competition at this time, are typically caused by multiple irregular and simultaneous (usually) actions taken in any layer in which the platform operator can leverage.

Even if the competitive harm caused by such an act by itself is relatively minor, it can be assumed that a number of acts act in a combined and synergistic manner to manifest competitive harm (Harm), and that the harm crosses layers, i.e., the influence is exercised in a different layer from the one in which the act was committed. It is also quite possible that the harm may cross layers, i.e., influence may be exercised in a different layer than the one in which the act was committed.

- In addition to these characteristics, there are many free markets and multi-sided markets where the methods used in ordinary cases cannot be used as they are, and it is difficult to envision future competitors due to the difficulty of predicting technological innovation, which makes market definition difficult.

  In addition, the information necessary for evaluation is unevenly distributed among platform operators, making it difficult to evaluate qualitative factors other than price, such as privacy and customer experience, etc. In addition, it is difficult to identify theories regarding the process by which a number of the above-mentioned actions cause harm to competition (Harm) and to make judgments based on such theories. There are some aspects that make it difficult to determine that Harm has occurred in accordance with the theories, such as concrete proof that Harm has occurred and consideration of justifiable grounds.

- As a result, attempting to address the mobile ecosystem issues described above with such an approach would take a considerable amount of time to reach a final conclusion (during which time the competitive environment could change).

- Moreover, in a highly complex and rapidly changing technological field such as the digital sector, even if the authorities are able to extract specific conduct that gives rise to a particular Harm and establish its illegality, the same type of competitive harm (Harm) may be repeated (a game of tussle) through circumventing measures outside the scope of the authorities' findings (for example, another type of conduct in another layer where the leverage is equally effective). Harm) could be repeated (tussle).

- Based on the above, it may be necessary to consider a different approach to the competition issues in the digital market, especially in the mobile ecosystem, which is the subject of this competition assessment, from the approach taken by the competition law so far, given its characteristics. [10]

[10] In addition, the current Antimonopoly Law also provides for "measures against monopolistic conditions" (Article 2, paragraph 7 and Article 8-4 of the Antimonopoly Law) to order measures to restore competition when competition is not functioning effectively in a large market due to a particularly high concentration of certain operators. The Antimonopoly Law has a provision that allows for the order of partial transfer of business, etc., which has a significant impact on related businesses, and therefore, the requirements are very strict. Therefore, it is difficult to utilize them for use in flexible responses within the digital market.

**5. Approach to be taken considering the options for response in competitive evaluation.**

- A different approach towards competition law that what may have been utilized in the past might be as follows.
- In the digital markets that we have discussed so far, especially the mobile ecosystem that is the subject of this competition assessment, once tipping occurs due to its characteristics, it becomes a one-win situation (or oligopoly) and is difficult to be cured by the market. In other words, it may be a kind of market dysfunction. In such a situation, the types of conduct that have a high risk of adversely affecting competition by platform operators that have formed the mobile ecosystem have been identified, and while such conduct can be identified, it may be more appropriate to take the approach of prohibiting such activities in principle in advance.

  In such cases, there may be cases where such actions have some exceptional reasons, such as security or privacy protection, etc. If platform operators indicate this, it may be possible to take actions such as removing them from the ban if they are recognized as legitimate reasons after sufficient scrutiny.

  There is also the idea of imposing a certain duty of action on business entities with a particular status, as we have seen above.

- In addition, there is information asymmetry between the digital platform operators and the platform operators regarding the actions they are taking with respect to data and algorithms. For this reason, could a mechanism such as granting the regulator the authority to require extensive information and explanations be considered[11]?

- Of course, the platform operators that make up the mobile ecosystem have made significant contributions to the digital economy and society, providing a variety of benefits to consumers and businesses, but as we have seen, their influence has become so powerful that effective discipline is insufficient. On the other hand, as we have seen, their influence has become so powerful that effective discipline to govern them has not been sufficiently effective, and related stakeholders have raised a variety of concerns. From this perspective, establishing some discipline on the conduct of such platform operators may lead to a more constructive relationship with the relevant stakeholders.

- In this competition evaluation, while keeping the above ideas in mind as options for countermeasures, we will consider measures to effectively respond to certain actions by platform operators that can exert influence on multiple layers, without being constrained by the current legal framework, in order to realize the ideal state (competitive environment) in the mobile ecosystem. The committee will consider measures to effectively respond to certain actions by platform operators that can exert influence on multiple layers of the mobile ecosystem (competitive environment), without being constrained by the current legal framework.

[11]Article19 of the DMA Bill requires the Commission to require operators to provide the necessary information regarding the implementation and monitoring of the DMA Bill. It grants the Commission the authority to do so.

○ In doing so, the possibility of utilizing mechanisms such as information disclosure, ensuring fairness of procedures, and monitoring under the Transparency in Digital Platform Transactions Act, one form of ex ante regulation, should also be considered.

○ In other countries, various studies are being conducted on new frameworks for competition law, based on the awareness that the current competition law framework may not be sufficient to address the various issues faced by the competitive environment in digital markets.

Therefore, in considering this competitive evaluation, we will also keep in mind the progression of other countries.

○ As noted in the Introduction, the potential response options presented here are only possible "options" and do not determine a specific response. Rather, it is intended to present a wide range of ideas, not bound by the current legal framework, as potential options for response measures, to gather ideas on these from a wide range of interested parties, and to deepen discussion towards the final report.

[We would like to receive any comments you may have on the following points.]

1. Views on potential response approach

- With regard to the "Views on potential response approach" described in the main text, what are the characteristics of the mobile ecosystem, whether the existing framework can be applied, what are the limitations, if any, and what new approaches, if any, are needed that are different from the existing framework? If new approaches that differ from the existing framework are needed, what are the possibilities?
- What are your thoughts on the concept of categorizing activities that have a high risk of adversely affecting competition and prohibiting these actions advance in principle? In addition, potentially removing any restrictions on prohibition activities for reasons concerning security and privacy if they are recognized as legitimate?

## 3. Evaluation of each layer in the mobile ecosystem and potential responses

- Based on the above basic ideas on how to view the mobile ecosystem as a whole and how to consider the measures to be taken, this section outlines the current evaluation of each layer that forms the mobile ecosystem and the direction in which the mobile ecosystem should be addressed.

### 1. mobile OS layers

#### (1) Mobile OS layer characteristics, etc.

- The following points may be pointed out as characteristics of the mobile OS layer.
  - Indirect network effect: more users means more developers, which increases the value of the OS and attracts more users. If a sufficient number of users and app vendors do not use them, they may not receive enough support from OEMs and carriers.
  - Barriers to entry: In addition to requiring large development resources, existing mobile OS vendors have established a strong ecosystem based on a large number of users and app vendors, making it extremely difficult to build an ecosystem that can compete with them.
  - Switching costs: The hassle of installing familiar UIs and concepts and familiar apps, the time and effort required to move large amounts of data already stored on devices and in the cloud, brand loyalty, replacement costs, and incompatibility make the cost of switching between mobile OSs significant for users. The cost of switching between mobile OSs is significant.

- Under these circumstances, it is difficult to expect new entrants in the OS layer, at least in the short-to-medium term, as the two companies each currently hold a high market share and are firmly entrenched in the market. In addition, competition among mobile OSs may not be functioning adequately.

(2) The role of the mobile OS layer and its impact on other layers and the ecosystem as a whole, and the types of actions taken

- The mobile OS layer plays a major role in defining the rules for the various players in each layer above it, as it is responsible for making the software in each layer above it function on mobile devices.

  Therefore, actions at the mobile OS layer may have a broad and significant impact on the market environment at each of the layers above it, as well as on the market environment of the entire mobile ecosystem.

  It may also be in a position to further strengthen and anchor its impact on the overall mobile ecosystem, as well as stifle competition among mobile operating systems.

- In this context, mobile OS vendors' actions at the mobile OS layer include the items listed below, which may cause competitive concerns at all layers of the mobile

ecosystem including mobile operating systems, app stores, browsers, apps and web services.

- Rule setting and modification, interpretation, and operation within the ecosystem (affecting the entire mobile ecosystem, including browsers, app stores, web service layers and app layers)
- Pre-installation, default settings, etc., of your services, etc., on other layers
- Data acquisition and utilization
- Restrictions on access to OS features

**(3) Approaches to ensure that the mobile OS layer achieves what it should**

- Thus, mobile operating systems play a role that can have a broad and significant impact on the market environment at each layer above them, and on the ecosystem as a whole. Using this position as leverage, mobile OS vendors are in a position to strengthen and lock in their position at other layers in the ecosystem and to stifle competition among mobile operating systems. Could these actions by mobile OS vendors raise concerns about the competitive environment of the entire ecosystem?

  In addition, in light of the current situation where it is difficult to expect new entrants in the mobile OS layer in the short to medium term, it may be necessary to consider the direction of response based on the assumption that it is expected to be difficult to expect the competitive environment to correct itself due to competitive pressure.

- Specifically, while paying attention to deterring acts that inhibit the entry of new mobile operating systems, given that there are limits to the effectiveness of this approach, priority should be placed on removing activities at the mobile OS layer that impede a fair and equitable competitive environment for each layer, and proactive intervention may be required in light of the magnitude and scope of the concerns from the perspective of developing a competitive environment for the entire mobile ecosystem.

(Addressing impacts on other layers)

- Could certain interventions be considered from the following perspectives, for example, regarding the actions on each of the other layers in the OS layer?
  - Securing new entry and innovation in other layers and eliminating practices that impede it
  - Ensuring equal footing between the mobile OS vendor's own services and services provided by other operators at other layers
  - Ensuring equal footing among other businesses in other layers
  - Ensuring the opportunity for choice through substantial consumer decision-making in other layers

(Response to increased competitive pressure at the OS layer)

- In addition to these, we suggest that the elimination of activities that impede competition among OS layers should also be carried out in conjunction with these efforts.

In addition, in increasing competitive pressure, it may be necessary to combine responses to actions by other layers that affect the competitive environment of the OS layer, such as responses to web apps in browsers.

- Ensuring the development of web services that are less dependent on operating systems, etc.

**2. App store layer**

**(1) Characteristics of the app store layer, etc.**

- The following points may be pointed out as characteristics of the app store layer
  - Indirect network effect: the more users, the more app vendors develop apps for that app store, and the more apps there are, the more valuable that app store becomes to users.
  - Barriers to entry: Include many factors such as the following: App stores other than the App Store are not allowed on iPhones, and while Google Play is considered pre-installed on the majority of Android handsets, users usually use Google Play, and In general, third-party app stores are rarely pre-installed on devices due to the cost of maintaining quality, etc.
  - Switching costs: Constraints such as the fact that the iPhone does not allow app stores other than the App Store prevent switching to other app stores within the mobile ecosystem.

    In addition, Google Play is pre-installed and set as default on the majority of Android devices, creating resistance in encouraging users to switch to other app stores in the mobile ecosystem.

    Furthermore, Android users cannot access Apple' s App Store and vice versa, so the switching costs between the two major app stores for users are significant.

    Problems have also been noted in browsers with switching between native apps delivered from app stores and potentially alternative web apps. In other words, the use of Webkit as a browser engine is mandatory, especially for the iPhone, and while Webkit has been pointed out to be reluctant to support web applications, so the cost of switching services is very high.

- In light of the above, new third-party entry into the app store market is either made difficult (In the case of Google) or is not allowed (In the case of Apple). In addition, while competition among mobile OSs is not functioning well, competition among app stores is also poorly functioning. Furthermore, it could be said that the situation is constrained by competition with web services.

**(2) The role of the app store layer and its impact on other layers and the ecosystem as a whole, and the types of actions it takes**

- App stores are the gateway to the availability of apps to users for operators offering a variety of apps at its upper layers in the mobile ecosystem, and platform operators that provide app stores are responsible for reviewing whether or not to do so, as well as setting various conditions and other requirements.

  Furthermore, as noted above, the app stores provided by OS vendors have no or very limited competitive pressure from other app stores, etc., and thus effectively

control the life and death of the apps in their upper layers, impacting the business of a wide and diverse range of app operators in a direct and strongly coercive manner.

- In this context, the various actions taken by mobile OS vendors at the app store layer include the items listed below, which may result in competition concerns at the app layer.
  - Rule setting and modification, interpretation, and operation for the application layer
  - Display ranking, placement, etc. of apps in app stores
  - Acquisition and utilization of data related to apps distributed through app stores

**(3) Approaches to achieve what the app store layer should be**

- The competition concerns raised by the app stores described above could be addressed through a combination of removing the impediments to competition at the app store layer and directing interventions to create an environment in which competition at the app store layer is more likely to function.

(Addressing impacts on other layers)

- Direct intervention against the various restrictions that app store vendors impose on the app layer may be considered from the following perspectives.
  - Ensuring new entry and diverse innovation at the app layer, and remove practices that inhibit it.
  - Ensuring equal footing between the app store operator's own apps and apps provided by other operators.
  - Ensuring equal footing among other app operators in the app stores.
  - Ensuring the opportunity for choice through substantial consumer decision-making at the app layer.

(Response to increased competitive pressure at the app store layer)

- For example, could certain interventions be made in the following directions?

  In addition, in order to increase competitive pressure, it is important to develop an operating system that can be used as an operating system provider. It may be necessary to combine responses to actions by other layers that affect the competitive environment of the app store layer, such as pre-installation and default settings in the pre-store and support for web apps in the browser.
  - Increased opportunities for alternative app distribution.
  - Ensuring the opportunity for choice through substantial consumer decision-making.
  - Increased opportunities for native apps delivered from app stores and potentially alternative web app distribution.

**3. Browser layer**

**(1) Browser / layer characteristics, etc.**

- The following items may be pointed out as characteristics of the browser layer.

- Indirect network effects: website compatibility and the resulting network effects. For example, web service providers cater to browsers with large user bases, and users are attracted to browsers that are reliable and have tried and true usability. As more users use a given browser, web service providers will inevitably prioritize support for that browser even further, thereby continually reinforcing the position of the strongest browser in the market.
- Barriers to entry: (1) Third-party browsers with web compatibility restrictions cannot enjoy indirect network effects (restrictions on other browser vendors due to implementation of specific browser-specific code on websites, etc. ),(2) browsers that have achieved default status have an advantage that users are more likely to choose them, and (3) browsers require large ongoing development investments. (3) Browsers require continuous and large-scale development investment.
  Another barrier to entry is the fact that third-party browsers are generally not pre-installed on handsets due to the UX degradation and quality maintenance burden when multiple browsers are installed.
- Switching costs: ID/PW, bookmark registration, data/function integration, etc. increase switching costs from existing browsers.

- Based on the above, it can be said that the hurdles for entry by other operators are high, as the market has already converged on a small number of browsers. Among them, the two companies with default advantages and other advantages are strong, and the various characteristics mentioned above may make it difficult to reverse the current situation.

**(2) The role of the browser layer and its influence on other layers and the ecosystem as a whole, and the types of actions it takes**

- For web service providers, the browser is a gateway to access users, and thus has a broad and strong influence on the upper layer, the web service layer, including its impact on web service specifications, etc.

  In addition, while the extent to which browsers evolve their functionality will determine the development of the web services above them, it is also possible for browser support to slow the development of web services, thereby strongly influencing the substitutability of web services for native apps. This has a strong impact on the substitutability of web services for native apps.

- Furthermore, web services are less OS-dependent in the sense that they can be deployed on any OS as long as the browser can be supported. Therefore, in the sense that the development of web services can encourage competition among OSs, browsers, which can influence the development of web services, also affect the competitive environment of the OS layer.

- In the above situation, mobile OS vendors' actions at the browser layer include the items listed below, resulting in direct competitive harm to the web service layer that deploys services on the browser (including slowing the development of web services), as well as harm to competition at the browser layer itself, indirect

competition with other layers such as app stores and apps (e.g., providing advantages to native apps and app stores over web services), and competition between operating systems. In addition, there may be concerns that these actions may harm competition within the browser layer itself, indirect competition with other layers such as app stores and apps (e.g., providing advantages to native apps and app stores over web services), and competition among operating systems.

- Rule setting and modification, interpretation, and operation for web services (including unsupportive responses to web apps)
- Acquisition and use of data about web services obtained by browsers
- Restrictions on access to browser functions

**(3) Approaches to realize the ideal browser layer**

○ In addition to competition concerns over the web services layer (including those that slow the development of web services) and the resulting harm to competition between native apps, app stores, and web services, as well as harm to competition between operating systems, various actions by mobile OS vendors, such as pre-installation, default settings, uninstall restrictions, etc., make it extremely difficult for third-party browsers to expand, making it difficult to compete at the browser layer. In addition, various actions by mobile OS vendors, such as pre-installation, default settings, uninstall restrictions, etc., make it extremely difficult for third-party browsers to expand, making competition at the browser layer more difficult.

○ The above competition concerns raised by browsers could be addressed through a combination of removing the impediments to competition at the browser layer to other layers, such as the web services layer, and directing interventions to create an environment in which competition at the browser layer can function better. A combination of these approaches could be considered.

(Addressing impacts on other layers)

○ Direct intervention against the various restrictions that browsers impose on the web service layer might be considered in terms of the following:

- Ensuring new entrants and diverse innovation at the web services layer, and remove practices that inhibit it
- Ensuring equal footing between the browser provider's own web services and those provided by other providers
- Ensuring equal footing among other web service providers at the web service layer
- Ensuring that consumers have the opportunity to make choices through substantive decision-making at the web service layer, etc.

(Response to increased competitive pressure at the browser layer)

○ For example, it may be possible to make certain interventions in the following directions

In addition, in increasing competitive pressure, it may be necessary to combine responses to actions by other layers that affect the competitive environment of the browser layer, such as browser pre-installation and default settings in a way that

takes advantage of the OS provider's position, and the impact of specification decisions on browsers by leading web services. It may be necessary to

- Increase opportunities for alternative browser use
- Ensure opportunities for choice through substantial consumer decision-making
- Remove impediments to innovation by alternative browsers

**4. Search service**

**(1) Characteristics of search services, etc.**

- The following points may be pointed out as characteristics of search services:
  - Barriers to entry: significant costs to develop and maintain. Query data and indexes held by the predecessor. Blocking Code to be implemented on the website.
  - Network effect: the more users there are, the more websites focus on serving that search service, resulting in an indirect network effect that increases its value to users. The direct network effect, in which a large number of users increases the accuracy of searches through the accumulation of data, etc., and further increases the number of users.
  - Switching costs : Switching costs due to the advantage of being pre-installed or defaulted on both Android devices and iPhones.

- Under these circumstances, it is difficult to expect any change in the current situation, as one company currently has a high market share and this market share is fixed, and there is not strong competitive pressure from other operators for search services.

**(2) The role of search services and their impact on other layers and the ecosystem as a whole, and the types of actions they take**

- The type of display rank and content is critically important for various web businesses to reach their users, and the search results, display, and technology employed by search services have a tremendous impact on web services.

- In addition, since the search service is an indispensable item for browsers, which are the gateway to the web, the specifications of the search service for browsers can impact the competitiveness of each browser, which in turn can impact the competition among browsers.

- In addition, while search services are an essential part of the mobile ecosystem, most Android devices come pre-installed with a set of Google apps, including those from the app store, in addition to search services, it can be said to have a strong influence on each layer of the mobile ecosystem in the sense that it gives a strong pre-installation or other positioning to its own services at each important layer in the mobile ecosystem. The impact of search services on the formation and anchoring of the mobile ecosystem is significant in the sense that the mechanism is supported by significant revenues from search-based advertising as an incentive to OEMs.

- In addition, the large amount of data obtained from search services has the power to strengthen the competitiveness of their services at the app layer, web service layer, etc., and these attractive services have a significant impact on each layer of the mobile ecosystem, and on the mobile ecosystem as a whole.

- Under these circumstances, mobile OS vendors (Google) may be conducting the following actions in their search service, which may be harmful to competition at various layers in the mobile ecosystem.
  - Rule setting, modification, interpretation, and operation for the web service layer and browser layer.
  - Ensuring pre-installation or default status of their services in other layers.
  - Placement of other company services in search services and other promotions, etc.

**(3) Approaches to achieve the ideal state of search services**

- As mentioned above, the impact of search services on all layers in the mobile ecosystem and the resulting competitive concerns may be considered significant. In addition, pre-installation and default settings may make it difficult for other search services to expand, making it difficult for competition in search services to occur.

- Therefore, it may be necessary to intervene to create an environment in which competition among search services can function better, and at the same time, to intervene to deter the harmful effects of search services on competition to other layers.

(Actions to increase competitive pressure in search services)

- For example, it may be possible to make certain interventions in the following directions.

  In increasing competitive pressure, it may be necessary to combine responses to actions by other layers that affect the competitive environment for search services, such as pre-installation and default settings of search services in a way that takes advantage of the OS provider's position.

  - Greater room for alternative search services to enter the market.
  - Ensuring the opportunity for choice through substantial consumer decision-making.
  - Ensuring access to query data and index data by other operators on reasonable terms and conditions.

(Addressing impacts on other layers)

- In addition, from the perspective of deterring competitive harm to other layers caused by search services, it may be possible to make certain interventions in the following directions.
  - Ensuring new entrants and diverse innovation at the web services layer and browser layer, and eliminating practices that inhibit them.
  - Ensure equal footing between the search service provider's own web services

and those provided by other operators.

- Ensuring equal footing between the search service provider's own browser and browsers provided by other operators.
- Ensure equal footing between other web service providers and other browser providers at the web service layer and browser layer.
- Ensuring that consumers have the opportunity for choice through substantive decision-making at the web service layer and browser layer.

The main items on which we would like to receive your comments are as follows.

1. Assessment of each layer in the mobile ecosystem and direction of response.

- What are your thoughts on the direction of evaluation and response regarding each layer?

## 4. Targeted Approach in Addressing Challenges in the Mobile Ecosystem

- As we have seen, in the mobile ecosystem, the layers of the OS, app store, browser, and search service interact with each other in various ways to form, strengthen, and anchor the ecosystem.

- In such an ecosystem, various challenges in the competitive environment have emerged at each layer, and it is difficult to solve these challenges simply by leaving them to market competition.

- In light of the above, when considering measures to deal with each issue in the future, it should be basic to position actions in OS, app stores, browsers, and search services, which play a major role in the formation of mobile systems, as the targets of such measures.

- In addition, as an entity, should not the one who is making full use of the power of each layer to realize the formation of a mobile ecosystem be positioned as the target of such a project?

  In this case, by providing a mobile OS or by designing a mobile device that includes an OS, it is possible to obtain pre-installation and default settings for app stores, browsers, search services, etc., in the layers above the OS, and the mobile ecosystem can be formed by various actions in each layer, including the OS. Given that the mobile ecosystem is formed by various activities at each layer, including the OS, it is recommended that the OS and activities at that layer be positioned as the target for addressing various issues" when an OS provider above a certain size provides services at other layers ". How about this as a basic rule? (For specific application, please refer to the descriptions in the Individual Matters section below.)

[We would like to receive any comments you may have on the following points]

- What are your thoughts on the subject when considering measures to address various issues in the mobile ecosystem?

## No. 5 Direction of Interpretations of and Responses to Challenges in the Mobile Ecosystem

- ○ As seen in "No. 3 Direction of Evaluation and Handling of Each Player in the Mobile Ecosystem," there are shared patterns of action across all players in the mobile ecosystem.
- ○ Consequently, in this interim report, we have organized the direction of the challenges and actions (i.e., the possible options for handling said challenges) available to us, by identifying the following four patterns of action which have an effect on competition in the mobile ecosystem, by the parties that make up the mobile ecosystem.
- ○ Evaluations of each individual itemized discussion point will be stated in "II. Itemized Discussion." This section will present an overview of the system as a whole. Furthermore, as is explained in detail in the itemized discussion, the "options" indicated in the itemized discussion are strictly to be interpreted as the conceivable options available, without indicating that any decision has been arrived at.
- ○ On this occasion, as has been stated previously, we have divided our approaches to solving problems into ① approaches that restrict actions carried out in the given layer against another that run a high risk of causing competitive harm and ② approaches that increase competitive pressure within the given layer.

### 1. Setting, Changing, Interpreting and Operating Rules Within Ecosystems

#### (1) Interpreting the Challenges

- ○ Within OSes, browsers, app stores, and search services, "rules" are set and changed that must be complied with by businesses offering services in other layers.
- ○ At the present time, the parties that provide mobile ecosystems are also players in the other layers supported by that ecosystem. Concerns may thus arise that such players could take advantage of their position as the setters and amenders of these rules in a way that privileges their own services against competitors in those other layers.

#### (2) Directions of Major Challenges and Responses (Options)

**[OSes]**

- ・ Responding to concerns around competition stemming from the setting and amending of rules and technical specifications against other layers.
  - ▶ Disclosure of information around the setting and amending of rules and technical specifications, maintaining the fairness of procedures, monitoring by the government, necessary

interventions by the government.

- ▶ Responding to concerns over the temporal privileging of app development, etc. by OS providers as part of OS updates.

・ Steps to increase competitive pressure between OSes.
- ▶ Responding to concerns over the enclosure of apps through closed middleware.

**[App Stores]**

・ Responding to concerns over competition around rules set for the app layer.
- ▶ Responding to the mandating of an obligation to use certain payment and billing systems.
- ▶ Responding to restrictions on the provision of information by app developers.

・ Steps to increase the competitive pressure in the distribution of apps by app stores.
- ▶ Responding to the mandating of the use of specific app stores.
- ▶ Responding to restrictions on sideloading.

**[Browsers]**

・ Responding the concerns over competition around the setting and amending of rules and technical specifications for the online services layer.
- ▶ Disclosure of information around the setting and amending of rules and technical specifications, maintaining the fairness of procedures, monitoring by the government, necessary interventions by the government.
- ▶ Responding to passive treatment of web apps.

・ Steps to increase the competitive pressure in the browser layer.
- ▶ Responding to the mandating of the use of WebKit in iOS.
- ▶ Responding to restrictions on browsers accessing certain OSes and other features.
- ▶ Responding to limitations on browser extensions.

**[Major Online Services]**

・ Responding to concerns over competition around the setting and amending of rules and technical specifications by major online services (such as search services) for other online services and browsers.
- ▶ Disclosure of information around the setting and amending of rules and technical specifications, maintaining the fairness of procedures, monitoring by the government, necessary interventions by the government.

**2. Default Settings, Pre-Installations, Distribution and Other Promotions**

**(1) Interpreting the Challenges**

○ There are concerns around competition as a result of businesses using their positions as the providers of OSes or designers of mobile devices

including OSes to pre-install or set as defaults certain browsers or search services in order to secure privileged positions in each layer and thus strengthen their positions in the mobile ecosystem.

○ There are also concerns that in search services, which, as the entry point to the online space, are a powerful point of contact with customers, companies are eliminating competitor services by displaying their own services higher up in result rankings and prioritizing their own promotions.

**(2) Major Challenges and Directions of Responses (Options)**

**[Browsers and Search Services]**

- Steps to increase competitive pressure in the browser layer and search services.
  - ▶ Responding to actions that suppress the ability to switch defaults.
  - ▶ Steps to secure opportunities for consumers to select browsers and search services by coming to effective decisions.
  - ▶ Responding to restrictions on the uninstallation of browsers and search services.

**[Search Services]**

- Responding to concerns over competition stemming from the privileging of in-house services in other layers (apps, online services, browsers, etc.) through search services.
  - ▶ Responding to the promotion and privileging of in-house services through their display and positioning in search services.

**3. Handling and Usage of Data**

**(1) Interpreting the Challenges**

○ Businesses that supply OSes, app stores, browsers and other key services in the mobile ecosystem are able to obtain data regarding services provided in other layers that competitors cannot get access to.

○ There are concerns that the utilization of data acquired in this way as part of in-house services in other layers interferes with a free and fair competitive environment in said layers.

**(2) Directions of Major Challenges and Responses (Options)**

**[OSes, App Stores, Browsers]**

- Responding to concerns over competition arising from the utilization of data acquired through OSes, browsers and app stores in other layers (securing an equal footing).
  - ▶ Responding to the use of unpublished data acquired from the standpoint of an OS, browser or app store supplier in competition in other layers.

- ▶ Steps related to access to data generated by the business activity of third-party businesses by said third-party businesses.
- ▶ Steps to secure the portability of OS and other usage data generated by end users.
- ▶ Steps involving the limitation of internal data sharing.
- ▶ Responding to the act of adding services that compete with third parties as OS features and the act of offering apps set as defaults.

**4. Restrictions on Access to Various Features**

**(1) Interpreting the Challenges**

○ It is possible that, were a business that supplies OSes and other such products to supply features of an OS, browser or other like product only to their own services, this would prevent competition on an equal footing between said business and any third parties.

(Examples of features subject to such concerns)

- Mini App
- Ultra Wide Band
- NFC

**(2) Directions of Major Challenges and Responses (Options)**

**[OSes, Browsers]**

- Responding to concerns over competition around access restrictions to certain features against third parties in other layers (securing an equal footing).
  - ▶ Responding to access restrictions on certain OS, browser and other features.

## (Reference) Movements Surrounding Digital Platforms Abroad

### 1. Establishment of Lateral Rules

○ As previously stated, there have been movements observed in a number of other countries to establish lateral rules for digital platform businesses in order to enable prompt and timely responses to competitive issues in digital markets. Some countries have already implemented revisions to their systems for governing such matters.

○ Trends in the Establishment of Rules
We have observed that:

・ The subjects of regulations have been limited to large-scale platform operators, and

・ Measures have been put in place to respond through anticipatory regulation, in response to the fact that platform operators quickly raise their influence in markets as a result of powerful network effects in digital markets.

○ Against this background, we have summarized the major movements in terms of the consideration and enactment of laws in leading countries as per the following table.

Among these movements, the EU's PtoB regulations and Japan's Act on Improving Transparency and Fairness of Digital Platforms have been introduced as legal systems that take a joint regulation approach (i.e., a framework in which the government sets out a certain framework, while respecting the autonomous efforts of businesses to secure fairness in information disclosures and procedures related to the terms of business dealings) that places a focus on securing transparency. While both of these frameworks are examples of joint regulation, they are also positioned as examples of anticipatory regulation. Furthermore, Japan's Act on Improving Transparency and Fairness of Digital Platforms can be said to be a leading example of the above-described trends in that it limits its targets to large-scale platform operators.

○ With that said, subsequent debate in other countries has moved towards discussion of stronger anticipatory regulation, with the establishment or consideration of legal frameworks that either forbid or oblige certain actions ahead of time.

(Movements Surrounding Digital Platforms in Other Countries)

| | EU | Germany | UK | USA | Other | Japan |
|---|---|---|---|---|---|---|
| **2017 ～ 2019** | • The European Commission took three instances of legal action against Google (June 2017, July 2018, March 2019) (self-privileging in Google Shopping search results, tie-ins with Google Search) [-> all resulting in litigation] | • The Federal Cartel Office took legal action against Facebook (data harvesting, aggregation and utilization without the consent of users) (February 2019) [-> resulted in litigation] | | | | • **Headquarters for Digital Market Competition established (September 2019)**<br>• Commenced evaluation competition in the digital advertising market (October 2019)<br>• Fair Trade Commission published guidelines of business combination, etc. (December 2019) |
| **2020** | • **Implementation of the PtoB regulations (July)**<br>• **Submission of the DMA proposal (December)** | | • The CMA published the report on its investigation into online platforms and digital advertising (July) | • Publication of a House report (October)<br>• Department of Justice sued Google (anti-competitive activities in the search market) (October)<br>• The FTC sued Facebook (illegitimate maintenance of a monopoly in social media) (December) | • The ACCC in Australia began a general investigation into digital platforms (Australia) (February) | • Act on Improving Transparency and Fairness of Digital Platforms passed (May) (joint regulation approach) |
| **2021** | • The European Commission gave a provisional opinion that Apple distorted competition with its competitors in music streaming by requiring the use of its billing system (April)<br>• Provisional interim report on IoT (voice assistants) (June)<br>• The General Court (First) upheld the European Commission's finding of violations related to Google Shopping (November) [-> final appeal by Google (January 2022)]<br>• The European Parliament agreed the joint text of the DMA Draft Act (December) | • **Revision to the German Act against Restraints of Competition implemented (adding Article 19a) (January)**<br>• The Federal Cartel Office launched an investigation into GAFA (applicability of the regulations of 19a) (January to May) | • CMA launched an investigation into Google's Privacy Sandbox (January)<br>• CMA launched an investigation into the mobile ecosystem (June)<br>• The government announced a "new system for promoting competition in digital markets" (July)<br>• CMA published an interim report on its investigation into the mobile ecosystem (December) | • House: Choice and Innovation Online Act, etc. (anti-trust legislation act) adopted by the Judicial Committee (June)<br>• District court decision in the Apple vs. Epic suit (Apple ordered to allow outbound links including video games) (September) [-> both parties to appeal] | • Implementation of a law banning the mandating of in-app-store payments (South Korea) (September)<br>• Australia's ACCC proposed measures including a selection screen for search (Australia) (October) | • Act on Improving Transparency and Fairness of Digital Platforms enacted (February)<br>• Targets of the Act on Improving Transparency and Fairness of Digital Platforms designated (large-scale online malls, app stores) (April)<br>• Publication of the final report on the evaluation of competition in the digital advertising market (April)<br>• Commencement of evaluation of competition in the mobile ecosystem based on mobile OSes (June)<br>• Apple indicated that it would permit outbound links for the sale of digital contents (music, e-books, etc.) (Fair Trade Commission announces the end of this investigation) (September)<br>• Fair Trade Commission launched an |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | investigation into the state of mobile OSes, etc. (October) |
| **2022** | • The Council of the European Union and the US congress provisionally agreed a draft DMA (March) | • The Federal Cartel Office decided that Google is subject to the regulations of 19a (January) | | • Senate: The Judicial Committee adopted the Choice and Innovation Online and Open App Markets draft acts (January, February) | • The Dutch AMC imposed a civil penalty on Apple for failing to abide by an AMC order (order requiring Apple to end restrictions on payment systems and outbound links in dating apps) (the Netherlands) (January) | |

Note:
Red text: Indicates a new law or revision that has already been enacted
Blue text: Indicates movements related to considerations over a new legal framework
Green text: Indicates movements related to mobile ecosystems
Black text: Indicates other major movements. Legal proceedings are those related to the mobile ecosystem.

○ Below we will present the most important among these movements. Amongst these, points of difference can be seen in each approach. For example:

- In terms of the targets of regulations, in addition to the approach of the EU's DMA draft act and the USA's draft acts where the targets of the laws are defined in numerical terms, we can also observe that the German Act against Restraints of Competition and the new system under consideration in the UK take an approach where they define only qualitative standards for consideration, with the subjects of regulation then defined through individual investigations by the governing body.
- In terms of the manner in which specific prohibitions or obligations are regulated, while an anticipatory regulation approach has been adopted in common across all cases, we see both, on the one hand, approaches, such as those in the EU and the USA, where provisions are made clear in advance imposing prohibitory and obligatory regulations on targeted businesses, with those regulations then applied to specified businesses, and, on the other hand, approaches, such as those in the UK and Germany, where regulations specifically applied to specific platform businesses are decided through an investigation by a governing body, while the law regulates prohibitions and obligations (in the case of the UK, this is being considered on an abstract level). The DMA draft act also includes provisions for the authorities to go through a process of dialogue to decide specific measures as part of the prohibitory and obligatory regulations.

(1) Germany

○ In January 2021, Germany enforced the 10th revision to the Act against Restraints of Competition, incorporating stipulations prohibiting acts of abuse by "undertakings of paramount significance for competition across markets" (Act against Restraints of Competition Article 19a).

1) Thinking Behind Targets of Regulation

○ Companies that possess paramount significance for competition across markets.

The Federal Cartel Office considers ① whether a business holds a dominant position in one or more markets, ② its degree of access to financial power (capital resources) or other resources, ③ its degree of vertical integration or activity in related markets, ④ its degree of access to sensitive competitive data, and ⑤ the relevance of its activities for third-

party access to supply and sales markets and its related influence on the business activities of third parties in deciding through administrative disposition whether a business is subject to regulation (for a period of five years).

- Since the implementation of the law, the Federal Cartel Office has launched investigations into Facebook, Amazon, Google and Apple to decide whether those companies are subject to the provisions of Article 19a. In January 2022, the FCO decided that Google was an "undertaking of paramount importance across markets." There is a possibility that subsequent investigations will result in specific measures being imposed on Google.

  Investigations into the other three companies are ongoing.

2) Manner of Regulating Obligations

- The law stipulates that "undertakings of paramount significance across markets" are prohibited from privileging their own services, pre-installing products to the exclusion of competitors, interfering with competitors approaching customers via other channels, obliging users to use their own services and denying interoperability of data. While these acts are not prohibited in cases where they are objectively justified, the burden of proof of such justifications resides with the regulated businesses.
- In practice, whether prohibitions are applied will become clear following separate investigations into each company.

(2) EU

- In December 2020, the draft DMA, which defines a list of prohibited acts as a form of anticipatory regulation imposed on large-scale digital platforms that play a gatekeeper role for business and end users (related to self privileging, tie-in sales, data utilization, etc.), was submitted to the European Parliament and debated in the Parliament and by the European Council. Provisional agreement was reached by the Parliament and EU Council about the draft law in March 2022. Going forward, it is expected that if the Council and the Parliament respectively approve the contents of the draft act, the draft act will be implemented six months after the law goes into effect.

1) Thinking Behind Targets of Regulation

- Providers of core platform services* are designated as gatekeepers by the European Commission if they fulfil three of the following criteria (for a period of three years).
  - The firm's annual sales in the territory of the EU exceeded 7.5 billion Euros, the firm's total average market value were over 75 billion Euros

for the past three fiscal years, or the firm provides any core platform services in more than three member countries of the EU.

* Core platform services include: ①marketplaces, ②app stores, ③search engines, ④social media networks, ⑤OSes, ⑥cloud services, ⑦advertising services, ⑧voice assistants and ⑨internet browsers.

- In the previous fiscal year, the platform had at least one core platform service with over 45 million monthly active users in the EU and over 10 thousand active business users.
- The business fulfilled the above criteria in each of the past three fiscal years.

2) Major Prescriptions

- Gatekeepers are ① prohibited from mandating the use of their own services, ② prohibited from giving their own products favorable rankings, ③ required to allow the installation of third-party app stores and prohibited from mandating the use of their own associated services (billing systems, etc.), ⑤ prohibited from utilizing unpublished data generated by the gatekeeper platform in competition with other business users, ⑥ prohibited from restricting the ability to change default settings or from preventing the uninstalling of their own apps, ⑦ required to ensure access to and the interoperability of all data portability features, and ⑧ required to ensure access to query data related to searches.
- These prescriptions are divided into directly applied prescriptions (Article 5) that are specified in the provisions, as in the case of ①, ④, ⑤ and ⑥, and prescriptions where the specific method of meeting the obligations are specified by the European Commission following a process of dialogue between the gatekeepers and the Commission (Article 6), as in the case of ②, ③, ⑦ and ⑧.

(3) USA

- In the USA, in June 2021, an anti-trust reform package drafted by a cross-party group of members was adopted by the Lower House Judicial Committee. This package limited the targets of regulation to large-scale platform operators, and included provisions to ① prohibit companies from privileging their own products or discriminating against others, ② prohibit acquisitions that are damaging to competition, ③ prohibit the holding and operation of businesses that generate conflicts of interest, including self-privileging and ④ ensure a constructive obligation to ensure data portability. Furthermore, in October 2021, a cross-party group of Senators submitted a draft act remarkably similar in content to ①, which was adopted by the Senate Judicial Committee in January 2022.
- In August 2021, the cross-party groups of Senators and Lower House members each submitted draft acts covering app stores. In the Senate, the Senate Judicial Committee adopted the proposal in February 2022.
- An outline of the major draft acts is as follows.

1) Draft Act to Prohibit Self-Privileging and Discriminatory Treatment by Large-Scale Platform Operators (Innovation and Choice Online Draft Act (Senate))

① Thinking Behind Targets of Regulation

- The FTC or the Justice Department shall designate online platforms* meeting certain criteria as covered platforms (for a period of seven years).

- The company holds an online platform with over 50 million monthly active users or over 100,000 business users in the United States.
- The online platform operator holds an online platform with domestic net sales or average aggregate market value in excess of 550 billion USD or that has over 1 billion users worldwide.
- The online platform operator is a key business partner for businesses selling products or services on the online platform (e.g., the online platform operator has the ability to limit or obstruct access to users for other businesses).

*Online platforms include: websites, online apps, mobile apps, OSes, digital assistants or online services that fulfil the following three criteria.

(A) The platform enables users to generate content that can be viewed by other users or interacted with by other users.

(B) The platform supports the provision, retail, sale, payment or distribution of products and services including apps between consumers and businesses not under the control of the platform.

(C) The platform enables users to make searches or queries that access or display large quantities of data.

② Major Prescriptions

○ The act prohibits covered platform operators from self-privileging or discriminatory practices that unjustly restrict competition, unjustly restricting access to its own OS, unjustly restricting the uninstallation of its own apps or the changing of default settings.

2) Open App Markets Draft Act (Senate)

① Thinking Behind Targets of Regulation

○ Companies that operate app stores with over 50 million users domestically in the United States (covered companies).

② Major Prescriptions

○ Covered companies are prohibited from mandating the use of their own billing or payment systems as a condition of access to distribution via their app stores or access to their OSes, and from privileging their own apps in their app stores. Covered companies are also required to allow the selection of third-party apps and app stores as defaults and to offer third-

party developers equal access to OSes and all features as is possessed by the covered company.

(4) UK

○ In the UK, the government is considering a new system to promote competition and innovation that would subject to regulation companies designated by the government as holding “strategic market status.”

1) Thinking Behind Targets of Regulation (Proposal Basis)

○ The Digital Markets Unit (DMU), under the auspices of the CMA, designates companies as holding strategic market status (SMS companies – designated for a period of five years). The scope of application of the new system is limited within business activities to products and services provided by the business where digital technologies form a “core component.” In designating an SMS business, the following criteria will be taken into account.

- Whether the firm has achieved incredibly significant size or scale in an activity.
- Whether the firm is an important access point to consumers.
- Whether the firm can use the activity to further entrench or protect its market power in that activity, or to extend its market power into a range of other activities.
- Whether the firm can use the activity to determine the “rules of the game.”

2) Thinking Behind Prescriptions (Proposal Basis)

○ The proposal aims to enshrine in law principles that introduce the aims of ① fair trading, ② open choice, and ③ trust and transparency. It is proposed that the DMU would then, in line with these principles, formulate legally binding Codes of Conduct, clarifying the content of the prescriptions placed on each SMS business.

It is also proposed that the DMU will perform Pro-Competitive Interventions (PCIs) to mandate interoperability or certain separation measures where such measures are recognized as being necessary to address the root cause of the market power that has effectively accrued to the SMS business.

(5) South Korea

○ In September 2021, South Korea implemented the Revised Telecommunications Act which prohibited app store operators from ① mandating the use of specific payment methods for in-app billing, ② unjustly delaying app screening, or ③ unjustly removing apps.

## 2. Mobile Ecosystem Market Study (UK CMA)

○ As previously stated, the UK CMA began a market study into the mobile ecosystem in June 2021, publishing an interim report as part of the study in December of the same year and inviting public comment.

○ The major content of the interim report was as follows.

- Apple and Google use their market power to create largely self-contained ecosystems. As a result, it is extremely difficult for competitors to enter a new system and for meaningful competition to develop.
- Apple does not approve any app store other than its own and sets rules restricting the features of other browsers. While Google provides Android on an open-source basis, through contracts with Android device manufacturers, it promotes the pre-installation of the Play Store and Chrome, meaning that an overwhelming majority of Android users use those services.
- It has been noted that the rules around access to app stores set by Apple and Google are excessively restrictive. However, app developers must abide by these rules in order to gain access to users. These rules include payment of a 30% fee to Apple and Google.
- Apple and Google maintain that most such restrictions are necessary in order to maintain the holistic quality and security of their services and in order to protect the personal data of users. The CMA agrees that such concerns are of critical importance, but is concerned that the two companies are choosing to privilege their own services and thereby profit by maintaining such a position, despite the existence of alternative approaches.
- Possible measures to resolve such issues include ① allowing users to easily switch between iOS and Android devices without loss of functionality or data, ② allowing users to easily install apps including online apps through methods other than the App Store or Play Store, ③ approving choice of payment method in all apps, and ④ allowing users to easily choose services in place of Apple and Google services in terms of browsers, etc., in particular, allowing users to easily set different default browsers to use.

○ The CMA has indicated that it will put together a final report as part of this investigation in June of this year, based on feedback elicited by the interim report.

## Ⅱ. Itemized Discussion

**No. 1 Setting, Changing, Interpreting and Operating Rules in the Ecosystem**

### No. 1-1 OSes and Some Browsers

### 1. Responding to OS Updates and Changes to Specifications

○ Detailed discussion of the problems arising from changes to tracking rules will be found in the following items.
3. Changes to Tracking Rules in OSes
4. 5. Changes to Tracking Rules in Browsers

(1) Evaluation of the Facts and the Challenges Based Thereon
1) Facts
**[Apple]**

○ Major iOS versions are released once per year for iOS devices. Minor updates are implemented multiple times per year with the aim of resolving security problems and fixing bugs that may affect the use of Apple devices. There are also updates that aim to improve the UI, add features, and improve battery life. Major updates to the WebKit browser engine occur once per year, while minor updates are implemented multiple times per year.

○ Apple announces major changes to iOS at the Worldwide Developers Conference (WWDC), held in June, with third-party developers generally required to change their apps in around three months by September of that year. However, there have been cases where the original schedule was delayed, as occurred when developers expressed concerns over the introduction of App Tracking Transparency (ATT).

○ At WWDC, Apple provides opportunities for developers to get answers to questions, such as one-on-one lab sessions, discussions with Apple engineers at Developer Forums, and individual text chats.

○ Third-party developers are allowed to participate in the Apple Beta Software Program to get access to beta versions of new OSes prior to the release of OS updates. The program also gives developers advance access to beta releases of “dots,” or other minor OS releases.

○ When updates and changes to specifications are put out, Apple provides globally applied information provision through a variety of channels.
- Information provision through a dedicated interface (App Store Connect), etc..
- Formulation and publication of comprehensive technical documentation covering the implementation of software.

- Video presentation at WWDC.
- Holding lectures as part of the Tech Talks program.
- Publication of Human Interface Guidelines and provision of UI resources.
- Explanations on the App Store Connect help website.

○ Apple provides developers with additional notifications, materials and information about upcoming OS and browser updates through release notes, Developer Forums and resources published on the WebKit blog. In particular, Apple provides Japanese developers with news, Japanese-subtitled developer videos, App Review guidelines and publication of resources on special issue pages.

○ Apple provides a variety of support structures for cases where inquiries need to be made.
- Apple provides numerous opportunities for developers to exchange opinions and get support. Users can post comments in Developer Forums.
- Developers can ask questions to Developer Support via phone or email. All questions are answered, with around 90% answered within 24 hours.
- Apple provides developer technical support, with support from specialists able to provide suggestions at the code level.
- Japanese developers can consult with the WWDR teams in Cupertino and Japan.

○ The local Developer Relations team works year-round to spur the work of developers. The local Japanese team manages direct relations with developers and performs activities for local developers.

○ Apple gathers feedback from developers using tools such as Feedback Assistant software throughout the beta phases of software.

**[Google]**

○ Android bundles version releases and regularly issues a major update once per year. Chrome implements updates that add or change features roughly every six weeks (last year, every four weeks).

○ Chrome's developer versions are updated weekly.

○ Google has a structure to accept feedback from developers and users.

○ Google operates a developer preview program that provides advance notice to developers before Android updates are published for Android Open Source Project (AOSP) and for OEMs.

○ In order to facilitate testing and release planning by developers, Google sets development milestones. (Clicking on the planned features of upcoming milestones allows developers to check explanations of upcoming features, the reasons behind their development and detailed information about their specifications.)

- Android 12 adopted a “platform stable version” milestone indicating that a final version of the API had been reached.
- Google notifies developers that new updates are available to use through release notes, Android developer blogs, the Android developer community and websites.
- Google releases developer preview builds ahead of the release of new Android versions in order to facilitate early testing and the provision of development environments.
- For example, prior to releasing Android 12 in August 2021, Google released three developer preview builds from February to April of the same year.
  - Developer Preview 1 (February 2021): Early baseline with a focus on feedback from developers.
  - Developer Preview 2 (March 2021): Incremental update including additions such as new features, APIs and changes to actions.
  - Developer Preview 3 (April 2021): Incremental update to improve stability and performance.

2) Points of Concern
(Inadequate Periods and Methods of Disclosure and Notification)

○ Concerns have been raised to the effect that there is inadequate disclosure of information, an insufficient prior notice period and use of inappropriate notification methods in OS and other updates and specification changes. Third-party developers have raised the following specific examples regarding this point.
  - In the case of Apple, at present, changes to standard specifications have an enormous effect on developers, with inadequate notice and frequent updates resulting in resources that should be apportioned to improving the quality of products being taken up dealing with these changes.
  - In the case of Apple, while changes are announced three months in advance, there is a lack of advance notification about the details of specifications. Depending on the situation, developer time is consumed by responding to specification changes that occur during updates. Developers would like instead to have this handled in a way where the content of changes is fixed according to some schedule, including changes to specifications. While changes are announced on a conceptual level, some of these changes can be difficult to respond with only a three-month preparation period, even as detailed specifications remain unclear. As a proposed solution, particularly in the case of major changes, developers would like to see the government mandate that Apple have a structure for responding to queries, provide advance notification of detailed specifications, and set a sufficient period from the conceptual announcement at WWDC to the release of any changes.
  - Apple uses ambiguous expressions regarding release deadlines such as “early Spring,” with specific dates only announced immediately

preceding actual releases.

- When new regulations about app operation are decided, the information disclosed can be unclear. When developers make inquiries with Apple, the response is merely to “submit the app to screening,” so they cannot get sufficient information prior to the updated release of their apps. Developers are forced to use roundabout methods of operating, such as trialing changes in unpopular apps, then applying them to popular apps if they get through without issue.
- While Apple’s information is sufficient on the level of documentation, this does not provide sufficient clarification over details related to app operations, specifically in terms of transfer of data and API adjustment when upgrading from pervious OS versions. Developers thus have to do side-by-side comparisons of the code and test its effects in order to get a grasp on the detailed content of the specifications.
- Even for large developers like us, keeping up with the daily large volume of updated information online without missing anything is no small task. For small to medium-sized developers, the problem is likely only greater.
- Beta specifications change frequently ahead of release, which can lead to developers being pressed to keep up with responding to them. Private Relay is a clear example of this. The specifications were changed when the beta version was updated, and queries were met with inadequate responses. It is not that specifications always change just before release, but such cases do occur. Developers would like advance disclosure of information about cases where changes result in wide-ranging effects, as was the case with Private Relay.
- As many pointed out, the changes to Apple’s tracking rules could not be accommodated within three months, resulting in a delay. We recognize that this is an exception among exceptions.

(High Cost Burden Arising from Updates and Specification Changes)

○ There are concerns that the burdens and costs of handling OS and other updates and specification changes are extremely high for third-party developers. The following specific matters are pointed out as examples of this by third-party developers.

- Covering 30 apps in response to an OS upgrade costs at least several hundred million JPY. This is a major business risk.
- Android specifications change frequently, meaning that developers have to change their specifications to match. It is expensive to handle changes to screen and OS updates.
- Among developers, it is becoming the accepted view that dealing with OS and browser updates is an arduous obligation, while a sense that there is nothing that can be done is developing. Developers are

responding to this by sharing modules and changing outsourced developers.

- With the introduction of Private Relay to anonymize user online browsing activity in order to strengthen privacy protections, developers dedicated significant resources to responding to the change. While developers had previously used IP addresses to identify users, the change required them to develop alternatives. Apple's inadequate responses to queries about this caused problems. Developers would have liked accurate information about detailed specifications for supporting privacy support. Despite receiving huge numbers of inquiries about this from developers across the world, answers on the Developer Forum were inadequate, while the inquiries status page displayed almost no answers. No responses were received even in response to inquiries about major points.
- In a separate example, revisions to content were required in response to the relocation of the Safari tab bar, which was exceedingly difficult to do in three months.
- Developers regularly confront cases where it is difficult to deal with Apple's product announcements and change releases. The removal or substitution of APIs, major UI refurbishments(*1), and even unsalvageable(*2) incidents have occurred.

  *1 When iOS7 was introduced in 2013, the UI was significantly overhauled, which resulted in major difficulties in adjusting to the changes.

  *2 One recent example was the instruction to replace the WebView framework with WK WebView. As a result of this change, the method for managing cookies changed, meaning that it was no longer possible to sync login data across native apps and WebView, causing developers to be pressed to find a solution.
- The burden of responding to OS upgrades is high. If iOS were also put out on a Chromium base, the compatibility would be beneficial, but at present developers have to double up their work in response to Apple and Google. In terms of browsers, developers are constantly harried by dealing with how Chrome updates will be incorporated. Apple and Google OS and browser standards end up dominating the work of the third-party development side.

(Inadequate Processes and Response Structure for Inquiries)

○ There are concerns that the processes and response structure, including the Japanese subsidiary, for supporting inquiries from third-party developers about OS and other updates and specification changes are inadequate. The following specific matters are pointed out as examples of this by third-party

developers.

- In the case of Apple, information about specification changes is generally available from overseas sources before it is available via the Japanese subsidiary.
- Apple's Japanese subsidiary should have the role of communicating in detail in advance of major specification changes.
- Developers often do not receive responses to inquiries about specifications when beta versions are announced, meaning the response structure is inadequate. While the Developer Forum does exist as a mechanism for responding to inquiries, in practice, there are largely no responses from Apple when you do post a question there, and it does not function as a place for exchanging views. It seems to be used only as a bug reporting tester. It would be desirable for Apple to update the beta version and set adequate preparation periods after confirming final versions while responding seriously to inquiries.
- While Apple Japan does exist as a point of contact for inquiries to Apple, it is not an official point of contact, but rather is a company that only large business partners can communicate with. Apple Japan has at times responded to inquiries. However, in general, if you were to want to dig deep into an ambiguous specification, you would not receive a response, which would cause problems.
- There is no clarification about the details of operating specific apps. Even if you inquire with the Japanese subsidiary, they will not resolve the issue, but rather act as a go-between to the American head office, meaning that answers take a long time to receive and have inadequate content.

3) Present Evaluation

○ OS providers have made OS and browser updates more efficient, taken on user feedback and disclosed information about the latest versions in advance to a certain extent. They have also put in place support structures through a variety of channels to provide information and consult with developers to a certain extent.

○ However, on the third-party developer side, criticisms have been made that the inquiries about details of specifications made on the Developer Forum do not receive responses, high cost burdens arise due to specifications changing during updated beta versions and changes to specifications being finalized only immediately before the release of updates, and that developers are put under pressure to respond to updates in a short period of just three months, resulting in time being taken away from quality improvement work. There are concerns that, in addition to the work required of developers in response to updates, the

content of information disclosures, notification periods, their methods and frequency, as well as responses to inquiries are inadequate or not suitable.

Note: The following sections, (2) Present Evaluation of Competition and (3) Response Options and Main Points on Which Opinions are Sought, are particularly focused on the OS layer. For discussion of the browser layer, see 4.5. Changes to Tracking Rules in Browsers.

(2) Present Evaluation of Competition

(Business Uncertainty and Risk for Third-Party Developers)

○ When businesses that provide OSes, which serve as the base of the mobile ecosystem, in carrying out updates or changes to specifications, provide insufficient advance disclosure of information or notice, perform these operations too frequently, or do not adequately respond to inquiries, this interferes with foreseeability and transparency in upper layers such as apps, browsers and online services. There are concerns that this may place an undue burden on developers and give rise to uncertainty and risk for businesses. Consequently, this may lead to a reduction in scope for competition by interfering with the ability of developers to newly enter markets or engage in active innovation, a reduction in diverse value creation by diverse businesses, reductions in product quality, reduction in the choices available to consumers and foreclosing on future possibilities for innovation.

(Concerns over Self-Privileging)

○ When OS providers develop their own businesses in the app, browser and online services fields, this interferes with the principle of an equal footing with third-party developers in terms of access to data. OS providers are thus in an advantageous competitive position, while third-party developers are disadvantaged. This gives rise to similar competitive concerns as described in the preceding section.

Note: This point is covered in detail in 2. Temporal Privileging in App Development Arising from OS Updates.

(3) Response Options and Main Points on Which Opinions are Sought

1) Response Options

Given the aforementioned competitive concerns, the following are possible options in terms of responses.

(Option A: Appropriate Handling and Review of Information Disclosure and Inquiries Related to Updates)

○ The aforementioned competitive concerns stem from the unsuitability of information disclosures, notification periods and notification methods related to OS updates and specification changes, and from the inadequacy of the procedures and response structure for inquiries.

○ In response, **one option may be to establish a package of measures as follows, with (a)-(c) stipulating required measures and (d) confirming the status of the execution of those measures, in order to ensure the foreseeability, transparency and fairness of a set of processes to be followed during OS updates and specification changes by OS providers above a certain size.**

**[Package of Measures]**

a. **Implementing advanced notifications that ensure sufficient time to respond to updates**
   (Mandating an appropriate preparation period depending on the degree of effect stemming from OS updates (i.e., longer period for larger updates)).
b. **Suitable Information Disclosures Related to Latest Versions**
   (including operational details related to handling data transfer and API coordination issues stemming from changes).
c. Establishment of procedures and structures related to developer inquiries.
d. Implementation of a requirement to report to the government about the status of operations, as well as monitoring and review by the government.

○ **The fair provision of access to development environments such as beta versions** will be discussed in detail in 2. Temporal Privileging in App Development Arising from OS Updates, with the aim of securing equal footing for third-party developers as a response to ② Self-Privileging under (2) Present Evaluation of Competition.

2) Main Points on Which Opinions are Sought

**[Main Points on Which Opinions are Sought Regarding this Item]**

1 Further Information on the Facts and the Points of Concern.
- Is there further information regarding the facts of this matter or the points of concern (additional or supplementary specific examples)?

2 Effectiveness of New Regulations
- How effective would Option A be in solving problems? What merits would this approach have?
- Are there other measures that could be expected to work effectively to solve these problems other than Option A?

3 Costs and Risks Stemming from the Implementation of New Regulations
- What costs and risks would arise in terms of security, privacy etc. stemming from the implementation of Option A?
- What possible measures could be taken to lessen these problems?

**2. Temporal Privileging in App Development Arising from OS Updates**

(1) Evaluation of the Facts and the Challenges Based Thereon

1) Facts

**[Apple]**

- Not only Apple apps, but also third-party apps have access to new iOS updates prior to release and developers have access to beta versions.
- Some developers, who meet Apple's high standards in technical ability, flexibility in terms of schedule and standards in software design and performance test new features and technologies in iOS prior to release.
- Apple's built-in apps (standard apps such as the calculator, camera and Apple Music, which are already installed when a consumer purchases an iPhone) are already installed in their final versions when the beta version of the OS is announced.

**[Google]**

- As an example, prior to releasing Android 12 in August 2021, Google released three developer preview builds from February to April of the same year.
  - Developer Preview 1 (February 2021): Early baseline with a focus on feedback from developers.
  - Developer Preview 2 (March 2021): Incremental update including additions such as new features, APIs and changes to actions.
  - Developer Preview 3 (April 2021): Incremental update to improve stability and performance.
- Certain developers may, at times, gain access to in-development versions of APIs scheduled for future release by applying to be part of the Google early access program. This program enables developers to give feedback about the onboarding experience and features, make suggestions about the usage methods and participate in the process of designing APIs prior to their official release.

2) Points of Concern

(Temporal Privileging of OS Providers and the Consequent Unfairness of Access to Information)

- It is undeniable that the OS provider side has a clear temporal advantage during updates to OSes and changes to specifications. At the same time, there is concern that an equal footing has not been provided for access to information among third-party developers.
- Third-party developers have raised the following specific examples

regarding this point.

- Even supposing that only public APIs are used, and developers were able to work on the same terms, only Apple puts out products right as new versions are released. The time advantage that Apple enjoys cannot be cut out.
- From the perspective of responding to OS specification changes, Apple's built-in apps are always in an advantageous position. This is because Apple apps are already finished when the beta version of an OS is announced and included as part of the beta OS.
- While there are stocks and news apps as pre-installed apps from the platform operators, Apple is able to respond faster to specification changes and so create differentiation.
- Apple undoubtedly has the advantage in terms of apps. On the point of being unable to provide satisfactory content in a situation lacking clarity, you could also say that this means that third-party developers are unilaterally disadvantaged.
- For example, from iOS 15, one major update was that writing with the Apple Pencil on the iPad would be instantly converted into text data. In Apple's built-in apps, Apple Pencil text inputs worked without a hitch from the day of the update. While this had been announced as a new feature from the time of the beta, third-party developers were being asked to coordinate with relatively advanced apps, meaning that on the day that the major update was released, they could not keep up. Meanwhile on Apple apps, features for coordination with Apple Pencil were cleanly implemented. Since Apple develops its apps on the basis of being apps with features to coordinate with Apple Pencil, even if you as a developer get told to make up that ground in a matter of months, you are going to come off second best.
- There is a useful feature whereby you can control your device by flicking or tapping with your finger, which is called a "gesture," which is a unique code feature of the iPhone. For example, when a new gesture was added so that users could tap the screen with three fingers to copy and then paste something, Apple's built-in apps all had this feature implemented from the beginning. By contrast, if, for example, a game app already had a three-finger behavior to do some operation, that would have to be stopped. For a company that used three-finger multi-touch to do something in a game they made, when the OS brought in a three-finger touch gesture, they had a lot of problems. It was a serious problem to deal with that in a few months.
- Not only can Apple have completed apps already implemented when the first beta is released, but as a result of that, those apps are widely tested prior to release, and they can enjoy the benefit of receiving feedback and evaluation.

3) Present Evaluation

**[Apple]**

○ It is believed that, even if third-party developers get access to early beta versions

of new OSes and are able to update their apps accordingly, Apple's in-house development team is able to get information about OS updates and specification changes even earlier and use this to develop their apps, so that the standard Apple apps are already finished at the time of the first beta release. It also seems to be the case that for updates that require a high degree of coordination with apps, it is difficult for third-party developers to implement those features from the time when the OS update is announced to the time when it is released. Collectively, these points lead us to recognize there being a temporal advantage to OS operators.

- As OS operators are also able to have their apps implemented at the time of the release of the beta versions of OSes, they also enjoy the benefit of getting broadly positive reviews in the lead up to the release of the OS update.
- On this point, Apple has responded that "apps are not updated in coordination with the initial iOS beta version," and that "all app teams work to update their apps leading up to the general iOS release in September, just like third-party developers." These responses, however, do not dispel the concerns raised in the previous points.

**[Google]**

- Even if third-party developers get access in advance to pre-release versions of the Android code and are able to update their apps accordingly, the OS operator's in-house development team is able to get information about OS updates and specification changes even earlier and use this to develop their apps. We thus recognize that the OS operator's development team has a temporal advantage.
- Google's response on this point is unclear, stating that "we cannot generalize and communicate the timing of prior notifications about OS updates to first-party app developers, and the timing of the completion of first-party app updates."

(2) Present Evaluation of Competition
(Concerns Around Self-Privileging)

- There are concerns that OS operators enjoy an advantageous position based on a temporal advantage in the development of apps, browsers and online services, because while third parties struggle to secure sufficient time to make necessary responses to updates and specification changes, and consequently struggle to secure adequate time to improve the quality of their apps, OS operators develop their apps, browsers and online services in-house, enabling them to respond to these changes instantly.
- As a result, there are concerns that platform operators are interfering with the free and fair competition between them and third-party developers in the fields of app, browser and online services by leveraging their position of

deciding internally about OS specifications that can affect those fields.

(3) Response Options and Main Points on Which Opinions are Sought

1) Response Options

Given the aforementioned competitive concerns, the following are possible options in terms of responses.

(Option A: Prevention of Internal Information Sharing and Securing of Fair Access)

○ We believe that there may need to be some measures taken to ensure fairness in access to information related to OS updates and specification changes between OS operators and third parties when the OS operator updates the OS.

○ In response, **one option may be to introduce regulations mandating the prevention of the sharing of information about OS updates and specification changes (including an obligation to report on the content of said measures and the status of their implementation) between the OS departments and the app, browser and online services departments of OS providers above a certain size.**

○ Additionally, **a further option may be to introduce regulations that mandate the following in order to secure an equal footing in terms of access to said information.**

- **Identical timing of disclosure of information related to OS updates and specification changes between in-house and third-party developers.**
- **Securing fair access to development environments based on pre-release versions of the OS code.**

2) Rules Established and Under Consideration Overseas

(Related to Option A (Separation of Functions))

○ CMA Interim Report

(Separation Measures to Address the Use of Market Power in App Development)

- The report shares the concerns of app developers that Apple and Google have the ability and the incentive to unfairly advantage their own apps. Separation measures of the following form are a possible option to address these concerns.
- Data Separation: This measure focuses on the ability of Apple and Google to share potentially commercially sensitive data internally and potentially build it into their own technical design or commercial arrangements. A requirement not to share certain types of data could be appropriate in any case and some constraints on sharing of data may already be in place, but a form of data separation would impose specific barriers to sharing of certain classes of data.
- Operational Separation: This measure requires Apple and Google to run their app development processes independently, in particular, separating their internal app development business from other mobile

ecosystem departments, especially the departments responsible for screening apps and the department that decides on access to APIs and features used by in-house and third-party developers.

- Structural Separation: This measure would resemble operational separation in having the same effect but would require the formal legal separation or divestment of the app development business. At this stage, it is thought that there are merits in exploring the effectiveness of data or operational separation as alternatives that could deliver many of the benefits of structural separation with comparably lower costs.

3) Main Points on Which Opinions are Sought

**[Main Points on Which Opinions are Sought Regarding this Item]**

1 Further Information on the Facts and the Points of Concern.
- Is there further information regarding the facts of this matter or the points of concern (additional or supplementary specific examples)?

2 Effectiveness of New Regulations
- How effective would Option A be in solving problems? What merits would this approach have?
- Are there other measures that could be expected to work effectively to solve these problems other than Option A?

3 Costs and Risks Stemming from the Implementation of New Regulations
- What costs and risks would arise in terms of security, privacy etc. stemming from the implementation of Option A?
- What possible measures could be taken to lessen these problems?

4 Option A (Prevention of Internal Information Sharing)
What concrete methods could be implemented to prevent internal information sharing? (For example, data siloing to prevent data sharing, prohibitions on access etc.)

- What concrete methods could be implemented to check the effectiveness of information separation measures? (For example, reporting on the implementation of data separation, monitoring etc.)
- **Other than the prevention of information sharing,** options such as functional and structural separation are available **as means to achieve the aims of Option A.** What are your views on the selection of these measures?

**3. Changes to Tracking Rules in OSes (Apple)**

(1) Evaluation of the Facts and the Challenges Based Thereon

1) Facts

- App Tracking Transparency (ATT) requires app developers to gain user permission through an AT prompt before tracking users using an Identifier for Advertisers (IDFA), a unique ID allocated to each iOS device. This requirement is applied to all developers, including Apple, as long as they perform tracking. However, as Apple does not perform tracking, it does not use IDFAs, and so does not need to display an ATT prompt.
- Thus, despite not using IDFAs, Apple displays selection notifications to users on its advertising platform. In other words, as of iOS 15, a selection prompt is shown to users allowing them to control the "personalized advertising" settings distributed by Apple, including authorization for use of first-party data.
- Apple's advertising approach is, apparently, to forego tracking, and instead of using IDFAs, group users into segments of over 5,000 people using a limited number of first-party data points. (According to Apple, its apps do not access consumer data held by other Apple services such as Apple Pay, Maps, Siri, iMessage and iCloud. Apple also maintains that on-device data obtained through services and features such as the Healthcare App, HomeKit, email, contacts and call records are not used for app advertising.)
- Advertisements distributed through Apple's advertising platform are limited to the App Store, Apple News and Apple Stocks, and consist of (1) ads that allow developers to promote their apps in the App Store when users use the search page in the App Store, and (2) display adds that appear in the Apple News App and Apple Stocks.

2) Points of Concern

(Self-Privileging in Advertising)

- ○ There are concerns that, in this matter, Apple has used its position as the rule setter in the OS layer to restrict the business models of other companies in the advertising market.
- ○ There are also concerns that Apple has made its own advertising services easier to use compared to other advertisers through the method of display of notifications to users.
- ○ The following specific examples have been raised related to this point.
  - From iOS 14.5, App Tracking Transparency (ATT) is one example of an abuse of rule changing in OSes. Requiring permission from users when performing data tracking is held to be a clear attempt to damage Facebook.
  - Apple mandated that apps get the consent of the user to use their IDFA, but the global opt-in rate is 12% and the US opt-in rate is 4%, so it is likely that the rate will be even lower in Japan, meaning getting access to IDFAs is extremely difficult. At the same time, Apple is in the position of being able to use data as a first party, making this a clear example of a competitive problem as they are able to be the operator of a "killer service."

- While the notifications in the apps of other companies have warning-like tones which make regular users feel like pressing cancel, the notifications in Apple's in-house apps use terms like "personalize," meaning they achieve leading language and appear as attractive announcements. Thus, the prompts that are given to the users create opposite impressions (as of October last year).
- The detailed explanation of what is being approved is combined with various different bits of information to create an intimidating impression in the notifications of other companies, while the notifications in Apple's own apps create an impression that user privacy is being respected and hence there is no problem, giving them a leading tone.

**Image** Differences in Display Between Apple and Other Company Apps (Notifications)

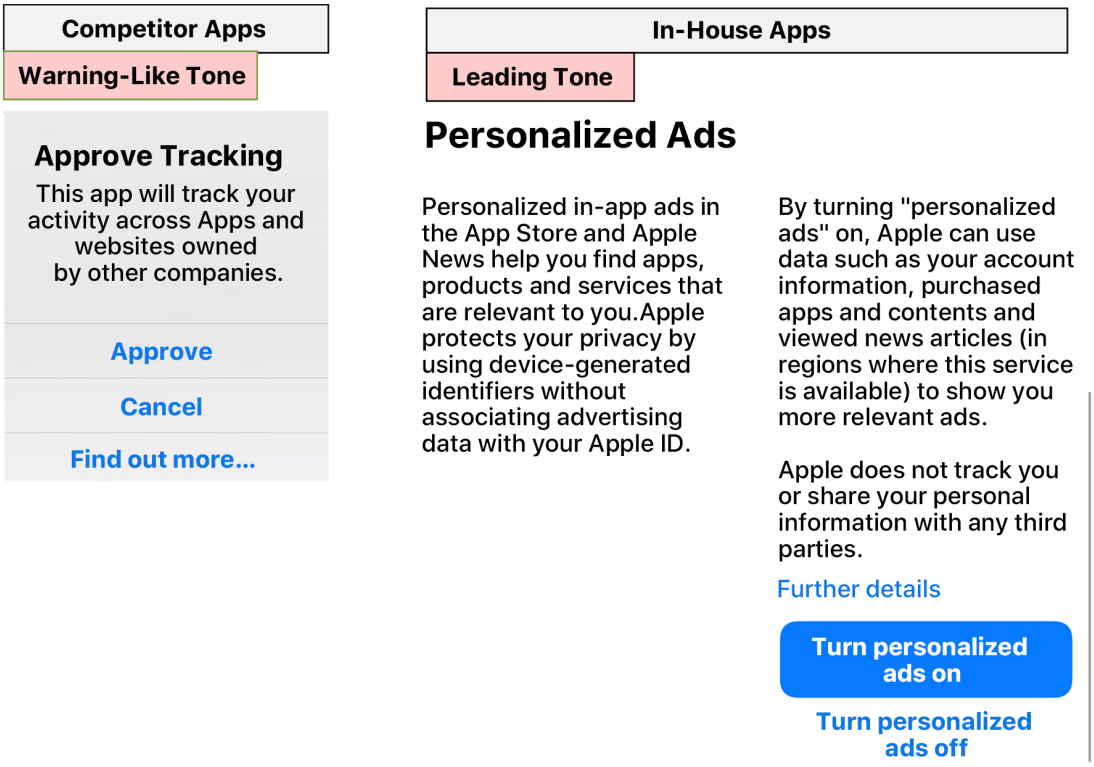
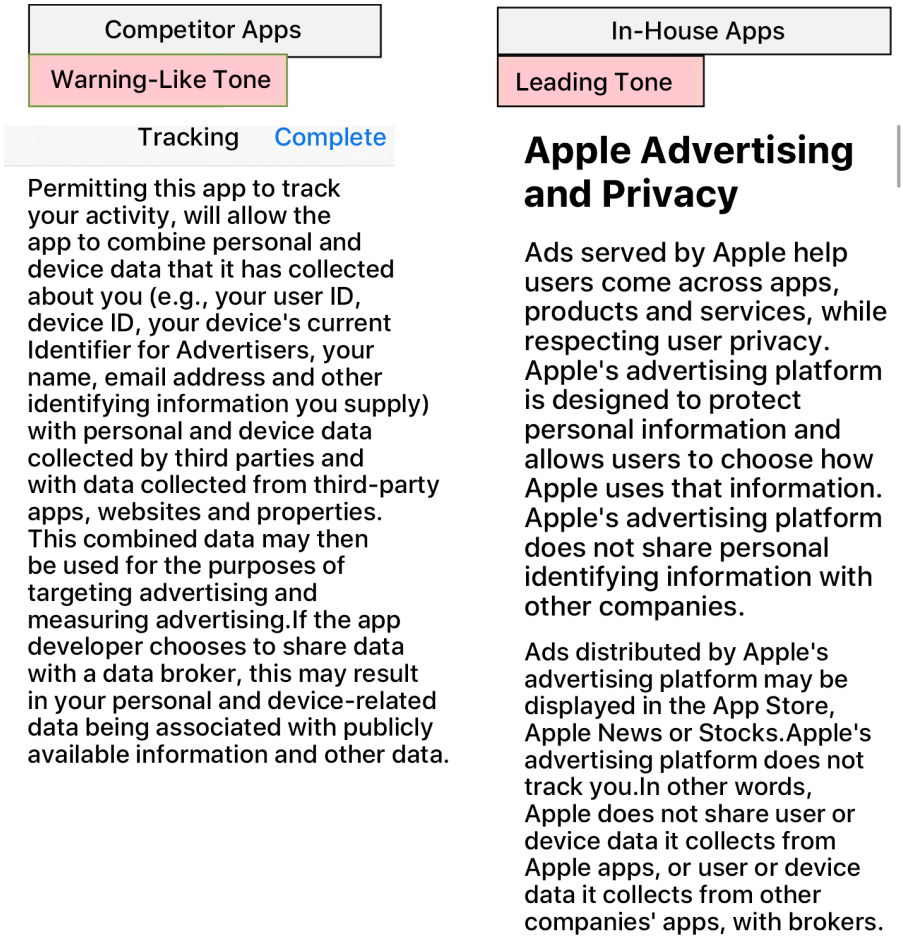


**Image** Differences in Display Between Apple and Other Company Apps (Detailed Explanation of What is Being Approved)




(Unilateral Rules Changes by OS Operators)

○ Not only are there concerns that rule changes in the OS layer are self-privileging for OS operators as indicated above, but there are also concerns that rules changes by Apple are themselves unilateral, with the following specific examples given on this point.

- In implementing the ATT feature, Apple went through with its plans despite getting significant backlash, then, when unexpected issues did in fact arise, they ended up delaying the implementation by half a year. At the time, they would not even hold hearings about the issue.

3) Present Evaluation

○ ATT is a feature intended to achieve transparency in app tracking by empowering users to control the data used in targeted advertising. While Apple requires other businesses to display ATT prompts to users, Apple itself does not track users to begin with and so does not use IDFA, as a result of which it does not display an ATT prompt.

- At the same time, Apple displays a separate selection notification to users for personalized ad settings, developing its own advertising platform on that basis.
- Given the above, Apple explains that "our company's approach is fundamentally different to the extreme personalization enabled by cross-company tracking, and is rather one that is designed in order to comply with high privacy standards." While these measures do have the aspect of giving consideration to user privacy, evaluating this from the perspective of the competitive environment among advertising business models, by limiting the ability to personalize ads, Apple has restricted the development of other companies' business models, resulting in an advantageous development for its own business model. In effect, there are concerns over the mid-to-long-term decline of the ecosystem around in-app advertising businesses leading to a degradation in user acquisition and monetization. Thus, Apple can be thought of as being a player developing its own advertising business, while also acting as the rule setter in a position to take advantage of its own influence in the market environment.
- The content of Apple notifications, while not requesting permission to use IDFAs, is a message that gives off a positive image compared to other companies from the perspective of the user, stating that it will "help find more relevant apps, products and services." There is a large gap between that and the expressions requested by developers in ATT prompts.

(2) Present Evaluation of Competition
(Concerns Over Self-Privileging Through the Use of the Position of Rule Setter)

- Depending on whether the design of on-screen notifications in smartphones has a warning or leading tone, a significant gap in terms of the impression that users receive can arise. Apple can be said to occupy the position of rule setter in the market through its role in setting the way that notifications performed by developers are displayed.
- Given that Apple is also developing its own advertising business, observers could come to the conclusion that Apple is leveraging its role as the rule setter to influence the choices of consumers to create a favorable situation for its own business model. Such actions could thus interfere with free and fair competition in advertising field.

(Securing an Advantage for Apple's Own Business by Instigating a Switch from an Advertising-Driven Model to an App Billing Model)

- Even as Apple is drawing a line under the user-tracking-based approach to advertising, it is developing its own advertising platform on pre-installed apps by making use of first-party data based on performing notifications.
- In contrast to this, there are concerns around the ability of many other

advertising businesses to secure customers and monetize their businesses due to the mid-to-long-term decline of the advertising business. This in turn gives rise to concerns that app developers will need to shift from their existing advertising-based business models, or, in other words, that app developers will be left with no choice but to switch to a billing model.

- From the perspective of the choice of revenue model by app developers (between an advertising revenue model and a billing model), observers have evaluated this as an attempt to induce developers to switch to billing via the Apple App Store. This may create an advantage of Apple's own business.

(Business Uncertainty and Risk for Third-Party Developers)

- From the perspective of general rule setting, there are concerns that if OS providers, in providing their services, do not provide adequate advance information disclosure and notice and do not adequately respond to inquiries, this will interfere with the foreseeability and transparency of the advertising field, place undue burdens on developers and create uncertainty and risk for businesses.
- As a result, there are concerns that the ability of developers to enter new markets and pursue active innovation will be inhibited, while scope for competition will be reduced. This could in turn mean that there will be a reduction in the diverse businesses providing diverse value to consumers, a reduction in quality, a reduction in choices available to consumers, and a foreclosing on the possibility of future innovations.

(3) Response Options and Main Points on Which Opinions are Sought

1) Response Options

Given the aforementioned competitive concerns, the following are possible options in terms of responses.

(Option A: Appropriate Review and Other Measures Covering Information Disclosure, Handling of Inquiries and Other Activities Related to Rule Changes)

- In response to concerns over the unilateral setting and changing of rules by OS providers, one option may be to **establish a package of measures as follows, with (a) – (c) stipulating the required measures and (d) confirming the status of the execution of those measures, in order to ensure the foreseeability, transparency and fairness of a set of processes to be followed when rules are changed in OSes by OS providers above a certain size.**
- **It may, in particular, also be a worthwhile option to consider establishing a package of measures further involving (e) intervention by the authorities in the event that there are concerns**

**that serious and imminent damages may occur to businesses affected by the setting or changing of said rules.**

**[Package of Measures]**

a. **Implementing prior notifications that secure sufficient time to respond to rule changes.**
b. **Appropriate disclosure of information about rule changes.**
c. **Establishment of procedures and structures to handle inquiries from developers.**
d. **Implementation of reporting to the government, monitoring by the government and review of the status of operations.**
e. **Joint processes (consultations) and suspensions requiring the intervention of regulatory authorities (where there are concerns that serious and imminent damages may occur to businesses affected by the setting or changing of rules).**

(Option B: Prohibition on Acts that Interfere with Autonomous Decision Making in the Display of Notifications to Users)

- One option may be to restrict the ability of OS providers to advantage their own businesses against the businesses of competitors by making their own displayed notifications enticing, while setting rules about notifications that competitors must follow.
- Thus, in addition to Option A, **another option may be to introduce regulations that prohibit OS providers above a certain size from offering options to end users in biased ways or otherwise performing acts that interfere with the autonomous decision making of users in showing notifications to users.**

2) Rules Established and Under Consideration Overseas
(Related to Option A)

- Article 22 Paragraph 1 of the DMA Draft Act
  - In case of urgency due to the risk of serious and irreparable damage for business users or end users of gatekeepers, the Commission may, by decision adopt in accordance with the advisory procedure referred to in Article 32, order interim measures against a gatekeeper on the basis of a prima facie finding of an infringement of Articles 5 or 6.

- CMA Interim Report (7.91)
  - We will consider further in the second half of the study whether any intervention might be justified that would: i) require Apple to provide equivalent attribution capabilities to third parties as it offers to users of its own advertising services, in order to level the playing field between Apple's

and third parties' advertising services.

(Related to Option B)

○ DMA Draft Act Article 6a Paragraph 3

- A gatekeeper shall not degrade the conditions or quality of any of the core platform services provided to business users or end users who avail themselves of the rights or choices laid down in Articles 5 and 6, or make the exercise of those rights or choices unduly difficult including by offering choices to the end-user in a non-neutral manner, or by subverting user's autonomy, decision-making, or choice.

3) Main Points on Which Opinions are Sought

**[Main Points on Which Opinions are Sought Regarding this Item]**

1 Further Information on the Facts and the Points of Concern.

- Is there further information regarding the facts of this matter or the points of concern (additional or supplementary specific examples)?

2 Effectiveness of New Regulations

- How effective would Options A and B be in solving problems? What merits would these approaches have?
- Are there other measures that could be expected to work effectively to solve these problems other than Options A and B?

3 Costs and Risks Stemming from the Implementation of New Regulations

- What costs and risks would arise in terms of security, privacy etc. stemming from the implementation of Option A?
- What possible measures could be taken to lessen these problems?

**4. Changes to Tracking Rules in Browsers (Apple)**

(1) Evaluation of the Facts and the Challenges Based Thereon

1) Facts

○ Intelligent Tracking Prevention (ITP) was introduced as a Safari feature in 2017. The feature uses machine learning to identify sites where advertisers use cookies to track users, immediately isolate and delete tracking cookies that third-party advertisers attempt to save on user devices without approval from the user (including Apple websites), while maintaining the functionality of said websites. Apple implemented ITP in WebKit in stages from 2017 to 2020. ITP currently blocks third-party cookies by default, except in set cases such as where users have actively consented to tracking.

○ Using ITP, users can block tracking by specific third parties from Safari (the feature reinforces blocking third-party trackers, that is, cookies saved on websites by advertising intermediaries, on Safari). Supposing Apple were to

request the use of tracking cookies, ITP would also be applied to Apple.

2) Points of Concern

(Unilateral Rule Changes by Browser Operators)

- There are concerns that browser operators could implement unilateral rule changes without allowing sufficient time for other companies to respond, and without providing suitable responses to expressions of concern or inquiries from other companies.

- The following specific examples have been raised related to this point.
  - When Apple announced ITP, its feature for blocking advertising tracking, many developers stated that they would have trouble responding to the change in such a short period. Initially, Apple failed to propose an extension period after receiving this feedback. When, as a result, there were many developers who failed to keep up with the update, it seems that Apple was forced to extend its timeline for the feature.
  - There are concerns that the introduction of ITP will dramatically reduce the precision of display ad targeting using user tracking, causing serious problems for the advertising business model.
  - It seems like discriminatory treatment that Apple itself is not affected by Apple's rule changes.

3) Present Evaluation

- From the perspective of giving consideration to privacy, IPT is a feature that can block certain tracking activities by third parties from Safari. However, while ITP is applied to other advertisers, because Apple itself does not request permission to use tracking cookies, ITP does not apply to it. In other words, while the ability of third parties to personalize ads is restricted, because ITP does not apply to Apple itself, a situation arises in which it is not affected by this rule change and can thus continue to acquire first party related data, which means that overall, the change is to Apple's benefit.
- ○ Furthermore, there are concerns that Apple, in its capacity as the administrator of WebKit, will reduce the precision of display ad targeting by implementing ITP and thus restricting user tracking. This may result in the online advertising business model running into serious trouble, while iOS built-in apps are relatively advantaged, which would be ultimately to the benefit of Apple, which obtains its revenue via the App Store.
- At the same time, it has been pointed out that, in changing such rules, Apple fails to secure enough time for other advertisers to respond to these changes, while also failing to take on feedback about these changes. There are thus concerns that Apple may be changing rules in a unilateral manner while it is not itself affected by said rule changes.

(2) Present Evaluation of Competition

(Business Uncertainty and Risk for Third-Party Developers)

- When browser operators, in providing their services, provide insufficient advance disclosure of information or notice, or do not adequately respond to inquiries, this interferes with the foreseeability and transparency of advertising businesses in upper layers of online services. There are concerns that this may place an undue burden on developers and give rise to uncertainty and risk for businesses.
- Consequently, this may lead to a reduction in scope for competition by interfering with the ability of developers to newly enter markets or engage in active innovation, a reduction in diverse value creation by diverse businesses, reduction in product quality, reduction in the choices available to consumers and foreclosing on future possibilities for innovation.

(Concerns Over Self-Privileging Through the Use of the Position of Rule Setter)

- Apple can be viewed as effectively playing the role of rule setter in the advertising business in online services, which are upper layers built atop browsers. In developing its own advertising business, observers could view Apple as having leveraged its position as rule setter to, on the one hand, make changes that gives consideration to user privacy, but on the other hand, creates an advantageous position for its own advertising business model, which is not itself affected by the ITP rule changes, but instead continues to obtain data about users as a first party.
- There are concerns that if, through such actions, opportunities for other companies to compete were to be significantly harmed, free and fair competition in the advertising field would be impeded.

(Securing an Advantage for Apple's Own Business by Moving from an Advertising Model to a Billing Model)

- ITP causes a reduction in the quality of display ads viewed in browsers. There are concerns that this will lead to a decline in the attractiveness of online services that use browsers.
- This may result in difficulties for the online advertising business model, while relatively advantaging built-in iOS apps, thus benefiting Apple's App Store.

(3) Response Options and Main Points on Which Opinions are Sought

1) Response Options

Given the aforementioned competitive concerns, the following are possible options in terms of responses.

(Option A: Appropriate Review and Other Measures Covering Information Disclosure, Handling of Inquiries and Other Activities Related to Rule Changes)

- In response to concerns over the unilateral setting and changing of rules by browser providers, **one option may be to establish a package of measures as follows, with (a) – (c) stipulating the required measures and (d) confirming the status of the execution of those measures, in order to ensure the foreseeability, transparency and fairness of a set of processes to be followed when rules are changed in browsers, if an OS provider above a certain size is providing said browser.**
- **It may, in particular, also be a worthwhile option to consider establishing a package of measures further involving (e) intervention by the authorities in the event that there are concerns that serious and imminent damages may occur to businesses affected by the setting or changing of said rules.**

**[Package of Measures]**

a. **Implementing prior notifications that secure sufficient time to respond to rule changes.**
b. **Appropriate disclosure of information about rule changes.**
c. **Establishment of procedures and structures to handle inquiries from developers.**
d. **Implementation of reporting to the government, monitoring by the government and review of the status of operations.**
e. **Joint processes (consultations) and suspensions requiring the intervention of regulatory authorities (where there are concerns that serious and imminent damages may occur to businesses affected by the setting or changing of rules).**

2) Rules Established and Under Consideration Overseas
(Related to Option A)

- DMA Draft Act Article 22 Paragraph 1
  - In cases of urgency due to the risk of serious and immediate damage for business users or end users of gatekeepers, the Commission may, by decision adopt in accordance with the advisory procedure referred to in Article 32, order interim measures on a gatekeeper on the basis of a prima facie finding of an infringement of Articles 5 or 6.

- CMA Interim Report (7.90)
  - We are concerned that Apple's privacy initiatives (ITP and ATT) also result in differential treatment of Apple and third parties. In response to these issues, we are considering the merits of a requirement for consistent treatment of own apps and third-party apps for privacy purposes.

3) Main Points on Which Opinions are Sought

**[Main Points on Which Opinions are Sought Regarding this Item]**

1 Further Information on the Facts and the Points of Concern.
- Is there further information regarding the facts of this matter or the points of concern (additional or supplementary specific examples)?

2 Effectiveness of New Regulations
- How effective would Option A be in solving problems? What merits would this approach have?
- Are there other measures that could be expected to work effectively to solve these problems other than Option A?

3 Costs and Risks Stemming from the Implementation of New Regulations
- What costs and risks would arise in terms of security, privacy etc. stemming from the implementation of Option A?
- What possible measures could be taken to lessen these problems?

**5. Changes to Tracking Rules in Browsers (Google)**

(1) Evaluation of the Facts and the Challenges Based Thereon

1) Facts

○ Display advertising is dependent on the ability to "track" users between websites by identifying individual internet users through third-party cookies or other forms of cross-site tracking. In 2019, Google announced a plan through the Privacy Sandbox proposals to remove support for third-party cookies in the Chrome browser and to replace third-party cookies and other forms of cross-site tracking features through a large number of changes. The aim of this proposal was to remove cross-site tracking of Chrome users through third-party cookies and alternative means such as browser fingerprints, and replace some of the features that currently depend on cross-site tracking with tools Google would provide.

○ After receiving complaints that this effort by Google was anti-competitive behavior, the CMA launched an investigation into the Privacy Sandbox proposals (January 2021). Thereafter, the CMA considered the possibility that the design of Google's Privacy Sandbox proposals in Chrome would advantage Google's own business, and received commitments from Google addressing those concerns. Key points of these commitments were the placing of requirements on Google to appropriately separate data, requirements to take certain measures to address the possibility of self-privileging through the design of Privacy Sandbox, a commitment to consult with the CMA (and related industries) in the process of formulating proposals, a commitment perform any necessary changes as early as possible, and a commitment to avoid competitively privileging its own advertising business. The CMA is currently holding consultations around these commitments.

- The framework of the CMA investigation is proceeding on the basis of cooperation between the CMA and Google. In terms of the cooperation with regulatory authorities in advance of a major change to an existing technology like third-party cookies, the relationship can be said to be unprecedented. Google itself has credited this relationship, stating that "we believe that this cooperative structure is a model case that shows to regulatory bodies around the world that Google takes concerns over competition and privacy seriously."
- Google subsequently announced in 2022 that it had abandoned development of "Federated Learning of Cohorts (FLoC)," which had been central to the plan to abolish third-party cookies, and that it would be introducing a new technology called "Topics" for operating ads based on user interests. Additionally, while Privacy Sandbox had started out as a project for the web, Google announced plans to work on the development of a Privacy Sandbox for Android apps.

2) Points of Concern

Concerns have been raised that, while the full content of the project is not yet clear, Privacy Sandbox may restrict the ability of third parties to personalize ads by tracking users, while allowing Google itself, [1] which already has a strong position in the advertising field, to maintain its features for tracking users.

- In other words, it is possible that Google will be in a position where it can continue to acquire and use data more readily than its competitors and continue to acquire data related to users as a first party, even as it sets the rules that operate in browsers. There are concerns that this will result in Google's already advantageous position in the advertising field being reinforced further.

[1] Secretariat of the Headquarters for Digital Market Competition Cabinet Secretariat, Japan, *Evaluation of Competition in the Digital Advertising Market Final Report: Summary*, p. 117 (April, 2021)

3) Present Evaluation

- While what is envisaged are large-scale rule changes with significant effects, beginning with the intervention by the CMA, there is a history of cooperative efforts proceeding, and being presently under consideration.
- While the effects on advertisers and other stakeholders are significant, there are concerns as to whether the prevention of information sharing by Google with its own advertising business can be done effectively. Given this context, there is a need to continue to monitor whether fairness is being maintained in Google's relations with other advertisers.

(2) Present Evaluation of Competition

(Business Uncertainty and Risk for Third-Party Developers)

- There are concerns that, while there have been large-scale rule changes in browsers that cause significant effects, it is difficult to predict and take necessary measures to deal with all of the effects of such changes, including the fairness of the changes towards advertisers. Supposing that the content of these changes was made fair, there are further concerns that, in the lead up to the implementation of said changes, disclosure of information and advance notice may be inadequate, leading to many advertisers suffering undue burdens in development, failing to secure adequate preparation time and struggling to maintain the quality of their advertising services as they attempt to respond to said browser rule changes.
- If, in this way, the setting and changing of rules in browsers were to interfere with the foreseeability and transparency of the advertising field as an online service in the layers built atop browsers, then this may lead to a reduction in scope for competition by interfering with the ability of developers to newly enter markets or engage in active innovation, a reduction in diverse value creation by diverse businesses, reduction in product quality, reduction in the choices available to consumers and foreclosing on future possibilities for innovation.

(Concerns Over Self-Privileging Through the Use of the Position of Rule Setter)

Google may be said to occupy a position where it, in effect, sets and changes the rules in the field of advertising services operated through Chrome.

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https://www.kantei.go.jp/jp/singi/digitalmarket/kyosokaigi/dai5/siryou3s.pdf

○ Even as Google is already developing its advertising business from an advantageous position in the advertising services field, there are concerns that if, by using its position as rule setter, Google is able to maintain its own user tracking related features and acquire data related to users as a first party, it could end up creating an advantageous situation for its own advertising business model. In such an event, there are concerns that this would reduce the scope for competition in the advertising field, cause a reduction in diverse value creation by diverse businesses, reduce quality, reduce the options open to consumers and foreclose on future possibilities for innovation.

(3) Response Options and Main Points on Which Opinions are Sought

1) Response Options

Given the aforementioned competitive concerns, the following are possible options in terms of responses.

(Option A: Appropriate Review and Other Measures Covering Information Disclosure, Handling of Inquiries and Other Activities Related to Rule Changes)

○ In response to concerns over the unilateral setting and changing of rules by browser providers, **one option may be to establish a package of measures as follows, with (a) – (c) stipulating the required measures and (d) confirming the status of the execution of those measures, in order to ensure the foreseeability, transparency and fairness of a set of processes to be followed when rules are changed in browsers, if an OS provider above a certain size is providing said browser.**

○ **It may, in particular, also be a worthwhile option to consider establishing a package of measures further involving (e) intervention by the authorities in the event that there are concerns that serious and imminent damages may occur to businesses affected by the setting or changing of said rules.**

**[Package of Measures]**

a. **Implementing prior notifications that secure sufficient time to respond to rule changes.**
b. **Appropriate disclosure of information about rule changes.**
c. **Establishment of procedures and structure to handle inquiries from developers.**
d. **Implementation of reporting to the government, monitoring by the government and review of the status of operations.**
e. **Joint processes (consultations) and suspensions requiring the intervention of regulatory authorities (where there are concerns that serious and imminent damages may occur to businesses affected by the setting or changing of rules).**

2) Rules Established and Under Consideration Overseas
(Related to Option A)

- DMA Draft Act Article 22 Paragraph 1
  - In cases of urgency due to the risk of serious and immediate damage for business users or end users of gatekeepers, the Commission may, by decision adopt in accordance with the advisory procedure referred to in Article 32, order interim measures on a gatekeeper on the basis of a prima facie finding of an infringement of Articles 5 or 6.

(Necessary Cooperative Processes Through Intervention by the Regulatory Authorities (Consultation))

- CMA Interim Report (7.76)
  - The CMA has separately considered the potential for Google's design of its Privacy Sandbox Proposals within Chrome to favor Google's own businesses, and has secured modified commitments from Google to resolve those concerns. These proposed commitments require Google to implement certain measures, designed to ensure appropriate data separation and to address the potential for self-preferencing through the design of the Privacy Sandbox Proposals. The CMA is now consulting on these modifications.

(Other)

- In terms of the focus of considerations about the direction of the government's response, the CMA Interim Report states the following regarding the differences between Apple's ITP and Google's Privacy Sandbox proposals. (5.217 – 5.218)
  - There are many parallels between ITP and Google's Privacy Sandbox Proposals. However, in contrast to Google's Privacy Sandbox Proposals that are marketed as a set of open standards that make the web more private and secure for users while also supporting publishers, Apple has positioned ITP as a strict privacy feature, suggesting that the 'unintended' impacts of which (including on advertisers) would need to be tolerated.
  - Another important difference between Apple's ITP and Google's Privacy Sandbox Proposals is the extent to which they directly impact Apple's and Google's respective other activities. In particular, Google can directly benefit by allowing embeds to request access to first-party cookies via the Storage Access API when the user interacts with them in order to provide access to third-party content (via federated logins) despite full blocking of third-party cookies.

3) Main Points on Which Opinions are Sought

**[Main Points on Which Opinions are Sought Regarding this Item]**

1 Further Information on the Facts and the Points of Concern.
- Is there further information regarding the facts of this matter or the points of concern (additional or supplementary specific examples)?

2 Effectiveness of New Regulations
- How effective would Option A be in solving problems? What merits would this approach have?
- Are there other measures that could be expected to work effectively to solve these problems other than Option A?

3 Costs and Risks Stemming from the Implementation of New Regulations
- What costs and risks would arise in terms of security, privacy etc. stemming from the implementation of Option A?
- What possible measures could be taken to lessen these problems?

**6. Closed Middleware (Google)**

(1) Evaluation of the Facts and the Challenges Based Thereon

1) Facts

○ The Android Open Source Project (AOSP) is a full-featured, open-source mobile device OS and is a necessary piece of software for developing and customizing smartphones that OEMs and developers can download for free. It includes all the APIs necessary to enable the manufacture of full-featured mobile devices and interoperability apps made by developers and hardware.

○ Google Play Services (GPS), meanwhile, is a proprietary API. While its existence and major features are made public, it is not itself open source. GPS supports integration between Google and third-party apps, keeps apps in an up-to-date state, makes devices running Android operate smoothly and provides important safety and security fixes, as well as new features, in a timely manner.

2) Points of Concern

(Enclosure of Apps Through Closed Middleware)

○ There are concerns that apps in the ecosystem based on Google's Android are being enclosed by the company as a result of the fact that a frequently used middleware with significant effects (GPS) is closed software, meaning that some operations do not function properly in AOSP based OSes other than Android.

○ The following specific examples have been raised related to this point.

- While Android itself is open-source, closed middleware that cannot be used on AOSP is expanding. For example, core functions such as authentication to Google Services, syncing contact information, accessing user's latest privacy settings and current location services are provided through Google Play Services. GPS also accelerates online search, provides real map information, improves game performance and provides other improvements to the app experience. But because GPS is not open source, you frequently get apps (IFTTT, Twitter, PayPay, etc.) that partially do not work correctly in non-Android AOSP-based OSes (Amazon Fire OS, etc.). This affects a broad swathe of apps such as location data API, beyond clear Google-associated services such as Google Login (the use of non-GPS-dependent APIs is treated as a non-recommended activity). The effect of closed middlewares with such large effects is to effectively enclose apps.
- You cannot move apps listed in Google Play to other stores. There is a lock-in effect that prevents the transfer of apps. You could say that lower-level features are being moved into this middleware. Just because the OS is open source, does not mean that you can just host your app in every app store. Rather, this would effectively require you to largely rewrite the inner workings of each app. At that point, because the provided middleware is proprietary, a lock-in effectively occurs.
- We are moving from a position where everything was open source to one where developer services are doing a lot of OS-like work. This makes them unavoidable binary modules, which from time to time and in certain events Google updates. The fact that logging in with Gmail lets you log in to many other services in effect means that those services are part of a tie-in package, which is unfair. Since these become modules of core apps which you cannot avoid using, the system stops really being open source.
- It is common to not make this middleware open source that it hides its source code as much as possible in order to reduce vulnerabilities that can be exploited on the application side, but if there are vulnerabilities they should be fixed, and the OS itself is open source, so apparently Google is fine with those vulnerabilities being exploited. Thus, it does not make sense why opening up the source code is unacceptable just for the middleware.
- Google also gives as a reason that it cannot make the middleware open source that it holds intellectual property such as some hardware drivers that it cannot open up, but that does not explain why it does not make other parts of the code open source, and is not a reason to hide the whole system. From the perspective of competition, making frequently used APIs closed makes it hard to implement the same features on third-party OSes, effectively leading to the enclosure of

apps by Google.

- One potential solution could be to at least create a system to permit third-party OS developers to see the code, if it remains unacceptable to allow that on the application service provider side. However, I would prefer Google to open source the code altogether. From the application service provider perspective, since you cannot know why your program behaves in a certain way when you encounter a bug, at present, even for people who want to learn to use the system well in good faith, they wind up in a lot of difficult to deal with situations.

3) Present Evaluation

○ While AOSP is open source, Google Play Services remains proprietary due to a need to handle security-based concerns.

○ Meanwhile, there is a concern that many apps will arise where some features do not work correctly on AOSP-based OSes other than Android. There is also a concern that the desire to develop apps that support AOSP-based OSes other than Android will be dampened among app developers.

○ On this point, Google has explained that “OEMs and developers do not require access to Google Play Services in order to create full-featured devices and apps.” However, we were unable to obtain a rational explanation justifying the discrepancy in treatment between the OS itself, which has been made open source, and GPS, which remains closed.

○ Likewise, it is the case that third-party app developers can distribute their apps on other mobile OSes. However, on the question of whether it is possible to develop apps that provide the same services as they would on Android, Google has responded that “while it is the case that GPS has been specially designed to be a Google-exclusive service, this does not interfere with other services. Third-party service providers offering competing services (e.g., online maps) who wish to allow app developers to incorporate their services into their apps can achieve this by distributing their own APIs and allowing developers to coordinate with those services.”

○ However, this does not amount to a logical explanation that fully addresses the concerns raised in the preceding point regarding the fact that this would require significant rewrites to the codes of affected apps and that there are presently many apps emerging that partially do not operate correctly on AOSP-based OSes other than Android.

(2) Present Evaluation of Competition

(Enclosure of Apps Through Closed Middleware)

○ While Android is an open-source mobile OS, the features provided by Google Play Services, a closed middleware, form a barrier, which leads to concerns that app developers will dedicate their efforts to developing for Android while

not supporting these same features on other OSes.

○ As a result, many apps emerge that partially do not function correctly on AOSP-based OSes other than Android, leading to those apps being locked into (enclosed by) Google's Android-based ecosystem. This interferes with free and fair competition among OSes, as Android has the advantage of enabling the use of many apps, while non-Android AOSP-based OSes are put at a disadvantage.

(3) Response Options and Main Points on Which Opinions are Sought

1) Response Options

Given the aforementioned competitive concerns, the following are possible options in terms of responses.

(Option A: Requiring the Provision of Open-Source Access to App Development Environments)

○ The competitive concerns described above stem from the fact that Google Play Services is closed middleware.

○ In response to this, **one option may be to introduce regulations mandating that businesses above a certain size that supply OSes provide access to their development environments to businesses that supply their own OSes using the aforementioned OS, if said OS has been provided on an open-source basis, and if the provider of the open-source OS also supplies said app development environment.**

2) Rules Established and Under Consideration Overseas

(Related to Option A)

○ CMA Interim Report (7.41)

- A potential intervention could involve ensuring that core features or functionalities, such as basic "push notifications," are available within the open-source version of Android for use by apps developed for Android systems, or, in other words, ensuring that apps developed for Android Systems can easily be used in other OSes.

3) Main Points on Which Opinions are Sought

**[Main Points on Which Opinions are Sought Regarding this Item]**

1 Further Information on the Facts and the Points of Concern.
- Is there further information regarding the facts of this matter or the points of concern (additional or supplementary specific examples)?

2 Effectiveness of New Regulations
- How effective would Option A be in solving problems? What merits would this approach have?
- Are there other measures that could be expected to work effectively to solve these problems other than Option A?

3 Costs and Risks Stemming from the Implementation of New Regulations
- What costs and risks would arise in terms of security, privacy etc. stemming from the implementation of Option A?
- What possible measures could be taken to lessen these problems?
- If there are cases where exceptions to regulations should be recognized, what specific justifications can you think of for recognizing those?

**No. 1-2. App Stores**

**7. App Store Restrictions (Apple)**

(1) Evaluation of the Facts and the Challenges Based Thereon

1) Facts

(Prohibition on Sideloading)

○ iPhone apps can only be distributed via the App Store, which is operated by Apple. Apple has not permitted in any form the downloading of apps from app stores other than the App Store, or the downloading of apps directly from websites (hereafter the term “sideloading” shall be used to refer to the act of downloading apps from app stores other than that supplied by the OS operator or from websites).

○ Apples has stated the following about its reasons for not permitting sideloading.
- The decision to prevent sideloading is line with the goal of making the iPhone a closed ecosystem that is secure, has a degree of trust and is easy to use, thus avoiding repeating the mistakes of PCs, which continue to face security issues to do with malware and viruses.
- Based on the above, Apple works to make the iPhone a secure device by providing third-party developers with app design guidelines and conducting strict screening of their apps on the basis of said guidelines.

- Unlike a PC, an iPhone always by a person's side and stores a wealth of personal data. This makes it an easy target for bad actors, meaning that security measures are particularly important for the iPhone.
- Apple stipulates that end users agree in the End User Software License Agreement that "the user agrees that Apple does not have any responsibility if you make unauthorized modifications to iOS (such as by way of a 'jailbreak')." Apple's website further warns that "Apple strongly cautions against installing any software that hacks iOS. It is also important to note that unauthorized modification of iOS is a violation of the iOS end-user software license agreement and because of this, Apple may deny service for an iPhone, iPad, or iPod touch that has installed any unauthorized software."

(Ensuring Security)

○ Apple provides the following general explanation regarding the presence of security and privacy protection features in the iPhone.
- Apple employs a multi-layered approach to security.
- Apple builds security features into the iPhone device in order to create a secure iOS environment.
- The iPhone's security features run on unique security hardware.
- The software protection features keep the operating system and third-party apps safe, provide a structure for software updates to be conducted securely and in a timely manner, execute secure telecommunications and payments, and provide a secure internet experience.
- App screening provides another critical layer for ensuring security by performing comprehensive checks on all apps and app updates before they are downloaded.
- This multilayered approach working effectively has led to iOS becoming the most secure consumer-oriented computing platform in the world.
- For example, according to the *2020 Nokia Threat Intelligence Report*, while the iPhone accounted for just 1% of all cases of malware infecting a platform, Android made up over a quarter of all infections.

(App Screening)

○ In addition to the technical protection features built into iOS, another critical layer for ensuring further security is the app screening that Apple performs. This screening involves Apple performing comprehensive checks on each app that is submitted.

○ Apple has offered the following explanation regarding this app screening process and its effects.
- This screening process involves a combination of automated and manual

screening.

- Apple employs a large fraud prevention team, manually evaluating search results, reviews, chats, etc. and patrolling to ensure that their platform contains no false reviews or spam.
- This screening process is an extremely important tool in ensuring that the iPhone provides exceptional security. This is reflected in the following facts. Every week Apple initially rejects around 40% of the apps submitted to screening. The majority of apps are the fixed before they are allowed to be registered on the App Store. However, Apple closes multiple developer accounts on the grounds that they illegitimately distribute illegal content. Furthermore, tens of thousands of apps that are submitted are rejected for violating privacy guidelines, with many of those illegitimately using personal information or unnecessarily requesting personal information.

2) Points of Concern

(Requirement to Use the App Store in Distributing iPhone Apps)

○ Use of the App Store is required to distribute apps on the iPhone. As a result, there are concerns that Apple may exercise significant influence over app developers.

○ In practice, the following specific issues have been raised.

- Whether an app can be hosted on an app store or not is in effect a deciding factor in whether a business can participate in the market. There is a risk that Apple and Google, in deciding to “remove unwanted software or businesses from their app stores,” can make it impossible to provide a service through corporate regulation, even in the absence of any regulation by the government.
- The app store operator sets the rules, and the platform also holds the power to decide whether to accept or reject an app, so app businesses have to take a conservative approach to them. As there is a fear that if you fail to follow the rules your app itself will be rejected, you become more conservative. As a result, you see a big difference emerge, even in machine learning. In that sense, you see another disadvantage emerge compared to the platform operator’s own apps.
- The explanations of the reasons for an app being rejected are inadequate and it is difficult to tell what point exactly caused the problem. If you try to check the details with Apple, the response will be extremely slow coming, and if you do finally get one, the content of the response will end up being unclear and inadequate.
- When you compare the feedback you get to other third-party developer app screenings and to your own past app screening results, there is no consistency in the conclusions.

- As Apple has a monopoly on the app store distribution market for iPhones, competition does not function regarding the fees levied when using the App Store to sell apps and digital content (for further details, see “9. Mandating the Use of Payment and Billing Systems”), leading to the possibility that these fees depart from competitive standards. There are also concerns that the rate of these fees, which developers are forced to accept, are a burden on developers.
- In practice, the following specific issues have been raised.
  - It seems likely that largely maintaining the profits from the income of the 30% fee by continuing to maintain the 30% fee rate at least for high-earning companies is a monopolistic or duopolistic maintenance of price settings, given that since iOS came out, platforms such as Epic and Steam have set fees at 12% and 5% respectively. Listening to the views of game developers, Apple takes 30% of their profits to begin with. On top of that, if a game uses intellectual property from a *manga* or other source, the *manga* creator or publisher will take a further 30%, so even if you invest in development costs, only around 40% of the revenue will come back to your company, which makes for a difficult development environment. There are thus many voices calling for something to be done about the 30% rate.
  - While it is understood that the reason for claiming the fee is to improve user experience, there is the problem that the fee is too high even for those purposes. Of course, it is convenient for users to be able to pay in their local currency by using the platform operator’s billing system. However, given the large scale on which the App Store and Google Play operate on, you would expect that the economies of scale they operate on to lead to some lessening of the fees. Thinking in those terms makes the present state of affairs difficult to swallow. I think that Apple’s practices have not changed since the App Store was launched. Given the scale to which it has expanded since then, shouldn’t the rates have lessened due to economies of scale?
  - In legal proceedings, an accounting expert acting as an expert witness said of Apple’s profit margin that, having looked at Apple’s accounting documents, those documents seemed to indicate an extremely high profit margin of some 70-80%. Such prices are in and of themselves proof of the market power that Apple holds. This seems to indicate that Apple is able to secure profits of that level regardless of the content their service.
  - From a business perspective, in-app billing presents a variety of problems. When you use the In-App Purchase (IAP) system provided by Apple, you cannot communicate directly with your customers.

Further, because an app like Apple Music is a music streaming service provided in-house, it can be distributed via the App Store without paying the 30% fee that an app like Spotify has to pay. By contrast, in the case of music streaming, the majority of the revenue is paid in royalties (fees for using songs). When you add Apple's fee on top of this, it becomes difficult to raise profits. In that sense, fair competition cannot take place. The fact that app store fees do not apply to in-house apps is self-privileging, and this needs to be remedied.

(Issues with Accepting Sideloading (Apple's Explanation))

○ Apple, meanwhile, maintains that, were Apple to stop limiting the distribution of apps to the App Store and allow sideloading of apps for the iPhone, the following risks and costs would arise.

- The advantage in terms of privacy protection and security that the Apple ecosystem enjoys would immediately be lost and the risk of malware attacks would increase.
- More advanced protection from attacks would be interfered with and fraudsters would target both third-party app stores and the App Store, resulting in all users, including those who download apps from the App Store, being exposed to greater risks. For example, there is a possibility of significant harm to the features of existing apps as a result of excessive battery use by malware and invasive data harvesting.
- Even more serious is that an infected iOS device could be used as a foothold for malware to access other devices and systems that said device connects to.
- Malware could access personal data on users' devices to create a structure for conducting attacks against the friends and relatives of the user.
- As apps would be able to access device and user data without permission from the user, there would be a possibility that those apps could harvest or share said data, rendering the iPhone's built-in privacy protections such as ATT ineffective.
- As some have indicated, substituting authentication and verification arrangements would be by no means sufficient to ensure protection. This is clear from the broad track record in malware prevention of Android devices, which depend on inadequate protections.

○ Apple has stated that, in order to allow sideloading via third-party app stores on the iPhone, the following design or redesign measures would be required.

- Revisions to the design of the basic security protection features built into the iPhone and iOS.
- A redesign of a complex system that has become the industry standard in

user security.

- In response to this point, when asked what specific “revisions” and “redesigns” would be required and what period of time would be required to do this, Apple responded that “since Apple has never evaluated the possibility of a redesign of its products from that perspective, it is not in a position to answer that question beyond stating that it would require considerable engineering work, considerable time and very high costs… Introducing sideloading to the iPhone would require turning it into a completely different product, so it should not be a step that is considered lightly.”
- Furthermore, given that (i) the choice between iOS and Android OS already is available to users and that (ii) according to surveys by Apple, a major reason for customers purchasing the iPhone is the security and reliability of the device, Apple stated the following.
  - Were the door to opened to having another app store on the iPhone as an option offered to customers, it would become impossible to maintain Apple’s approach.
  - As a result, the choice between Apple’s approach of focusing on security and privacy and the third-party approach would disappear, meaning that consumers would be deprived of the choice of ecosystems with different security levels.

(Degree to Which the Prohibition on Sideloading Contributes to Ensuring the Security of Devices)

- According to Apple’s explanation, the company takes a multilayered approach to iOS device security. This leaves the problem, however, of how much the restriction on recognizing app stores itself contributes to said approach.
- Among developers, there are those who maintain that iOS device security is achieved through the many security measures built into the hardware (data encryption, firewalls, anti-virus software, etc.) and sandbox model that restricts apps from accessing mobile device resources, with additional security features during the App Store screening largely absent.
  - It is thought that security and privacy are device issues, with app reviews consisting of checks related to whether or not there is fraudulent content. While it is probably correct to implement this kind of review, according to testimony submitted by the Apple side in court, the amount of time dedicated to each app review is only about 15 minutes, meaning even fraudulent content can sail through, leading to questions as to whether adequate review can actually be conducted in that time. Given that this is the state of affairs in terms of checking the content for fraud, it is doubtful that Apple is actually able to properly check security

problems.

- Restricting distribution only to the App Store eliminates competition. Other companies also offer their own stores and compete with other companies in various ways while paying attention to security.
- Apple often raises privacy and security as reasons for its decisions. Doing so, however, seems to be a convenient excuse, as it is impossible to deny the importance of protecting privacy and security, and without having technical expertise and detailed knowledge of Apple devices, it is hard to say what points specifically would raise problems, leaving little room for further discussion.
- In US legal proceedings, there has been indication that Apple has not sufficiently invested in review in the App Store and so this program is malfunctioning, resulting in many fraudulent apps getting through. For Apple, would it not thus be the case that, due to a lack of competition, there is little incentive to make the ecosystem safer?

○ Even as questions have been raised over the degree to which app store restrictions contribute to resolving security and privacy issues, we observe that app store restrictions have given rise to a variety of competitive and other concerns. These restrictions may, therefore, incur greater harm (in terms of costs and risks) than benefit when taking the broad view.

(Differences with Mac Devices, Where Sideloading is Permitted)

○ Despite both being Apple computing devices, sideloading is prohibited on the iPhone, while it can be freely performed on Macs.

○ Questions have been raised whether there is a justifiable reason for the complete difference between the two devices in terms of permitting the ability to perform sideloading, given that the need to ensure security is present on both Mac computers and iPhones.

○ In response, Apple offers the following explanation regarding the differences in how it handles security on Mac computers and iPhones.

- The iPhone contains vastly more personal and confidential data (photos, contact information, location data, credit card data, healthcare data, etc.) than is stored on Macs and other computers.
- As a phone has to be used for emergency contacts and in emergency situations, it has a relatively low user tolerance for performance problems such as restarts compared to a computer.
- The iPhone has a large-scale user base, making it an attractive, high-revenue target for cyber-criminals and fraudsters.
- Apple has to protect all users from such attacks.
- Apple has designed the iPhone from the beginning to have vastly superior security compared to Mac devices.

3) Present Evaluation

- It seems to be undeniable that allowing third-party-developer-made apps to be installed only via the App Store, where they are subject to strict screening, has made a certain degree of contribution to the good security of the iPhone, in addition to the security features mounted in the iPhone device itself.
- However, the iPhone handles security in a multi-layered manner including hardware-based responses. Despite this, Apple has made no mention of having considered how it might maintain its security standards in the iOS mobile ecosystem if it permits sideloading. It is also hard to deny that there may be methods available to adequately screen apps on distribution platforms other than the App Store and that competition among app stores could lead to the provision of better services in terms of security. Thus, we cannot accept without question the assertion that Apple's standards of security cannot be maintained without limiting the means of distribution of apps.
- Even supposing that approving app distribution via the App Store only is a necessary measure for ensuring security, it is possible that as improvements in security through app distribution technology and devices themselves continue it will become possible to ensure security without limiting distribution to the App Store alone. Thus, it is difficult to go so far as saying that there is a rational reason for limiting the distribution of apps to the App Store indefinitely.
- To the contrary, considering that full prohibition on alternatives has caused various other concerns to arise, there may be doubts around the practice of prohibiting other distribution methods.

(2) Present Evaluation of Competition

- We are not of an opinion where we deny the fact itself that Apple has made the iPhone a more secure device through its multilayered approach to security enabled by built-in basic security protection features of iOS and strict app screening.
- However, due to the fact that, at present, Apple holds a monopoly on the iOS app distribution market, because distribution of iOS apps is limited to the App Store, developers seeking to make iOS apps and users seeking to use such apps alike have no choice but to use the App Store for the distribution of said apps. Thus, no competition exists between app stores seeking to capture customers, that is to say, users, and third-party developers, who are also customers.
- Thus, the various concerns around competition stated below arise due to a lack of competitive pressure in the iOS app distribution field.

(Effects of the Burden of Fees Resulting from the Lack of Competitive Pressure in App Distribution)

- Third-party developers have no choice but to accept the fees set by Apple for use of the billing system in the App Store. There are thus concerns that without the effects of competitive pressure through choice by third-party developers, in their capacity as customers, competition around the setting of fees is not able to sufficiently function.
- As a result, there are concerns that the current standard of fees is higher than what it would be if competition functioned effectively (hereafter referred to as the "competitive price").
- On this point, investigations overseas have raised the following points.

**[CMA Interim Report]**

- The App Store's gross profit margins are estimated at 75% to 100%.[2]
- Due to the lack of sufficient competition taking place in the Apple mobile ecosystem, Apple is able to achieve large profits just from the remainder of the fees even after recouping the costs necessary to run the App Store.
- Based on these facts, we presume that it is possible that the App Store fees are at a higher level than the competitive price would be.
- The burden of these fees is being passed on to consumers. [3]

**[Epic vs. Apple (Currently Before a Federal Appeals Court)]**

- Ned Barnes, expert accounting witness for Epic Inc., testified that internal documents indicate that Apple's App Store business profit rate reaches 70% to 80%.[4]
- Apple has stated the following as regards this matter.
  - Ned Barnes is a consultant who is paid by Epic.
  - Barnes' testimony incorrectly explains Apple's internal documents and the statement that the "profit rate" is 70% to 80% is not accurate.
  - Apple, as dictated by US GAAP, records its profit rate on a company-wide basis and does not calculate profit rates for individual services including the App Store.
  - In its Form 10-K report to the US Securities and Exchange Commission, Apple periodically reports its whole-of-company operational costs without systematically distributing operational costs per business line.
  - As Apple's R&D investments (and other operation costs) create profits in multiple business lines simultaneously, there is no way to systematically distribute those operational costs to individual business lines accurately.

- However, even granting Apple's preceding rebuttal, it is not sufficient to disprove the assertions regarding the high rate of profit of the App Store.

[2] CMA Interim Report (paragraph 4.233)
[3] CMA Interim Report (paragraph 11)
[4] Epic Inc. v. Apple Inc (Case 4:20-cv-05640-YGR), Document 556-1 (Written Direct Testimony of Ned S. Barnes, CPA)

It is possible that the effect of the difference emerging from setting the fees for the App Store above the standard they would be at based on a competitive price reduces the profits of third-party developers, leaving them with less economic capacity to invest in app development. As a result, the possibility of new value being provided through innovation may be interfered with and competition through innovation may be weakened.

- It is possible that due to decreased profits, third-party developers are passing the cost of fees on to the price the consumer pays, or reducing the standard of service or quality through cost cutting, in order to secure profits.

(Effects of the Current Imposition of Fees on Competition Between Apple and its Competitors)

- The present rate of fees, in particular for third-party developers supplying relatively frequently used apps of over a million dollars, may be a heavy burden.
- Apple provides a variety of services such as Apple Music and Apple TV. There are cases where they compete with third-party developers that provide similar services.
- Apple itself does not bear the burden of paying fees on its revenues from distributing its own apps or in-app content. As previously stated, as there are concerns that the developers of some popular apps bear the cost of fee rates that are above the standard of a competitive price, it is possible that said third-party developers supplying popular apps may thus be at a competitive disadvantage.
- Apple has stated the following regarding the fact that it does not itself pay fees.
  - There is no point in applying Apple's standard fee to Apple Music. This is an inevitable conclusion based on the fact that such an "internal transaction" would belong to a single economic entity. A vertically integrated business simply does not pay the same prices as external users for inputs. This is a natural consequence of belonging to a single economic entity and is an example of how vertically integrated firms are able to eliminate double marginalization. Not only does it not make sense for Apple to impose fees internally for the use of its platform, in financial terms, the final result would not change.
  - One of the features of vertically integrated firms is that they promote competition. The reason for this is that the economic efficiencies that these firms possess put downward pressure on prices, thus acting to the benefit of consumers. It is the same as the principle that more efficient firms entering the market act to the benefit of consumers. Such benefits were achieved when Apple Music entered the music streaming business, creating a situation that forced competitors such as Spotify and Google to provide a better

service to consumers.

- Based on the above, Apple bears the costs and risks associated with the construction, maintenance, expansion and general operation of the App Store. Thus, it is also possible that one should take into consideration that Apple takes on the burden of various costs that arise from operating the App Store, and not just that Apple does not bear the cost of fees for using the App Store, in evaluating whether Apple is competitively advantaged.
- However, even taking into account the fact that Apple bears a variety of costs, this does not amount to a sufficient rebuttal of the aforementioned claims related to the high level of its profit rate. Given this, supposing that, as a result of the fees Apple imposes, it places an undue burden on third-party developers, there would be concerns that Apple could cause difficulties for third-party developers equally as, or even more efficient than, Apple, thus denying consumers diversity of choice through the possibility of achieving competition in efficiency, and foreclosing on the possibility of future innovations.

- It is also possible to take the view that, given that Apple has a monopoly over app stores in iOS and that competition therefore does not function in that field, Apple should separate its accounting for that function in order to facilitate an equal footing in the competitive arena.

(Fairness and Transparency in Operating App Stores)

- As apps can only be distributed via the App Store, developers wishing to distribute apps to iPhone users have no choice but to submit to app screening in the App Store. As a result, improvement in the App Store is not spurred by choice from the third-party developer side. The result of this, as is seen in the aforementioned points of concern, is that there is a possibility that operational issues related to the App Store have arisen, in particular, problems related to transparency and fairness in app screening.
- This problem may also be connected to increasing temporal and economic costs for third-party developers dealing with the process of getting the apps they have submitted accepted. There are concerns that this state of affairs will lead to third-party developers who are seeking to avoid such costs either refusing to perform app development or not taking on the challenge of developing unprecedented types of new apps. This may interfere with competition through the provision of diverse value in the form of diverse apps and with consumers' opportunity to make choices.

(Effects on Competition in Terms of Services Including Security)

- Apple has stated that the following are points of differentiation for its

products in competing on the basis of the quality of its services, including security.

- "(iOS and Android) adopt broadly differing approaches, resulting in broadly differing success rates in defending against malware and harmful attacks. It is clear that the iPhone's security and reliability are competitive points of differentiation for it, forming a reason for consumers to choose an iPhone over an Android device. Internal surveys by Apple have indicated that a key point for why customers purchase iPhones is the security and reliability of the devices."

○ As this explanation succinctly expresses, the type of secure environment achieved by the operation of an app store is a key means of competition among mobile ecosystems. Consequently, if Apple were to permit app stores other than the App Store, users would be able to choose from among multiple app stores, while taking into account security. It is possible that app store operating businesses including Apple would thus compete in terms of the security of its app stores, with the result being that service quality in terms of security would improve.

○ However, because Apple does not currently permit sideloading, competition does not function in app distribution. There are thus concerns that such service improvements, including for security, are being interfered with.

○ Apple maintains that permitting sideloading will make security on the iPhone and iOS more brittle.

○ However, even supposing this was a factor, since one cannot deny the possibility that future advances and breakthroughs in technology may deal with the security risks that arise from sideloading, it may be the case that it is not justified to prohibit distribution methods other than the App Store indefinitely on the grounds of security risks. As a result, it may not be valid to claim that Apple's present handling of these risks is valid on the grounds that it continues to interfere with improvement of the quality of future services through competition among app stores.

○ In this way, it may be possible to improve service quality in terms of security by creating competition among app stores, which could be done, for example, by making Apple permit the provision of app stores from companies other than Apple on the basis of Apple implementing app screening to the same standards as on the App Store for the app stores operated by companies other than Apple, instead of simply removing choices other than the App Store for app distribution.

(Effects on Competition in App Store Distribution)

○ There are concerns that by mandating of the use of the App Store, were the App Store to gain the advantage in competition, the result would be that (1) there would be a dramatic decline or disappearance of scope for competition around app distribution (competition between app stores and competition between downloads from app stores and downloads directly from websites), and (2) direct downloads of apps using the browser would be disadvantaged on the iPhone, resulting in a competitive disadvantage for online services not dependent on OS environments, thus resulting in a decline or disappearance of competition between OSes.

○ There are concerns that were such a dramatic decline in or disappearance of the scope for competition to occur, there would be a reduction in the provision of diverse value by diverse businesses, a reduction in quality, a reduction in choices available to consumers and a foreclosing on the possibilities for future innovation.

(3) Response Options and Main Points on Which Opinions are Sought

1) Response Options

Given the aforementioned competitive concerns, the following are possible options in terms of responses.

(Option A: Mandating the Permitting of Sideloading)

○ At present, only the App Store is pre-installed on the iPhone and the App Store is set as the default app store. Furthermore, app distribution methods other than the App Store are not permitted. As a result, all users download iOS apps from the App Store.

○ As a result, if competitive concerns were to be recognized, one option to address these may be to generate competition in iOS app distribution by making it so that iPhone users can use app stores other than the App Store and so that iPhone users can directly download apps from websites.

○ In doing so, **it may be a possible to introduce regulations that mandate that if OS providers above a certain size provide app stores, they must allow users to:**

**① install third-party app stores and set those as defaults,**

**② directly download apps from the browser, and**

**③ hide or uninstall the pre-installed app store.**

○ **It may also be possible to impose the above while also considering some other methods to ensure privacy and security, even if sideloading is permitted. For example, rather than removing the ability to choose other app stores, it may be possible to permit the provision of other app store services on the basis of setting up some framework (e.g., an authentication system operated by a related business, guidelines, etc.) to guarantee that those app stores implement the**

**same standard of app screening as their own company does.**

- The U.S. (Senate) Open App Markets Act, Article 3, Section d.
  - Covered app marketplace operating companies shall be required to provide the following to OS users: (1) allow them to select third-party marketplace as default; (2) enable them to install third-party app marketplace outside of their own app marketplace; and (3) provide them with an easy way to hide or remove app marketplace pre-installed by app marketplace operating companies.

- CMA Interim Report (para.7.55 - 7.60)
  - We address the issues of restraint by app marketplaces as a pro-competitive measure for app distribution (Sector 2).
  - App marketplaces are key gateways for app vendors to distribute their apps to users, and many stakeholders are calling for interventions that allow alternative methods. Introducing competition in the app marketplaces would also give users more options for finding and downloading apps, and would also weaken Apple and Google's dominance in the app marketplaces.
  - We propose an intervention that would require Apple to: (1) allow third-party app marketplaces on iOS; and (2) allow side-loading of apps.
  - With regard to the above interventions, Apple points out that they have a negative impact on security and privacy. However, we consider the possibility of addressing these issues through, for example, a certification system for security verification.
  - Apple also notes the concerns that app developers not going through Apple's app marketplace would free ride on Apple's offerings and prevent Apple from making the necessary investments. However, given that the CMA' s financial analysis shows that Apple has made sufficient profits in its app marketplaces division to accept competition, that app vendors have also contribute to Apple's terminal device prices increase by offering attractive apps, and that Google, which has admitted to side-loading, continues to make the necessary investments in this area, we believe Apple's concerns can not matter.

3) Main items for which we would like your opinion

[The following is a list of items in this section for which we would especially like your opinion]

1. For further information on facts and concerns
   - Could there be further information (e.g., additional specific examples, supplemental information, etc.) regarding the facts and concerns?
2. The negative effects of app marketplaces restraints
   - What are the negative effects of the App Store being the only one app marketplace on the iPhone?
3. The negative effects of sideloading
   - What roles should be each individually evaluated for security assurance at the device and in app marketplace screening?
   - How would you evaluate the claim that the current level of security cannot be guaranteed without Apple's app marketplace?
   - Apple describes the sideloading permission as follows: (i) weaken the security of the iPhone; and (ii) requires a redesign of the basic security protections built into the iPhone and iOS. Do you believe these explanations (i) and (ii) are reasonable?
   - In particular, if a redesign was required as in (ii), what kind of redesign would be required and how long and costly could be it expected to take?
4. Effectiveness of new regulations
   - Can Option A be effective in solving the problem? And what may be the benefits?
   - Which of the options A is most likely to be effective?
   - Are there any other measures, excluding Option A, that would work effectively to solve the problem?
5. Costs and risks associated with implementing new regulations
   - What costs and risks (e.g., security, privacy, etc.) may be associated with the implementation of Option A?
   - What measures could be taken to alleviate the problems?
   - Under Option A, even if sideloading was allowed, what measures could be taken to ensure privacy and security? For example, what kind of structures (e.g., certification systems, guidelines, etc. by related businesses, etc.) could be considered to ensure the level of screening in app marketplaces regarding privacy and security?
   - For side-loading from the browser, what could be some possible structures to ensure privacy and security?
   - If there were cases where exceptions to regulations, etc., should be allowed, what could be the specific justifications for allowing such exceptions?

**8. Restrictions of Sideloading (Google)**

(1) Facts and evaluation of issues based on the facts

1) Facts

- Sideloading is not allowed at all on the iPhone, but is allowed on Android devices.
- There are two ways of sideloading on Android devices: (1) download from an app marketplace other than Google Play; and (2) download from the Internet using a browser such as Chrome [16].

(Steps to be taken by the user during sideloading)

- Android devices have sideloading disabled by default, and users can change the setting to enable it.
- To change the Android device settings to enable sideloading, one of the following ways can be used:
  - Before sideloading an app: allow the user to download the app from the relevant source (e.g., the browser hosting the website from which the app will be downloaded) by going directly to the device settings.
  - When sideloading an app: follow the message displayed during the download process. If the app is downloaded from a source that is not subject to Google' s review and policies, a message will appear informing the user that the source has not been verified and asking if the user wishes to download the content.
- For devices running Android12, if the user wishes to change the settings for sideloading an app from a website, the user can follow the steps below to allow sideloading to the device. The following is the procedure for sideloading an APK (Android Application Package) file from a website.

[16]According to Google, side-loading refers to downloading from the Internet using a browser such as Chrome. In the purposes of this interim report, it shall include the case of downloading from an app marketplace other than Google Play.

- The user downloads APK file from website.
- At the time of downloading, a warning may be displayed that downloading the APK file may be harmful (examples of the display are shown below).
- Once the download is done, the "Open" option will appear or open the application from the "Downloads" folder in the file manager.
- A pop-up security message appears, informing the user that the source of the app (the browser from which the app was downloaded) must be allowed to "install unknown apps" before the APK can be installed (examples of the display are shown below).
- Give the option to click on "Settings," and clicking on it takes the user to the relevant settings screen.
- Switch to "Allow the app from this provider" on the destination setting screen.
- Once the above switchover is complete, the user can click "Install" on the next pop-up to continue installing the app.

○ The above process also applies when installing third-party app marketplace other than Google Play.

○ After installing a third-party app marketplace other than Google Play using the above procedure, the following procedure is generally used to install apps from that app marketplace:
- Open the app marketplace you want to use.
- Search for the app you want to install in the app marketplace.
- From the apps displayed in the search results, select the one you wish to install and perform the installation.

○ Note that the specific process and prompts may vary depending on the Android version and the device manufacturer's Android implementation.

[Examples of Warnings, Notices, etc.]


This type of file can harm your device. Do you want to continue downloading Amazon_App (1).apk anyway?

Cancel Continue downloading


Install unknown apps

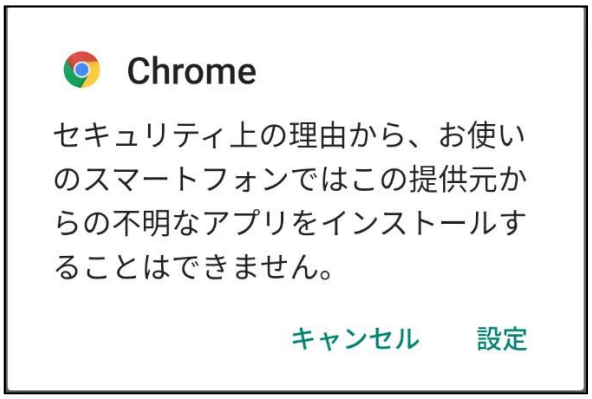
Chrome

Allow from this source

Your phone and personal data are more vulnerable to attack by

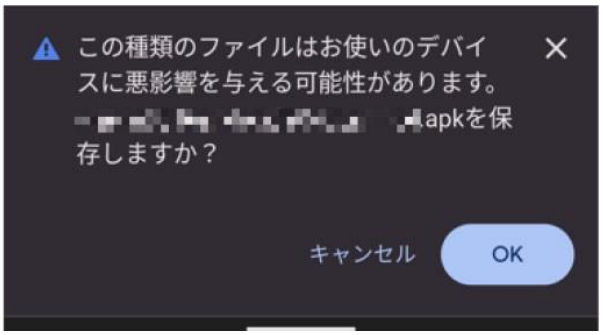
このアプリケーションをインストールしてもよろしいですか？このアプリケーションは特別なアクセス許可を必要としません。

Do you want to install this application? It does not require any special access.




For your security, your phone is not allowed to install unknown apps from this source.

CANCEL SETTINGS




This type of file can harm your device. Do you want to keep x x xxxxxxxxx.apk anyway?

Cancel OK

**Reasons for "warning" message displayed during sideloading (Description by Google)**

- As to the reason for the warning message when sideloading, Google states the following:
  - The apps that users sideload from websites to their own Android devices are not required to comply with Google Play policies and are not reviewed by Google because the apps are not downloaded from Google Play.
  - In order to maintain Android's openness and continue to encourage sideloading, we devote every effort to ensure that users are aware of content that may be harmful and are protected from such, providing the flexibility for users to configure their devices according to their preferences and use the apps of their choice.
  - To that end, Google issues side-loading warnings to ensure that users can make an informed decision before installing side-loaded apps.
  - It is common for warnings to appear on terminal devices where sideloading is allowed.
- Google's reasons for asking users to change their device settings, along with the warning message during sideloading, are as follows:
  - Ensure that users are aware of Potentially Harmful Apps (PHAs) and are protected from PHAs.
  - Even a small number of PHAs can damage not only the user's device, but the entire Android ecosystem.

**(Google Play Protect)**

- Google has developed Google Play Protect (GPP) to facilitate users' informed decisions to download apps and keep their devices secure. The details of GPP are as follows:
  - Scans downloaded apps (including side-loaded apps) for potential to cause harm or not.
  - Once activated, triggers its checking feature, whether the app was downloaded from Google Play or another app marketplace, or sideloaded directly from the developer's web page.
  - Automatically checks the PHA on the user's device (including when the user has the app installed).
  - If a PHA is identified, alerts the user to ensure that they can make an informed decision before installing a side-loaded app.
  - When encountering a potentially harmful app, the user is almost always warned that the app is potentially harmful, and asked if they wish to continue.
  - The user can ignore the warnings, or can disable GPP from the settings.
- GPP has a system to flag as requiring attention only when PHA is encountered. However, Google will warn Android users of the risks whenever they choose to install an app from outside of Google Play, in order to better protect Android users, not just when flagged as a PHA.

**(Agreements between Google and OEM)**

- Google has entered into MADA (Mobile Application Distribution Agreements) with OEMs. Therefore, a set of Google apps, including Google Play, may be pre-installed on an Android device. For the following two reasons, we believe that Google Play is pre-installed and set as default in the majority of Android devices shipped in Japan by OEMs' choice: by MADA, if even one app is to be pre-installed, all core and flexible apps, including Google Play, must be pre-installed; and these apps are provided free of charge (see "17. Browser, search engine, etc. pre-installation, default settings, etc." below)

**(Developer Distribution Agreement between Google and app developers)**

- Third-party developers who wish to distribute their apps on Google Play are required to sign Google Play 's Developer Distribution Agreement (DDA). the DDA, Section4.5 is as follows:
  - Developers may not use Google Play to distribute or offer covered products for the purpose of promoting the distribution of software applications and games for Android devices outside of Google Play.[17] "
- In other words, it is understood that developers who distribute their apps on Google Play may not use Google Play to distribute or offer their own app marketplace.

**2) Matters of Concern**

**(Preferential treatment to Google Play based on various agreements, terms and**

**conditions, etc.)**

- As mentioned above, we can presume that Google Play have been readily available to users from the shipping stage of Android devices. This is because Google Play is pre-installed on the majority of Android devices by the choice of OEMs.
- In addition, the developers using Google Play may not use Google Play to offer products intended for distribution of apps outside of Google Play.
- Thus, we are concerned that Google, through agreements with developers and OEMs, is forming a situation that facilitates the use of Google Play.

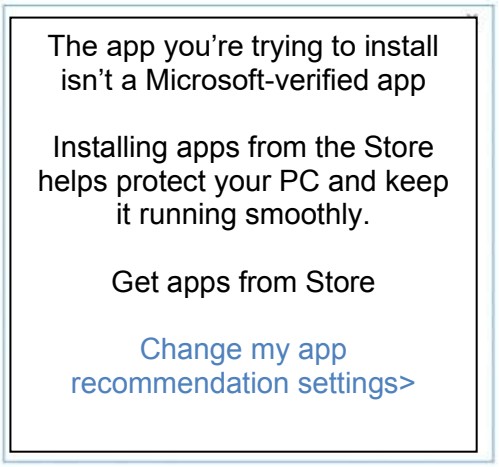
**(Warning signs and procedures for sideloading may discourage to sideload)**

[17] https://play.google.com/about/developer-distribution-agreement.html

- As described above, sideloading is allowed to a certain extent in Android device, unlike the iPhone.
- In cases where security cannot be guaranteed to be safe, it is necessary to provide information on security aspects in order to ensure rational decisions by users.
- However, "For security reasons, you can not install...," "This may negatively affect your device," and "Your phone and personal data are more vulnerable to attack," can appear. They are likely to cause users unfamiliar with the mechanics of the device to fear a security risk and discourage them from sideloading.
- We may also consider the above warning as excessive reminders in that it appears even if the downloaded app is not detected as a PHA by Google Play Protect (GPP), which scans apps for harmfulness.
- In addition, there are more steps involved inside loading an app developer's app on an Android device than in downloading from Google Play, and we are concerned that this also makes sideloading more difficult to use.
- The above concerns are reinforced by the fact that additional steps, such as navigating to the downloads folder, are also reportedly required when downloading APK files.
- In fact, the following specific points have just been made:
  - Sideloading requires changing security settings, the warnings are ostentatious, and the explanations attached to the warnings are difficult to understand, so users are not willing to go that far to sideload apps. No one uses app marketplace developed by a developer.
  - Because of the warnings that come with side-loading, and the many steps involved in the installation process, which can be anxiety-provoking, people believe that side-loading apps are at greater risks, such as Fraud, and that Google Play is safer.
  - We find the display of warnings and cumbersome procedures for sideloading to be unfair. Some of the apps that appear security and other warnings should include apps that are already known to be trustworthy. By making such a cumbersome process for side-loading, they try to get users to install from their own app marketplace. Apple's and Google's argument is that going through the App Store or Google Play Store makes installation more secure. However, it does not mean that the screening process of these app marketplaces makes it safer. In essence, the warning message is meant to discourage users sideloading outside the app marketplace.
  - Although the APK file can be downloaded, it requires more steps, such as once downloading the APK file to a folder, opening the folder, and installing the app, as well as a warning is displayed during the process, so it is actually easier to download via the app marketplace.
  - If you want to sideload the app, it requires about 15 steps including changing the settings. In contrast, downloading an app from Google Play needs only fewer steps. Still, it is doubtful whether anyone would dare to choose sideloading.[18]

- In these respects, Google states the following:
  - Warning notices are common, and other vendors have done it (see figure below for examples of warning notices by companies other than Google).
  - The OS has already been updated to Android 12 on September 28, 2020, to allow easier installation of third-party app marketplaces and automatic batch updates of side-loading apps without asking users for permission each time.
  - Sideloading itself is a simple process requiring only a few taps to complete.

[18] See "First Amended Complaint for Injunctive Relief" in Epic v Google lawsuit (Case 3:20-cv-05671-JD), para. 22.


(Low sideloading usage)

- Based on the above situation, it is considered that most application downloads on Android devices are made via Google Play, and side-loading is used in relatively few cases.
- In fact, some third-party developers have pointed out that side-loading is less common than installing apps from Google Play. The UK CMA interim report noted that below 10% of app downloads in app marketplaces come from sources other than Google Play.[19]
- As mentioned above, Google has developed and is operating a GPP to check the safety of downloaded applications, including those via Google Play. The company has also updated Android, including making it easier to install third-party app marketplaces starting in September, 2020.

[19] CMA Interim Report (para. 4.31)

- Since Google has made such efforts, we assume that it is aware of the proportion of sideloading on Android devices and how it has changed, so we asked Google to explain the proportion of sideloading and how it has changed since September 2020. However, we did not receive a response from Google regarding such data, so the suspicion that sideloading is sluggish has not been dispelled yet.

(Choice of app delivery method (Google's claim))

- Google states that Google Play is a non-exclusive marketplace for users because there is free choice in the ways to distribute application Android devices as follows:
  (1) Developers can have their apps preloaded onto Android devices by entering into a pre-loading agreement with an Android OEM.
  (2) Users can side-load apps from the Internet without going through the app marketplace.
  (3) Users can download apps from one or more Android app market places, in cluing Google Play. In addition to Google Play, there are about 100 Android app marketplace, including the Samsung Galaxy Store and the Amazon Appstore.
- However, (1) might be not as attractive to users as it is to the initial purchase, as numerous applications line up on the screen, making the screen difficult to view and reducing the amount of free capacity available. Therefore, there may be no benefit for Android OEM in complying with the above methods in (1), and it is questionable whether it is effective as an app distribution method. Also, Google Play may be pre-installed on Android devices by MADA, which may be the default, and if developers distribute their apps through Google Play as well, users can simply search for and install the apps through Google Play. Consequently, pre-installation of specific apps by OEMs is not appealing to users, and there would be no incentive for Android OEMs.
- With regard to (2) and (3) above, there is a possibility that users may hesitate to sideload for fear of security risks due to the warning display during sideloading. Furthermore, there is concern that the sideloading procedure is complicated in that it requires a large number of steps, including steps to allow sideloading, and that it does not fully function as a delivery method because users may shy away from sideloading.
- Moreover, third-party developers, who want to distribute their apps on Google Play, are required to sign a Developer Distribution Agreement (DDA) for Google Play. Section4.5 of the DDA states that Google Play may not be used to distribute products made for the purpose of distributing outside of Google Play, which may make it difficult to obtain third-party app marketplaces by Google.

3) Evaluation at present

- Displaying a warning that there is a risk of being malware when sideloading provides information to the user about the risks associated with sideloading and gives them a basis for making a decision, and a certain level of reasonableness

is recognized.

- However, there are some ongoing concerns regarding whether the method of displaying warnings (frequency, sizes of display screens and texts, etc.) and their content could discourage users to sideload, and whether the ways to display and the contents are appropriate. In addition, issuing a warning of the same content even though the PHA was not detected as a result of a scan of the GPP for sideloading risks could lead to users being hesitant to sideload.
- Also, side-loading requires more steps and setting changes than downloading apps from Google Play, and the fact that Google Play is pre-installed on Android devices based on MADA, and other circumstances that facilitate the use of Google Play, can also inhibit side-loadings.
- Since the side-loadings are thus less likely to be utilized, and in fact, the use of sideloading is considered low, and as a result, business developments may be impeded for third-party app marketplaces and the marketplaces that do not have problems in terms of security and privacy protection, as well as apps that are distributed by third-party app marketplaces and browsers.

(2) Evaluation on competition at present
(Suppression for side-loading)

- If sideloading cannot be guaranteed to be secure, users will be notified with a warning and provided with information about security risks, etc. This is to provide users with information to help them make a rational decision when choosing between downloading from Google Play and sideloading. These are generally contributes to the choice, which is a prerequisite for competition.

- However, depending on how warnings are displayed (frequency of display, font sizes of texts in warnings, warning statements, how to process messages, etc.), they may cause users to overestimate security risks and discourage them from sideloading by making them wary of side-loading. As a result, it may have the effect of substantially discouraging sideloading.
- GPP provides warnings when potentially harmful apps are identified, and even for apps that have not been identified as potentially harmful. This may have the adverse effect of making users overly cautious about security risks and discouraging them from sideloading, rather than the benefits of ensuring rationality and security of user decisions.

- In addition, the agreements with OEMs and developers make it easy to use Google Play, such as pre-in stalling Google Play, and difficult to distribute and use third-party app marketplaces, making sideloading more time-consuming than necessary. If this is the case, it may also be a factor that discourages the use of sideloading.
- In fact, as mentioned above, side loadings are noted to be significantly less than downloading from Google Play. Google has not presented any data to disprove the suggestion that sideloading as a percentage of total app downloads is weak yet.

- All of the above may not dispel the suspicion that factors such as warning signs and procedures are discouraging users from sideloading.

(Effect of de facto monopoly in the ground of distributing apps)

- If sideloading was suppressed, then in effect the distribution of Android apps would be dominated by Google Play, making it difficult for competition in the Android app distribution arena to function. Accordingly, Google Play would be heavily used, making it difficult for competition in Android on the ground of app distribution to perform. As a result, like restraints of app marketplaces by Apple, competitive concerns would arise, such as setting fees at a level higher than competitive prices and inhibiting competitive improvements in the service aspects of app marketplaces.
- Moreover, given that browser-based web services do not depend on OS-environment, directly downloading apps from the browser may be discouraged by warnings and other factors, putting side-loading from the browser at a competitive disadvantage to downloading from Google Play, thereby reducing competition among mobile OSs.

- As described above, if the room for competition in a wide range of areas of the mobile ecosystem was significantly reduced or eliminated, as the value offered by various suppliers could diminish, at the same time, consumer choice also could narrow, then it is hinder quality improvement through competition among firms, and may even nip future innovation in the bud.

(3) Options for response and main items for which we need your opinion
1) Options for response
What are some of the options for addressing the above competitive concerns?
(Option A:Prohibitactions that restrict app distribution through sideloading)

- It may be necessary to prohibit warning signs, complex procedures, and other actions that effectively limit the delivery of apps through side loading. In addition, since sideloading may be effectively restricted by various acts, such as descriptions and designs that impair or mislead end users' judgment, it may be necessary to prohibit acts that induce users to make unfavorable decisions with respect to sideloading.
- Therefore, **it may be conceivable to introduce a discipline that prohibits suppliers that provide an OS above a certain size from restricting the delivery of apps through side-loading when they provide an app marketplace.**
- In doing so, in order to ensure the transparency and predictability of the regulations, **it may be considered to clearly state by way of example that the following actions are prohibited:**
  - **Displaying excessive warnings in terms of contents, frequency, timing, etc. (e.g., excessive warnings for apps that have already been tested and confirmed as safe)**
  - **Requiring overly complex side-loading procedures**
  - **Providing end-users with choices in any other non-neutral manner, or inhibiting autonomous decision-making or choice.**

2) Status of Rules Development and Consideration in Other Countries

- The DMA Act, Article 6 a, Section 3.
  - Gatekeepers shall not reduce the terms or quality of the services provided by the Core Platform to Business Users or End Users in accordance with Articles 5 and 6, and shall not provide End Users with choices in a non-neutral manner or inhibit autonomous decision-making or choice in a non-neutral manner, thereby making it unreasonably difficult to exercise rights or the right to choose.

- CMA Interim Report (para.7.55 - 7.60)
  - We address the issues of restraint by app marketplaces as a pro-competitive measure for app distribution (Sector 2).
  - App marketplaces are key gateways for app vendors to distribute their apps to users, and many stakeholders are calling for interventions that allow

alternative methods. Introducing competition in the app marketplaces would also lead to giving users more options for finding and downloading apps and weakening Apple and Google's dominance in the app marketplaces.

- We propose the following mandates for Google: (1) not include the Google Play Store and Payments in the Revenue Sharing Agreement (RSA); (2) make third-party app marketplaces available for download in the Google Play Store; and (3) make it facilitate sideloading.

○ The German Competition Act, Section 19 a, Para. 2.1

- Prohibit the target business entity from giving preference to its own products over those of other business entities by preferentially displaying its own products or pre-installing only its own products.
- Prohibit the covered entity underArticle19 a, Para. 2, Item 2 b from interfering with another entity's suppliers to advertise its products, etc., or access end-users through a different channel when such interference is critical to the entity's market access.

3) Main items for which we would like your opinion

[The following is a list of items in this section for which we would especially like your opinion]

1. For further information on facts and concerns
   - Could there be further information (e.g., additional specific examples, supplemental information, etc.) regarding the facts and concerns?
2. Whether or not there is any action to inhibit sideloading
   - Do you think that the display of warnings in side-loading is significant enough to discourage people from downloading or installing the apps? Or do you consider it a reasonable representation in light of the degree of security risk?

     Do you consider that the procedures for sideloading may be more than necessary or simple enough?
   - Specific information about actions, other than displays and procedures, which are considered to be highly effective in reducing sideloading.

- Specific information about actions, other than displays and procedures, which are considered to be highly effective in reducing sideloading.

3. Effectiveness of new regulations
   - Would Option Affective in solving the problem? And what may be the benefits?
   - Would there be any other measures other than Option A that are expected to work effectively to solve the problem?
4. Costs and risks associated with implementing new regulations
   - What costs and risks (e.g., security, privacy, etc.) would be associated with the implementation optional?
   - What are some possible measures to mitigate those problems?
   - If there were cases where exceptions to regulations, etc., should be allowed, what could be the specific justifications for allowing such exceptions?

**9. Obligation to use payment and billing systems**

(1) Facts and evaluation of issues based on the facts

1) Facts
[Apple]
(Commission fees, etc.at App Store)
(1) Commission fees
- ○ If a third-party developer earns revenue from the distribution of paid apps or the sale of in-app content through the App Store, the developer will be required to pay a commission fee to Apple.
- ○ This fee is collected through the payment process using the in-app billing system provided by Apple (In-App Purchase, hereinafter referred to as "IAP").
- ○ Apple explains the reasons for imposing the fee, among others, as follows:
  - It is the foundation of the App Store's business model.
  - It is the price developers pay for using the Apple Store, including the tools, software, and intellectual property that Apple provides to third-party developers. The developers will be able to create, test, distribute, and manage their apps, as well as will have the opportunity to do business on App Store. Therefore, this fee is different in nature from the payment processing fee.

(2) The levels of the commission fee
- ○ Apple explains the reasonableness of the fee's level as follows:
  - The fact that App Store offers a wealth of features (technology, connections with customers, customer confidence, etc.) necessary to reach in-app

purchases is the primary basis for Apple's fee being reasonable.

- App Store fees should be compared to fees charged by other multi-faceted platforms that mediate between buyers and sellers and generate profits for developers and content providers (sellers).
- Apple's fees are at the industry standard level for a platform offering digital distribution and intermediation services.

- Third-party developers must pay 30% of sales as a commission to Apple. This 30% rate has never changed since 2008 when App Store service started.
- The cases in which imposed the lower rate fee (15%for all) are as follows at this time:
  - "App Store Small Business Program": applicable to third-party developers with annual revenues of less than US$1 million
  - Subscriptions: for apps that offer in-app digital content subscriptions, the commission rate is 15% after one year of subscription registration (introduced in 2016)
  - "Apple Video Partner Program": applies to premium subscription video providers that agree to invest significant engineering resources to integrate their services into AppleTV App (introduced in2016).

(3) Application of each commission rate (explained by Apple)

- Developers paying fees account for about 14% of the total.
- A 15% commission rate applies to the majority of the developers paying fees, as most of them have annual revenues of less than US$1 million.
- Only 0.3% of iOS app developers are responsible for the 30% fee.

(4) The membership fee for developers

- In addition to the commission, third-party developers who wish to distribute their apps on the App Store must enter into the "Apple Developer Program" with Apple and pay Apple a fee of US$99per year (Developer Membership Fee) based on this agreement.
- All the third-party developers must pay the membership fee per developer, not per app.
- The developer membership fees will be used to ensure that the third-party developers with access to Apple's tools and technologies are diligent in distributing their apps on the App Store.

(Obligation to use IAP on iPhone)

- Only IAP provided by Apple are allowed to be used to pay for paid apps installed on the App Store and for in-app purchases of digital content.
- The acceptable payment methods for IAP payments offered by Apple include various kinds, such accredit and debit cards, carrier payments for cell phones, PayPal, and others.

(Reasons for the obligation of to use IAP on the iPhone (explained by Apple))

- Apple's reasons for the obligation to use its own IAP are as follows:
  - In the AppStore, IAP fulfills the two core functions listed below, and if a developer adopts a mechanism other than the IAPs provided by Apple, it will

be unable to fulfill either function:

First, IAP system for Apple to collect commissions. If the commission to Apples charged for App Store transactions between developers and iOS users, IAP will process these transactions. At the same time, IAP is a technical mechanism to ensure that Apple collects fee son eligible sales by developers in the App Store.

Second, IAP will ensure the high-quality user experience that underpins Apple's reputation by providing OS users with a single, secure, and easy-to-use payment method for all in-app purchases for which fees are paid to Apple.

- IAP performs the following three processes simultaneously: (1) process transactions between third-party developers and iPhone users; (2) calculate commissions based on the sales of those transactions; and (3) pay the proceeds to the third-party developer after deducting Apple's share of the commission. If they did not use IAP provided by Apple, Apple would have no effective way to track transactions subject to commissions or to calculate and collect fees owed by hundreds of thousands of third-party developers.

(Advantages of using IAP provided by Apple)

- Apple describes the advantages that users will receive by using IAP as follows:
  - Apart from payment processing, IAP also offers iPhone user as variety of convenience and security-related features.
  - In terms of convenience, IAP allows iOS users to purchase in-app digital contents on their Apple devices with the ease of a few clicks using payment information registered with Apple. Thus, the users of iOS devices can purchase digital content from third-party developers through the App Store in a seamless, smooth, and secure manner.
  - IAP also allows users to access various features for the users that are central to App Store user experience: "Family Sharing," which allows users to share purchases and subscriptions in App Store with up to six family members in the designated group and allows minors to make in-app purchases; "Ask to Buy," a system that allows parents to approve in-app purchases by their children.
  - In addition, the users can take advantage of key App Store features, such as Apple's subscription management page, purchase history, and the ability to restore purchased items, all of which are facilitated by the adoption of IAP, a single, centralized payment method.
  - Centralizing repayments and subscriptions can make the user experience very convenient and efficient. Without these centralized controls, users would have to deal with the separate policies of multiple developers, each of whom may have different policies.
  - Without adopting IAP, Apple would not be able to offer these features to App Store users.
  - In terms of security, biometric authentication is used to verify identity before purchase, using the user's fingerprint for Touch ID-enabled devices and the user's face for Face ID-enabled devices. This saves the users from making

unnecessary purchases and allows Apple to confirm that the account holders have still made a purchase decision.

[Google]
(Commission fees, etc. at Google Play)
(1) Commission fees
- When third-party developers earn revenue by distributing paid apps or selling in-app content through Google Play, the third-party developers are required to pay a commission fee to Google.
- The fee will be collected through Google's IAP-based payment process.
- Google explains the reasons for imposing the fee as follows:
  - Developers use the Google Play billing system because it is an integral and essential part of Google Play.
  - Users benefit from the convenience, subscription management, security, control, support, and ownership provided by the Google Play billing system, while developers receive various benefits, such as consistency, confidence from users, support, customer access.
  - The fee is charged for all tools that Google Play provides to third-party developers and reflects the overall value of these tools. It is never collected solely for the use of the billing system.

(2) The levels of the commission fee
- Google explains the reasonableness of the fee level as follows:
  - The fees reflect the following factors: (1) the value Google provides to developers; (2) the costs that Google incurs to develop and maintain the ecosystem; and (3) competition among the many other Appstore and distribution channels available to developers on Android and other operating systems.
  - The commission fees are competitive with those of competing app marketplaces and platforms offering similar online store-type business methods (e.g., video game marketplaces).
  - The costs and investments by Google to Google Play relate to various services apart from the payment processing. Therefore, it is not appropriate to compare fees to those charged by vendors who only bear the cost of processing payments.

- Basically, third-party developers must pay a 30% of sales as a commission to Google. This30% fee rate has not changed since the launch of Google Play and its predecessor, Android Market.
- The cases in which imposed the lower rate fee (15%or 10%) are as follows at this time:
  - Until annual revenues reach US$1 million, (15%), (introduced in March, 2021)
  - Subscription: Commission for subscription for which the payment period by subscribers has exceeded 12 months is 15% (reduced to 15% from the first day, effective January 1, 2022).
  - Google Play Media Experience Program: The commission is 15% if apps meet the following requirements that: the app provides mainly videos, audio or book content; it has more than 100,000 active installations per month on Google Play; It has integrated APIs with the appropriate Google platform. However, a lower rate of 10% is expected for music distribution services and other services where the cost of content is the majority of revenue (scheduled for the first quarter of FY2022).

(3) Application of each commission rate (explained by Google)
- Approximately 97% of developers do not pay any fees.
- 99% of developers in the 3% of the remaining is subject to a 15% commission rate.
- Less than about 0.1% of all developers pay the basic 30% fee.

(4) Registration fee
- In addition to commission fees, third-party developers must register as a Google Play Developer and pay a one-time fee of US$25 (a registration fee) at the time of registration to distribute an app on Google Play.
- All the third-party developers must pay the fee, and it is paid per third-party developer, not per app.
- As for the purpose of this registration fee, Google states that the registration fee will help avoid “spam" (low quality) palsy requesting a small financial contribution from developers.

(Obligation to use IAP on Android devices)
- Only IAP (Google Play Billing) provided by Google is allowed to be used to pay for the installation of paid apps on Google Play and for the purchase of digital content within the apps.[20, 21]
- The payment methods (FOP) available for Google Play Billing include credit and debit cards, cell phone carrier payments, PayPal, and over 200other local FOPs.

(Reasons for the obligation of to use IAP on the Android devices (explained by Google))
- Google states the reasons why they wish the use of Google Play Billing as follows:

- Google Play Billing is an integral and essential part of Google Play.
- It is also effective for developers to pay service fees efficiently when the fees are applicable to them.
- Significant investments must be made to maintain attractive shopping experiences for both suppliers and customers, and to provide a simple, single, secure payment infrastructure to enable smooth payment processing and settlement transactions.

(Advantages of using Google Play Billing)

- Google describes the benefits of using Google Play Billing as follows:
  - In addition to payment processing, Google Play Billing offers the following benefits to Android device users:
  - For example, in terms of convenience, users can manage and cancel all subscriptions in the Subscription Center of their Google Play accounts, which require only a single entry of payment information.
  - From a security perspective, the payment information will only be shared between Google Play and the user, consequently, their security and privacy will be protected.

[20] Google has traditionally been said not to be as strict and thorough as Apple in enforcing the use of its own IAP, but in September2020, the company announced that it would enforce the use of its own IAP for transactions on Google Play (URL: https:// //www.cnbc.com/2020/09/28/google-to-enforce-30percent- cut-on-in-app-purchases-next-year.html).

[21] https://android-developers.googleblog.com/2022/03/user-choice-billing.html

- In addition, they offer the following features: ”Control,” including approval of purchases for family groups; “Support,” including order history, payment help, refunds, etc.; “Ownership,” including restoring and reinstalling purchased apps.
- They also offer the following benefits to developers:
- Google Play serves as a consistent platform with a variety of payment options, allowing for global expansion.
- Increased user trust and willingness to buy online will lead to increased revenue for the app developer.
- In some regions, Google will assume payment of VAT and other sales taxes.
- The consistent payment capabilities give app developers ways to access paying customers worldwide.

○ Unlike iPhone, sideloading is not prohibited on Android devices. Therefore, when an app is downloaded through an app marketplace other than Google Play or directly from a website, developers may use payment and billing methods other than Google Play Billing. for paid sales on the app.

2) Matters of Concern
(Impacts on transaction opportunities for other payment and billing services)

○ (1) On iPhone devices, sideloading is not allowed at all, so the only IAP that can be used is Apple's IAP. (2) On Android devices, sideloading is allowed, but as mentioned above, there are restrictions on sideloading, so Google Play Billing is believed to be used mainly for these devices. If the use of Apple’s or Google' s IAP were to be mandated under these circumstances, it could lead to a situation where transaction opportunities for payment and billing services provided by other vendors would be significantly reduced.

○ Relating to that, there are the following items pointed out specifics:
- It is common for non-app online transactions, such as e-commerce, to have alternative payment methods. The entry of other means of payment and competition will give a positive impact.
- Regarding the forced use of in-app payment, they make the argument that the payment is secured, but their game store offers payments outside of App Store and they do so without any problems.
- As for the privacy protection and security reasons for enforcing in-house payments, it is hard to imagine that carrier payments are inferior in terms of security and privacy protection. Security is rather higher for credit. It would be up to the users to decide what means of payment to use.
- Their rationale does not hold because they can still collect using other Payments. There are other ways to do it. There have been what are called “platform,” and there have been various kinds such as cable TV platforms, but those have had no compulsion to use payment systems for in app purchases as Apple has adopted. As for fee collection, instead of settling each transaction, they paid a fixed amount once a year (yearly) or four times a year (quarterly). They cannot justify excluding other businesses who try to

offer other payment methods in order to make their own in-app payment methods the only ones available. It should not be the only means of collection. For example, online payment systems such as PayPal are widely used in other sectors. Although Apple believes that the most effective way to track transactions and the flow of money is to allow people to use its own payment system, but there is the problem of excluding competitors.

- As DX (Digital Transformation) advances in the future, it is becoming increasingly difficult to determine how diverse apps will be positioned within the App Store Review Guidelines. The scope of IAP is unclear, with a variety of applications emerging, such as for telework, restaurants, etc. The situation could affect future DX.

(Impacts on customer service)

- We are concerned that requiring developers to use Apple's or Google's IAP will negatively impact their efforts to provide a variety of services, such as improving user convenience.
- In fact, some third-party developers are facing various problems with in-app purchases, criticize the following: using the IAP system provided by Apple, they cannot communicate directly with their customers; they will not be able to offer users a variety of plans, such as different commission rates and amounts depending on the payment method.
- When users use the Apple and Google app marketplaces, they need to create an Apple and Google account, and when creating the account, they need to register information such as full name, date of birth, email address, and phone number as well. When making a credit card payment, etc., registration of payment information such as card number is required.

- However, since payment information such as card number, account number, and other payment information, as well as customer information such as name, address, and contact information, are entered on the IAP, it is pointed out that all customer information is controlled by Apple, which manages the IAP, and third-party developers have no access to any information about the customer.
- Therefore, when customers want to upgrade or downgrade their subscriptions or request refunds for cancellations, they cannot contact the third-party developer, but must contact Apple, which manages the IAP. Some customers have complained that the process is complicated.
- In addition to this, there are similar complaints about the lack of direct contact channels for third-party developers when they need to contact their customers. For example, the following problems have been pointed out: third-party developers that provide services to notify customers when subscription renewal time is approaching, such as when the renewal is coming up, the contract amount in case of renewal, and when the fee will be debited, are unable to provide such services because they do not know the contact information, etc. of their customers.

- Apple used to prohibit third-party developers from obtaining email addresses and other contact information from users in their apps, and it was pointed out that this was a typical reason for rejection during developer review. However, when App Store Review Guidelines were revised in October 2021, 5.1.1 (x) was newly added, allowing third-party developers to request the submission of email addresses and other contact information on a conditional basis.
- Also, Google has long permitted the acquisition of user information to a certain extent based on its user data policy. For information that requires authorization to obtain in Android, information (e.g. location and contact information) can be obtained based on the user's authorization at the time of application installation or acquisition.
- However, even if a third-party developer requests users to voluntarily submit their email addresses and other contact information when they register their app accounts, users who have already registered such information when creating their app marketplace accounts often complain about having to register their information again. It is also pointed out that the developers often have difficulty in obtaining email addresses, etc. in practice.

- Apple and Google have agreed in their license agreements with third-party developers that Apple and Google will act as the agent of the third-party developer in the distribution of the app. [22]
- On this basis, in fact, Apple and Google are acting as agents of third-party developers in the trading of apps and digital content: for cancellations within a predetermined period (within90 days of the purchase or renewal of an app purchase or subscription for Apple, or within 48 hours of the purchase or renewal of an app purchase or subscription for Google), Apple and Google may, without any factual verification of the third-party developer, determine and handle solely. Developers have voiced their dissatisfaction with such a long time frame being set.
- In the case of Apple, even after the above period, if Apple receives a notice or claim from a user that the product does not conform to the developer's specifications, the developer's product warranty, or the requirements of applicable laws and regulations, Apple will issue a refund without confirming the fact with the third-party developer. Some developers have complained about this practice.
- Note that the refund process is structured in such a way that Apple and Google have priority in collecting it by deducting the refund amount from the sales amount of apps and digital content.
- There is no confirmation that these contractual frameworks have been changed for now.

- Apple and Google respectively state the following regarding issues such as direct contact between developers and users as described above:

[Apple]
- Starting in 2021, Apple has launched a new API to help third-party developers connect with user sand expand their business, and to help them solve user problems.

[22] https://developer.apple.com/support/downloads/terms/apple-developer-program/Apple- Developer-Program-License-Agreement-20210607-Japanese.pdf (Attachment A, para. 1), https://play.google.com/about/developer-distribution-agreement.html (section 3.1)

- App developers can now use the new Manage Subscriptions StoreKit API to provide a dedicated place in their apps where consumers can manage subscriptions purchased through App Store. This API displays an Apple-designed subscription management UI. Here, consumers can easily review detailed information about subscription terms and conditions and fees, as well as select options to upgrade, downgrade, or cancel their subscriptions. This interface is the same as the one that consumers see when they manage their subscriptions in "Settings" or their App Store account.
- For refunds, app developers can now use the Request Refund StoreKit API to provide a dedicated place in their apps where consumers can request refunds. Here, consumers can request a refund with the same reason code that appears when requesting a refund directly from Apple using "Report a Problem". Furthermore, developers have asked for information to help them make refund decisions, so the new Consumption API allows developers to send information to Apple when consumers request refunds for in-app billing, including information about their consumption of the purchased items, subject to their consent.

○ Apple uses a variety of factors to determine whether to approve or deny refund requests and makes refund decisions that are in the best interest of consumers while protecting developers from refund abuse.

[Google]

○ Google describes the communication between developers and customers as follows:
  - They have always allowed developers to offer refunds and other customer support directly to their customers.
  - They allow developers to link out directly from apps distributed on Google Play to an external account management page where they can communicate with users about changes to their account status.

3) Evaluation at present

○ Both Apple and Google state that their IAPs allow users to conduct smooth and secure transactions and payments, and make it easier and more secure for Apple and Google to collect fees from third-party developers.

- However, the situation raises a number of concerns, for example, as mentioned in the next section “Evaluation on competition at present,” mandating the use of their own payment and billing systems, etc.
- Also, for instance, Apple's provision of an API to facilitate refund requests by users, which the company says it has started since2021, has yet to dispel the concerns that developers have, as there fund decision it self-containment be made by Apple. In addition, many of the other benefits that Apple and Google point out as advantages of using their respective payment and billing systems are generally not only possible for Apple and Google, but could be offered by other operators as well. There is concern that mandating the use of one's own IAP in this context would deprive the market of the opportunity for diverse value offerings by a variety of businesses and reduce consumer choice.
- Furthermore, as many developers have pointed out, customer information is managed by IAP and it is difficult for developers to receive such information, so there appear to be certain limitations on developers' ability to provide detailed services to their customers. Moreover, it can be detrimental for developers that the unilateral handling of cancellations and refunds through the operation of contracts and other agreements that make Google and Apple the agents of app distribution These, too, can lead to problems such as depriving diverse businesses of opportunities to provide diverse value.

(2) Evaluation on competition at present

(Impacts on the emergence of diverse payment and billing services)

- It is undeniable that there are already, or may emerge in the future, vendors that provide superior payment and billing methods in terms of user convenience, privacy protection, and security, other than their own IAP. Nevertheless, the both companies’ requiring to use their own IAPs could stifle the entry and growth of new vendors offering such alternative or better payment and billing methods.
- As a result, users would not enjoy better convenience and security, and this could be detrimental to their benefits.
- The entry of new vendors offering alternative or better payment and billing methods, and the resulting stifling of competition, would deprive users of choice and could also stifle innovation by these vendors.
- Note that since sideloading is not prohibited on Android devices, there is room for other payment and billing services to be used when Google Play is not used. However, as noted above, sideloading in Android devices seem to be sluggish. If so, then when Google mandates the use of its IAP in Google Play under such circumstances, there may be a risk of similarly inhibiting the entry and growth of new vendors offering alternative or better payment and billing methods, and the resulting diverse value offerings and consumer choice opportunities.

(Direct customer service impact)

- If third-party developers are prevented from communicating directly with users due to the inability of third-party developers to obtain customer information such as users' contact information and payment information such as credit card

numbers, third-party developers may be prevented from providing detailed services to users and from developing new services through innovation, to the detriment of consumers.

- In addition, as businesses in the metaverse are expected to develop in the future, there is concern that the current obligation to use payment and billing methods will become a constraint for app developers to provide services such as allowing users to buy and sell various items while managing their own accounts.

(Possible deviation of fees from competitive levels and the impact of such deviation)

- If new entrants to the market are inhibited from entering the market for a variety of payment and billing services (some of which may only provide payment and billing services, while others may offer a variety of additional services and billing methods, etc., that accompany payment), there is a concern that the fees charged for these services may be higher than the competitive price.
- In such a case, concerns may arise in terms of the impact of the burden of cost and the impact on competition with competing businesses, similar to what was mentioned in the “Competitive assessment at this time” section of “7. App Store Restraints (Apple)” above.

(Impact on competition between OSs)

- Currently, when switching from an iPhone to an Android device or from an Android device to an iPhone, the payment and billing systems used for both are separate, and services used up to that point, such as bulk management of subscriptions, cannot be transferred, or the transfer procedure is complicated. This has the effect of discouraging users from switching platforms, as there is no benefit for them to do so.
- If both iPhone and Android devices (Google Play) were allowed to use IAPs other than their own, services could be developed that do not interfere with switching between platforms, such as the entry of IAPs that can be used on both devices and the emergence of multiple IAPs with high portability.
- It could be argued that the current mandate for both platforms to use their own IAPs has the effect of discouraging the development of such services and thus adversely affecting competition between OSs.

(3) Options for response and main items for which we need your opinion 1) Options for response

What are some of the options for addressing the above competitive concerns?

(Option A: Prohibition of mandatory IAP use)

- In order to create a competitive environment in which a variety of payment and billing methods and services are secured and users can select their own methods and services, **in cases where an OS provider provides an app store, when an app developer provides an app in that app store, the OS provider may be able to introduce a rule that prohibits an OS provider above a certain size from requiring app developers to use IAPs owned or controlled by the OS provider when they provide their apps in an app store.**

- In South Korea, a law prohibiting the compulsory use of payment and billing services has come into effect, and Google will continue to charge app developers if users use other payment services, with a 4% reduction in the level of charges to app developers.
- The Netherlands has taken steps to prohibit Apple from enforcing the use of Apple-provided IAPs, therefore Apple has indicated that it will continue to charge app developers if users use other payment services with a 3% reduction in the amount of charges to app developers. There are reports that Apple has indicated that it will continue to charge app developers if users use other payment services, after the 3% reduction.
- We are aware that both countries are continuing to discuss these issues, however we are unsure if Apple and Google will be able to continue to charge users who use other payment and billing services besides Apple's and Google's, following the 3% and 4% rate reductions. However, there are doubts that developers will be able to provide services and permit their users to choose the services they use if they use payment and billing services other than Apple and Google.

(Option B: Prohibit disruption of communication between developer and user)

- As a variety of payment and billing methods become available, developers will provide higher quality services in terms of convenience and security to attract more users. This is expected to promote competition.
- In this context, it can also be expected that efforts will be made by developers to enhance convenience through direct communication with the user.
- However, even if Option A prohibits the mandatory use of IAPs, it is possible that OS providers may restrict third-party developers from communicating directly with users through some means, such as the app store's terms of service.
- Therefore, in addition to Option A, in order to not hinder the provision of customer services such as direct communication between developers and users, **it may be possible to introduce a rule prohibiting developers from directly communicating with users and providing services through such communication when an OS provider of a certain size or larger provides an app store.**

2) Status of Rule Considerations and Development in Other Countries

(Option A related)

- U.S. (Senate) Open App Markets Bill, Article III, Section a (1).
  - The Target App Store Operator shall not require developers to use an in-app billing system owned or controlled by the Target App Operator as a condition of distribution in the app store or access on the OS.
  - However, this does not apply to actions that are necessary to achieve user privacy and security or to prevent spam and fraud, and actions that are proven to be non-discriminatory and consistently applied, etc. (Article 4, paragraphs a and b).

- CMA Interim Report (paragraphs 7. 97-7.104)
  - "Intervention in in-app payment systems" is set as a measure to promote competition among app developers (By Sector, 4).
  - The problems with payment restraints are that (1) app operators are prevented from choosing cheaper and better quality payment methods, (2) in some aspects, they are "unmediated" between customers, (3) competition between Apple and Google's own apps is distorted, and (4) it is an obstacle to switching between iOS and Android.
  - (1) Allowing a greater choice of in-app payment
    Providing a greater choice will allow the app developers to select payment providers and have a direct relationship with their customers. This is aimed at bringing competition and innovation to app payment methods.
  - (2) It will allow out-links to other payment methods within the app (greater promotion of off-app payment options)
    This is a response to "anti-steering provisions" that limit the provision of

information on the most appropriate payment methods to users and strengthen the app store's market dominance.

- (3) Restrict Apple and Google from giving preferential treatment to app providers that compete with their apps by requiring them to use their payment methods (allow app providers to disable Apple and Google payment methods, or direct them to alternative payment methods)

○ Korea

- Article 50, Items 9-11 of the revised Korean Telecommunications Business Act (effective September 2021) prohibits app store operators from (1) forcing a specific payment method in in-app billing, (2) unreasonably delaying the review of apps, (3) and unreasonably deleting apps.

(3) Primary items on which we would like your feedback

[The main items on which we would like your feedback]

1. Further information on facts and concerns
   - Do you have any further information (e.g., additional or supplemental specific examples) regarding the facts and concerns?
2. The Impact of Mandating the Use of IAPs on Customer Service
   - Specific instances where Apple's or Google's mandate of its own IAPs has and is directly resulting in a disruption in communication or provision of services between the app developer and the user.
   - The benefits in terms of the above communication and service delivery if other IAPs are approved for use.

3. Effectiveness of new regulations
   - Are Options A and B effective in solving the problem? And what are their benefits?
   - Are there any other measures other than Options A and B that could work effectively to solve the problem?
4. Costs and risks associated with implementation of new regulations
   - What costs and risks (e.g., security, privacy, etc.) would be associated with the implementation of Options A and B?
   - What are some possible measures to alleviate this problem?
   - If there are cases where exceptions to regulations, could be granted, what specific justifications, if any, can be given for allowing such exceptions?

**10. Restrictions on the provision of information or inducements to other billing systems within the application**

(1) Facts and evaluation of issues based on the facts

1) Facts
[Apple]
(Restriction on provisions of information)

- Apple does not restrict third-party developers from using various methods to provide information about their services to users outside of the App Store, such as through targeted advertising on their websites, magazines, television, radio, email, social media, search engines, and browsers. Third-party developers may also include, information or advertisements regarding the price of their services when purchased through the App Store. In addition, they may also include the price of their services when purchased through other outlets.

- On the contrary, Apple has restricted third-party developers from providing users with information on non-app purchase mechanisms other than Apple' s IAPs by stipulating in the App Store Review Guidelines (Section 3.1.1[23]) that they may not direct users to purchase through buttons, external links, or other calls to action in their apps (hereinafter referred to as “information provision restrictions”).

[23] “Apps and their metadata may not include buttons, external links, or other calls to action that direct customers to purchasing mechanisms other than in-app purchase.” This section was revised on March 31, 2022 (JST) to exclude reader apps.

- Apple states the following regarding the purpose of the restriction on information provision
  - Since fees are the price paid for using the App Store, it is only right that rules be instated to prevent free-riding.
  - An obvious conclusion which can be drawn from the “free” approach (i.e., developers distributing their apps and content for free, while users distribute apps that access content purchased outside the app on the App Store without paying fees) is that third-party developers should not be able to take advantage of Apple's investment in their apps by encouraging users to bypass the IAPs in the apps.
  - The provisions of Section 3.1.3 have been designed to prevent third-party developers from encouraging actual or potential users to (1) download an app from the App Store, (2) purchase content elsewhere, and then (3) transfer this paid content to an app delivered on the App Store. The purpose of this provision is to prevent users from being incentivized to transfer this paid content. The purpose of this tactic is to prevent the misconduct of bypassing the IAP and free-riding on Apple's investment.
  - Apple has the right to collect fees from developers in exchange for licensing. Apple holds the right to set rules that prevent developers from steering customers to other sales channels in an attempt to avoid paying commissions.
  - This rule which prohibits external inducements is applied to a specific number of activities.
  - The provisions of the Guidelines that prohibit guiding iOS users to purchase content or services outside of the App Store are no different than the policies employed by virtually all retailers, whether in store or online. For example, it is not permissible for Apple to place signs in Softbank stores informing Softbank customers to purchase iPhones at Apple-owned stores.

(Allow links in the reader application)

- On September 2, 2021, the Japan Fair Trade Commission (JFTC) terminated its review under the Antimonopoly Act of Apple' s suspected business activities of an iPhone app developer. After confirming that Apple had implemented remedial measures in response to their request for the following information, the Fair Trade Commission decided to terminate the examination.
  - An application used exclusively for viewing digital content purchased by a user from a websites and other sources. (Which would be referred to as a “Reader Application/ Reader App”). In terms of the Reader App, a developer may allow the app to include a link to its website, otherwise known as an “outlink.”
  - The above changes have been applied from the beginning of 2022.
- On March 31, 2022 (CET), Apple implemented and announced measures to allow outlinking through its Reader app[25].

[Google]

(Restriction on the provision of information)

- Google (similar to the case above of Apple) does not restrict third-party developers from informing users about offers and payment methods through channels other than the Google Play of independent websites or emails. Therefore, it is possible to offer a lower price than what is set on Google Play or grant special offers.
- Developers can also outlink their pages to other websites such as account management pages, privacy policies, and help centers.

- However, in accordance with the Google Play Payment Policy," Google prohibits developers from directly linking to web pages that direct users to alternative payment methods for digital goods and services, or using language that encourages users to purchase digital goods outside of the app, through using language that encourages users to purchase digital goods or services outside of the app (collectively, the "Restrictions on Providing Information," including actions of Google).
  - Information about an app's listing in Google Play
  - Purchasable content in-app promotions
  - In-app web displays, buttons, links, messages, ads, and other phrases which attract users to purchase digital goods.

[24] online music distribution service, e-book distribution business and video distribution business. The Fair Trade Commission focused its examination on the online music distribution business because their copyright and other various fees are a heavy burden, also it is very difficult for developers to reduce costs. In addition to these, Apple' s Reader application also includes magazine and news distribution businesses.

[25] https://developer.apple.com/jp/news/?id=grjqafts

- In-app user interface flows (account creation and registration flows) to direct users from the app to payment methods other than Google Play 's billing system.

- In regard to the purpose of the limitation on matters such as providing information, Google states the following
  - If a third-party developer chooses to distribute an app on Google Play, the distributed app may only be distributed on Google Play (and use Google Play 's billing system).

2) Concerns

- The restrictions on the information provision by Apple and Google are both aimed at ensuring that Apple and Google' s IAPs are used by developers who benefit from having access to the app store in order to reimburse the company's fees which they are paying for.
- Even if users know that they can make purchases outside of the app using IAPs from companies other than Apple or Google - the fact that no information is provided in the app to trigger the user to make a purchase outside of the app and with a lack of buttons or links necessary to facilitate such an action, may ultimately result in a greater tendency use Apple's and Google's IAPs.
- In making this connection, some developers and others have pointed out the following.
  - On the Web ID, the method of issuing an ID and making a carrier payment is still permitted. What is not permitted is to create something which would guide the user from the app directly to billing and payment. There are not many people who would download and start using an app, but also register their ID and make a payment at the same time. Writing an explanation for this within the app is also not permitted. Therefore, usually people would think that payment for in-app purchases can only be made by the platform's payment operator's for in-app purchases.
  - The app must not provide the user with the information that other payment methods are available. As there are users who find the app using the Google search engine, an explanation of the payment method is permitted in this case. However, it is very difficult to appeal to customers as it is a very time-consuming process to make payments online, download an app and register for an ID.
  - People may use carrier payments over platform's payment systems because they can accumulate more points using the carrier payment system. However, it is difficult to make a payment, download and register for an ID without a proper understanding of apps.

3) Evaluation at the Present Time

- The limitation on the provision of information is a means to ensure the collection of fees and to allow the use large companies to use their own IAPs as proper tools for this purpose.
- However, when considered from the user's perspective, out-links from apps provided in app stores may be an effective source of information on other means of billing. If links to the company's website are not allowed in the app, some users may be forced to make purchase decisions based solely on the app's information, without knowing about other plans and pricing offered by the developer on its website.
- As a result, the user's choice of payment and billing services is narrowed, as well as the user's choice of whether to use an app or a web service which may harm the user's interests, in that they may lose the opportunity for transactions more suited to their needs.
- In addition, if such restrictions on the provision of information are imposed, there is a possibility that transaction opportunities for payment and billing services provided by entities other than Apple and Google will be significantly reduced. Furthermore, there is concern that this will have a negative impact on developers' efforts to provide various services such as improving convenience for their users.

(2) Competitive assessment at this point in time
(development of a variety of payment and billing services and customer services, and the possibility of inhibiting the opportunity for users to make choices)

- As mentioned above, the limitation on the provision of information is a means to ensure the collection of fees and to allow users to use their own IAPs, which are tools for this purpose, and therefore the competitive assessment described in the section "Obligation to use payment and billing services" applies to this issue as well.

(Allow links in the reader application)

- As for Apple, it has agreed with the Fair Trade Commission to allow third-party developers of reader apps to include links to their websites within their apps for the first time26 and has implemented remedial measures to allow out-links based on such agreement.

[26] https://developer.apple.com/jp/news/?id=grjqafts

- As mentioned above, this initiative is to place links to content providers' websites on “reader apps,” which are apps that primarily provide purchased or subscription content, and is limited to certain content, such as music.
- The restriction on the provision of information by Apple naturally extends not only to the reader app, but also to all apps offered in its app store, and it is believed that the restriction extends to the setting of buttons, external links, etc. in apps and other actions that encourage calls to action from within apps in general. Therefore, it is considered that the restriction covers all apps provided by app stores.
- Therefore, this effort by Apple does not completely cure the competition concerns in all areas caused by Apple's restriction of information provision.

(3) Options for response and main items for which we need your opinion

1) Options for response

What are some of the options for addressing the above competitive concerns?

(Option A: Prohibit restrictions on the provision of information)

- In cases where an OS provider above a certain size provides an app store so that a variety of payment and billing methods and services can be secured and users can make an informed choice, **information that includes different purchase terms and conditions for users acquired on said app store by the developer It may be possible to introduce a discipline that prohibits the developer from restricting the provision or offering of transactions (including out links and within the app) to users acquired on the app store**.
- In the Netherlands, where action was taken to require Apple to include in-app links for dating apps that direct customers to the developer's own website, Apple has reduced the level of charges to app developers if users use other payment services by However, Apple has reportedly indicated that it will continue to charge app developers if users use other payment services, with a 3% reduction in the level of charges to app developers.
- While we are aware that discussions are continuing on this point, there is some question as to whether Apple's decision to continue charging after lowering the 3% level will lead to the provision of a variety of services and enable users to make choices.

2) Status of Rule Considerations and Development in Other Countries

○ CMA Interim Report (paragraphs. 6.181, 7.102)

The competitive harm of prohibiting outlinking, etc. is that the rule prevents developers from informing end users that there are other ways to pay for content other than through apps. Thus, they cite restrictions on the ability of end users to make informed purchasing choices and the ability to promote effective competition among distribution channels. To address this, the Commission recommends that Apple and Google allow out-links to other payment methods within their apps so that end-users can make informed choices about various payment methods.

○ European Commission Spotify Preliminary Study

- A 30% fee is charged on all digital transactions in the App Store, which may increase the end price as developers pass this on to consumers. Third-party apps are priced at 12.99 euros, while Apple Music is priced at 9.99 euros.
- Consumers are paying more for music streaming due to prohibitions on providing information about cheaper subscriptions, etc., including prohibitions on outlinks
- Developers do not have access to customer information provided in the IAP, such as why people cancel subscriptions, which is known only to Apple.
- As a result, developers are forced to choose between paying a fee and not being able to offer a cheaper plan, and either offering their apps at a price with the fee passed on, or losing their ability to reach iOS users.

○ U.S. Epic v. Apple Lawsuit

By placing an anti-steering provision, Apple actively hides from users the fact that they can subscribe at a lower price if they sign up for a subscription directly on the app developer's website, etc., and further deprives them of the option of doing so. Furthermore, they do not reveal to the consumer that they are taking away choice by imposing these conditions. Removing these restrictions would force Apple to rethink its business model and intensify competition.

3) Main comments on this item

[The main items on which we would like your feedback]

1. Further information on facts and concerns
   - Do you have any further information (e.g., additional examples, supplements, etc.) on the facts and concerns?
2. Impact of information provision restrictions on customer service
   - Specific examples of how restrictions on the provision of information by Apple or Google have directly caused/are causing problems in communication between app developers and users and in the provision of services.
   - The benefits in terms of communication and service provision of the above if information on other payment and billing services, etc. is allowed to be provided.
3. Effectiveness of new regulations
   - Is Option A effective in resolving the issue? What are the benefits of Option A?
   - Are there any other measures other than Option A that might be effective in resolving the issue?
4. Costs and risks associated with implementation of new regulations
   - What costs and risks (e.g., security, privacy, etc.) are associated with the implementation of Option A?
   - What are some possible measures to alleviate this problem?
   - If there are cases where exceptions to regulations, could be granted, what specific justifications, if any, can be given for allowing such exceptions?

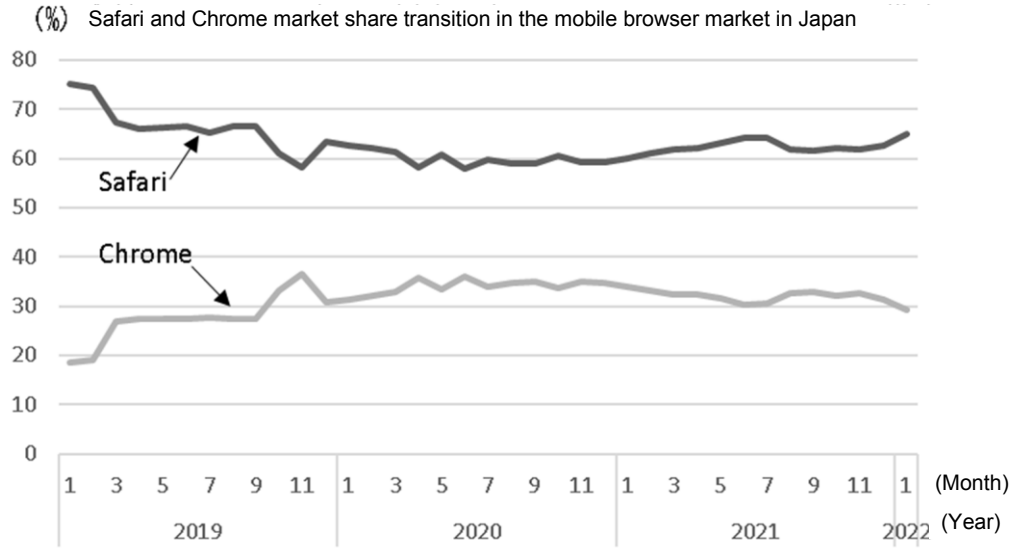
**1-3. [Browsers, web apps and native apps]**

**11. Mandatory use of WebKit and reluctance to allow web apps in browsers (Apple)**

Browsers, which act as an intermediary between the OS and web services, function as a node for web services to work in conjunction with OS functions. It is desirable to analyze them not only within a layer, but also to consider adjacent layers that may have an impact on them as a whole in order to capture the ecosystem. For this reason, the issues identified in the browser layer (Apple's mandatory use of WebKit in iOS) and the issues identified between the browser layer and the web services layer (the reluctance of browsers to support web apps (Apple)) are discussed below.

(1) Facts, Issues and Evaluation Based on the facts
1) Facts
(Overview of the browser market)

- Browsers consist mainly of a browser engine that converts the source code of a web page into a web page or web application that can be viewed by the user, and a user interface that stores the user's browsing history, passwords, and other information.
- In Japan, the current market shares of mobile browsers are approximately 65% for Apple's Safari and 29% for Chrome (both stat counter, January 2022), and the trend of the two occupying market shares in this order has not changed significantly in recent years.
-




(Data source: Statcounter[27])

- In terms of the browser engines for these mobile browsers, Safari uses WebKit, Chrome uses Blink, and from a global perspective, there is a convergence of the three, plus Firefox's Gecko. In addition to these three, there is currently a global convergence of Firefox's Gecko and WebKit.

(About WebKit, etc.)
[iPhone]

[27] https://gs.statcounter.com/browser-market-share/mobile/japan/#monthly-201901- 202201

- The only browser engine that can be used on iOS is WebKit, which is provided by Apple, reportedly because of its focus on providing stability, performance, battery efficiency, privacy, security, and ease of use. A pillar of iPhone security is to ensure that software applications running on the iPhone come from known developers, and iOS mandates that applications run in a protected mode called the sandbox This means that iOS requires applications to run in a protected mode called a sandbox.
- Apple has offered an explanation on this point, as follows.
  - WebKit allows Apple to quickly and effectively address security and privacy issues, particularly as they pertain to security vulnerabilities. That is, security vulnerabilities need to be fixed quickly to reduce the possibility of exploitation by malicious parties, which is not possible if every iPhone browser uses its own browser rendering engine.
  - Because WebKit is a community-based technology, developers can track development in real time, download and test the latest versions, and easily identify and fix security issues.
  - Apple regularly measures the performance, power usage, memory usage, and response time of other web engines as part of its efforts to maintain WebKit's competitive advantage.

[Android devices]
- For mobile browsers on Android devices, the use of a specific browser engine is not mandated.
- Google describes Chrome's browser engine, Blink, as follows
  - The Blink browser engine is licensed free of charge under an open source license.
  - Third-party browser developers are free to add, remove, and customize features to differentiate themselves from other browser developers.

(Regarding web/applications)
- A website is a grouping of individual web pages that are linked together as related and can be accessed dynamically through the use of a browser.
- A web app is similar to a website in that it is designed to work through a browser, but is superior to a website in that it has more features than a regular web page, such as push notifications, and is an application built using common standards based on the open web.
- Since web apps are built using common standards based on the open web, developers only need to develop one web app that can be used on any OS browser, unlike native apps that are used via each OS's app store and need to be built separately for each OS. This is thought to contribute to the development of web services, since development and maintenance costs can be low, unlike native apps that are used via each OS's app store, which need to be built separately for each OS.

(About Progressive Web Apps)

- In the business of web apps, efforts are being made to implement progressive web apps (“PWAs”), which provide specifications and functions to make them look and work like native apps.
- PWAs have the same enhanced functionality as apps, allowing users to use them as if they were apps. They are also specifically designed to work on any platform, including desktop and mobile devices, to help developers more easily build cross-platform apps.
- Key features of PWAs include:
  - Improved searchability of web apps, as they can be discovered by search engines.
  - Like most apps, they work both online and offline.
  - Can send push notifications to users, just like apps.
  - They can be installed, so users can install the web app on their home screen and use it immediately.
  - When new content is published and the user connects to the Internet, it can be automatically updated and made available in the web app.

(Apple's Approach to Web Apps)

- Apple's approach to web apps is described as follows
  - Web apps have always been supported. Web apps have seen a resurgence in popularity with the advent of HTML5 and are increasingly being proposed as an alternative to other apps. In fact, Amazon, Microsoft, and Google have all recently released or announced plans to release web apps as an alternative to their native apps for iOS. Apple has not designed its system to limit the performance of web apps.
  - Unlike native apps distributed through the App Store, Apple cannot review web apps because it must balance the new features offered in web apps to ensure that they do not compromise user privacy and data security.
  - With the introduction of iOS 11, support was added for Service Worker, a programmable network proxy that is an essential component of PWA development.
  - WebKit, an open source browser engine, allows PWAs to run in Safari and other iOS browsers. While not all features available to native apps are available to web apps, various device features such as the camera, microphone, and sensors (accelerometer and gyroscope) can be accessed.
  - On the other hand, for certain categories of apps (apps that need to use the latest technologies, such as augmented reality or machine learning, or apps that store large amounts of data as cache), native apps are the only option.

(Google's approach to web apps)

- Google describes its approach to web apps as follows
  - Native apps designed for specific mobile platforms are better suited to take advantage of hardware features such as augmented reality. Web apps, on the other hand, have the advantage of running on any device with a browser. Despite these differences, web apps and native apps are largely interchangeable in

functionality.

- Our company is eager to expand the type and amount of content available to consumers, which will in turn motivate Google to support the delivery of both native and web-based services on Android.
- To support the expansion of web apps, the use of a specific browser engine is not mandated for mobile browsers on Android devices.
- In the case of native apps, they are developed for a specific OS and can access device hardware features (e.g., accelerometer or gyro sensor) through APIs provided by the Android OS, provided that the user has permission. Web apps, on the other hand, generally do not access the device's hardware because they function within the browser. In Android, on the other hand, web apps may access the device's hardware, such as the camera. Android web apps may also have some access to motion sensors such as accelerometers and gyroscopes.

2) Concerns

(Limitations on functionality of other browsers, impact on innovation by other browsers)

- The browser engine that can be used in iOS is limited to WebKit, and Apple has control over the source code underlying WebKit, so third-party browser developers cannot modify it themselves.
- This makes it impossible for these third-party browsers to innovate in terms of security, speed, and stability.
- In fact, it has been pointed out that only Apple can provide fixes for known WebKit vulnerabilities, and even if third-party browser developers find a strong and fast anti-malware solution, they will not be able to implement it.
- The same is true for privacy protection functions, which cannot be implemented even if developed by Apple, and it is pointed out that user protection functions in browsers developed by third-party browser developers will not be implemented.

(Impact on the development of web apps and the web as a whole)

- For the development of Web applications, browser engines are required to speedily provide supporting technologies. However, it has been suggested that Apple, the developer of the browser engine, may be delaying or not implementing technical changes to the browser engine that will contribute to the development of web applications.
- In this connection, regarding the functional differences between WebKit and Blink, according to a website (Caniuse) that compares browser engine functionality, the functionality is divided into categories (CSS (Cascading Style Sheets, related to web page decoration), HTML5, JavaScript, JavaScript-API, Security, and SVG (Scalable Vector Graphics, related to image formats). The results show that Blink covers more functions than WebKit in all categories except SVG as follows.

| | Blink | WebKit |
|---|---|---|
| CSS | 25 | 11 |
| HTML5 | 7 | 6 |
| JS | 2 | 1 |
| JS-API | 30 | 12 |
| Security | Security | 1 |
| SVG | 0 | 1 |

(Note) Comparison of Blink with ver. 98 for Android and with ver. 15.2-15.3 for iOS in the case of WebKit. Comparison based on the number of functions handled by the Caniuse site that are better equipped by either Blink or WebKit (functions that are provided by both Blink and WebKit or not provided by both are excluded). Site accessed February 25, 2022.

- In relation to this point, the following tangible observations can be made
  - Apple is preventing the expansion of web apps by limiting APIs, such as having a slow browser engine and not supporting some APIs easily, thereby preventing them from performing.
  - Apple has not improved its browser engine and is reluctant to implement the ability to install web apps.
  - For example, Safari and WebKit do not allow push notifications (information actively sent from the website to inform the viewer), do not allow Bluetooth connection to devices, and do not allow an App Manifest (Add to Home Screen (A2HS)) that defines the settings of the home screen icon. The browser generates a home screen icon based on these settings. The browser engine does not support the Service Worker (a mechanism that allows scripts written on a web page to be embedded in the web browser and run after the user leaves the page), but this support was delayed for three years.
  - Limitations in browser engine functionality lead directly to limitations in the development of the Web. The fact that Apple, the provider of one of only two, fairly dominant, mobile iOS, choices, does not improve its browser engine is a form of stopping the development of mobile web technology as a whole in the end.
  - The browser engine's limited functionality also leads to a monopoly on store billing. Support for so-called PWA technology, which works on an equal footing with native apps, is underway, but Safari is the most inactive in this regard. It is also seen as reluctant to implement the ability to install web apps, as it would bring a distribution method other than apps through the App Store.
  - Web apps are OS-independent, and if an application is created that runs on top of the browser, which is a must in the mobile ecosystem, it will run on any OS. As the number of such applications increases, OS switching costs and barriers to entry should decrease, but it is believed that the iOS side is working in such a way that this will not happen.
  - Apple's requirement that browsers use WebKit would stifle the development of the Web as a whole, slow the proliferation of Web apps, and reduce Web app

functionality to the bare minimum for developers who want to provide a consistent cross-platform experience.

- In response, Apple explained the following:
  - Push notifications and App Manifest are not enabled as WebKit features, but may soon be added as features since developers have asked Apple to add them.
  - WebKit's Web Bluetooth specification is not supported due to the high risk to user security and privacy, as it facilitates access to sensitive user information via Bluetooth-enabled peripherals such as Bluetooth keyboards.
- It was also pointed out that for both iPhone and Android devices, there are differences between native apps and web apps; for example, accelerometer and gyro sensors are not available in web apps.
- In this regard, Apple explained that access is possible. Google explained that access is possible to a certain degree.

3) Evaluation at the Present Time

(Limitations on functions of other browsers, impact on innovation by other browsers)

- Apple recognizes WebKit as the only browser engine that can be used on iOS because of its stability, performance, battery efficiency, privacy, security, and ease of use.
- However, the fact that WebKit provides security and privacy mechanisms is not necessarily a reason to discourage third-party browsers that do not rely on WebKit. This is because the functionality provided by WebKit is not always the highest quality protection, and it is quite possible that browsers provided by third-party providers that are not WebKit-dependent will offer higher quality protection.
- Even now, other mobile browser vendors offer their own security and privacy mechanisms, and it would not be reasonable to deny third-party providers' browsers that do not rely on WebKit entirely.
- Also, since Webkit source code cannot be modified by other browser vendors other browser vendors, for example, may have better security features but not be able to implement them. There may also be the problem of not being able to provide push notifications, which are important for enhancing the functionality of web apps.
- As for operation on iOS, optimization will not progress without allowing porting, so third-party browsers that do not rely on WebKit cannot surpass Safari in every aspect from the time of release, but a variety of functions should be provided by other browser vendors, and the choice of using them should be left to the user, not Apple.

(Impact on the development of web apps and the web as a whole)

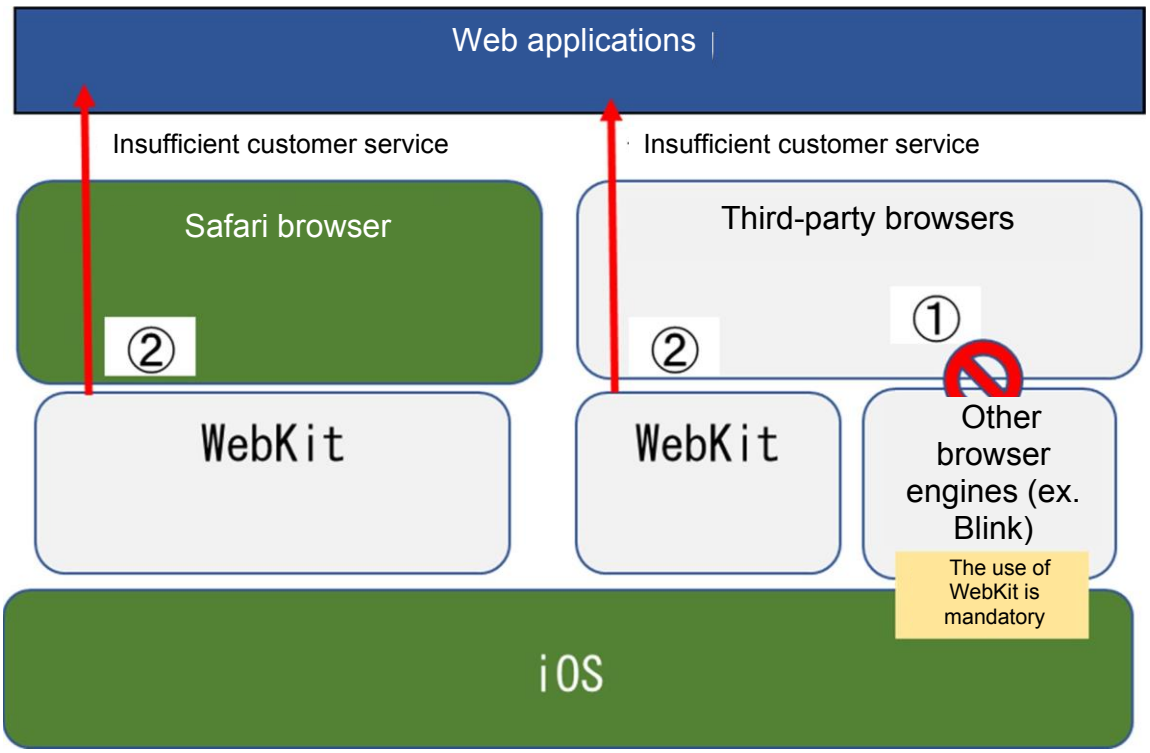
- Based on the platform providers' explanations, native apps and web apps are now recognized as almost functionally interchangeable.
- While Apple supports web apps, it must strike a balance between not compromising user privacy and data security, noting that unlike native apps distributed through the App Store, web apps cannot be vetted They also acknowledge that not all features available in native apps are available in web

apps. On the other hand, it explains that it supports the introduction of features such as Service Worker, which is essential for the development of PWAs.

- In this regard, it is apparent that they do not support or delay support for functions necessary for web apps in Safari and Webkit, including not supporting push notifications, which are not considered to have much to do with ensuring safety such as privacy and security. It is apparent that some companies either do not support or delay support for functions required for web applications in Safari and Webkit.
- Considering that the iPhone has about half of the users in the Japanese smartphone market, the lack of support for web apps and PWAs in Safari and WebKit may hinder the development of web apps.
- It is also pointed out that by not supporting or delaying the implementation of PWAs, Apple is preventing the spread of web apps that do not go through the App Store (which cannot collect up to 30% of payment fees).
- Google, on the other hand, explains that it itself is eager to expand the variety and quantity of its content, which motivates it to support the distribution of both native and web app services.

- As described above, Apple and Google have different stances on web apps.

(2) Competitive assessment at this point in time




(1) Limitations on other browsers' functions and impact on innovation by other browsers
(2) Impact on the development of web applications and the web as a whole

(Limitations on functionality of other browsers, impact on innovation by other browsers)

- Browser engines are required to have a high level of security and privacy to ensure safety, but the functions provided by WebKit are not always of the highest quality to ensure safety, and it is not reasonable to deny all third-party browsers that are not based on WebKit.
- Requiring the use of WebKit, whose modification authority ultimately rests with Apple, may result in missed opportunities for third-party providers to be creative in providing browsers and services, a decline in the provision of diverse value by a variety of providers, a decline in quality, a decrease in consumer choice, and the stifling of future innovation. If this is overlooked, fair and equitable competition between Safari and third-party operators' browsers in the mobile browser market may be impeded.

(Impact on the development of web apps and the web as a whole)

- Web apps are technically capable of replacing a significant portion of native apps, which is important from the perspective of the evolution of the Web as a whole.
- Web apps are also independent of operating systems and app stores based on them, and can reach customers without going through app stores. In light of these characteristics, the competitive environment in the entire mobile ecosystem should be improved by creating an environment where web apps and native apps can compete.
- However, the use of WebKit is mandatory on iOS, and as mentioned above, the functionality provided by WebKit for web apps is limited. For this reason, third-party browsers are forced to provide services based on WebKit, which is insufficient for web applications.
- As a result, competition among browsers may be inhibited through the ingenuity of third-party browser vendors.
- If the development of web apps is stifled in this way, not only could this hinder the evolution of the web as a whole, but it could also prevent competition between web apps and native apps from functioning adequately, thereby negatively impacting the competitive environment in the mobile ecosystem as a whole.
- In particular, in Japan, where the number of iPhone users is large, developers of web apps will not be able to reach a large number of users in the market, which may reduce their willingness to invest from the viewpoint of return on investment. There is also concern that the impact of the delay in Apple's browser support could be significant.
- Furthermore, if the development of OS-independent web apps is hindered, it may discourage new entrants in the OS layer, and also impair opportunities to reduce OS switching costs, thereby hindering competition in the OS layer.

(3) Options for response and main items for which we need your opinion

1) Options for response

If there are competition concerns as described above, what are the options for addressing them?

(Option A: Prohibit mandatory use of WebKit)

- Since the aforementioned competition concerns are due to the fact that Apple does not allow browsers by third-party providers that are not based on WebKit and that Apple has the authority to modify WebKit, it may be possible to disallow the

obligation to use a particular browser engine in this manner. This may be the case.

- Therefore, **it may be possible to introduce a rule that prohibits third-party providers of browsers from obligating the use of a specific browser engine when the browser is provided by an OS provider above a certain size.**

(Option B: Mandatory support for web applications)

- Even if Option A is implemented, it may not solve the problem that competition between native apps and web apps may be hindered by Apple's failure to make Safari sufficiently compatible with web apps.
- Therefore, in addition to Option A, **it may be possible to introduce a rule that requires that a provider of a browser that supports web apps provide the same functions in its browser that are provided in the browser on other mobile OSs.**

2) Status of Rule Considerations and Development in Other Countries

(Option A related)

- CMA Interim Report (Paragraph 7.71): [Summary] As one of the measures to promote competition in the supply of mobile browsers and browser engines (Remedy area 3), the CMA recommends “enhancing the functionality of third-party providers' browsers and ensuring their compatibility.”

(1) Allow Apple to use browser engines other than Webkit.
(2) (with appropriate privacy and security measures in place) provide and allow access to certain functions (including those to support web app functionality) to third-party providers' browsers that use Webkit on iOS (to which access is not granted).
(3) Allow Apple and Google to allow third-party browsers to access the same APIs as their own.

(Option B)

- CMA Interim Report (7.38, 7.39): [Summary] The CMA positions the proliferation of web apps as a measure to promote competition at the OS layer.
  (Mobile OSs offer a large number of applications to attract a large number of users and to differentiate themselves, which is a barrier to entry for OSs. The proliferation of web apps that can be used on any OS will reduce the barriers to entry for new OSs.)

(7.61 and 7.62): [Summary] Potential interventions to support the development and use of web apps more widely are under consideration. App developers generally do not currently view web apps as a viable alternative to native app development, largely due to a combination of limited/restricted functionality within Apple's ecosystem, which undermines developers' incentives to invest in web apps. This is undermining the incentive for developers to invest in web apps. Therefore, we request that Apple improve support for web apps within its ecosystem.

3) Main comments on this item

[The main items on which we would like your feedback]

1 Further information on facts and concerns

Do you have any further information (e.g., additional examples, supplements, etc.) regarding the facts and concerns?

2 About Apple's WebKit

Is it a reasonable explanation to say that the reason why WebKit does not support, for example, Bluetooth connection with devices is because of the high risk to user security and privacy?

Are there any further specific examples of restrictions on developers' business caused by inadequate support for web app functionality in WebKit?

3 Effectiveness of new regulations, etc.

Are Options A and B effective in solving the problem? What are the advantages of either option?

Are there any other measures other than Option A and B that are expected to be effective in solving the problem?

For Option B, what specific schemes could be considered to ensure support for web apps? For example, requiring the provision of functions that are provided by browsers on other mobile OSs and requested by web service providers, etc.

4 Costs and risks associated with implementation of new regulations, etc.

What costs and risks (e.g., security, privacy, etc.) would be incurred in implementing Options A and B?

- What measures could be taken to mitigate these problems?
- If there are cases where exceptions to regulations should be allowed, what are the specific justifications for allowing such exceptions?

**12. access restrictions on browsers for OS functions (Apple)**

(1) Facts and evaluation of issues based on the facts

1) Facts

- When using a browser to browse a website, the browser may operate while accessing various OS functions, but browsers from third-party vendors may not have the same level of access as browsers from OS vendors and may not be able to use browser engines in the same way.
- Apple has offered an explanation of this matter as follows:
  - We do not actively impose restrictions that would prevent Safari features from being available in third-party mobile browsers.
  - When Apple introduces new features and products, we work hard to make those technologies available to third-party developers. In fact, Apple releases numerous new APIs, iOS and iPad OS technologies and features every year (currently over 250,000 APIs).
  - In some cases, features that are ultimately available via WebKit are developed in Safari and then made widely available in other WebKit-based mobile browsers. Because Safari is Apple's browser, Apple can efficiently design, test, modify, and launch features and ensure that new features do not compromise user privacy or security.
  - As a general strategy, we make WebKit features available to third parties, and we do not withhold features to the detriment of third parties. With regard to the point that some Safari features are not currently available in third-party browsers, this is due to time and resource constraints, technical barriers to making the features widely available without jeopardizing security, performance, or privacy, and such functionality, and the lack of obvious third-party demand for such functionality.
  - Some sensitive features may be disabled if they could jeopardize the user's security, safety, or privacy. Apple provides VoiceOver, a built-in screen reader, as an accessibility tool for the visually impaired, but Apple cannot grant third-party developers unrestricted access to VoiceOver. This is because giving third parties unrestricted access to all content available on a user's screen could pose a serious risk to user security and privacy.
  - Even without explicit third-party requests for functionality, functionality is provided to third parties as quickly and extensively as possible without compromising security, performance, or privacy.
  - We believe the current situation is pro-competitive and strikes a balance between innovation and protection of security, performance, and privacy.

2) Concerns

- If there were private APIs that could only be accessed by OS vendors' browsers or to which third-party developers of browsers were restricted, there could be a

concern that third-party developers of browsers would be at a competitive disadvantage in terms of equal footing.

- In fact, it has been pointed out that some iOS functions have private APIs that only Apple's Safari can access, which gives Apple an advantage, and third-party developers cannot develop browsers similar to Safari.
- For example, on iOS, only UIWebView, a web viewer function with many limitations, is available, and it is four times slower than Safari without the just-in-time (JIT) engine and Nitro, and in 2015, UIWebView was replaced by Although some of the restrictions were lifted with the change from UIWebView to WKWebView in 2015, it is pointed out that third-party browsers were at a disadvantage compared to Safari.
- Apple explains these points as follows.
  - Alternative engines that use the JIT compiler pose a significant security threat because JIT provides an attack surface that attackers can exploit to gain access to iPhone devices (this is one of the reasons Apple does not allow the use of alternative browser engines).
  - Nitro is the JavaScript engine built into WebKit and refers to JavaScriptCore. WKWebView replaced UIWebView in iOS 8, and WKWebView is compatible with JavaScriptCore and can be used in third-party browsers other than Safari.
  - For privacy, security, and performance reasons, browsers with browser engines other than WebKit are not permitted on iOS devices.

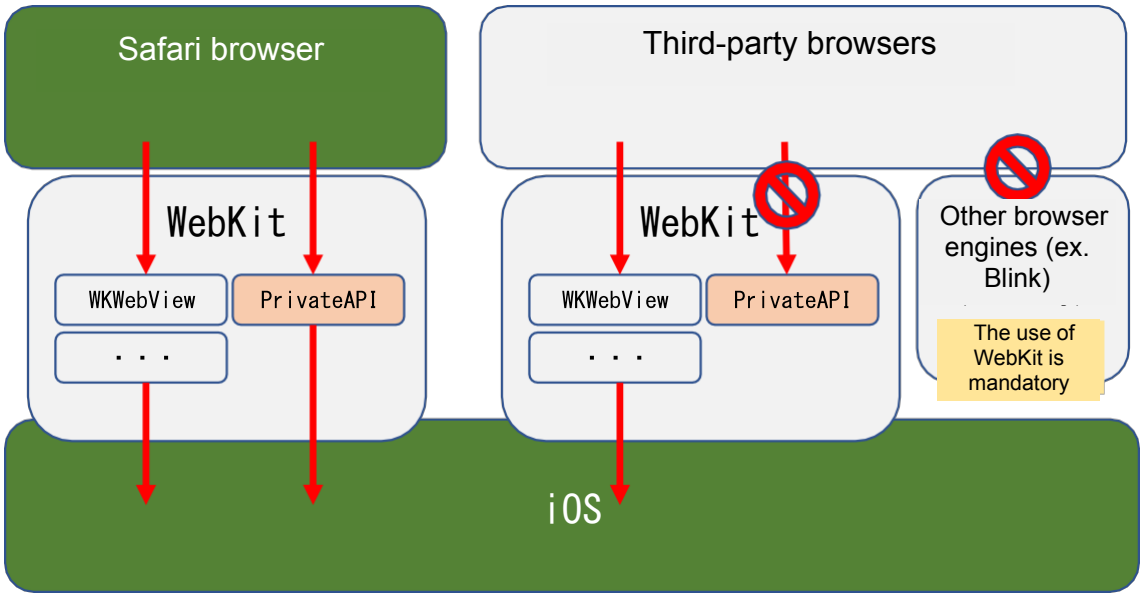
- It has been pointed out that some APIs that can only be used by standard OS browsers are being used for graphics, IME (Input Method Editor) functions, and OS-specific functions.
- Apple explains this point as follows.
  - Not true. For example, WebKit on iOS supports WebGL1 and WebGL2, JavaScript APIs for rendering interactive 2D and 3D graphics.
  - Apple is also currently working on WebGPU, which exposes APIs for performing operations such as rendering and computation on a graphics processing unit (GPU).

3) Evaluation at the Present Time

- Apple explained that it will not actively impose restrictions on browsers that are not available from third-party providers, but that depending on the situation, it may develop features in Safari that will eventually be available via WebKit, and then make them widely available in other WebKit-based mobile browsers.
- In other words, Apple acknowledges that certain features will be provided to third-party browsers later than in Safari (or not provided at all). The reason for this is that Safari is Apple's browser, which allows Apple to efficiently design, test, modify, and launch features and to ensure that new features do not compromise user privacy or security.
- However, Apple's provision of features does not always provide the highest quality protection, and browsers provided by third-party providers sometimes provide higher quality protection, so this explanation lacks validity.
- As for the adoption of WKWebView in place of UIWebView in iOS 8, the performance problem of third-party providers' browsers due to UIWebView

seems to have been improved.

(2) Competitive assessment at this point in time




- There is a possibility that access to some functions of the OS, etc. may be restricted for browsers of third-party providers. In addition to the existence of functionality that only Safari can access (private APIs), it is also likely that Safari will be given priority access to them. However, access to such functionality for other WebKit-based mobile browsers may not be available for some time to come.
- As a result, equal footing between Safari and other browsers may be prevented in favor of Safari, which can use iOS features, and put third-party operators' browsers, which cannot use some of them, at a competitive disadvantage.
- This may result in third-party browser operators missing opportunities to exercise ingenuity in their services, a decline in the provision of diverse values from a variety of operators, a decline in quality, a reduction in consumer choice, the stifling of future innovation, and more.

(3) Options for response and main items for which we need your opinion

1) Options for response

What are some of the options for addressing the above competitive concerns?
(Option A:Ensure that other companies have the same access to their browser's OS and other functions)

- The aforementioned competition concerns stem from the fact that, in providing a browser on iOS, third-party operators are allowed access to certain iOS features that are only accessible to Apple' s own browser. For that reason, it may be necessary to consider a framework to prohibit/restrict such access restrictions.
- Therefore**, it may be conceivable to introduce a rule that would obligate an OS provider that provides a browser above a certain size to allow other**

**browser providers the same access to its own OS and other functions.**

2) Status of Rule Considerations and Development in Other Countries
(Option A related)

- Article 6 (f) of the DMA Bill
  - Grant business users, service providers, and hardware providers access to and interoperability with software or hardware functionality that is accessed or controlled through the OS which is available to the Gatekeeper in providing services or hardware. (However, Gatekeepers are permitted to take measures to prevent interference with the OS and other functions and to protect user data and respond to cybersecurity issues.)
  - Grant the provider of ancillary services access to and interoperability with any software or hardware functionality available to the Gatekeeper in providing ancillary services, regardless of whether it is part of the OS.
- DMA Bill 6 (k).
  - Terms that are applied to core platform services must be no less favorable than those applicable to its own services for business users, and general terms of access must be transparent, fair, reasonable, and non-discriminatory.

- U.S. Choice and Innovation Act (House of Representatives), § 2 (b) (1).
  Prohibits the Platform from restricting or interfering with the ability of business users to access or interoperate with the same platform, operating system, hardware, and software functionality available to the Platform's own products, services, or business
- Section 19a Paragraph 2, Item 5 of the German Act on the Prohibition of Restraint of Competition
  Prohibits the denial or greater difficulty of interoperability or data portability of products and services, thereby impeding competition
- CMA Interim Report (Paragraph 7. 71) (2)
  Provide and allow access to certain functionality (including web app functionality) that is not permitted to be accessed by third-party provider browsers using Webkit on iOS (with appropriate privacy and security safeguards in place).

(3) Primary items on which we would like your feedback

[The main points of this matter for which we would like your opinion]

1. Further information on facts and concerns
   - Do you have any further information (e.g., additional examples, supplements, etc.) regarding the facts and concerns?
2. Examples of access restrictions that have a significant impact on the business activities of browser providers
   - Are there any other specific examples of access restrictions that have a significant impact on the business activities of browser providers, and what would be the benefits if such access is granted?
3. Effectiveness of new regulations, etc.
   - Is Option A effective in solving the problem? What benefits would there be?
   - Are there any other measures other than Option A that could be expected to work effectively to solve the problem?
4. Costs and risks associated with implementation of new regulations, etc.
   - What costs and risks (e.g., security, privacy, etc.) would be associated with the implementation of Option A?
   - What measures could be taken to mitigate these problems?
   - If there are cases where exceptions to regulations should be allowed, what are the specific justifications for allowing such exceptions?

**13. Limitations in browser extensions**

(1) Facts and evaluation of issues based on the facts

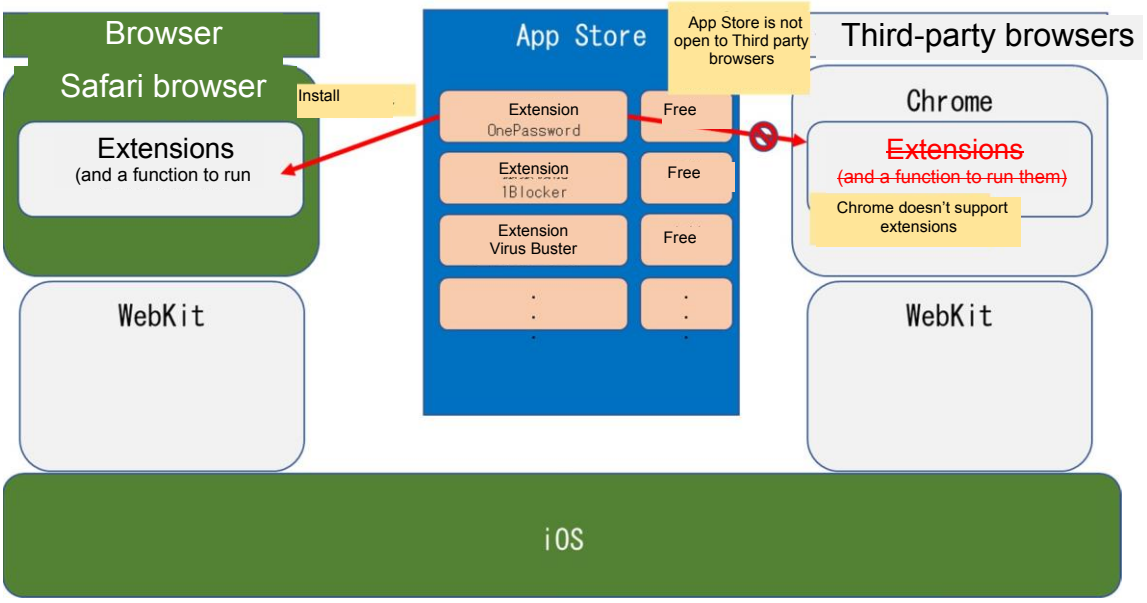
1) Facts

- Browser extensions are programs that increase or enhance the functionality of the browser used, and are available not only from the browser vendor itself, but also from other vendors offering various types of extensions.
- For example, OnePassword, released on iOS15, allows users to sync their passwords with other devices by adding the OnePassword extension to the browser they are using.

[Apple]

- Browser extensions have been released for iOS 15. However, third-party browser developers cannot access extensions through the App Store because Apple does not allow third-party developers of browsers to offer (install) extensions through the App Store.
- As a specific example, OnePassword and Safari can be linked, but not with browsers from third-party providers.

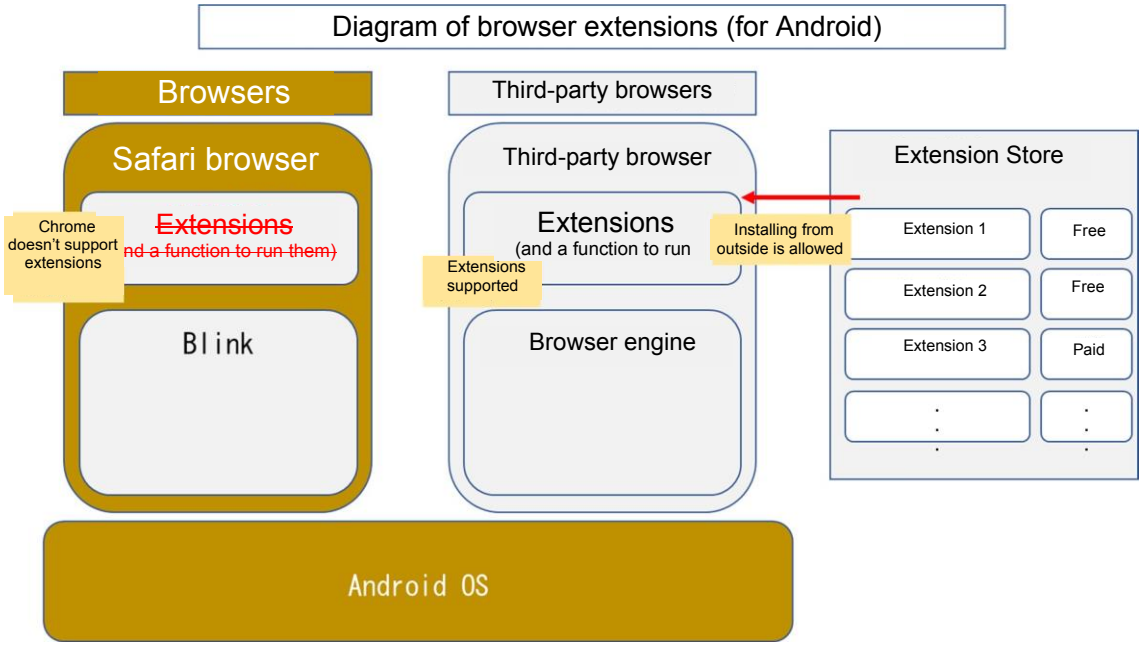
Diagram of browser extensions (for iOS)




- ○ Apple explains this point as follows.
  - To provide users with a high level of security and privacy, Safari web extensions are distributed through the App Store after a thorough review process. Due to limited time and technology for the necessary testing, iOS does not currently support browser web extensions from third-party operators.
  - It cannot be said that there will be a possibility of adding this feature to third parties in the future.
  - Depending on the circumstances, features that will eventually be available via WebKit may be developed in Safari and then made widely available through other WebKit-based mobile browsers. This will ensure that the new features do not jeopardize user privacy or security.
  - Minimizing threats to user privacy and security while making new features available in third-party browsers requires enormous resources, but we are working diligently.

[Google]

- ○ Google has made it possible for PCs to install extensions provided by third-party extension vendors into the Chrome browser, but the ability to run extensions via the Chrome browser on Android devices is not provided[28]. For example, when you try to download an extension from a third-party vendor, such as one for expanded privacy protection, when using the Chrome browser, you will get a warning message.
- ○ Note that on Android devices, the support of extensions from other browsers besides Chrome is not precluded.




2) Concerns

[Apple]

○ If iOS does not support the provision of web extensions for third-party providers' browsers while supporting those in Safari, browsers by third-party providers on iOS may be hindered from implementing the same or better functionality as Safari.

28 Google has explained that these reasons are not information that is publicly available.

- For example, OnePassword and Safari are compatible, but not through third-party providers' browsers, which could make Safari a more feature-rich browser compared to those of third-party providers.

[Google]

- Extensions are not supported in Chrome. While Chrome, along with Safari, is used by a large number of users, it does not allow users on mobile devices to do what it allows on desktops. This imposes restrictions on the way users view the Internet using various services, and there are concerns that this hinders the development of the Web and undermines the various entities operating on it that provide extended functionality via extensions.
- For example, it has been pointed out that Google' s lack of extension support for the Chrome browser prevents third-party extension vendors from providing extensions such as ad blockers.

3) Evaluation at the Present Time

[Apple]

- From Apple's perspective of ensuring security and privacy, Safari web extensions are distributed through the App Store after a thorough review process, but due to the limited time and technology available for the necessary testing, iOS currently does not support third-party operators' browser. The company admitted that third-party browser developers cannot access the extensions.
- In this regard, it is questionable whether it is reasonable to require third-party browsers to use WebKit and have them go through the App Store' s review process (moreover, the company claims that it has limited resources for the review process).
- Based on the fact that third-party browser extensions for the Android OS are reviewed by the third-party browser vendors themselves and only the safe extensions are distributed, it could technically be made possible for third-party providers of browser services to individually review and make their services available, as there are no technical constraints that prevent them from doing so.

[Google]

- Unlike Apple, third-party browser vendors can provide extensions on Android, as there are no browser engine restrictions.
- On the other hand, Google supports extensions for the Chrome browser on PCs, but does not support Chrome extensions on mobile devices.
- In this regard, it is not possible to easily turn on extension support from the source code, and a certain amount of development effort is required. However, considering that there are several Chromium-based browsers for which third-party browser vendors have achieved some level of support, there is no reason why Google's engineering resources cannot support extensions. Rather, there is concern that they may be controlling the behavior of mobile browsers and preventing the introduction of extensions to mobile that are undesirable to Google such as ad blocking, for example.

(2) Competitive assessment at this point in time

- If Apple were to support extensions for Safari on the iPhone while not supporting web extensions for third-party vendors' browsers, third-party vendors may be hindered from implementing functionality equivalent to or better than Safari on the iPhone, and it would be difficult to implement such functionality on iOS. This could hinder fair and equitable competition between Safari and third-party browsers on iOS.
- This may reduce the room for competition, and third-party browser operators on iOS may miss opportunities for creativity in service provision, which may reduce the provision of diverse value by various operators, degrade quality, reduce consumer choice, and stifle future innovation at its source.
- On the other hand, in the case of Android devices, Chrome, the most popular browser for Android devices, does not support extensions, which may hinder competition in the development of extensions, thereby hindering the extensibility and customization of mobile browsers.
- This may also reduce competition in web services by leveraging browser extensions to provide new value.
- These could adversely affect the development of browser extensions, various innovations in web services, and competition through them.

(3) Options for response and main items for which we need your opinion 1) Options for response

What are some of the options for addressing the above competitive concerns?

(Option A: Mandatory provision of extensions)

- The lack of support for Chrome extensions on Android devices is a cause for competition concerns. Therefore, it may be possible to introduce a regulation that requires the browser to support extensions for the convenience of users of web services when an **OS provider** above a certain size provides a browser.

(Option B: Ensure access to extensions)

- There are competitive concerns on the iPhone that cannot be resolved by Option A. Therefore, when third-party providers offer browsers on iOS, if they provide support for Apple's own browser or third-party browsers among the extended functions offered on iOS, they should consider a framework for providing equivalent support so that Apple's browser has a competitive advantage and other companies are not placed in a disadvantageous position.
- Therefore, in addition to Option A, it may be possible **to introduce** a rule that requires third-party browsers **to** provide the same functionality as an **OS provider** that is above a certain size when it provides a browser and the functionality for its own browser.

2) Status of Rule Considerations and Development in Other Countries

(Option B)

- Article 6 (f) of the DMA Bill
  - Grant business users, service providers, and hardware providers access to and interoperability with software or hardware functionality that is accessed or controlled through the OS which is available to the Gatekeeper in providing services or hardware. (However, Gatekeepers are permitted to take measures to prevent interference with OS and other functions and to protect user data and respond to cybersecurity issues.)
  - Grant the provider of ancillary services access to and interoperability with any software or hardware functionality available to the Gatekeeper in providing ancillary services, regardless of whether it is part of the OS.
- U.S. Choice and Innovation Act (House of Representatives), § 2 (b) (1).
  Prohibits the Platform from restricting or interfering with the ability of business users to access or interoperate with the same platform, operating system, hardware, and software functionality available to the Platform's own products, services, or business

- Section 19a Paragraph 2, Item 5 of the German Act on the Prohibition of Restriction of Competition
  Prohibits the denial or greater difficulty of interoperability or data portability of products and services, thereby impeding competition
- CMA Interim Report (Paragraph 7. 71) (2)
  Provide and allow access to certain functionality (including web app functionality) that is not permitted to be accessed by third-party provider browsers using Webkit on iOS (with appropriate privacy and security safeguards in place).

(3) Primary items on which we would like your feedback

[The main points of this matter for which we would like your opinion]

1 Further information on facts and concerns
- Do you have any further information (e.g., additional examples, supplements, etc.) regarding the facts and concerns?

2 Effectiveness of new regulations
- Are options A and B effective in solving the problem? What are the advantages of either option?
- Are there any other measures other than Options A and B that could be expected to work effectively to solve the problem?

3 Costs and risks associated with implementation of new regulations
- What costs and risks (e.g., security, privacy, etc.) would be incurred in implementing Options A and B?
- What measures could be taken to mitigate these problems?
- If there are cases where exceptions to regulations should be allowed, what are the specific justifications for allowing such exceptions?

**14. Switching costs (due to browser registration and data linkage)**

(1) Facts and evaluation of issues based on the facts

1) Facts

- Apple describes the mechanism by which user ID/PW information, bookmark information, etc. managed by each browser can be transferred when a user switches to another browser as follows.
  - iOS allows users to easily access passwords stored in iCloud Keychain or third-party password managers from different browsers. Third-party browsers can also provide suggested passwords that they set themselves or autofill passwords stored in third-party password managers (including iCloud keychain).
  - Web and browser developers could also use Sign in With Apple, which would allow users to easily sign in to web and browser developer properties using the Apple ID associated with their iOS device.
- Google explains this point as follows:
  - Users could use Chrome to export and download personal data stored in their Google Account, such as bookmarks and autofill information (e.g., saved passwords).
  - This data can be archived or used in another service. If a user wants to switch browsers, they can export their Chrome bookmarks as HTML files and load them into another browser in a few simple steps.

2) Concerns

- If a user wants to switch to another browser, but the user's ID/PW information managed by each browser and bookmark information related to browsing cannot be easily transferred, the user will feel inconvenienced and will not be able to switch to the other browser.
- This raises concerns about whether or not there is a mechanism in place that can work with other browsers.

3) Evaluation at the Present Time

- In terms of encouraging competition, Apple explains that the system allows users to transfer their ID/PW information and bookmark information related to browsing when they switch to another browser, and that “users can easily access their passwords stored in iCloud Keychain or third-party password managers from different browsers. Although it can be said that at least interoperability of ID/PW with browsers of third-party providers is ensured, it is doubtful that it will lead to switching browsers if not only interoperability but also transferring is not possible. However, it is questionable whether this will lead to switching browsers if not only interoperability but also transfer is not possible.
- In addition, no special explanation was given by Apple regarding the handling of other information such as bookmarks that may affect switching.
- Google explained that personal data stored in Google Accounts, such as bookmarks and autofill information (e.g., saved passwords), can be archived or used for other services.
- As described above, there are differences between Apple and Google in the

handling of ID/PW information, bookmark information related to browsing, and other information that can be returned to the user and transferred to other browsers for use.

(2) Competitive assessment at this point in time

○ The user interface, which stores the user' s password, browsing history, etc., is part of the browser's main functionality, and if users want to switch to another browser and cannot easily transfer their ID/PW information managed by each browser or bookmark information related to their browsing, they will not be able to switch to another browser due to the hassle involved. If users want to switch to another browser, but they cannot easily transfer their ID/PW information, bookmark information, etc., which are managed by each browser, they will be locked in to their current browser, and competition among browsers may not be sufficiently fierce.

(3) Options for response and main items for which we need your opinion

1) Options for response

If there are competition concerns as described above, what are the options for addressing them?

(Option A: Ensuring data portability of browser services)

○ **In cases where an OS provider above a certain size provides a browser, the data obtained when an end user uses the browser provided by the provider shall be transferred to another browser upon request from the end user or a third party approved by the end user**, without the need for a tool to facilitate the effective exercise of the portability of the data. It may be possible to **introduce a rule** requiring the provision, free of charge, on a continuous basis and in real time, of tools to facilitate the effective exercise of such data portability upon request by such end user or a third party authorized by such end user.

○ In this case, it may be possible to consider interoperability of services by using machine-readable and general-purpose formats to ensure effective data portability.

2) Status of Rule Considerations and Development in Other Countries

(Option A related)

○ DMA Bill 6 (h)

- The Gatekeeper may provide the end user or a third party authorized by the end user, upon request, with the effective portability of data provided by the end user or resulting from its activities in connection with its use in the core platform services concerned, and tools to facilitate the effective exercise of the portability of such data, including the provision of continuous and real-time access, shall be provided free of charge in accordance with (EU) 2016/679.
  (In addition, Article 2 (2) (fa) of the bill defines “web browsers” as “core platform services.”)

(3) Primary items on which we would like your feedback

[The main items on which we would like your feedback]

1 Further information on facts and concerns
- Do you have any further information (e.g., additional examples, supplements, etc.) regarding the facts and concerns?

2 Effectiveness of new regulations
- Is Option A effective in solving the problem? What benefits would there be?
- Are there any other measures other than Option A that could be expected to work effectively to solve the problem?

3 Costs and risks associated with implementation of new regulations
- What costs and risks (e.g., security, privacy, etc.) would be associated with the implementation of Option A?
- What measures could be taken to mitigate these problems?
- If there are cases where exceptions to regulations should be allowed, what are the specific justifications for allowing such exceptions?

**14. [Leveraging leading web services to gain a competitive advantage in other layers, etc.]**

**15. The impact on browsers due to specification changes in leading web services**

**(Google)**

(1) Facts and evaluation of issues based on the facts

1) Facts

- Normally, Chromium-based browsers are supposed to be able to introduce updates at the same time as Chrome.
- When new technical features are introduced in web services such as Google Search or YouTube, each browser may not be able to support the feature at the same time.
- For Google Search, different versions of the search service are provided to third-party browsers based on objective criteria: the browser's technical specifications.

2) Concerns

○ There is concern that leading web services, such as YouTube and search services, may not be compatible enough with third-party browsers to provide the latest functionality, or that new technical features may be introduced unilaterally, forcing third-party browser vendors to respond to such changes.

○ The following specific points are made in this regard:
- When using browser-only codes on YouTube and other sites, problems that can be addressed using standardized technology are not corrected for a long period of time, and the service often continues to operate in a way that

places users of browsers other than Chrome at a disadvantage.

- YouTube and Google Search favor Chrome. Google Search has a mobile version and a PC version, but there are also several versions within the PC version which include the ability to do incremental searches. The latest and most useful features, such as search results screens and pop-up displays, were often provided only in Chrome, and third-party browsers did not offer the same services.
- In YouTube, there was a behavior that did not seem to value compatibility between browsers. For example, YouTube' s WebP (*a next-generation still image format with a high compression ratio developed by Google) video preview. This image format was proposed by Google and implemented in Chrome in 2010, but third-party browsers that had been around since the time of its proposal announced that they did not support it, and provided comparative research with JPEG and JPEG encoder improvements. However, a problem occurred in which Google provided YouTube video previews only via WebP, and the relevant third-party thumbnails were not visible in the Windows browser. With the increase in the number of sites that do not work with the third-party browsers in question, we had no choice but to increase the priority of compatibility support, and in 2019, the third-party browsers in question will also support WebP.
- The WebP video preview was not something that could not be implemented due to technical sophistication on the part of other browsers and operators, but rather it was something that they refused to support because they decided that WebP was not a good thing. Supporting any media file that is not good will continue to bloat and increase memory usage, etc. Google is in a position where it can and is using each of Google' s services, such as YouTube, to put pressure on what browsers should support in short, in promoting the standardization of the Web, they should be on an equal footing, but they are exerting their dominance by owning influential services such as YouTube and controlling the browsers.
- In order to achieve YouTube's animation FPS (animation speed), Google had been using a non-standard and hack code technique that could only be used in Chrome, even though the same performance could be achieved by adding a few lines of code to the standard functionality of a certain third-party browser. This non-standard, hack-code technology had been in use for a long time, causing some devices with third-party browsers to have animations that were too jerky to pass authentication. This is one example of how the favorable implementation of the company's own browser alone is affecting the competitive environment in many different directions.
- On the other hand, incremental search had been provided for Chrome in a version that worked with other browsers, regardless of browser support or API support, but for some reason, older or degraded implementations were provided exclusively to other browser providers.
- A recent example is the calculator function on Google.com; it does not work

on some other browsers because they only tested it on Chrome. It may be that they don't want to do this because of the difficulty of multi-browser support, but the cost is negligible in terms of the size of Google's sales.

- Even if other browsers and developers are rejecting it, Google may continue to implement it, make it de facto, and use it only for its own services. It is also a fact that when compatibility issues arise when both other browsers and the company's own browser already support both browsers, the other browser side will often fold. Google, which has many times more development power than other browsers, often says it does not know about the problem and forces other browsers to fix it. When we interviewed the engineers on site, we found that there are various cases, and the communication with Google remains in the open, so it seems that communication with other browsers in this regard is not being done in a smooth manner.
- Since it has happened many times that Google has bugs but does not fix them, and other companies make the final fix to the specifications, Google must also make an effort to fix them. Since Google has sufficient internal resources, they should properly scrutinize the new specifications internally before implementing them, taking compatibility with other browsers into consideration. For specifications that already exist, more effort should be made to ensure compatibility. Those who are building a monopoly will have the responsibility that comes with it: the responsibility of fair implementation.

3) Evaluation at the Present Time

- In response to the fact that the service is operated in a way that disadvantages users of browsers other than Chrome, and that compatibility between browsers is not sufficiently ensured, Google argues that it is not in Google's interest to impede compatibility between browsers because it would reduce the value of the ecosystem for users. However, even with this argument, the aforementioned concerns have yet to be dispelled.

(2) Competitive assessment at this point in time
(Concerns about impeding fair competition among browsers using the determination of specifications, etc., in leading web services)

- Google, which provides a browser, is also developing web services such as Search and YouTube, which are extremely popular. For other browser providers, the ability to offer users access to these leading web services, including newly-introduced features, at the same quality as others is a factor that could affect the competitiveness of their browsers.
- Under these circumstances, if the latest functions are not provided to third-party browsers for these leading web services and compatibility between browsers is not sufficiently ensured, or if new technological functions are introduced unilaterally, the quality of services provided outside of Chrome may decline, and the quality of services provided by third-party browsers may be degraded.
- In particular, if a third-party developer introduces a feature that other browser developers have doubts about, the third-party developer may be forced to bear

the cost of introducing the feature and reviewing the specifications to resolve bugs in the process. As a result, the developers of search services may be forced to bear the cost of introducing such functionality into their browsers and reviewing the specifications to resolve bugs in the process.

- As a result, there is a risk that their own browsers will have an advantage in competition, using leading web services such as search services and YouTube as leverage, and that fair and equitable competition among browser providers will be hindered.

(3) Options for response and main items for which we need your opinion

1) Options for response

What are some of the options for addressing the above competitive concerns?

(Option A: Setting/changing specifications due to leading web services prohibition of preferential treatment of its own browser)

- It is considered necessary to place certain restrictions on the actions of browser operators that favor their own browsers by determining the specifications of their leading web services.
- Therefore, it may be **possible to introduce a rule prohibiting providers of operating systems above a certain size from giving preferential treatment to their own browsers compared to competing browsers in setting or changing the specifications of their own web services above a certain size when they provide browsers.**

(Option B: Disclosure of information, appropriate responses to inquiries, reviews, etc. related to setting or changing website)

- Apart from a general prohibition against preferential treatment of one's own browser in Option A, it is also possible to ensure predictability and transparency by, for example, providing new specifications that take compatibility into account on websites and establishing a process for dialogue with other browser providers to ensure that there are no differences in timing or content of introduction. It is also possible to address the aforementioned competitive concerns by ensuring compatibility among browsers through a process that provides a forum for dialogue with other browser operators to ensure that there are no differences in the timing or content of introduction.
- Therefore, as an alternative to Option A, when an OS provider above a certain size provides browsers, **when setting or changing the specifications of its own web service above a certain scale, a possible direction would be to develop a response package in which necessary actions are stipulated in (a) - (c), and the status of implementation is confirmed in (d), as described below.**
- **In particular, in cases where there is a risk of serious and imminent harm to affected businesses as a result of rule setting/changes, it may be possible to further develop a response package that incorporates (e) intervention by the regulatory authorities.**

[Supported Packages]

a. **Provide advance notice with sufficient time to set up or change web service specifications**
b. **Appropriate disclosure of information regarding setting and changing web**

**service specifications**

c. **Establish procedures and systems for inquiries from browser developers**

d. **Reporting of operational status to the government and Monitoring and review by the government**

e. **(where there is a risk of serious and imminent harm to affected businesses as a result of the rule setting/changes) the necessary collaborative process incorporates the regulatory authorities(consultation), injunction, etc.**

(2) Status of rules development and consideration in other countries
(Related to Option A)

- Article 6 (d) of the DMA Bill
  - Not to treat services or products offered by the Gatekeeper itself or by third parties belonging to the same entity more favorably in ranking or other settings than similar services or products of third parties, and to apply transparent, fair and non-discriminatory terms to such third party services or products.

- CMA Interim Report (7.71a)

Measures to improve browser functionality and interoperability

- We conclude that an important factor in Apple and Google's market dominance with respect to mobile browsers is the restrictions that both companies (especially Apple) can impose on competing browsers. Possible interventions to remove these limitations include:
- API access to competing browsers : There is also concern about differences in available APIs between third-party browsers and Safari or Chrome. This could be remedied by requiring Apple and Google to ensure that all browsers in the mobile ecosystem have direct access to equivalent features and functionality via APIs. To the extent that some APIs and other features are proprietary to Apple or Google and could increase costs, such interventions would need to mandate conditions of interoperability in the form of providing access on fair and reasonable terms. Guidance on how this would work in practice would also be necessary.

(Related to Option B)

- DMA Bill Article 22. 1.
  - In urgent cases of threat of serious and imminent harm to the business users or end users of the Gatekeeper, the Commission may, upon a prima facie finding of a violation of Article 5 or 6, Gatekeepers can be ordered to take interim measures in accordance with the consultation procedure provided in Article32.

(3) Primary items on which we would like your feedback

[The main items on which we would like your feedback]

1 Further information on facts and concerns
- Do you have any further information (e.g., additional examples, supplements, etc.) on the facts and concerns?

2 Effectiveness of new regulations
- Is Option A or B effective in solving the problem? And what are their benefits?
- Which of Options A or B is effective?
- Are there other measures other than Option A or B that could be expected to work effectively to solve the problem?

3 Costs and risks associated with implementation of new regulations
- What costs and risks (e.g., security, privacy, etc.) would be associated with the implementation of Option A or B?
- What are some possible measures to alleviate this problem?
- With respect to Option A, what specific justifications, if any, should be considered for granting exceptions to regulations, etc.?

**16. Standardization of technologies that give a company an advantage in searches (Google)**

(1) Facts and evaluation of issues based on the facts

1) Facts

- The file format using a technology called AMP (Accelerated Mobile Pages) was introduced in October 2015.
- Google describes AMP as follows:
  - The goal is to promote fast loading of content and thereby a superior user experience, so that users are not discouraged from accessing a web page because it takes too long to load. Users, publishers, and search engine operators such as Google have similarly requested that web pages containing rich content such as video load quickly, regardless of the type of device the user uses.
  - AMP is an open-source project, and is open to developers, publishers, websites, distribution platforms, and other technology companies (including publishers such as Washington Post, NY Times, Buzzfeed, The Guardian, Twitter, Pinterest, Adobe Analytics, and others). technology partners such as Twitter, Pinterest, Adobe Analytics and LinkedIn), which has resulted in innovation through partnerships.
  - Previously, for technical reasons, the content was not displayed in the top story carousel to appear in the AMP, but this is no longer the case. The Company implemented AMP as a requirement for content in its Top Stories

carousel in February 2016. The reason for implementing this requirement is to optimize the mobile web user experience by ensuring a fast loading experience for Top Stories while continuing to protect user privacy. That is, caching Top Stories in a privacy-protected manner so that users can quickly load Top Stories and quickly browse other content by swiping from one AMP story to the next across the entire screen. Subsequently, as part of the search ranking changes announced in May 2020, the AMP requirement was removed from the Top Stories eligibility requirements. In order to continue prioritizing a superior user experience, the Page Experience metric was incorporated into the ranking criteria for the Top Stories feature for search on mobile, and this change was made after research concluded that users prefer sites with a superior page experience This change was made after research concluded that users prefer sites with a superior page experience. Page experience signals include loading time, interactivity, visual stability, being mobile-friendly, HTTPS security, etc.

- A core part of the AMP ecosystem is the use of caching, which requires content to be delivered to users preloaded from a third-party AMP cache, rather than directly from the publisher's website. Since AMP was introduced in 2015, Google has delivered AMP pages from AMP caches stored on Google's servers (Google AMP Cache) whenever possible. However, where AMP is an open ecosystem and actively encourages further development of AMP caches operated independently by third parties, then Microsoft has also developed the Bing AMP cache and released it in September 2018, but it does not use Google's servers.
- The format specifies specific methods for creating content that loads fast, whereas the standard specifies a set of criteria for performance and user experience to be achieved, but how those criteria are achieved is up to the content creator It is left to the content creator to decide how to achieve those standards.
- In March 2018, the AMP project is working toward the development of a non-AMP-specific web standard that will allow content creators to achieve similar performance and user experience standards without actually converting their content to the AMP format. Google is beginning to invest resources in this area.

2) Concerns

- There is concern that Google has leveraged its leading position in the search services field to further increase the competitiveness of its search business by distributing news services and other content via its servers and by increasing the data formats that its own search engine can easily handle.
- In relation to this point, the following tangible observations can be made
  - Search services are the OS of the Internet and should not be taken as one of the services. Leveraging from the OS and leveraging from search are too strongly established, which is the reason why it is difficult to create new competition in the current market. Just as nothing can be done on the OS unless it is placed on the store, nothing can be done on the Internet unless it

appears at the top of the search results. If Google says that only content that follows the AMP format will rank high in searches, everyone will have no choice but to follow suit.

- Although the study of AMP specifications was open, at the time of implementation, AMP content distribution was initially provided via Google's servers in order to increase its speed, and Google effectively took the lead. Only after AMP became established and dominant did it then announce that it would cease its standardization efforts and AMP preferences. It was only after that when it had an impact on how news services around the world should use their search position to create content. The newspaper industry was most affected. In terms of competitive impact, Google has exercised a strong position in the standardization of technology. Google also provides news, and by having its public distributors and aggregators create their own AMP-compatible services and present them in their own search results, Google has a competitive advantage in the market competition for search.

o In this regard, Google explains as follows:

- Content does not gain a ranking advantage in general Google search results simply because it is AMP, apart from the fact that the content supports accelerated or fast loading (AMP or not).
- Google Search has used speed as one of the factors in determining ranking since at least 2010 (before AMP was introduced), and in January 2018 announced that speed would also be a ranking factor for mobile search. All of Google's guidelines for optimizing a site's ranking in Google search apply equally to AMP and non-AMP pages.
- Google does not control AMP; decisions regarding AMP are made through the Technical Steering Committee. AMP is currently managed and operated through the cooperation of the Advisory Board and the Technical Steering Committee, and Google has never managed or controlled the Advisory Board or the Technical Steering Committee.

3) Evaluation at the Present Time

o Google acknowledges that it was only from February 2016 to May 2020 that content needed to be AMP in order to appear in the Top Stories carousel.

o And, by requiring content providers to follow a file format (data format) using AMP technology for a certain period of time, as described above, Google is requesting that after a certain degree of widespread use of such AMP-based data format among content providers, they should not be AMP-specific. The AMP project is seen as starting the development of a web standard.

o Regarding these points, first, Google explained that the AMP project is open source and was not initiated by Google, but in contrast to this, although the study of the specifications was open-source, at the time of implementation, content delivery by AMP was initially conducted on Google's servers in order to increase its speed (from October 2015 to mid-2018, when AMP was introduced, according to Google's explanation above), and it has been pointed out that Google was in effect taking the initiative.

- The time period in which it was stated that content needed to be AMP in order to appear in the Top Stories carousel and the time period in which that content was to be served via Google's servers coincide with a period of about two and a half years from the time of AMP's introduction.
- Based on the above, it is possible that Google decided that AMP was necessary in order to appear in the Top Stories carousel of its own search engine, and that it could enhance its own search technology by delivering its news service via its own servers and increasing the data formats that its own search engine could easily handle. This may have led to the enhancement of their own search technology by increasing the number of data formats that their own search engine can easily handle.
- In addition, there is a possibility that CDN (Content Delivery Network) providers were excluded when there was a binding agreement to go through Google's servers, and that content providers such as news feeds could not freely select their servers.

(2) Competitive assessment at this point in time

- There is concern that Google's series of actions may have leveraged its leading position in the search service field to further increase the competitiveness of its search business and fix its position by distributing news services via its own servers and increasing the data formats that its own search engine can easily handle. The actual extent of the damage caused by this series of actions is unknown.
- While it is impossible to say definitively to what extent this series of actions has actually strengthened or fixed the position of the search business, it is important to note that the current Google search business is still able to fix their own superior position through various actions, including such acts.

(3) Options for response and main items for which we need your opinion

1) Options for response

If there are competition concerns as described above, what are the options for addressing them?

(Option A: Disclosure of information regarding rule changes, appropriate responses to inquiries, reviews, etc.)

- This issue stems from the search service provider's setting and changing of rules pertaining to the ranking of search result display, such that a specific technology (AMP) must be implemented in order for content to appear in the top story carousel.
- If predictability and transparency are ensured throughout the process of setting and changing the rules, including sufficient information disclosure to the businesses concerned and appropriate responses to complaints, there would be room for proposals for alternative technologies to the specific technology, and the aforementioned competition concerns would be alleviated to a certain extent.
- Therefore, in order to ensure predictability and transparency of the process when an OS provider above a certain size provides search services and sets or changes the rules for such search services, **the following package of measures should be developed: (a) - (c) stipulate the necessary measures and (d) confirm the**

**implementation status of such measures.**

- In **particular,** in cases where there is a risk of **serious and imminent** harm to **affected businesses as a result of the rule setting/changes**, it may be possible to further **develop a response package that incorporates (e) intervention by the regulatory authorities**.

[Supported Packages]

a. **Provide advance notice with sufficient time to respond to rule changes**
b. **Appropriate disclosure of rule changes**
c. **Establish procedures and systems for developer inquiries**
d. **Reporting of operational status to the government and Monitoring and review by the government**
e. **(Where there is a risk of serious and imminent harm to affected businesses as a result of the rule setting/change), the necessary collaborative process (consultation), injunction, involving the regulatory authorities, etc.**

2) Status of Rule Considerations and Development in Other Countries
(Related to Option A)

- DMA Bill Article 22. 1.
  In urgent cases of threat of serious and imminent harm to the business users or end users of the Gatekeeper, the Commission may, upon a prima facie finding of a violation of Article 5 or Article 6, order the Gatekeeper to take interim measures in accordance with the consultation procedure provided in Article 32.

(3) Primary items on which we would like your feedback

[The main items on which we would like your feedback]

1 Further information on facts and concerns
- Do you have any further information (e.g., additional examples, supplements, etc.) regarding the facts and concerns?

2 Effectiveness of new regulations
- Is Option A effective in solving the problem? What benefits would there be?
- Are there any other measures other than Option A that could be expected to work effectively to solve the problem?

3 Costs and risks associated with implementation of new regulations
- What costs and risks (e.g., security, privacy, etc.) would be associated with the implementation of Option A?
- What measures could be taken to mitigate these problems?

**Default settings, pre-installation, placement and other promotions, etc.**

**2-1. [Default settings, pre-installation]**

**17. Pre-installed browsers and search engines, etc., and default settings, etc.**

(1) Facts, Issues and Evaluation Based on the facts

1) Facts

(Market overview, etc.)

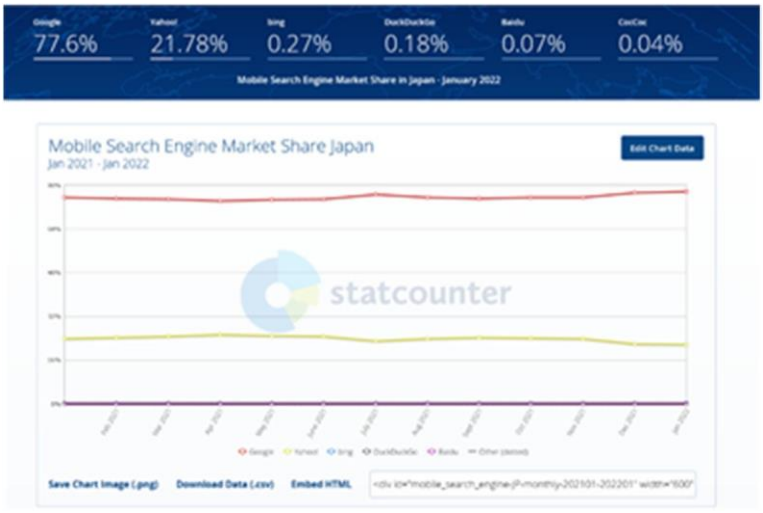
- Looking at the share of mobile browsers used in Japan, Safari and Chrome account for about 65% and 29%, respectively, with web browsers from Apple and Google accounting for almost all of the usage (as of January 2022). [29]

- Looking at the share of usage of mobile search services in Japan, Google


Search accounts for about 78% and Yahoo! Search for about 22%, with Google and Yahoo! search engines accounting for the majority[30] (as of January 2022).

[29] https://gs.statcounter.com/browser-market-share/mobile/japan

[30] https://gs.statcounter.com/search-engine-market-share/mobile/japan




(e.g., license agreements for pre-installation, default settings, etc.)

(1) Mobile Application Distribution Agreement (MADA)

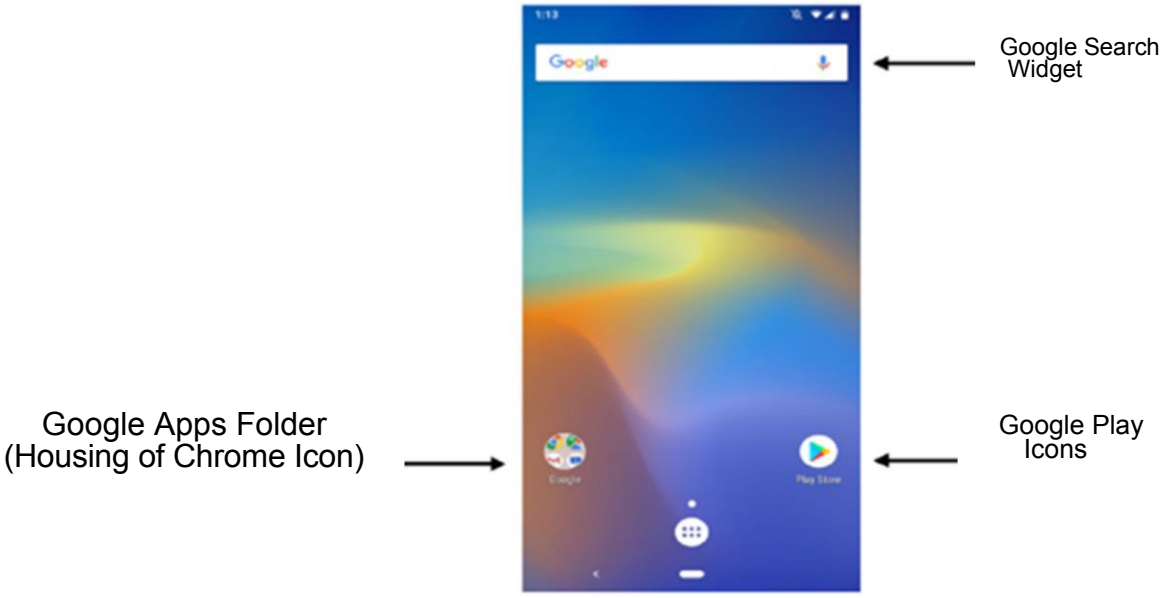
- Manufacturers and distributors of devices that use Google's Android as the OS, (OEMs), can enter a contract with Google called Mobile Application Distribution Agreements. Hereinafter, it is referred to as “MADA.” By entering into this contract, the OEM may install Google Play, Chrome, Google Search, Gmail, Maps, and YouTube (these six apps will hereinafter be collectively referred to as the “Core Apps”) on some or all of their Android devices. including Google Mobile Services (referred to below as “GMS”). The complete set of applications can be pre-installed free of charge, or the OEM can opt not to pre-install them.
- OEMs that have signed the MADA must pre-install all of the core apps and flexible apps[31] if they pre-install any of the GMS apps.
- OEMs that decide to enter into MADA and pre-install the GMS apps must specify that the core apps cannot be deleted by the user. However, the user can deactivate the core apps, and if the app is deactivated, the use of system resources is prevented and the icon is erased from the device.

[31] Google is not disclosing the contents of “flexible apps.”

○ OEMs who have signed the MADA are free to decide whether to pre-install the Google Search widget and other Google apps on their devices. If the OEM decides to pre-install Google apps on their device (s), the Google Search widgets, Google Play icons, and other core and flexible apps (including Chrome apps) must be placed on the home screen of the device[32] in folder consisting of a selection of Google Apps (see “Example of Google Apps on the Home Screen” below).

○ OEMs that have entered into MADA may pre-install non-Google apps, and may even give these an equal or even superior placement.

＜ Example of Google Apps on the home screen＞




(2) Revenue Sharing Agreements (RSA)

○ OEMs (including OEMs with browsers) that have entered into a contract with MADA as well as telecommunications carriers (hereinafter referred to as “Carriers”) may also be entered into the Revenue Sharing Agreements (“RSA”) with Google (hereinafter referred to as the “Agreement”).

○ When an OEM or carrier enters into an RSA, the OEM or carrier agrees to promote certain Google services on mobile devices (Which may include making Google Search the default setting for search access points). In exchange, Google will pay a percentage of the revenue derived from the services promoted on such devices.

[32] Google stated that “this is done in exchange for a free license to a set of GMS apps, which will allow Google to recoup its investment in the Android platform and also make it easier for Google to offer the Android platform and Play for free. ”

- If an OEM with a browser enters into an RSA, the OEM provides the value of a default search engine setting for its browser, and in exchange, Google pays the OEM a percentage of the search advertising revenue generated by the browser.

(3) Mobile Incentive Agreements (MIA), etc.

- Certain OEMs that had previously entered into RSAs are now in a "Mobile Incentive Agreement" (MIA) with Google,), and some OEMs have entered into an MIA which allows use of other search services (including search services that compete with Google Search) on a per device basis. To these OEMs, Google pays a percentage of its search advertising revenues that is higher than if such an OEM had chosen to pre-install other search services.
- OEMs that enter into MIAs have the opportunity to earn more revenue as they set more search access points on their devices to Google Search, and to maximize their payments from Google, they must make Google Search the default for all search access points on almost every device.
- The main difference with the RSA is that incentive payments are paid through a fixed monthly payment or a lump sum incentive payment, rather than being paid as part of the revenue generated from specific access points for Google Search and Google Assistant.

(4) Agreement between Google and Apple regarding default settings for Google Search

- Google has an agreement with Apple to make Google Search not the only, but the default search service on Safari.
- Google receives from Apple the value of the default search engine settings on iOS devices, for which it pays a fee. Although details have not been disclosed, the U.S. Department of Justice Complaint[33] states that the payments range from $8 billion to $12 billion per year.
- Google splits a portion of the revenue that it earns when users download Google Search and Chrome iOS apps on their mobile devices to conduct searches, provided that these apps continue to be available on Apple's App Store.

http://www.justice.gov/opa/press-release/file/1328941/download

[33] https://www.justice.gov/opa/press-release/file/1328941/download (paragraph 118)

(5) The share in Japan of smartphones to which the above agreements, etc. apply:

- According to the survey in the “Mobile Society White Paper 2021,” the most frequently-used cell phone operating systems are Android at 53.2% and iOS (iPhone) at 46.8%.
- According to Stat counter data (as of January 2022), the iPhone accounts for about 70%[34] of the recent market share of smartphones used in Japan.


- Although we have not obtained specific information on the actual status of revenue sharing by Google, we believe that Google has enormous advertising revenues and has the resources to conclude RSAs or MIAs with many OEMs and carriers for revenue sharing, and in fact, Google has concluded RSAs or MIAs with many OEMs and carriers. In fact, Google is believed to have concluded RSAs or MIAs with many OEMs and carriers.
- As for the iPhone, Google has an agreement with Apple to set Google Search as the default search engine on iOS devices in exchange for revenue sharing from Google, that Google Search is actually the default setting for most iPhones.
- In light of the above, and given that almost all smartphones in Japan are dominated by Android devices and iPhones, as mentioned above, it is clear that the market share of smartphones in Japan is still very high; agreements that include some form of preference for Google's search engine, such as promotions or default settings, are likely to apply to the majority of smartphones in our country.

[34] https://gs.statcounter.com/vendor-market-share/mobile/japan

(Status of browser, search engine default settings, etc.)

[iPhone]

- To ensure that users can make phone calls, browse the Internet, and send messages as soon as the new iPhone is initially set up, Apple has built-in apps such as Phone, Mail, Notes, Settings, Files, Clock, Tips, Measurements, and Reminders that provide basic functionality to the iPhone.
- The current iPhone has about 40 Apple applications built-in, including the browser, Safari, and the App Store. Thus, Apple determines the default app for the iPhone, Safari is set as the default browser for iOS.
- In the past, it was not possible to change the browser used when launching an app from Safari, which was set as the default, but starting with iOS14, released in late 2020, users can change the default browser to a browser other than Safari on the "Settings" screen.
- About one-third of the iPhone's built-in apps are "operating system apps" that are built into the core operating system and cannot be removed by the user, and Safari is one of those.
- According to Apple, all operating system apps are designed to work in conjunction with each other, and removing one of them will affect the behavior of the rest. Removing Safari would significantly impair the consumer experience.

- For the iPhone, as noted above, there is a contract to set Google Search as the default setting, but this default setting can also be changed from the "Settings" screen.

[Android devices]

- The decision of which default apps to include in Android devices is determined by OEMs and carriers.
- As mentioned above, MADA requires that if so much as one app is pre-installed, all core and flexible apps, including the Chrome browser, must then be preinstalled, and those apps are to be provided free of charge. Using up a large part of the memory capacity of a device by pre-installing multiple browsers and search engines on the same device is generally avoided. In Japan, the majority of Android devices come with Chrome preinstalled. This can be seen in the fact that Safari and Chrome account for approximately 94% of the browser market share in Japan as mentioned above[35].
- As for Google search, the same thing applies as for the Chrome browser. As mentioned above, there is an agreement to set Google search as the default for the iPhone, which holds a large share of the Japanese market. As a result, it is believed that the majority of smartphones in Japan are shipped with Google search set as the default setting. In fact, it can be inferred from the fact that Google search accounts for approximately 78% of the mobile search market share in Japan, as mentioned above.

- Users can "disable" the Chrome browser so that it does not appear, and can use another web browser of their choice.

- As for switching search engines, Chrome browser allows users to switch search engines on the Settings screen.

- When a user switches to a browser other than the Chrome browser, each time there is a Chrome update, the user may receive a prompt asking "Which application (browser) do you want to use? (Hereafter, such a message shall be referred to as a "confirmation dialog" (According to Google, the confirmation dialog is not limited to browsers; any app (browser or non-browser) can be displayed depending on the situation.)

(Actions taken by authorities in other countries concerning default settings of search engines)

(1) Movements by Authorities in other countries in other countries

Authorities in other countries and others have taken up the issue of the license agreement, etc. over the default settings of the search engine by Google as a competition law and competition policy issue in the field of online search services on mobile devices.

The main ones are outlined below.

[35]Note that Google Chrome is not set as the default browser on all Android devices; for example, Samsung Internet is set as the default on Samsung phones.

- In July 2018, the European Commission issued a decision (currently pending) finding that Google had engaged in illegal tying of Google search and browser in its transactions with Android OEMs and others, subsequently ordering Google to pay fines and other penalties.
- In the Commission's decision, some of Google's past portfolio-level RSAs with OEMs and others were found to be illegal activities[36]. In response to the Commission's decision, Google has introduced a search engine selection screen on new Android devices preinstalled with Google Search and shipped to new customers in Europe.
- Other cases include: (i) a report by the UK CMA on online platforms and digital advertising[37] (July 1, 2020), (ii) a report by the U.S. House of Representatives Committee on the Judiciary Antitrust Subcommittee on Competition in Digital Markets[38] (October 6, 2020), and (iii) the U.S. Department of Justice's (DOJ's) lawsuit against Google for violating antitrust laws[39] (October 20, 2020).
- (iii) The Department's allegations in the U.S. DOJ's complaint are outlined below[40].
    - Google unfairly maintains a monopoly in the search and search-linked advertising markets by
    - entering into exclusive agreements prohibiting the pre-installation of competing search services.

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[36] 「Chapter 13: Abuse of Google's dominant position: Portfolio-Based Revenue share payments conditional on the pre-installation of no competing general search service」 (COMMISSION DECISION of 18.7.2018 (AT.40099 – Google Android) etc.

[37] UK Competition and Markets Authority (2020), *Online platforms and digital advertising: market study final report* (https://www.gov.uk/cma-cases/online- platforms-and-digital-advertising-market-study).

[38] Subcommittee on Antitrust, Commercial and Administrative Law of the Committee on the Judiciary (2020), *Investigation of Competition in the Digital Marketplace: Majority Staff Report and Recommendations* (https://judiciary.house.gov/news/documentsingle.aspx?DocumentID=3429).

[39] US Department of Justice (2020), “Justice Department Sues Monopolist Google For Violating Antitrust Laws” (https://www.justice.gov/opa/pr/justice-department-sues- monopolist-google-violating-antitrust-laws).

[40] https://www.jftc.go.jp/kokusai/kaigaiugoki/usa/2020usa/202012us.html.

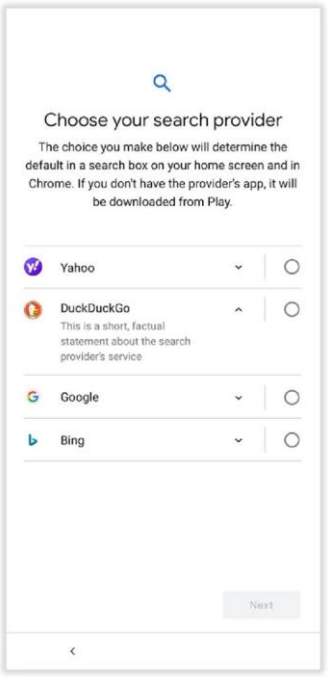
- Entering into agreements, including tie-ins, that force the pre-installation of its Google search in key locations on mobile devices, regardless of consumer preference, and that make it impossible to remove the search engine.
- Entering into long-term agreements with Apple to make Google's search engine the default search engine for Apple's search tools, including the Safari browser
- Creating a cycle of maintaining and reinforcing monopolies by leveraging monopoly profits to gain preferential treatment in search engines, browsers, and other search access points on devices
- Various anti-competitive practices, including these actions, harm competition as well as consumers, and reduce the ability of new innovative operators to grow, compete, and correct Google's conduct.

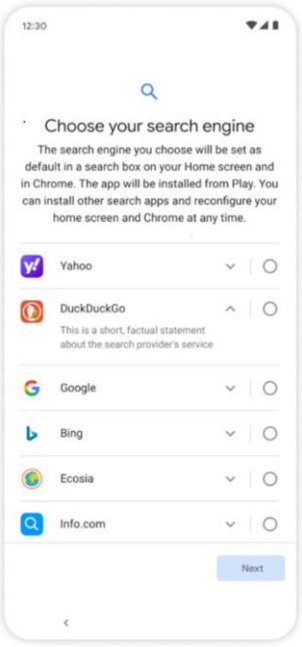
(2) Implementation of search engine selection screens in Europe

- The search engine selection screen was introduced by Google to comply with the July 2018 European Commission Decision[41].
- The search engine selection screen is displayed on new Android mobile devices pre-installed with Google Search and shipped in Europe after March 2020, and it appears at the following times: (i) when the user starts up the new Android device to perform the initial configuration of the device and (ii) when a user with an existing Android device already on the market launches Google Play for the first time after receiving an update regarding the availability of the selection screen.
- The selection screen initially displayed four search engines, including Google Search, and the user would select one search provider from the four options. Subsequently, the new selection screen, effective September 2021, was changed to consist of a single, continuously scrollable list presenting up to 12 general search services, including Google search. Since this is a recent change, no information on its effectiveness, such as user evaluations, is available at this time (see “Example of Selection Screen Display” below for an example display).

<Example of the selection screen (left side: initial, right side: current)

[41] https://www.android.com/choicescreen/

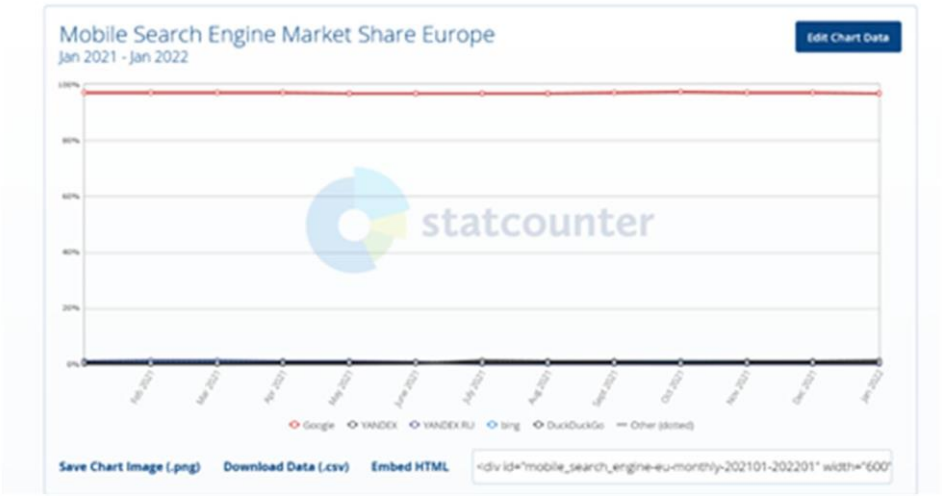



- When a user selects a search engine, (i) the search widget on the home screen is set to the selected one, (ii) if Chrome is installed, Chrome's default search engine is also set to the selected one, and (iii) if said selected search engine is not installed, it will be installed.
- The share of search engine usage on mobile devices in Europe did not change in share around March 2020, when the selection screen was introduced, and Google search has continued to hold approximately 97% of the share since then (see graph below[42]).

[42] https://gs.statcounter.com/search-engine-market-share/mobile/europe




2) Concerns

(Factors preventing users from switching default settings)

- It is a fact that both iPhone and Android devices allow users to switch defaults to third-party browsers and search engines.
- For example, in the case of switching the default search engine for the Chrome browser or Safari, if a competing search engine is already pre-installed on the device, switching search engines can be done in a few easy steps. On the other hand, if (i) a competing search engine is not pre-installed and (ii) switching the search widget on the home screen is included, more clicks or touches (more than

10 times) would be required.

- The ability to switch the default browser on the iPhone has only been possible since iOS14 was released in 2020; until then, Safari has always been the only browser for opening web links such as email. Safari was the default and could not be changed by user
- Developers explain this point as follows.
  - The browser industry is bitter at Apple for the pre-installation and defaults of the browser and app store. Only recently have we finally been able to switch default settings, and we are finally in a position to compete a little, albeit with the limitation that the browser engines are the same.
  - It is the way of platform operators to relax their monopoly after they have sufficiently dominated the market.
  - Users have no way of knowing that iOS has a browser other than Safari. The structural lack of a browser other than the default is a disadvantage.

(Characteristics of mobile devices)

- Research by authorities in other countries points out that the tendency not to change default settings is stronger on devices with small screens such as mobile devices, as detailed below.
  - UK CMA: “Defaults on mobile devices tend to be stronger than defaults on desktop computers because consumers tend not to take action to change or bypass default settings when faced with a small screen. 」[43].
  - U.S. Department of Justice: “Consumers typically do not change their search default settings on mobile devices. Therefore, the status of default defaults is important for general search engine distribution and search advertising distribution.” ”Google's 2018 strategy document states that, 'For mobile devices, the propensity to change search engine default settings is very rare.’” 」[44]

[43] Appendix H: default positions in search, paragraph 85 of the final report by the UK CMA on the market realities of digital advertising (p. H22).

[44] Paragraph 47 of the U.S. Department of Justice brief.

- This is consistent with the results of a survey conducted by the Fair Trade Commission. That is, when the reasons for choosing “the search service I use on a daily basis” were cross-tabulated by device, the tendency to choose “because it was the service that was set as default” was **lower among PC-only users (22.2% < 34.1% overall) and higher among smartphone-only users (42.5% > 34.1% overall)**[45].

| Reasons why choosing the search service in daily life (multiple answers allowed) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Num. of responses | The service was set as default when getting my device | The search engine, which provides needed information quickly, is capable or easy to use | Search results are visible because of few ads | The search screen is easy to use with no distractions due to unnecessary information | The search engine provides not only a search function but also useful information including news or weather | I get used to it | Others |
| | Percentage of responses (%) | | | | | | | |
| | 788 | 34.1 | 33.0 | 9.0 | 9.1 | 12.1 | 34.6 | 1.0 |
| Using the search service only through a PC | 325 | 22.2 | 32.3 | 8.6 | 8.6 | 12.6 | 43.4 | 0.9 |
| Using the search service only through a smartphone | 463 | 42.5 | 33.5 | 9.3 | 9.5 | 11.7 | 28.5 | 1.1 |

- From these data and others, it can be inferred that mobile devices are prone to users' status quo bias due to their small screens, the characteristics of their usage scenarios (e.g., while on the move), and the associated operability limitations, and as a result, users are less likely to change their default settings.

(Settings and displays that influence user behavior)

- As mentioned above, on Android devices, when users are switched to a browser other than the Chrome browser, whenever there is a Chrome update, the message “Which application (browser) do you want to use?” may be displayed whenever there is a Chrome update.
- In addition, as described below, Google advertises Chrome browser to users who use other browsers, such as Microsoft Edge or Safari, to access Google services, including Google Search.

  According to some developers, this behavior by Google to induce users to return to their own browser is gradually decreasing and improving compared to the past.

[45] This data was compiled with the cooperation of the Fair Trade Commission's General Secretariat using data from the “Interim Report on the Actual Status of Digital Advertising Transactions” (April 28, 2020, Japan Fair Trade Commission).

- Furthermore, for the iPhone, according to one developer, (i) the “Default Browser App” setting in Safari is only displayed when a browser other than Safari is the default, and (ii) when the default browser is set to Safari, the Safari setting “Default Browser App” disappears, and therefore, to switch to another browser again, it is necessary to use the settings screen of the other browser to change the settings.

- As we have seen above, although there is a mechanism that allows users to change their default settings, the user's status quo bias, the cumbersome switching procedure, the advertising effect of using leading apps, and behavior that induces a return to the company's own browser all deter users from switching their default settings to other browsers and search engines. In addition, it is likely that after switching, the switch will prompt a return to the original application, which will eventually lead to continued use of the platform operator's browser and search engine.

(Acquisition and exclusivity of default settings through RSA, MIA, and other agreements, etc.)

- While the decision on default apps is made through the choices of OEMs and carriers, the source of Google's distributed revenues (Google's net advertising revenues, net advertising revenues from search or Play's transactional revenues) is so enormous that Google's competitors cannot be expected to compete; and Google can use those enormous revenues to conclude a contract by offering an attractive consideration in exchange for binding the other party's business activities. This is true whether the counterparty is from an Android device OEM, and also for Apple with the iPhone.
- Therefore, in most smartphones in Japan, Google Search is the default search engine, and Chrome Browser (in the case of Android devices) or Safari (in the case of iPhones) is the default browser for the majority of smartphones.
- And since mobile devices are prone to status quo bias (in particular, devices which fall under MIA do not have search services that compete with Google search pre-installed, so users have to install them themselves), users are likely to use these default settings), users may be locked in to these default search services and browsers.

- For Android devices, if an OEM enters into an MADA with Google and decides to pre-install the GMS application, the OEM's device home screen must contain a Google search widget, a folder containing the Chrome browser, and a Google Play icon on the home screen of the OEM's device.
- In this case, there is also the question of whether adding another search service, browser, and play store to the same home screen is a realistic option for OEMs, for the convenience of users.
- The placement of these Google apps on the home screen, the place where users see them most, creates concerns that this practice reduces the recall effect of Google's competing search engine, browser, and app stores, thereby strengthening the status quo bias and further solidifying the lock-in.

- In light of the above, the license agreements, etc. between Google and OEMs, etc. have, in general, a de facto exclusive effect with respect to browsers, search engines, etc., although there is an aspect that this is the result of selection by OEMs, etc.

- In relation to this point, developers have pointed out the following.
  - Our search engine cannot be selected in Safari.
  - It costs money to make our browser the default on Android devices. Even if we could make it the default, the Chrome browser would be placed on the first page, and competing browsers, including ours, would be placed on the second and subsequent pages. We have a disadvantage in terms of such placement.
  - Although we have regular opportunities to talk with OEMs and other companies, we are unable to find any economical way that would allow us to overturn the default, considering the cost-effectiveness and the placement (position) that could be obtained even if pre-installation were possible.
  - Even if the search engine used in the browser of an Android device is switched to something other than Google search, the search widget and other search engines on the home screen will remain the same. This situation has a significant impact on the competitive environment.

(Significance of the selection screen and the need for its improvement)
- The following points have been raised regarding the necessity of selection screens.
  - The selection screen, which is addressed in the EU DMA bill and implemented in Android devices in Europe, is required to allow users to change the settings of search engines, etc., including those of competing operators.
  - Currently, changing default settings is very complicated, but it would be very convenient for users if default settings could be easily changed.
  - It is important to be able to change search providers with a single click, and this will bring diversity to the market.
  - With Google's strong dominance in the world of search applications, and

Google's accompanying strong dominance in browsers, it would be beneficial to give users a choice through a selection screen, especially for browsers and search.

- In other countries, there is a cycle in which, after a certain period of policy intervention, the effects of the intervention are evaluated and the intervention is considered again. The selection screen should be handled in such a way that stakeholders who provide competing search engines and browsers can be involved.

- DuckDuckGo, an online search service provider, has stated regarding the initial selection screen, which was in place until August 2021 following the European Commission's July 2018 decision, that (i) an auction system was used, where the search engine offering the highest price was displayed (ii) only a maximum of four search engines are displayed together with Google search, and (iii) the explanation of the characteristics of each search engine provided to users on the screen was insufficient[46].
- DuckDuckGo found that when the search engine selection screen designed by DuckDuckGo (in which all available search engines are displayed as options, along with a description of each engine's features, etc.) is displayed on mobile devices, Google search share decreased by 20% in the US, 22% in the UK, and 16% in Australia[47].

(Problems caused by the inability to uninstall)

- As mentioned above, both the Chrome browser pre-installed on Android devices and Safari pre-installed as a built-in application on iPhones cannot be removed from the devices. Similarly, Google Search on Android devices cannot be removed.

[46] https://spreadprivacy.com/tag/preference/

[47] A total of 12,000 people in the U.S., U.K., and Australia were surveyed using a virtual selection screen designed by the company (https://spreadprivacy.com/search-preference-menu-research/）.

- In this regard, developers and others have pointed out the following
  - For users, if they can choose the apps that suit them, they should be satisfied as long as those are installed on their devices, and other apps that they do not use at all on a regular basis are wasting data space.
- Ensuring user choice means allowing users to customize the software and hardware to suit them, and from this perspective, in addition to simply being able to choose the apps they want to use by changing the default settings, etc., deleting apps they do not use will It is also considered important to aim to fully guarantee the user's right to choose by creating space in data capacity and improving the usability of the apps they wants to use.

- In relation to uninstallation restrictions, the following points have been raised
  - If the tie between the OS and the app becomes too strong, the equal relationship between the third party and the OS vendor will break down. This causes a direct or indirect disadvantage to third parties, such as access to OS and device functions being restricted for competing apps compared to OS vendors, or third party apps not being used easily due to lack of free data space because default apps cannot be uninstalled.
- In light of these points, the inability to uninstall major applications such as browsers may be a factor that hinders the establishment of a fair (equal) relationship between third parties and OS vendors.

- Apple states that removing the browser and other apps will affect the operation of other apps and significantly impair the consumer experience, but in this regard, some developers have pointed out the following.
  - Browsers, in particular, are a platform used by everyone, so OS vendors should not have too much influence and should be able to remove them. Browsers and vendors should be loosely coupled.
  - The browser itself should be implemented in such a way that it can generally behave as a replacement for a third-party browser. In other words, it should be possible to replace it with a third-party browser, even if it is not your own browser.
  - In order to do this, it will be necessary to rewrite some of the code that has been written on the assumption that it will not work with third-party browsers, but whether or not this is considered a hassle, it is not technically difficult. It may not be possible with the current version, which has dependencies between apps or between apps and the OS, but it is not difficult in principle to create a mechanism that allows this to be done in a properly separated manner.

3) Evaluation at the Present Time
- As discussed above, it is reasonable to assume that consumers have a status quo bias toward the default settings of mobile devices.

- Under these circumstances, (i) Google has entered into licensing agreements with certain OEMs and carriers, and through the economic inducement effect of huge advertising revenues, etc., Google pre-installs its browser and search engine or makes them the default settings through the selection of OEMs, and (ii) Apple has made Safari a built-in browser. (iii) Apple has adopted Google Search as the default search engine for the iPhone through a revenue-sharing agreement with Google, while setting Safari as the default built-in browser.
- In the case of Google, its large market share in the search field is directly linked to increased revenues from its search-linked advertising business, and the revenues are used to conclude agreements with OEMs and Apple regarding default settings, etc. This is a cyclical structure, so to speak, that enables Google to maintain a strong position.
- In the case of Apple, the company is in a position to decide what applications are pre-installed and made the default. There is virtually no possibility for a third-party browser or search engine to become the iPhone's default.
- In the first place, there are barriers to entry such as the existence of network effects, the business model of both companies itself is a barrier to entry by third parties, the effect of default settings is significant due to the status quo bias of users unique to mobile devices, and the fact that applications such as browsers cannot be deleted. This effectively puts third party application vendors at a disadvantage. It is extremely difficult for third parties to gain market share in the browser or search engine field and become an effective competitor to the two companies.

- Apple claims that uninstalling browsers and other software will cause harm. At this point, we do not have sufficient information necessary to determine whether the harm is serious, whether it causes irreparable damage, and why it cannot be loosely coupled.

(2) Competitive assessment at this point in time

- As mentioned above, taking into consideration the contents of the RSA and MIA, as well as the contents of the agreement between Google and Apple regarding the default settings of search engines, it can be said that these agreements have an exclusive effect on competitors, and that, when looking at the market share of smartphones in Japan, Android devices and iPhones account for almost all of the market share, and so their exclusive effects are likely to be pervasive.
- Apple is in a position to decide what applications are pre-installed and set as default, and Safari is pre-installed and set as default for browsers. In addition, until late 2020, when iOS 14 was released, Apple did not allow the default browser to be changed to anything other than Safari.
- In particular, the small screen size of mobile devices, the characteristics of the usage scenario (e.g., while on the move), and the associated operability restrictions make it easy for users to maintain the status quo bias and make it difficult to change default settings, etc. Therefore, pre-installation of the company's own applications and default settings are likely to have a significant effect in locking consumers into these services.

- In addition, the inability to uninstall major applications such as browsers may have the effect of promoting competition through the technological combination and coordination of mobile OS and applications. However, on the other hand, it may also have the effect of hindering user choice behavior and creating an exclusionary effect on developers who provide applications that compete with the application in question.
- As a result, competition may be significantly reduced or eliminated in a wide range of areas affected by the search default agreements with RSA, MIA, and Apple for services provided by Google, and in the area of apps pre-installed or defaulted by Apple for services provided by Apple.
- If the room for such competition is significantly reduced or eliminated, there is a risk of a decline in the provision of diverse value by diverse businesses, a decline in quality, a reduction in consumer choice, and the stifling of future innovation.

(3) Options for response and main items for which we would like your opinion

○ What are some of the options for addressing the above competitive concerns?

1) Response options

- The RSA, MIA, and the agreements between Google and Apple regarding default settings of search engines, etc., may have a broadly exclusive effect on smartphones in Japan, as described above.
- The following are several possible options result in increased competition among browsers and other major applications; the overall effect of these options would be to encourage more aggressive business development and entry by incumbents in key service areas, which would reduce the exclusive effects of RSA, etc.
  - Prohibition of offering choices to end-users in a non-neutral manner in switching default settings, or any action that inhibits autonomous decision-making or choice
  - Provision of information on other options to consumers and ensuring the opportunity for active choice (choice screen and choice system implemented in Europe)
  - Prohibition of restricting uninstallation

(Option A: Prohibition of acts that inhibit user choice regarding changing default settings, etc.)

- In mobile devices, the small size of the screen, the characteristics of the usage scenario (e.g., while moving), and the associated operability limitations make it easy for users to develop a status quo bias, making it difficult to change default settings, etc. Therefore, it may be possible to introduce measures to make it easier to change default settings, etc.
- Therefore, it may be conceivable for **OS providers above a certain scale to provide end-users with choices in a non-neutral manner when switching default settings, or to introduce a discipline that prohibits actions that inhibit autonomous decision-making or selection**.
- **For example, the following might be considered**
  - Failing to clearly indicate the means of switching defaults

- Complicating the means of switching
- Displaying choices only when another company's service is the default (e.g., displaying “Do you want to use this/that browser?” only when a service other than one's own browser is the default)

(Option B: Choice of browser and search engine)

- It is believed that there are a certain number of people who are not aware of the options available for major applications such as search engines and browsers in the first place, and what features are available in the applications that are available as options. In addition, due to the small screen size of mobile devices, the characteristics of the situation in which they are used (e.g., while on the move), and the associated operability limitations, users tend to have a status quo bias and are unlikely to change their default settings.
- Given this situation, simply having a procedure that allows users to switch default settings is not enough to compete in the sense of being selected by users. The same can be said even if the aforementioned Option A deters the act of inhibiting the switching of default settings.
- Therefore, in addition to the aforementioned Option A, it is desirable to introduce a mechanism that allows users to select services with as simple an operation as possible, even without a request by the user, by presenting the existence and characteristics of application options to users in an easily understood manner as a function of the device or OS, so that users can select the one that suits them.
- **Therefore, it may be possible to introduce a selection system (selection screen) that provides users with information about the default setting and other applications (e.g., the following matters) and allows them to decide whether or not to switch default settings in a simple and intuitive procedure.**
  - Existence of choices
  - Features and benefits of each choice
  - Means of switching
- Such a mechanism is expected to promote competition to be selected by users, which in turn is expected to produce competitive outcomes such as the promotion of diverse value provision, quality improvement, and innovation by a variety of providers.
- With regard to applications subject to the selection system, general-purpose and common tools for collecting, organizing, and displaying various information on the Web, competition concerns, etc. have emerged with regard to (i) search engines and (ii) browsers, which are increasingly oligopolized and concentrated by OS vendors, as mentioned above, and the need to solve problems by promoting competition has become apparent.
- Therefore, **it may be possible to make search engines and browsers subject to a choice system (choice screen)[48].**

[48] For the treatment of voice assistants, see “Competition Assessment on New Customer Contact Points (Voice Assistants and Wearables) (Interim Report).

- As mentioned above, Europe has implemented a choice system of search engines on Android devices, and several years have passed since its inception, but even after repeated reviews of its design, etc., no data is still available to determine whether the system is effective or not.
- Therefore, in order to improve the effectiveness of the choice system, it is important to design it in such a way as to enable switching with a single click and the timing of the selection screen, in addition to the design and the way the characteristics of each service are made known to the public.
- In addition, it is important for the choice system to function effectively in the process of understanding and verifying its policy effectiveness and improving its design and other aspects. Therefore, while referring to the implementation method of search engine selection screens in Europe, **(i) periodic reviews, such as verification of effectiveness after a certain period of time, and (ii) a form that involves stakeholders such as users and third-party vendors, in addition to regulators, may be considered**.

- Apple argues the following on the topic of choice systems.
  - Apple We have avoided displaying choice screens as pop-ups on Apple devices.
  - We believe that having pop-up selection screens everywhere is not ideal for the user experience.
  - There are hundreds of settings on the iPhone, and the user experience would be greatly compromised if all of them used pop-up selection screens.
  - On Apple devices, one can switch to the various search engines available in Safari simply by going to Settings in iOS and selecting Safari > Search Engines.
  - While hundreds of pop-ups and screens can be displayed for various settings on a device, Apple does not believe that users want to be presented with a pop-up screen of every option every time they boot up their smartphone.
  - We have designed the device to provide the best user experience and recognizes that the user may want other options in some cases and allows the user to choose from a list of other available options and set them as the default.
  - We have reviewed all available search engines and give users the option to choose a search engine. We then select the one we think will provide the best user experience and make it available to the user in Safari.
  - We believe this choice is sufficient.
- As Apple argues, there is a tradeoff between the positive effect of promoting competition through autonomous user choice and the negative effect of the time-consuming processing of the choice screen, so it is certainly not appropriate to introduce a choice system in every setting.
- On the other hand, it is possible to introduce a selection system within a scope

that does not excessively increase the burden on users, and as mentioned above, it may be possible to introduce a selection system limited to search engines, browsers, etc.

- Google states that it does not believe that search engine selection screens are necessary or appropriate in Japan, and argues its reasoning behind this as follows:
  - Where there are concerns in Europe, where selection screens have been implemented, that its search service contributes to its dominant position, such concerns do not apply in Japan.
  - This is because (i) Android devices allow users to select the search service they wish to use, and (ii) in Japan, the company faces fierce competition from competitors such as Yahoo!
- As for (i), even if there is a way to simply select a search service, the small screen size of mobile devices, the characteristics of the usage scenario (e.g., while on the move), and the associated operability constraints make it easy for users to maintain the status quo bias and make it difficult to change the default settings, etc. As for (ii), although Google's market share of competing services is certainly larger than that of Europe, as mentioned above, Google's search market share has continuously remained above approximately 75%, and there is no evidence to support the assessment that Google is “exposed to fierce competition.
- Google also states that the following five methods provide quick and easy access to different search services, unaffected by the default settings of a particular browser's target.
  - Typing the address in the URL bar
  - Downloading another browser with a different search engine and setting it as default
  - Downloading competing search engine’s app and setting it as the default
  - Setting a “bookmark” for the competing service in your browser
  - Setting the competing service as the home page of the browser
- However, given the fact that there are a certain number of people who are unaware of the options available and the characteristics of the apps that are options for the major apps, as well as the status quo bias of users on mobile devices, these access methods being effective ways to access another search service is questionable.

(Option C: Prohibition against restricting uninstallation)

- The inability to uninstall major applications such as browsers is considered to be a factor that may hinder users' selection behavior as well as impede a fair and equitable competitive environment between developers and OS vendors.
- Therefore, even if Option A and Option B make the switching of default settings more functional, it is considered that the adverse effect on competition due to the inability to uninstall itself cannot be corrected.
- Therefore, in addition to the aforementioned Option A and Option B, **it may be possible to introduce a rule that prohibits OS providers above a certain size**

**from restricting uninstallation of major applications**.

2) Status of Rule Considerations and Development in Other Countries
(Related to Option A)

- Paragraph 3 of Article 6a of the DMA Bill
  - Gatekeepers shall not degrade the conditions or quality of services provided by core platforms to business users or end users in accordance with Articles 5 and 6, and shall not provide end users with choices in a non-neutral manner or inhibit autonomous decision-making or choice in a non-neutral manner, thereby making the exercise of rights or choices unreasonably difficult.

(Relating to Option B)

- Article 5.1 (gb) of the DMA Bill
  - Require gatekeepers to, among other things, encourage end users to change the core platform services pre-installed in the OS to another option from the list of major third party services from the point of first use by the end user.

- CMA Interim Report (Paragraphs 7.64, 7.66-7.68): [Summary] Recommends "measures aimed at facilitating browser switching" as a means of promoting competition in mobile browsers and browser engines.
  - Many users continue to use Safari and Chrome despite the availability of alternative browsers. This may be due in part to obstacles in changing default settings, and we therefore recommend that (1) the default browser be easy to change and (2) users be required not to be presented with triggers or prompts to undo the defaults they have set.
  - Obligation to display a selection screen to users regarding their choice of browser. This has already been introduced in the EU, and the CMA believes that it is having a pro-competitive effect in the area of search.
  - Google has introduced a selection screen for browser defaults, but it is not optimal due to issues such as the timing and method of displaying the selection screen.
  - A well-designed selection screen could be effective as a means of eliciting effective consumer choice, but there is a risk that it could be limited.

- Australian Competition and Consumer Commission (ACCC) Third Interim Report
  - Recommend that the ACCC be granted the authority to develop rules to improve competition and choice in general search, including requiring search engines to implement selection screens (consultation on the proposal is expected to take place after 2022)

(Relates to Option C)

- Article 5.1 (gb) of the DMA Bill
  - Allow software pre-installed in the OS to be uninstalled. It shall also be possible to change the default settings provided by the gatekeeper. (However, without prejudice to the possibility for the gatekeeper to restrict such

uninstallation with respect to software applications that are essential to the functionality of the OS or the equipment and that cannot be technically provided by a third party on its own)

- U.S. Innovation and Choice Act, § 3 (a) (8).
  - Prohibits substantially restricting the uninstallation or changing of defaults of pre-installed apps even though they are not necessary for the functionality or safety of the target platform

3) Main comments on this item

[The main points of this matter for which we would like your opinion]

1 Further information on facts and concerns
- Do you have any further information (e.g., additional examples, supplements, etc.) on the facts and concerns?

2 Effectiveness of new regulations
- Are options A through C effective in resolving the issue? And what are their benefits?
- Are search engines and browsers the only target scope of Options A through C?
- Are there any other measures other than options A through C that are expected to work effectively to solve the problem?

3 Costs and risks associated with implementation of new regulations
- What costs and risks (e.g., security, privacy, etc.) would arise from the implementation of Options A through C?
- What are some possible measures to alleviate this problem?
- If there are cases where an exception to Option C should be granted, what specific justification could be given for granting such an exception?

4 The issue of pre-installation and default settings, and the scope and method of the optional system
- In the first place, should default settings be easier to change than they are now? Or can they be changed easily enough in the current situation?
- Are there any effective methods other than the choice system as measures to alleviate users' status quo bias and to facilitate rational and autonomous decisions by consumers?
- In order to make the choice system more effective, how should the options be presented? For example, how should the characteristics of each choice be described? Should the selection screen be displayed only at the initial setup of a newly purchased device, or should the selection screen be displayed periodically, such as once every six months, or at each update of each service?

**2-2. [Self-favoring through search (Google)]**

**18. Preferential use of its own map services and promotion of its own browser through search services**

(1) Facts, Issues and Evaluation Based on the facts

1) Facts

(Display of digital maps in search services, etc.)

- When a user searches for an address, company name, etc. using Google search, Google Map search results (maps, etc.) may be displayed in addition to web pages in the display of search results.
- In general, such maps are usually displayed above the organic search results, in addition to the so-called "organic search results," which are displayed in order of relevance to the search query. In such cases, the first thing a user who conducts a search sees as a search result is the information containing this map, and the user must scroll down the screen to view the organic search results.
- If a user wants to know how to get to a location shown on the map, by what means, and how long it will take, the user can learn the route from the current


location by touching the "route guidance" button that is displayed in conjunction with the map display or on the next screen after touching a specific location on the map.

- Furthermore, by touching the "Start Navigation" button, the user can use the map with the navigation system, displaying their current location, etc.

- Both the results of the Google search and the series of services that are subsequently activated are services provided by Google based on Google Maps.

- Since the default search engine on the iPhone is Google Search, unless the user changes the default, Google services such as Google Maps will basically be used in the iPhone search as described above.

- The user cannot change the setting to display Google's map service in the search result display.
- If a user wishes to use a map service other than Google's, they can use the map service of another company if it is displayed in the organic search results. Alternatively, they can use a separate browser to go to the website of the third-party map service and use the third-party map service without downloading it.

(Google's explanation regarding the use of its own maps in search results)
- Google explains its use of specialized search results from Google Maps in its search results as follows
  - Search results may include maps, videos, images, news, and books, as well as web pages, but when a map appears in a Google search result, it is a Google Maps search result.
  - Google Search aims to provide the most relevant and useful results, and the ability to display search results on a map was introduced in 2007 to allow users to correlate search results with location information and to provide the fastest access to important information (for example, nearby hospitals).
  - Displaying results for location-related queries on a map further facilitates usability and displays results that are useful and relevant to the user.
  - The use of third-party providers can have a significant impact on the quality of Google search results, including delays in returning results and inaccurate maps. For example, the following effects could occur

    (1) That third-party (specialized) map search providers are often unable to answer complex queries.

    (2) Google cannot guarantee the quality of third-party maps (e.g., accuracy of location information, whether they are out of business, business type, protection against fraud and abuse).

(Promotion of browsers in search services etc.)
- Google shall not use advertising messages that encourage visitors using other browsers to use Google Chrome (Home Page Promotions; hereinafter referred to as “HPP”). Such regular advertising campaigns by Google have been running for more than 10 years.
- HPPs appear on services owned and operated by Google that are not sold as advertising space.
- For example, Chrome HPPs are displayed on Microsoft browsers (Internet Explorer and Edge/Edgium) if the user is using a Windows desktop, and on Safari if the user is using iOS. If iOS users are using Safari, the push-up Chrome HPP

will appear only on Google.com (see figure below).


- According to Google, Chrome's HPP is posted on the homepage of Google services (e.g., Google.com) and is not displayed in the search results display or other areas sold as advertising space.
- We have asked Google about the conditions under which HPP will or will not be posted, the timing, and why HPP is conducted using space that is not for sale, but have not received a clear answer to this question to date.

- Google has explained its reasons for publishing HPP as follows
  - Google Chrome provides a simple, secure, and fast browsing experience for all Internet users, including users of Google's web-based services, and we want to promote that to our users.

2) Concerns
(The issue of prioritizing the display of its map services in search results)

- Google's display of location information, including maps, at the top of the search results display, as well as the integration of its own services into services such as route guidance and navigation, will contribute to the convenience of users. However, it is believed that Google's display of these series of map services at the top of the search results screen will generally make it difficult for third parties to use the same services.
- In this regard, the following points have been raised.
  - Google has changed its UI so that search results using Google's own services come to the top. Google search has a very large share of the market, and the results of searches there, which originally provided only simple search results, have recently started to search for additional information based on location information, and the search results of other map services have gone to the bottom, making them less likely to be used.
  - I think the UI will have changed significantly in this way by October 2019 or so. We have heard that other map services, which until then had been experiencing user growth of about 10% annually, have seen their growth slowdown due to Google's UI changes, with a 20-30% decrease in sales,

especially for facility searches.

- Google claims that users can easily use third-party map services without having to download them, for example, by using a browser application to navigate to the website of the third-party map service. However, since this requires manual intervention by the user, the hassle and status quo bias may prevent such an access method from fully functioning as an effective alternative.

(Promotion of browsers in search services etc.)

- The following specific points are made regarding Google's HPP
  - Google provided a prominent notice on the Google search results page that recommended switching to the Chrome browser. This was not like a regular search-linked ad, but rather, for example, a notice in the upper right corner of the screen encouraging people to switch to Chrome browser, including the fact that Chrome browser is faster than the browser they are currently using.
  - Although Google seems to claim that it does not give preferential treatment to its own products in its search results or search-linked ads, in fact, it continued to promote Chrome browser to users who search using browsers other than Chrome browser by providing more prominent special slots. The effect of this relentless advertising campaign to encourage users of other browsers to switch to Chrome is immeasurable.
  - Google's monopoly in the search market, the gateway to the Internet and its infrastructure, has a powerful effect when it advertises its own products. It would be like an electric power company recommending home appliances or an Internet service provider recommending a particular game. This is the second most overwhelming market share gaining effect after default settings and tying and bundling.

- Google claims that Google's competitors have many other options as a medium to promote their services, including advertising through Google search ads or on other well-used websites such as Yahoo! However, given that Google's HPP imposes no such fee burden on Google, while such other means of advertising impose advertising fees, it is not clear that such other advertising options, depending on the frequency, content, placement, and other conditions of Google's HPP, would be competitive with Google's HPP.

3) Evaluation at the Present Time

(The issue of prioritizing the display of its map services in search results)

- Google has been enhancing the display of search results specialized from its map services on the Google search results. While this has the aspect of improving convenience for search users, it is also considered to make it less likely for third-party map services to be used, considering that the company's map services are displayed at the top of search results, and that a series of services such as routes and navigation are linked together
- Given the dominant position of Google search in online search services, the

limited availability of alternative routes for the use of map services as claimed by Google, the fact that Google's map services are preferentially displayed on the narrow screen space of mobile devices and that users cannot change their settings, the impact on the business activities of third parties is enormous.

(Promotion of browsers in search services etc.)

- (1) Given Google's dominant position in online search services and the fact that Google Search has a significant advantage over its competitors in terms of exposure to users, Google's HPP advertising may have had a substantial effect in attracting customers.

(2) Competitive assessment at this point in time

(The issue of prioritizing the display of its map services in search results)

- Google's display of its map service at the top of the search results is a preferential treatment of its own service, and given Google's dominant position in the search engine market, the impact of this action on the competitive environment in the map service market is significant.
- In particular, while search functions as a gateway to the web space, Google's search engine has a high market share of over 70%, and is considered to be pre-installed or set as default in most smartphones. The above map display settings in Google's search engine may effectively have the effect of excluding competitors.

- In order for users to access other map services starting from search results in which Google's map services are displayed, they need to scroll down the screen and click on the other map services displayed at the bottom of organic search, or start a separate browser to access other map services. However, because all of these options require user effort, they may not function as effective alternatives to Google's map services due to the hassle and status quo bias, and competition may not be fully effective.
- Thus, Google's actions as laid out above may give Google's own map services a competitive advantage, and as a result, the room for competition among map services may be significantly reduced.
- Such a significant reduction in the room for competition may lead to a decline in the provision of diverse value by diverse businesses, a decline in quality, a reduction in consumer choice, and stifling future innovation.

- Google believes that (i) treating third-party map services in the same manner as its own map services would have a significant impact on the quality of search results, as third-party map services are often unable to answer complex queries and cannot guarantee the accuracy of location information, etc., and (ii) Google's specialized search results benefit users by returning more relevant and useful results; and (iii) displaying specialized search results from Google Maps facilitates access to businesses that do not have websites.
- However, with regard to these claims, evaluations should take into account the possible deprivation of choice for consumers, and the possibility that Google used its position in the search market, which has a strong influence as a

customer contact point, as leverage to improve the quality of its own map services by favoring its own map services and thereby collecting data, etc., and that this may have inhibited competition.

- The above argument is based on the premise that the company's map service is superior to the third party's map service, and it is possible that there are or will be third party map services with the same or better performance as Google's due to technological progress or corporate efforts. We do not believe that this is a justification for favoring only its own mapping services.
- Rather, Google's conduct may harm the interests of users of online search services in that it deprives users of the ability to use the service that best meets their needs, in addition to potentially impeding competition in map services, as described above.

(Promotion of browsers in search services etc.)

- Search services are a powerful customer contact point as an entry point into the web space, and Google's search engine has a high market share of over 70%. It is also pre-installed or set to be the default on the majority of smartphones. Google has leveraged its leading position in search services through its HPP to conduct advertising with a significant degree of customer attraction that competing browsers cannot compete with.
- As a result, there is a risk that the room for competition in the field of browsers has been significantly reduced, and there is a risk of a decline in the provision of diverse value by various operators, a decline in quality, a reduction in consumer choice, and the stifling of future innovation.

(3) Options for response and main items for which we need your opinion 1) Options for response

What are some of the options for addressing the above competitive concerns?

(Option A: Prohibit preferential treatment of own services by display, etc. in search services)

- Both of the issues of “preferential display of the company's map services in search results” and “promotion of browsers in search services, etc.” are important because search services are powerful customer contact points as a gateway to the web space, Google's search engine has a high market share of over 70%, and most Since the search service is pre-installed or set as default in most smartphones, there is a risk that it may have a de facto exclusionary effect on competitors. Therefore, **when an OS provider above a certain size provides search services, it may be possible to introduce a discipline that prohibits the provider from giving preferential treatment to its own services in the display of search services**.
- And since such preferential treatment is not necessarily given only to map services or browsers, as discussed above, **the scope of “one’s own services” that would be covered by this rule should not be limited to map services or browsers alone, but should also include the prohibition of preferential treatment of one’s own services in general due to the way they are “displayed” or “arranged” in search services**.

- **In order to ensure transparency and predictability of the regulations, it may be possible to clearly indicate, by way of example, that the following actions are prohibited.**
  - **In the search results page, the company's services always appears at the very top of the list, and their own services are frequently and prominently displayed on the first results page (regardless of whether it appears in the organic search results section, the section sold as advertising space, or a section not described by any of the above).**
  - **Moving (demotion) a third-party competing service to a lower position in the search results, even though it has the same functionality and performance as the company's own service.**

- Note that search results fluctuate according to certain parameters and algorithms, and there can be room for objectively justifying the priority display of the company's own service.

(Option B: Ensure fair treatment for comparable services from other companies)

- From the viewpoint of ensuring equal footing with competitors' services, as an alternative to the aforementioned option A, **when a search service is provided by an OS** provider above a certain size, it is necessary to provide the search results on the screen (including **advertisements. The same shall apply hereinafter. or when prominently displaying or placing the company's services on the screen showing search results,**
  **it may be possible to introduce a rule requiring that other companies' services of the same or similar type be displayed or placed under the same conditions, or that the company accept or not reject offers for such display or placement from other companies.**

(2) Status of rules development and consideration in other countries
(Related to option A)

- Article 6 (d) of the DMA Act
  - Refrain from treating more favorably in ranking services and products offered by the gatekeeper itself or by any third party belonging to the same undertaking compared to similar services or products of third party and apply fair and non-discriminatory conditions to such ranking.

- United States (Senate) Innovation and Choice Online Act, Article 3, Section a (9)
  - Prohibition of favoring one's own products over those of other business users in search, ranking, and other interfaces.

(3) Matters on which we would like your opinion

(The matters on this item for which we would like your opinion)

1 For more information on facts and concerns

- Is there further information (e.g., additional or supplemental examples) regarding the facts and concerns?

2 Preferential display and placement of the company's services in the display of search results, advertising, etc.

- Google explains the necessity of displaying its own map service at the top of the search results by saying, as mentioned above, that third-party map services often cannot accurately answer complex queries, etc., but is such explanation reasonable and rational?

  From the perspective of a fair and equitable competitive environment between competing businesses, what do you think about a business that has a high market share in search services, the gateway to using the web, using its search service to advertise its other services?
- Are there any Google applications or services other than Google's map services and Chrome browser that are or used to be preferentially treated or advertised using Google's search mechanism, search result display/arrangement, etc.49?

3. Effectiveness of new regulations, etc.

- Are options A and B effective in solving the problem? What are the benefits?
- Which is more effective in solving the problem, option A or option B?
- Are there any other measures other than options A and B that are expected to work effectively to solve the problem?

4. Costs and risks associated with implementation of new regulations, etc.

- What costs and risks (e.g., security, privacy, etc.) would be associated with the implementation of options A and B?
- What are some possible measures to alleviate this problem?
- If there are cases where exceptions to regulations, etc., should be granted, what specific justifications, if any, can be given for granting such exceptions?

[49] In overseas cases, there have been cases in which the search results from Google's Comparison Shopping Service were found to be placed and displayed in such a way that they were more easily seen by consumers when they searched for products using Google's search engine, compared to the search results from competing comparison shopping services.
(Published by the General Court of the European Union on November 10, 2021).

## 3. Acquisition and utilization of data, etc.

### 19. Data acquisition and utilization

(Securing data sources)
1) Facts and evaluation of issues based on the facts
1) Facts
(Summary)

- As the OS vendors, platform providers are in a position to utilize and store data related to the use of each layer in the OS, browser, and App Store, and to utilize or enclose such data in each layer.
- While it is unclear whether platform operators actually acquire and utilize data, there is a concern that third-party service providers involved in the provision of services at each layer are fully capable of doing so, based on their past business experience and other factors.
- We confirmed with Apple and Google what information they obtain as information used by users (consumers) for (1) their own App Store, (2) their own browsers, and (3) third-party App Stores or browsers on their OS, and how they use the accessed information (if that data is not being utilized, what mechanisms are in place to prevent its use?), as explained below.

(Explanation from Apple)
(1) The following is a brief explanation regarding the App Store.

- As an App Store operator, you have access to certain information such as users' in-app sales information, number of app downloads, number of product page views, etc. For example, Apple retains information pertaining to the apps that users have so that it can download apps to new devices and provide customer support. The apps that are downloaded the most retain some information, but do not have access to data on what features are used in the apps.
- Apple does not have a subscription fee, which is set by the developer, but they do have information on what developers are charging so that they can explain their fees to developers and provide information on sales.
- Data may also be obtained through the use of their own services. This includes information that users enter directly when using Apple apps (e.g., user name, email address, etc.).
- They do not retain information on user demographics and do not use App Store data in the development of its apps and services. Requests to use App Store data for Apple app development will be rejected in accordance with Apple's policies.

(2) As for browsers, see below.

- Data on users' browsing history is not collected or retained.
- With Safari, key privacy features such as ITP (Intelligent Tracking Prevention) and fingerprinting prevention are turned on by default.
- Safari minimizes the amount of data that Apple collects and shares with third

parties. For example, ITP uses machine learning to process and classify tracking data on the user's device, so browsing history is not sent to Apple.

(3) Personal data related to the use of third-party apps downloaded by users is not collected.

(Explanation from Google)

- Google provided the following explanation.

(1) As for Google Play, see below.

- Due to the need to constantly invest and innovate and improve Google Play, certain data may be collected as part of that effort, usually on an aggregated basis, to improve the service and maintain the quality of Google Play.
- For example, Google may use Google Play and user device usage statistics (including information about how apps, Google Play, and devices are used). The same applies (depending on user preferences) for Android usage and diagnostic data (e.g., battery life, how often users use apps, which apps cause the device to crash or freeze, etc.).

(2) As for browsers, see below.

- Data may be obtained from Chrome users regarding their use of the browser itself and their use of Google's own or third-party services within Chrome.
- Browsing history and other information is obtained to enable Chrome's optional device-to-device synchronization feature, which can be used to improve and customize the user experience within Chrome.
- Chrome periodically sends information to Google to check for updates, retrieve connection status, check current time, and provide estimates of the number of active users.
- Usage statistics and crash reports will be sent to Google for non-opt-out users and used to improve the product (usage statistics will include information such as preferences, button clicks, performance statistics, memory usage, etc.).

(3) Android usage and diagnostic data is collected. These may relate to the use of third-party App Stores and browsers on Android, for example, how often users use apps and which apps may cause the device to crash or freeze. This data is shared with other Google services to improve them.

2) Concerns

- As OS vendors, platform operators generate and accumulate data related to the use of each layer in the OS, browser and App Store, and hold the sources of such data, and if such data is captured and used to improve their own apps and web services, there is concern that equal footing and fair and equitable competition in the app and web service layers will not be ensured.
- In this regard, the following specific points are made.
  - As OS vendors, platform operators would include Google Pay and Apple Pay for payments, for example, where data is also accumulated in the OS, App Store, search, video streaming, and payments, probably from the perspective of enclosing data sources.
  - As OS vendors, platform operators can take location information in the background by default, so they can expect synergistic effects in app

development by associating apps related to location information with schedulers (apps), such as "where is the location of the next scheduled appointment?", but unlike such OS vendor platform providers, app providers that can access location information only when using apps are at a competitive disadvantage in terms of equal footing.

- In relation to location information, for example, if an app developer develops games, etc. using apps related to location information provided by an OS vendor platform operator, the app that develops said games, etc.

  If information (data) related to the relevant location information and related apps is not provided (restricted) to businesses, they will not be viable and competition will cease to exist in the first place.
- As OS vendors, platform operators can use this data to analyze the number of users, paying users, active users, and the frequency of use, which may be reflected in the App Store rankings, and in addition, they can also see which web pages are receiving the most traffic, and use this information to identify needs and create their own content.
- With control over the sale of third-party apps in their own App Store, they can see who your current and future customers are, what features they are using, and more, and they can also use their financial resources to hire their own engineers to develop competing services. Where information such as the above customer information is not normally provided to competing businesses, it is considered to be brought about by Sherlocking.

o As described above, it can be seen that platform providers, as OS vendors, may use the data they can obtain at their own discretion, including data generated from the business activities of third-party providers, among the data related to the use of the OS, browser, and App Store layers, to enhance their own apps and web services, and the data that can be obtained at their own discretion, including data generated from the business activities of third-party providers, may be used to enhance their apps and web services.

3) Current evaluation

(Apple)

o As the operator of the App Store, you have access to certain information, such as users' in-app sales information, number of app downloads, number of product page views, etc., and you obtain certain information.

o At the browser layer, the company states that they do not collect or retain data such as a user's browsing history, and while key privacy features such as ITP and fingerprinting prevention are turned on by default, Safari minimizes the amount of data Apple collects and shares with third parties.

o Regarding information on the use of third-party browser users (consumers) on their own OS, the company states that it does not collect personal data related to the use of third-party apps downloaded by users.

o As for whether or not the acquired data will be used, Apple Store data is not used when developing its own apps and services, and internal requests to use App Store data for Apple app development will be rejected in accordance with Apple's policies.

- Although we confirmed whether or not the data acquired by Apple was utilized by the browser, no explanation was provided by Apple.

(Google)

- The App Store may collect certain data out of a need to improve Google Play and uses it in an aggregated manner to improve service and maintain the quality of Google Play. For example, it acknowledges the use of Google Play and the user's device usage statistics (including information about how the app, Google Play, and device are being used).
- With respect to browsers, Google acknowledges that it may obtain data regarding the use of the browser itself and Google's own or third-party providers' services within Chrome, as well as browsing history and other information so that Chrome's optional device-to-device synchronization feature can be used to customize the user experience within Chrome.
- Regarding user (consumer) usage information for each third-party App Store or browser on its OS, it is acknowledged that Android usage and diagnostic data is collected, such as how often users use apps and which apps may cause devices to crash or freeze, and uses this data to improve Google's other services.
- Overall, the explanation is that neither Apple nor Google collects data without a basis in law or privacy policy.

(2) Current competitive evaluation

- Mobile OS providers can obtain a variety of data from OSs, App Stores, and browsers that play an infrastructural role and function as gateways to customers. If data related to the business activities of third-party providers is used to improve their own apps and web services, or if information (data) related to the OS, etc. is not provided or is restricted, there is a risk that an equal footing and a fair and equitable competitive environment will not be maintained at the layer of the relevant apps and web services.

(3) Options for response and main items for which we need your opinion

1) Options for response

What are some of the options for addressing the above competitive concerns?

(Option A: Prohibit use of acquired data in competing services)

- Currently, platform operators, as OS vendors, are able to obtain user-related data generated at the OS, browser, and App Store layers, and there may be options to restrict or prohibit the use of this data to improve their own apps and web services.
- Therefore**, when an OS provider above a certain size provides a browser or App Store, it may be possible to introduce a rule prohibiting the use of data pertaining to such services that is not publicly available, obtained when a third party provider uses the OS, browser or App Store provided by such provider to provide services, in the provision of services that compete with such third party provider**.

(Option B: Ensure access by the third party operator to data generated by the third party operator's business activities)

- If the business user (hereinafter referred to in this option B as the “Relevant Business User") who uses the OS or the browser, App Store, etc. provided by the company on the OS can use non-public data (including those that are not known to the Relevant Business User.) on such use, it is considered to have a competition-promoting effect, such as stimulating app development and increasing consumer choice.
- Therefore, in addition to uniformly restricting the use of certain data as in option A, it may be possible, for example, to provide such data to such business users from the perspective of ensuring equal footing with competitors.
- **In addition to the aforementioned option A, in the case where an entity that provides an OS above a certain size provides a browser or an App Store, it shall be obliged to provide data pertaining to such services obtained when the OS, browser, or App Store provided by such entity is used by a third-party entity to provide services, to such It may be possible to introduce a discipline that obliges the third party service provider to provide free, continuous, and real-time access to such data upon request from the third party service provider or a third party approved by such third party service provider, and in the case of personal data, subject to the user's consent.**

(Option C: Ensure data portability by end users)

- If end users of the OS, browsers, App Stores, etc. are able to provide third-party vendors with data provided in connection with or resulting from the use of the OS, etc. (portability), it would have the effect of stimulating the development of apps, etc. and promoting competition by increasing consumer choice.
- Therefore, in **addition to the aforementioned option A and B, it is conceivable that a business operator providing an OS above a certain size and offering a browser or App Store may introduce a discipline that requires the business operator to provide, free of charge and on a continuous and real-time basis, tools to facilitate the effective exercise of the portability of data obtained when end users use the OS, browser or App Store provided by the business operator, in response to requests from such end users or third parties approved by such end users.**
- In this case, it may be possible to consider interoperability of services by using machine-readable and general-purpose formats to ensure effective data portability.

(Option D: In-house information blocking)

- In order to ensure the effectiveness of **option A, as a complement to option A, it may be possible to introduce a discipline requiring information blocking between the OS, browser, or App Store department and the app or web service development department when an OS provider above a certain size provides a browser or App Store (including the obligation to report the content and implementation status of such measures).**

(2) Status of rule development and review in other countries

(Related to option A)

- Article 5, Section 1 (ga) of the DMA Act (Restrictions on Use of Acquired Data)

The gatekeeper shall not use, in competition with a business user, any data that is not publicly available that is generated by or in the context of that business user's use of the relevant core platform service or ancillary services,
(including end-user use by such business user.) or that is provided by such business user or end-user of the core platform service or ancillary services, and must ensure that they do not use any data that is not publicly available that is generated by or in the context of the use of the core platform services or ancillary services to which such business users relate, or by the business users or end-users of the core platform services or ancillary services.

(Related to option B)

- Article 6 (i) of the DMA Act (Ensuring Access to Data)

The gatekeeper shall provide business users or third parties authorized by business users with continuous, real-time access to and use of aggregated and disaggregated data provided or generated by business users and end users associated with products or services provided by business users in using the relevant core platform services or ancillary services free of charge upon request. For personal data, provide access and use only where directly connected with the use effectuated by the end user in respect of the products or services offered by the relevant business user through the relevant core platform service, and when the end user opts in to such sharing with a consent in the sense of the Regulation (EU) 2016/679.

(Related to option C)

- Article 6 (h) of the DMA Act

The gatekeeper shall provide effective portability of data generated through the activity of a business user or end user and shall, in particular, provide tools for end users to facilitate the exercise of data portability, in line with Regulation EU 2016/679, including by the provision of continuous and real-time access.

(Related to option D)

- CMA interim report

(Separation measures to address the use of market dominance for application development)

- We share the concern from app developers that Apple and Google have the ability and incentive to give unfair advantage to their own apps. To address these concerns, the following forms of separation measures could be considered.
- Data separation: Focuses on the potential for Apple and Google to share business-sensitive data internally and incorporate it into their own technology designs and business arrangements. The requirement not to share certain types of data is appropriate in any case, and it may be that some restrictions on data sharing already exist, but it imposes certain barriers to certain types of data sharing in the form of data separation.
- Operational separation: Operational separation would require Apple and Google to operate their app development businesses independently from other

parts of the mobile ecosystem, particularly the app review process department or the department that determines access to the APIs and functionality available to their own and third-party apps.

- Structural separation: It has the same effect as an operational separation in that the business is separated, but requires a formal legal separation or sale of the app development business. At this stage, we believe there are benefits in considering the effectiveness of data or operational separation as an alternative that can achieve many of the benefits of structural separation at a relatively low cost.

(3) Main items on which we would like your opinion

[The main items on which we would like your opinion on are as follows]

1. For more information on facts and concerns
   - •Is there any further information (e.g., additional examples, supplements, etc.) on facts or concerns?
2. Effectiveness of new regulations, etc.
   - •Are options A to D effective in solving the problem? Also, what are the benefits?
   - •Are there any other measures other than options A through D that are expected to work effectively to solve the problem?
3. Costs and risks associated with implementation of new regulations, etc.
   - What costs and risks (e.g., security, privacy, etc.) would be associated with implementation of options A through D?
   - •What measures can be taken to alleviate this problem?
4. Option D (information blocking within your company)
   - •What specific methods can be considered for blocking information within your company?
     (For example, data silos for data blocking, access prohibitions, etc.).
   - •What specific methods can be considered to confirm the effectiveness of information blocking (e.g., reporting on the implementation status of data blocking, audits, etc.)?
   - •Other than information blocking, there are other measures to achieve what option D aims for, such as functional and structural separation, but what are your thoughts on the choice of these measures?

**20. Adding and integrating functionality into the OS, developing apps with functionality equivalent to competing apps and setting default settings, etc.**

(1) Facts and evaluation of issues based on those facts

1) Facts

- So-called service layer functions are being incorporated into OS. For example, QR codes, whose services were once provided by apps for reading QR codes, are now part of the OS functionality.
- For example, the first iPhone released in 2007 had 13 in-house applications built in, and at present, the iPhone has about 40 in-house applications that provide basic functions such as phone calls, e-mail, and memos. The following

applications are currently built into the iPhone.

| | | | |
|---|---|---|---|
| Activity [50] | FaceTime | Map | Safari |
| App Store | Files | Measure | Settings |
| Apple Store | Find My | Messages | Shortcuts |
| Books (iBooks) | GarageBand | Music | Stocks |
| Calculator | Health | News (Newsstand) | Tips |
| Calendar | Home | Voice Memos | TV |
| Camera | iMovie | Numbers | Wallet |
| Clips | iTunes Store | Pages | Clock |
| iTunes U | Photos | Compass | Keynote |
| Podcasts | Contacts | Mail | Reminders |

- Apple states that about two-thirds of these built-in apps can be deleted by the user, but the rest cannot. Apple's reasoning is that since these apps are embedded in the core operating system (Phone, Messages, Safari, Wallet, App Store,etc.), their removal would significantly impair the consumer experience, and they are interconnected, so removing one would affect the behavior of the other apps.

  In the case of Android devices, Google explains that they always aims to create better apps for its users, and therefore does not infringe on third-party intellectual property or treat rival apps unfairly, but rather uses successful third-party apps to improve their apps by incorporating features into their own apps.

[50] Only when paired with an Apple Watch.

(2) Concerns

- It has been pointed out that OS vendors are developing the same or similar services and functions as those initially provided by third-party companies as apps and setting them as defaults or incorporating them into the OS itself.
- In fact, in the case of the iPhone, the number of built-in applications has increased from 13 to about 40 since 2007 (e.g., Keynote (presentation application), Podcast (content distribution and listening application)), including some with functions provided by third-party applications.

- OS vendors have developed their own apps that have the same functionality as competing apps and made them the default setting for their own devices, etc., thereby seriously impacting the business of competitors, as noted below.

(iPhone)

- Company X has offered an app that allows users to attach a dedicated device to their wallets, keys, and other handheld items to help locate them if they are misplaced.
- Apple introduced and began selling Company X's services at its WWDC event.
- Subsequently, Apple developed a service that competed with Company X's app and began offering the app.
- When Apple introduced iOS13, it set that app as the default app on all iPhones.
- Apple changed the setting so that the app cannot be removed from the device and requires the user to enter a passcode at a deeper level and then change the setting in order to disable, or turn off, the app.
- Apple made it so that users would have to tinker with settings at a deeper level in order to use Company X's apps in order to launch them, as well as informing users to turn off Company X's apps. Apple also made changes on the back end, without any notification to Company X, which caused Company X's app to crash.

- In versions of iOS prior to iOS13, Apple's app used GPS location information. Therefore, users could not discover what they wanted to find with that application if the thing they wanted to find (e.g., an electronic device or other terminal) was offline or if its battery power was zero.
- At the time, Company X's application for finding what you were looking for used Bluetooth, not GPS, to exchange information. Therefore, in the case of Company X's application, even if the item to be searched for was not online, it could communicate with the server using Bluetooth, providing a service that facilitated the discovery of the item to be searched for.
- Apple copied this Bluetooth-enabled technology from Company X in iOS13.

- Apple introduced UltraWideBand to the iPhone11 in 2019, an essential technology to improve the performance of apps that detect what you are looking for. At that time, Company X asked Apple to allow its apps to access UltraWideBand, but Apple denied the request.
- Later, when Apple released hardware that competed with Company X's hardware, Apple decided to use UltraWideBand technology only in its own products and has yet to grant access to it to competitors[51].

- Apple has used its position of control over app sales to obtain, for example, the following information.
  - ✧ Information about current, potential, and prospective customers in the app's sales territory.
  - ✧ Information on what features are used in the app's field of sale.
  - ✧ Information on how users set subscription fees.
  - ✧ Information on margins in the retail sector, including sales in the App Store.
- The above information is held only by Company X, which does not normally provide this information to competing businesses.

[51] Apple explains, “We expect third parties to be available by the end of 2021 or early 2022.”

- Company X was placed in a very unfavorable competitive position by Apple' s actions as described above.

- In connection with these remarks, Apple stated the following
  - The suggestion that Apple copied Company X' s product is incorrect. Like many other companies innovating in the item loss prevention tag field, Apple has innovated by being committed to protecting privacy and providing a secure and privacy-preserving approach to item tracking.

  - Apple is competing by offering customers a more secure and privacy-preserving approach to item tracking as an option.
  - Apple products are designed with privacy in mind, with end-to-end encryption and built-in protection so that Apple and other third parties cannot access location data. In this way Apple does not collect location information, so the "Find My" function does not display notifications to customers about location tracking like Company X.
  - Company X and other apps access sensitive user location information, collect it, and store it on their servers. However, Apple has not done so. With the "Find My" function, the user's location data is stored locally only on the user's own iPhone and cannot be accessed by anyone other than the user himself/herself, including Apple or other third parties.

  - Company X also claims that Apple' s new "Find My" function includes its own functionality, but" Find My" was introduced in 2010 to allow users to remotely locate, protect, and erase data from their Apple devices long before the founding of Company X.

  - The observations that Company X's app was moved to a deeper level, that Company X's app could not be started without tweaking the settings for that app, that Company X's app notified users to turn off the app, and that Company X's app made changes on the back end that caused Company X's app to crash were all incorrectly pointed out.
  - The suggestion that Apple has added changes to iOS13 that negate the user experience with Company X' s service is incorrect.

  - The changes noted by Company X were applied to all apps on the App Store, not just Company X, as an enhancement to privacy.
  - These changes to privacy allow apps to clearly see when they are accessing a user's location information and give users more control over whether or not this data is shared with developers.
  - These changes were introduced to help users better understand the settings related to location tracking, and they require developers to explicitly ask for the user's consent when accessing the user's location data and prevent the continuous uploading of the user's location data even when the app is not in use.

- These confirmation messages and settings regarding location information also apply to Apple's own apps, including the "Find My" app.

- Company X is intentionally mischaracterizing the iOS changes it made to protect user privacy (i.e., location data) in order to maintain control of the mobile device tracking market and to ensure access to user data.

○ In addition, it was pointed out that (i) Apple bundled a parental control app ("Screen Time") with iOS12 that allows parents to limit the amount of time their children can use their iPhones, and after making it launch by default, it wiped many competing apps from the App Store, (ii) and the purchased apps were integrated into Apple's own existing apps or integrated into iOS (e.g., Podcast app, Transit Navigation app, Weather app), and in the case of the Weather app, they stopped offering the app for Android or stopped providing data to other vendors and (iii) Apple's acquisition of Shazam as a subsidiary and integration of the company's music feature, which tells you the title of the music when you play it, into its operating system, had a serious impact on competing operators such as SoundHound52.

[52] For (i) and (ii), see the Subcommittee on Antitrust, Commercial and Administrative.

(Android terminal)

- In relation to Google's actions, the following points have been made.
  - Some developers have developed apps that have the ability to count a user's steps using information from the device's sensors, and in around 2017, Google began offering apps with that functionality as an OS feature.
  - Google' s step count was much more accurate than the developer's, but this was only possible because it was done on the Android. This is because Google itself has information on what kind of sensors will be installed in Android devices and what kind of sensors are supported by the Android OS, and is in a position to control them.
  - As a result, the corporate efforts of developers to develop applications have been in vain. On the other hand, since Google provides APIs that enable the use of highly accurate functions, convenience has improved from the user's perspective.

3) Current evaluation

- As we have seen above, it is true that both Apple and Google have been continuously expanding the functions of their OS and developing and providing apps that compete with third-party apps by collecting data on the functions provided by third parties as apps and services and on the use of those functions.
- While such activities have the aspect of increasing user convenience, the possibility cannot be dispelled that they have had a significant negative impact on the business activities of third parties whose main business domain is such applications and services.

- Google differs from Apple in that it is up to OEMs and carriers to choose which apps to pre-install and set as default settings through licensing agreements, etc., allowing them to exclusively make their own decisions on the selection of built-in apps.

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Law of the Committee on the Judiciary (2020), *Investigation of Competition in the Digital Marketplace: Majority Staff Report and Recommendations* (https://judiciary.house.gov/news/documentsingle.aspx?DocumentID=3429). (336p, 364-366p)

- However, it is highly likely that Google's apps are extensively defaulted through bulk pre-installation on devices by MADA and agreements that allow OEMs and others to promote the company's specific services in exchange for a share of revenue from Google. Therefore, the same can be said of Google in terms of the impact on the business activities of third parties as in the case of Apple.

(2) Current competitive evaluation
(Perspectives on data acquisition and utilization)

- Since Apple and Google provide key services in the mobile ecosystem, such as operating systems, browsers, and App Stores, they have access to non-public data that players that are not in such positions cannot obtain, which they can use for their own product development and service improvement.
- In addition, because the platform is provided to a large number of players, it is possible to aggregate transaction data pertaining to individual players to obtain a very large data set quickly and at a low cost to a degree that would be difficult to achieve with a single player.
- As a result, OS vendors themselves can use this data to improve their services and enhance user convenience.
- On the other hand, such actions could give Apple and Google a competitive advantage over other companies.

(In terms of adding and integrating functions and providing apps that compete with third parties)

- Some functions added to the OS or functions of apps pre-installed/defaulted on the device may include functions that are virtually identical to functions originally provided by third parties as apps.
- This in itself brings various conveniences to users, but on the other hand, if a third party adds a function to the OS that is virtually identical to a function originally provided by an app, or if an app with the same function is preinstalled and set as the default, it is more likely to be used by users than a third party app, so OS vendors may gain a competitive advantage and third parties may be at a disadvantage.
- As a result, the room for competition over the provision of such functions may be significantly reduced or eliminated, resulting in a decline in the provision of diverse value by diverse businesses, a decline in quality, a reduction in consumer choice, and a risk of nipping future innovation in the bud.

- In this regard, the developers make the following points.

- Apple is in a position to decide what innovations should be brought to market. This is not to say that Apple should not be a competitor in the market, but the same rules should apply to Apple, with the same access to data granted, the same technology available under the same conditions, etc., to ensure a level playing field and create an environment to enable fair competition.
- Instead of treating competing app developers, etc. differently and to their disadvantage, Apple and third-party developers should be treated the same, giving users a choice and allowing users to choose.

(3) Options for response and main items for which we need your opinion

1) Options for response

What are some of the options for addressing the above competitive concerns?

(Perspectives on data acquisition and utilization)

(Option A: Prohibit use of acquired data in competing services)

See "Option A" in "19. Data acquisition, utilization, etc.".

(Option B: Ensure access by the third party operator to data generated by the third party operator's business activities)

See "Option B" in "19. Data acquisition, utilization, etc.".

(Option C: Ensure data portability by end users)

See "Option C" in "19. Data acquisition, utilization, etc.".

(Option D: In-house information blocking)

See "Option D" in "19. Data acquisition, utilization, etc.".

(In terms of adding and integrating functions and providing apps that compete with third parties)

(Option E: Prohibit the addition of third-party competing features and default settings for competing apps)

- It is also necessary to take into account that adding or integrating functionality into the OS has a stronger effect of locking in users than in the case of pre-installed applications or default settings.
- Therefore, it is necessary **for OS providers above a certain size to compete with third-party OS providers it may be possible to introduce a rule that prohibits the addition or integration of functions that allow the user to use the OS and the default setting of apps that have such functions.**

(Option F: Transparency of the process of adding features, etc.)

- In the case of a framework that generally prohibits integration (i.e., incorporation) into the OS, there is also the issue of how to ascertain that it has been incorporated in the first place and how to evaluate the aspects of the benefits it provides to the user.
- Therefore, as an alternative to Option E, it may be possible **to introduce rules to**

**ensure transparency of the process by which OS providers above a certain size add functions to the OS or set default settings for competing apps, and to ensure opportunities for third-party app developers to be involved in the process of adding such functions, etc. (e.g., prior notice of functionality addition, information disclosure, and a collaborative process requiring intervention by regulators, etc.[53]) (for example, prior notice of feature additions, information disclosure, and the use of a collaborative process requiring intervention by regulators, etc.[53] may be considered).**

(2) Main items on which we would like your opinion

[The matters on this item for which we would like your opinion]

1. For more information on facts and concerns
   - Is there further information (e.g., additional or supplemental examples) regarding the facts and concerns?
2. Effectiveness of new regulations, etc.
   - Are options A to D effective in solving the problem? Also, what are the benefits?
   - Which of the options, E or F, is more effective in solving the problem?
   - Are there any other measures other than options A through F that are expected to work effectively to solve the problem?
   - Regarding option F, what specific measures could be taken?
3. Costs and risks associated with implementation of new regulations, etc.
   - What costs and risks (e.g., security, privacy, etc.) would be associated with the implementation of options A through F?
   - What are some possible measures to alleviate this problem?

[53] For more information on this option, see "3. Tracking rule changes in OS (Apple)".

- Regarding option E, what specific justifications, if any, should be considered for granting exceptions to regulations, etc.?

4. Option D (Information blocking within your company)
   - What specific methods can be considered for blocking information within your company (e.g., data silo for data blocking, prohibiting access, etc.)?
   - What specific methods could be used to confirm the effectiveness of information blocking (e.g., reporting on the implementation of data blocking, audits, etc.)?
   - Other than information blocking, there are other measures to achieve what option D aims for, such as functional and structural separation, but what are your thoughts on the choice of these measures?

**21. Social login ("Sign in with Apple") (Apple)**

(1) Facts and evaluation of issues based on those facts

1) Facts

○ Apple's 4.8 of the App Store Review Guidelines, introduced in 2019, requires developers offering third-party social login services (Sign in with Facebook, Sign in with Google, Sign in with Twitter, Sign in with LinkedIn, Sign in with Amazon, Sign in with WeChat, etc.) to also present "Sign in with Apple" (hereinafter referred to as “SIWA”.) as an option (the image below shows an example where SIWA is displayed as an option).


- If a developer uses only their own sign-in functionality, there is no need to present SIWA as an option in the app (WeChat, for example, offers only its own login option, so there is no need to present SIWA as an option.).
- Apple explains its reasons for establishing these terms and conditions as follows.
  - SIWA not only allows users to quickly and easily sign in to websites, etc., but also prevents tracking and profiling of users by minimizing the amount of information they need to share.
  - SIWA is designed to allow users to control their own personal information, replacing privacy-intrusive social login services.

2) Concerns

(SIWA placement preferences)

- One developer pointed out that Apple used to operate under the assumption that SIWA must be the first choice for social login, even though this is not explicitly stated in the terms and conditions, and that at this time, such a preferred placement is no longer observed.
- In general, the first item displayed is considered to have the greatest exposure to users, and if such an operation had been conducted, it would have had the effect of strongly encouraging users to select SIWA.
- In response, Apple stated that the point was not accurate, and that they have never required SIWA to be the first choice for social login, nor has it ever rejected an app in an App Store Review because of this.

(SIWA's obligation to display options)

- Regarding Apple's current operation of requiring SIWA to be displayed as an option, the following points are made.
  - At the very least, it is clear that SIWAs are more likely to be selected than if

there were no such labeling requirements.

- Furthermore, the SIWA setting is considered to be derived from Apple's business convenience, and not from technical constraints or requests by users in general that require such a setting.
- By limiting the distribution of iPhone apps to its own App Store and reviewing the apps offered there, Apple is in a position where it can, in effect, set the rules for the iPhone app offering field at its own discretion.
- Is it reasonable for Apple, in such a position, to uniformly intervene in the content of services offered by third parties in their apps, and for such intervention to have the effect of increasing the chances of users choosing Apple' s services?
- If a developer has a deal with another social login provider that involves financial consideration for displaying or prioritizing only certain social logins, such intervention by Apple could interfere with the developer's revenue opportunities.

○ On the other hand, the following view could be taken of requiring SIWA to be indicated as an option.

- It may have the advantage of increasing user convenience by increasing user choice, conforming to the desires and preferences of users who wish to consolidate their login information (making it easier for each user to control security), etc.
- It is only mandated to be placed as an option, and exclusivity may not be allowed. In fact, compared to the default setting where the company's service is presented as the only one, the room for other options to be chosen is not significantly reduced.

3) Current evaluation

○ Apple's explanation for displaying SIWA as one of the options appears to be "due to the superiority of their service," because this service gives maximum consideration to user privacy. However, which method of social login is superior should be determined more objectively by developers and users choosing the method that suits them best, rather than being determined based on the information available to Apple.

○ On the other hand, while one can point to the question of whether it is reasonable to enforce Apple' s mandatory SIWA labeling by uniformly intervening in third-party services to have the effect of increasing the chances of their services being selected, one can also argue that it would increase user choice and convenience, and that it would not be the lack of exclusivity, one could take the position that no immediate serious concerns arise from this action.

(2) Current competitive evaluation

○ Apple, which distributes apps on the iPhone only through its own App Store, and by reviewing the apps offered there, is in a position to set the rules of the iPhone app provision field at its own discretion, but it may be appropriate and justifiable for Apple to use its position to intervene with de facto coercive force in one means of

competition, social login, and to constrain the business activities of the app vendors.

- As for the impact on competition, it is clear that SIWA is more likely to be chosen when it is present, at least compared to when there is no mandatory SIWA labeling, and as such, it can be said to favor Apple in the area of social logins.
- In addition, this effect of SIWA makes it easier for Apple to obtain data on various transactions, etc., than it would be without SIWA, which in turn makes it easier for Apple to use such data and improve its services, etc., to enhance user convenience. From this perspective, the SIWA could give Apple a competitive advantage.

- On the other hand, since it is only a matter of placing it as an option, it can be said that one's own service is more likely to be chosen than otherwise, but at least it is not exclusive, and the idea could be to increase user choice and improve convenience.

(3) Options for response and main items for which we need your opinion

1) Options for response

What are some of the options for addressing the above competitive concerns?

(Option A: Prohibition of mandatory display of company services such as company IDs)

- The act of requiring SIWA labeling may be viewed as giving a competitive advantage to those who engage in such conduct.
- Therefore, when an **OS provider above a certain size provides an App Store,** it **may be possible to introduce a discipline that prohibits the developer using the App Store from requiring the developer to use, offer, or interoperate with its own services such as IDs**.

(Option B: Prohibit use of acquired data in competing services)

- Since SIWA only enforces placing it as an option, and that enforcement only takes place when the app offers other social logins, considering that the act itself is not necessarily exclusive, and taking into account the overall benefits such as increasing consumer choice and convenience, as an alternative response to option A,
  if an entity that provides an OS above a **certain size** provides an App Store, it is necessary to introduce a rule prohibiting the use of data pertaining to such services, including those provided by SIWA**, that is not publicly available when a third-party provider uses the OS or App Store provided by such provider to provide services, in the provision of services that compete with such third-party provider.**

2) Status of rules development and consideration in other countries

(Related to option A)

- Article 5, Section 1 (e) of the DMA Act
  - Do not require business users to use, suggest, or interoperate with the gatekeeper 's identity services when doing business with the gatekeeper's

services.

3) Main items on which we would like your opinion

[The matters on this item for which we would like your opinion]

1. For more information on facts and concerns
   - Is there further information (e.g., additional or supplemental examples) regarding the facts and concerns?
2. Exclusivity of SIWA
   - Is it reasonable to assume that SIWA is not so much exclusive as the act itself, since it is only enforcing the placement as an option, and that the enforcement takes place only when the app offers other social logins?
   - What are the tangible benefits to users of having more social login options and SIWA as an option? On the other hand, if the SIWA option is not displayed in the social login, is there a case where the usability of the SIWA option would be reduced, or would it cause problems for the user?
3. Effectiveness of new regulations, etc.
   - Are options A and B effective in solving the problem? Also, what are the benefits?
   - Which option, A or B, is more effective in solving the problem?
   - Are there any other measures other than options A and B that are expected to work effectively to solve the problem?
4. Costs and risks associated with implementation of new regulations, etc.
   - What costs and risks (e.g., security, privacy, etc.) would be associated with the implementation of options A or B?
   - What are some possible measures to alleviate this problem?

**22. Automatic login to Chrome browser (Google)**

(1) Facts and evaluation of issues based on those facts

1) Facts

- When you sign in to any of Google's web services, such as Gmail, the Chrome browser automatically logs you in with the Google Account you are already signed in with on your device.
- If the user is signed in to their Google Account on Chrome for Android, Chrome will usually prompt the user to sign in to Google's web services when the user uses any of them. If the user has turned off this login message in their settings, this will not be displayed in Chrome.

- Google cites the following benefits of logging into Chrome as reasons for setting up automatic login to the Chrome browser
  - Chrome Sync (Synchronization. See below.) can be turned on without having to re-enter your password.
  - You can choose to store some of the AutoFill categories (currently available for payment information and passwords) in your Google Account without having to activate the Sync feature in your Chrome browser.

- A Chrome password generator will be provided that generates strong and unique passwords for each website.

- Google introduced an option to turn off this auto-login feature in the October 2018 release of Chrome in response to user feedback. Users who have this feature turned off will not be logged into Chrome when logging into Google websites.
- Google's rationale for introducing the option to turn off this auto-login feature is to provide an environment that gives multiple users, especially those who share a single device, more control over their respective experiences.

- After logging into your Chrome browser, you can enable Sync for your Google Account by following additional steps. When enabled, browsing information is stored in your Google Account on Google's servers. Thus, even if you log in or sync to Chrome on another computer or device, you can still access the stored information. Chrome's Sync feature also allows users to access their synced Chrome history and settings on any other device they are logged in and synced to.
- Users must be logged into their Google Account to use the Sync feature. When a synchronized user turns off the auto-login function, Sync (synchronization) is also turned off. Thus, Sync can be considered an additional optional feature that works on top of Chrome's auto-login functionality.

- Google states that the reason for this configuration of Chrome's Sync (sync) not being available without automatic login to Chrome is that it is necessary to store users' browsing information in their Google Account.

2) Concerns

- Assuming Google's explanation, this automatic login feature to the Chrome browser (i) is set to on by default, even though it can be turned off by the user, (ii) there are cases in which users are not asked if they wish to sign in with a Google Account to which they are already logged in (i.e., signing in without their consent on a case-by-case basis) and (iii) it is unlikely that the "do not log in" option will be chosen because the default setting will be automatically logged in to the Chrome browser in many cases as a result of a possible status quo bias.

- In addition, there are quite a few users who use a PC and a smartphone or multiple smartphones, and it is very important for them to be able to use Chrome's Sync (synchronization), but as mentioned above, you must be logged in to Chrome in order to use Chrome Sync.
- Such settings by Google may also have the effect of inducing the use of automatic login to the Chrome browser.

- Some have pointed out that this behavior for automatic login is a "design that enables the synchronization function without the user's knowledge and uploads data" and a 'dark pattern' known as a bad design for deceiving users.[54]

3) Current evaluation

As described above, the automatic login function to the Chrome browser is designed to attract users to Google's services in the first place, and even after the specification was changed to allow users to turn it off, it is still considered to have a certain degree of inducement effect.

[54] https://gigazine.net/news/20180925-chrome-change-sign-in-experience/
https://blog.cryptographyengineering.com/2018/09/23/why-im-leaving-chrome/

- It can also be pointed out that the fact that Chrome's Sync is an add-on for automatic login to Chrome also contributes to this inducement effect, and that there is a problem with the display that turns on Sync against the user's will.

(2) Current competitive evaluation

- Operating systems and browsers are considered to have an infrastructural role in the mobile ecosystem.
- Google may be using its position as a leading provider of such services to induce users to save their web browsing history and other information on Google's servers via their Google Account by setting up automatic login to Chrome and taking advantage of user bias and other factors.
- As a result, Google may have a competitive advantage over other companies because it can enclose this information and use it to develop, improve and provide various services.

(3) Options for response and main items for which we need your opinion

1) Options for response

What are some of the options for addressing the above competitive concerns?

(Perspectives on data acquisition and utilization)

(Option A: Prohibit use of acquired data in competing services)

See "Option A" in "19. Data acquisition, utilization, etc.".

(Option B: Ensure access by the third party operator to data generated by the third party operator's business activities)

See "Option B" in "19. Data acquisition, utilization, etc.".

(Option C: Ensure data portability by end users)

See "Option C" in "19. Data acquisition, utilization, etc.".

(Option D: In-house information blocking)

See "Option D" in "19. Data acquisition, utilization, etc.".

(Perspective on the problem of setting up automatic login)

(Option E: Automatic login "off" by default or opt-in, etc.)

- In order to deter the inducement effect of automatic login to their own services, it is conceivable that **OS providers above a certain size should be required to (i) change the setting that is currently "on" by default to "off," (ii) introduce an "opt-in method" that always asks the user if he/she wants to log in and asks for consent and (iii) prohibit actions that induce users to "in" or discourage them from "out" against their intention.**

- When using the "opt-in" method in (ii), it may be desirable to provide information in an easy-to-understand manner not only on the benefits of automatic login, but also on points to keep in mind, such as the impact of automatic login on user privacy.
- Should the discipline in (iii) include not only screens requesting automatic login, but also displays requesting the use of Sync (synchronization)?

(Option F: No special support for setting up automatic login, subject to the implementation of the discipline in option A)

- Regarding automatic login to the Chrome browser, **(i) it is considered to be for existing users who originally have a login ID to Chrome browser and the act itself is not considered to have strong exclusivity, (ii) automatic login contributes to the convenience of users, and (iii) the current setting of automatic login itself may be acceptable because the UI may deteriorate if it is an opt-in method like option E.**
- In other words, as an alternative to option E, it may be possible to introduce the discipline of **option A and not introduce any specific discipline for the automatic login setting itself.**

(2) Status of rules development and consideration in other countries

(Related to option E)

- Article 5, Section 1 (f) of the DMA Act
  - Stipulates that gatekeepers shall not require business users or end users to subscribe or register for other core platform services as a requirement to be able to use, access, sign up or register for the core platform.

(3) Main items on which we would like your opinion

[The matters on this item for which we would like your opinion]

1 For more information on facts and concerns
- Is there further information (e.g., additional or supplemental examples) regarding the facts and concerns?

2 Effectiveness of new regulations, etc.
- Are options A to D effective in solving the problem? Also, what are the benefits?
- Which option, E or F, is more effective in solving the problem?
- Are there any measures other than options A through F that are expected to work effectively to solve the problem?

3 Costs and risks associated with implementation of new regulations, etc.
- What costs and risks (e.g., security, privacy, etc.) would be associated with the implementation of options A through F?
- What are some possible measures to alleviate this problem?

**23. Sending information from the browser to the company's website only (Google)**

(1) Facts and evaluation of issues based on the facts

1) Facts

- When browsing a website, the browser sends an HTTP request to the web server using HTTP (Hypertext Transfer Protocol, a protocol for exchanging web information between a web server and a browser), and an HTTP request is sent to a web server, and the website is displayed based on the response from the web server that received the request.
- Google's browser, Chrome, implements something called the X-Client-Data header, which is sent out only when accessing Google's website, while including it in the HTTP request.
- Google explains this as follows.
  - X-Client-Data headers may be provided to some user groups prior to the full release of the feature to ensure that the new feature provides the best experience for users and is functioning properly. For example, if you improve the page loading functionality in Chrome, you might ask 1% of users to try it out to make sure it doesn't crash or lag before releasing it to everyone. This is to be done through a system called "Chrome variations," also known as a “field test”.
  - A single Chrome installation by a particular end-user may be participating simultaneously in multiple “Chrome variations" or "field trials" for different features.
  - The variations assigned to the Chrome installation are randomly selected based on a randomly generated number between 0 and 7999 (13 bits), etc., at

the first run of each Chrome installation, and the network request sent to Google will include a combination of these variations. The combination status of such variations is based on a 13-bit value, and individuals cannot be identified from this information (these are designed so that where they are transmitted using X-Client-Data headers, many different browsers at any given time will have identical X client data headers, meaning that the user cannot be identified as an individual. Users may also reset the variation in which their installation is participating at any time.).

- The primary function of the X-Client-Data header is to inform Google services about Chrome variations and what field tests are being conducted on those variations, and to ensure that each Google version works as intended. In order to do so, each Google service needs to know which users are participating in the field test, and the X-Client-Data header enables this evaluation.
- The X-Client-Data header facilitates the collection of data necessary to measure the impact of the Chrome variant on (other) Google services that are the subject of the field test, and does not transmit to Google any data regarding the use of Chrome features other than those relevant to the field test.

2) Concerns

- X-Client-Data headers that are only sent out when Google's Chrome browser accesses Google's website are implemented in Chrome, but the reason why certain information is sent only when accessing Google's site with Chrome is because the browser sends information that is available only from Google's service compared to other services, and it is possible that the web service is favoring Google's service or taking advantage of its position to use Chrome to do something that cannot be handled only by web standards technology on the web service side.
- If that were the case, you could use Chrome to take advantage of its position as a provider of other web services, and thus services, which would be a concern from an equal footing perspective.
- Also related to this issue, it has been pointed out that the X-Client-Data header contains Chrome Validation (a number between 0 and 7999 that is an identifier), which, when combined with other IP addresses, tracks specific individuals, sending information that makes it feasible to continue tracking a user as the same user even if the user logs out, and no option to stop the transmission is provided.

3) Current evaluation

- Google acknowledges that it sends out X-Client-Data headers to the URLs of Google services, and there is concern that sending out X-Client-Data headers will ensure that only Google's website will work optimally.
- If, in such a case, it is not reasonable to conduct the field test only on Google's service and not to conduct the same field test on the websites of other web service providers, it would be a matter that would be considered problematic from the perspective of equal footing in competition.
- In addition, if it is possible to track specific individuals through the Chrome variation identifier in the X-Client-Data header, combined with IP addresses and other information, it would be possible for only Google to provide services with information

that is not available to other web service providers, so this would be a matter of concern from the perspective of equal footing in terms of competition.

- In this regard, Google explains as follows.
  - The X-Client-Data header facilitates the collection of data necessary to measure the impact of the Chrome variation on (other) Google services that are the subject of field testing.
  - Therefore, we do not send any data to Google regarding the use of Chrome features other than those relevant to the field test.
- Furthermore, if the Chrome variations identifier in the X client data header can be used to track specific individuals in combination with IP addresses, etc., and if it is feasible to continue tracking the same user even after the user logs out, and if an option to stop this transmission is provided, then this should be considered a problem from the standpoint of ensuring user privacy. If the company does not provide an option to stop this transmission, this should be considered a problem from the standpoint of ensuring user privacy.
- In this regard, Google explains as follows.
  - Network requests sent to Google services include a combination of Chrome variations.
  - This means that many different browsers will have identical X-Client-Data headers at any given time where they are transmitted using the X-Client-Data header.
  - Thus, this network request is designed so that the user cannot be identified as an individual.
  - Users may also reset their Chrome installation to a participating variant at any time.

(2) Current competitive evaluation

- If the results of the field test are shared with each Google service through the transmission of the X-Client-Data header, it may be possible for only Google services to perform well in relation to Chrome.
- If it is possible to track users involved in field trials, Google could also deploy its services using information that is not known by other web service providers.
- This could be seen as a way for them to take advantage of their position as the provider of a browser that plays an infrastructural role for web services to favor their own web services.
- Also, if users cannot deactivate tracking through the Chrome variations identifier in the X client data header, this could raise privacy concerns.

(3) Response options and main items for which we would like your feedback

- While taking into account the facts, the following points shall also be taken into consideration and shall continue to be discussed, including whether or not a response measure is necessary.
  - Since this action by Google is in the nature of a confirmation of the operation of a new feature to be introduced, is it appropriate to provide web content providers with this opportunity for field testing?

- Whether or not there is an aspect of Chrome's competitiveness that would be enhanced by the increased usability of leading websites through this feature.

[The main items on which we would like your opinion on are as follows]
1 For more information on facts and concerns
- Is there further information (e.g., additional or supplemental examples) regarding the facts and concerns?

2 Competitive concerns
- What are your thoughts on the competition concerns regarding the matters discussed in this item?
- If there are competitive concerns, are there options for addressing them that are expected to be effective? Also, what are your thoughts on the benefits, costs, and risks of this option?

**24. Search query data and other resources (Google)**

(1) Facts and evaluation of issues based on the facts

1) Facts
(Summary)
- Search engines were crawling the web and trying to generate organic links (pure search results excluding ads) for many companies about a decade ago. Subsequently, to date, these web crawling search engine start-ups have exited the market, leaving only Google and Microsoft to generate competitive organic links.
- While some companies such as Baidu in China and Yandex in Russia generate competitive organic links on a regional basis, other competitive general search engines are still required to license their organic links from Google and Microsoft.
- In other words, the mechanism is to enter into a search syndication agreement with Google or Microsoft and agree to display a search ad next to the organic link in exchange for purchasing the organic link.
- If you are looking to start up a search engine, one option would be to generate revenue through vertical search without using Google or Microsoft's search engines. For example, one could display only product ads from each company, as Amazon does, or only travel ads from each company, as Booking.com does55.

[55] Written Statement for the Record by Megan Gray, General Counsel and Policy Advocate for DuckDuckGo for a hearing entitled "Online Platforms and Market Power, Part 2: Innovation and Entrepreneurship" before The House Judiciary Subcommittee on Antitrust, Commercial and Administrative Law Rep. Davi, Chair Rep. James Sensenbrenner, Ranking Member Tuesday, July 16, 2019.

(Explanation by Google)

- The key elements for search engine operators to enter the market are (i) engineering resources to develop and improve search platform algorithms and (ii) a business model to monetize the platform. New entrants do not need large amounts of user data and can obtain the small amount of data needed from third parties or data feeds (consumer products, travel, sports scores, movie showtimes, stock prices, weather forecasts, exchange rates, etc.).
- Support for new search engines is underway, providing access to data and many tools that will lower the barriers to entry into search. (Example: Google Takeout allows users to export their data from Google Search (and other Google products) and share it with third parties of their choosing at their leisure (including search engines) of the user's choosing.)

2) Concerns

- It is extremely difficult for new entrants to build new search query data and indexes (index data stored in search engine databases), and there is concern that this is a major barrier to market entry for search services.
- In fact, it has been suggested that third-party access to Google's search query data and indexes should be widely allowed in order to ensure interoperability for other search engine operators to enter the market and to ensure the possibility of competition in the market.
- In response, Google explains as follows.
  - Search query data and indexes are highly confidential and are the result of Google's significant investment in proprietary technology to crawl and index web pages quickly and efficiently. Google is now disclosing aggregated search data to website operators to help them improve their website search results.
  - Search query data and indexes are not necessary for other search engines to enter the market and for fair and equitable competition. First, the user's search data may contain sensitive information such as health status, home address, financial details, or searches for political or religious organizations.
  - In addition, user search data is not a limiting factor for search engine growth. These factors include, for example, the efficiency and effectiveness of the service's indexing system, the functionality and characteristics provided by the service, the format and design of search results, the creativity of the engineers who develop the algorithms, the relevance and quality of the information provided, ongoing experimentation and innovation, the efficiency and speed of the server infrastructure that supports the service, etc. and speed of the server infrastructure supporting the service.
  - Objective evidence indicates that search engines do not require large amounts of user search data to generate high-quality results. Currently, machine learning technologies such as deep learning and small amounts of data are considered to be able to handle the situation.
  - Allowing other search engines to directly copy Google's search results or mimic

Google's algorithm, rather than developing their own algorithms, would have the opposite effect of encouraging independent competition.

3) Current evaluation

- The explanation from Google argues that user privacy is compromised by allowing access to search query data and indexes.
- In response, it is noted that even if one were to search for a phone number, home address, or other symbolic number, for example, Google could restrict access by creating a filter that would exclude searches containing a certain number of digits.
- The explanation from Google claims that new entrants do not need large amounts of user data and can obtain the small amount of data they need from third parties or data feeds.
- In response, the following points are made.
  - The suggestion that barriers to entry are small because providing general search (web search) services requires large amounts of query data and indexes is not true.
  - For third-party operators seeking to develop general search services, the availability of search query data and indexes will lower the barrier to entry.
  - On the other hand, vertical searches, which target only data in a specific domain, do not require such a large amount of search query data or indexes.
- Based on the above, the validity of Google's claim continues to require further study, and further information needs to be collected.

(2) Current competitive evaluation

- In terms of securing competition for search engine development, the following barriers are considered to exist in terms of both demand and supply.
- Regarding the demand side, Google is usually used as the default search engine, and such default arrangements may undermine the ability of competing search engines to reach users, creating a barrier to user expansion through network effects, operational monetization, and improved search result quality.
- On the supply side, search engines must overcome economies of scale in crawling and indexing in order to generate independent search results, which may also be a barrier.
- In addition, blocking codes (those set on websites that prevent crawlers other than competitive search engines such as Google and Microsoft's Bing from taking data or indexing them) may also be a barrier in the sense that this creates a financial barrier in the sense that it costs a lot of money to develop a search engine on their own, and in the end they cannot compete with Google and Bing in terms of the quality of their search results.
- In addition to the impact of default settings, having search queries and indexes is a reasonable factor in entry into search engine development, and if it is difficult for new entrants to enter the market without them, this may reduce the room for competition, reduce the variety of value offerings by a variety of providers, reduce quality, reduce consumer choice, and nip future innovations in the bud.
- The search function is at the entrance to web use, and from the perspective of

promoting healthy web development, it should be taken into account that securing competition there is an important position.

(3) Options for response and main items for which we need your opinion
1) Options for response
What are some of the options for addressing the above competitive concerns?
(Option A: Ensure access to search query data and indexes)

- It is necessary to continue to gather information on this matter, including soliciting opinions from interested parties.
- If some measures are required, for example**, if an OS provider above a certain size provides search services, it may be possible to introduce a rule that requires the third-party search engine provider to have access to search query data and indexes when requested by the third-party search engine provider.**

(2) Status of rule development and review in other countries
(Related to option A)

- CMA Interim Report (Paragraph 8.43): [Summary] To overcome Google's scale advantage in data, we recommend that Google be required to provide its click and query data to third-party search engines.

- Article 6 (j) of the DMA Act (Ensuring Access to Data)
  - Gatekeepers shall provide to any third party providers of online search engines, upon their request, with access on fair, reasonable and non-discriminatory terms to ranking, query, click and view data in relation to free and paid search generated by end users on online search engines of the gatekeeper, subject to anonymization for the query, click and view data that constitutes personal data. (In addition, Article 2 (2) (fa) of the Act defines "online search engine" as a "core platform service".)

(3) Main items on which we would like your opinion

[The main items on which we would like your opinion on are as follows]
1 For more information on facts and concerns
- Is there further information (e.g., additional or supplemental examples) regarding the facts and concerns?

2 On what is required to enter the search services market
- Is it reasonable to explain that building a general search (web search) engine does not require a large amount of search query data, but can it be done with machine learning techniques such as deep learning and a small amount of data?

3 Effectiveness of new regulations, etc.
- Is option A effective in solving the problem? What are the benefits?
- Should the scope of coverage include not only end-user generated search query data and indexes, but also rankings, clicks, and browsing data as proposed in the DMA Act?
- Are there any measures other than Option A that are expected to work

effectively to solve the problem?

4 Costs and risks associated with implementation of new regulations, etc.

- What costs and risks (e.g., security, privacy, etc.) would be associated with the implementation of option A?
- What measures can be taken to alleviate this problem?
- If there are cases in which exceptions to regulations, etc., should be granted, what specific justifications, if any, can be given for granting such exceptions?

## 4. Restrictions on access to various functions

### 25. Restricting app access to OS features

(1) Facts and issues and evaluation based on them

1) Facts[56]

- Apple allows developers to provide MiniApps written in HTML5 within their apps. In fact, there are many apps in the App Store that can access MiniApps (e.g., Steam Link, PS Remote Play, Xbox, Facebook, WeChat, SnapChat, etc.).
- On the other hand, Apple imposes a restriction in its terms that the MiniApp does not extend or disclose the platform's native API to third-party software.
- Apple states that it is imposing these restrictions because (1) they have not been verified by App Review and are subject to change at any time, and (2) to ensure that user privacy and security are not compromised by unapproved content or features that violate the guidelines.
- Thus, it is prohibited by the terms and conditions for an app subject to app review to implement a MiniApp that calls native OS functions for other third parties.

2) Concerns

If MiniApp is linked to a third-party app, it is usually assumed that Apple has not vetted and verified the security and other aspects of such third-party apps. Thus, Apple's imposition of restrictions to prevent third-party software interfacing with the MiniApp from extending or disclosing its native API is a reason in itself.

[56] In addition to the access restrictions on the MiniApp described below, one developer also pointed out the following restrictions on access to Wear OS devices.

•iOS supports "rich" notifications on the Apple Watch and the ability to reply or take action on notifications (e.g., archiving or replying to incoming emails), but these cannot be accessed on Wear OS devices. Wear OS devices can access and receive notifications from iOS devices via the Apple Notification Center Service (ANCS) protocol using the BLE interface, but ANCS provides limited notification capabilities and does not support reply capabilities.

- On the other hand, even if it is a MiniApp that calls native functions on third-party software, it is not technically and economically impossible to verify such third-party software in an individual examination. Therefore, the validity and legitimacy of a blanket ban on such MiniApp cannot be questioned.
- Apple provided the following explanation regarding this point.
  - MiniApp is a web app accessible within native apps. This means that even after the app has been reviewed by Apple in the app review process, the developer can easily modify it on the server side (e.g., to access native functionality). Therefore, restrictions by Apple are necessary.
  - If developers feel burdened, MiniApp can be offered as a web app using a web browser outside of the App Store.

- One developer noted that their MiniApp was rejected by Apple even though it contained first-party content, which is not explicitly prohibited under the guidelines, unlike third-party content, and that they did not receive a clear explanation as to why it was rejected.
- The developer has concerns about the fairness of Apple's application of the rule in that it has been rejected for unknown reasons, while other first parties have been granted access using MiniApp.

- Even if there is a valid reason for imposing such restrictions, if only Apple's MiniApp, which invokes OS native functions for third parties, can access OS native functions, there is a possibility that equal footing will be hindered, and at this point, we have not received any information suggesting such a fact, and in fact, some people say that there is no need to use MiniApp since Apple can pre-install its own apps at its own discretion.

3) Current evaluation

- As we have seen above, we cannot dispel the question of whether there is a legitimate reason to uniformly prohibit MiniApps that invoke native OS functions for third-party software, and there is also the possibility that MiniApps that contain in-house content that is not prohibited under the terms and conditions are not being examined fairly.

(2) Current competitive evaluation

- With regard to the restriction of access to the MiniApp for third-party software, it is doubtful that Apple's stated reason for the restriction is justifiable for a blanket restriction. These uniform restrictions make it difficult to provide a variety of value through the use of the MiniApp, and competition through such value provision may be inhibited, reducing consumer choice and potentially nipping future innovation in the bud.

- If the decision to grant access to MiniApp to first parties that are not uniformly prohibited is unclear or unfair, it may impede fair competition among app developers, and if Apple itself is able to provide the same value as if it used MiniApp, even without using MiniApp (*), and they are impeding business

development by denying access to MiniApp to other businesses without justifiable reason, there may be concerns from the perspective of unfair preferential treatment of its own company by Apple.

Apple states that "Apple's first-party apps do not use MiniApp.

(3) Response options and main items for which we would like your feedback

*Refer to" (3) Options for support and main items for which we would like your opinion" in "Restricting access to NFC".

**26. Restricted access to UltraWideBand (Apple)**

(1) Facts and evaluation of issues based on the facts

1) Facts

- Apple owns its own proprietary U1 ultra-wideband chip (UltraWideBand, hereinafter referred to as 'UWB'). This UWB is used to recognize proximity devices, for example, when an iPhone identifies and interacts with a HomePod, as well as for micro locations via Apple's AirTag and "Find My" networks.
- Apple introduced UWB to the iPhone11 in 2019, at which time one developer asked that their app also have access to UltraWideBand, which Apple did not grant.

- Apple thus states the following reasons for not allowing access to UWB.
  - The treatment of such third-party access to the UWB is the same as for many other features that Apple exposes to third parties. First, it must be ensured that the UWB works properly and that the use of the UWB by third parties does not create security, privacy, or other risks that could compromise the consumer experience when using the iPhone.
  - We continue to take the most up-to-date precautions to ensure that the security and integrity of the user experience is not sacrificed when providing access to new technologies, and that they work well together, but this will take time to accomplish.
  - While this development strategy by Apple has resulted in highly integrated, nearly seamless products, providing the same level of access to third parties is difficult, if not impossible.
  - Recently, the company announced that draft specifications for Apple's UWB chip will be available to chip set manufacturers by the end of 2021. This will allow third-party device manufacturers to use UWB chips. UWB will be made available to third parties in the future, and we expect it to be available to third parties by the end of 2021 or early 2022.

2) Concerns

- Apple has limited the use of the UWB chip to its own apps only from 2019, when it implemented UWB in iOS11, until at least the end of 2021 or early 2022.
- Thus, it follows that for at least several years, Apple was the only company that was able to offer users the ability to use the iPhone's UWB.

3) Current evaluation
(As described in 2 above.)

(2) Current competitive evaluation

- There was a discrepancy of more than several years between when Apple's own apps became available to use the UWB chip and when third parties became available to use the UWB chip, and during that time, only Apple was able to publish apps that used the iPhone's UWB chip and was able to get feedback from users to improve and enhance their apps.
- This will likely give Apple's apps a competitive advantage as a first mover and put other companies at a disadvantage, and if such access restrictions are imposed without justification, there may be concerns from the perspective of undue favoritism by Apple for its own company.

(3) Response options and main items for which we would like your feedback
*Refer to" (3) Options for support and main items for which we would like your opinion" in "Restricting access to NFC".

**27. Restricted access to NFC (Near Field Communication) (Apple)**

(1) Facts and evaluation of issues based on the facts

1) Facts

- There are two main types of payment methods using smartphones: QR and other code payment methods, and contactless touch payment methods. Of these, the technical specifications for code payment are open for both Android devices and iPhones. This allows for a unique payment method that does not go through Apple Pay when making a code payment with an iPhone.

- While the technical specifications of the Near-Field Communication (hereinafter referred to as 'NFC'.) chip are open for Android devices, the technical specifications of the NFC chip are not open for the iPhone.
- Therefore, developers can create their own applications for touch payment in the case of Android devices, but cannot create their own applications for iPhone touch payment.
- Furthermore, in this situation, Apple has made it a specification that one must always use Apple Pay when accessing the iPhone' s NFC chip. Therefore, when touch payment is made with an iPhone, the payment data will always go through ApplePay.

- There are 30 to 60 companies in Japan accessing the iPhone's NFC functionality via Apple Pay[57].
- According to Apple, all of these companies have comparable options for accessing Apple Pay and Apple's NFC capabilities, including the option to access Apple Pay directly from within their own apps.
- Regarding the disclosure of specifications for accessing NFC through Apple Pay, Apple states that "they provide detailed guidance on NFC, including technical and

other details, for developers on its Developer Portal".

- Apple has stated the following as reasons for not opening up the technical specifications of the NFC chip to allow developers to create touch payment apps without Apple Pay.
  - Apple provides third parties with the ability for customers to make NFC payments through Apple Pay, but does not allow third parties unrestricted access to the NFC technology infrastructure.
  - Allowing unrestricted third-party access to the payment technology infrastructure would undermine the security provided by the tightly integrated architecture, giving third parties the means and incentive to break into Apple's devices and Secure Element, and potentially steal user credentials and financial information such as credit cards.
  - In fact, Android devices have been found to open the NFC infrastructure to third-party payment apps, which could result in a third-party attack that could compromise customer card information.
  - Allowing unrestricted access to third parties would undermine the simplicity of NFC and its ease of use by card issuers and other providers (e.g., automakers, transit agencies, reward point providers, sports/entertainment facilities, universities, building access control system providers, electric vehicle charging providers).

    NFC technology is designed to pair an NFC chip with a specific application on a one-to-one basis.

[57]A list of banks and issuers participating in Apple Pay in Japan can be found at the following URL: https://support.apple.com/ja-jp/HT206638

- We asked Apple about the design of the NFC chip to pair one-to-one with certain apps, what "certain apps" are, whether Apple Pay falls into that category, and whether such a design is inevitable with NFC technology, and since they did not directly respond to these points, but instead gave the following answers, it is not clear at this time whether a one-to-one design is technically inevitable.
  - One-to-one pairing allows Apple to provide the highest level of security and the simplest, most consistent customer experience when paying with a device.
  - If multiple apps can accept payments, consumers would need to manually change the one-to-one NFC controller settings each time they use a different payment app. Apple believes that such an unnecessary step would significantly impact consumer adoption of mobile payments, making it less easy to switch payment cards within Wallet, as well as undermine their reputation for providing a seamless customer experience.
  - The current model encourages issuers to compete aggressively to ensure that consumers use their cards the most within Wallet because of the ease of switching cards.
  - This simple user experience is important as consumers adopt mobile payments.

2) Concerns

- As seen above, Apple has not opened up the technical specifications of the iPhone's NFC chip, so developers cannot create their own applications for iPhone touch payments.
- Since the iPhone has a large share of the smartphone market in Japan, developers of payment applications are at a disadvantage in terms of equal footing in market access if they are unable to create their own applications for iPhone touch payments.

- Some developers have pointed out that Apple's specification that the iPhone's NFC chip must be used to access Apple Pay requires a certain amount of development cost to meet the Apple Pay specification, and that the NFC chip must be used to access the iPhone's NFC chip, and it has been pointed out that this is an additional cost that could be avoided if the NFC chip could be accessed directly, as is the case with Apple Pay, and payment app developers are at a disadvantage in this regard as well.

- In addition, even when payments are allowed through Apple Pay, the specifications are not open, and the process and criteria for allowing them are unclear.

3) Current evaluation

(As described in 2 above.)

(2) Current competitive evaluation

- Currently, Apple does not allow access to NFC chips other than through Apple Pay,

without exception. This may prevent developers of payment apps that seek to offer payment services directly using the capabilities of the NFC chip from competing on an equal footing with Apple Pay on the iPhone platform.

- In the case of applicants wishing to use touch payments through Apple Pay, it is noted that the specifications for access to NFC are not open and that the process for granting such access is uncertain and sometimes rejected for reasons that are not clear. If such an uncertain operation is carried out, it may cause increased risks and costs for developers of payment applications in terms of business execution, and may inhibit the competitive function of existing operators, as well as adversely affect the willingness of potential developers to enter the market to provide new NFC payment services.
- For payment service providers, the inability to offer NFC-based payment services on the iPhone, which is used by many smartphone users in Japan, would be a major business disadvantage, and even in the case of touch payments through Apple Pay, if the process and criteria for granting access to NFC are unclear, fair and equitable competition among payment service providers may be impeded.

- If the room for fair and equitable competition over the provision of iPhone touch payment services is significantly reduced in this way, there is a risk of a decline in the provision of diverse value by a variety of businesses, a decline in quality, a reduction in consumer choice, and the nipping of future innovation in the bud.

(3) Options for response and main items for which we need your opinion

1) Options for response

What are some of the options for addressing the above competitive concerns? (Option A: Ensure equivalent or transparent, fair, reasonable and non-discriminatory access to functions of the OS, etc.)

- Some of the functions in terminals, OS, etc. may greatly expand user convenience or implement novel functions. Therefore, for third-party developers, whether or not they can access such functions, etc., affects their competitive advantage or disadvantage.
- Since such access restrictions are not necessarily limited to access to MiniApp, UWB, or NFC chips that invoke native OS functions as seen above, the scope of the **discipline may be considered to be access to OS functions for business users in general**.
- Therefore, it **may be conceivable to introduce a discipline** that would require that an **OS provider above a certain size** be **granted access to OS and other functions equivalent to its own services, or transparent, fair, reasonable, and non-discriminatory access if its own company does not use the same functions**.

2) Status of rules development and consideration in other countries

(Related to option A)

- Article 6 (f) of the DMA Act
  - A gatekeeper shall allow business users and providers of ancillary services access to and interoperability with the same operating system, hardware or software features that are available or used in the provision by the gatekeeper of any ancillary services.
  - Ancillary service providers shall allow a gatekeeper access to and interoperability with any software or hardware functionality available to it in providing ancillary services, regardless of whether it is part of the operating system.
  - However, gatekeepers are permitted to take measures to protect users' data and cyber security response to disruptions to OS functionality, etc.
- Article 6 (k) of the DMA Act
  - A gatekeeper shall apply terms that are no less favorable to core platform services than those applicable to their own services for business users and general conditions of access that are transparent, fair, reasonable and non-discriminatory.

- CMA Interim Report
  - Apple and Google own their respective operating systems and can therefore control key APIs and the functions these APIs manage (Paragraph 6.21 ~6.23). App developers have expressed concern that there are important APIs that Apple and Google do not allow third parties to use (Paragraph 6.24), and that Apple only allows certain third parties access to some APIs. In particular, if Apple can block access to useful APIs that maintain a system of "entitlements" (Paragraph 6.25)
  - that control which third parties can access certain APIs, the quality of apps will decrease in comparison to accessible apps (Paragraph 6.26). Therefore, Apple and Google could give their apps and services a competitive advantage by restricting access to their APIs.
  - Prohibit Apple and Google from unreasonably restricting third party access to hardware and software (Paragraph 7.81)

(Relating to access to UWB)

- CMA Interim Report (Paragraph 6.38-6.41)
  - The Ultra Wide Band Chip is used in Apple devices for spatial awareness, allowing the iPhone to accurately locate other Apple devices, but Apple does not allow third-party access.

    (Paragraph 6.38)
  - Apple recently announced that it will allow third-party device manufacturers access to its UWB chips, but restricting access to third parties altogether could severely distort competition, and it is considering less restrictive measures (Paragraph 6.49)

(NFC access-related)

- CMA Interim Report
  - NFC chips on mobile devices are an important application for enabling contactless payments, and the use of contactless cards, which allow payments to be made by placing them close to a payment terminal, is becoming particularly important (Paragraph 6.32).
  - Starting in 2014, Apple began including an NFC chip in the iPhone and released Apple Pay, a mobile payment and digital wallet service that allows users to make payments with their iPhones. Since2014,Apple Pay has been the only mobile wallet on the iPhone that can utilize the NFC chip.

- Contactless payments are becoming increasingly popular among consumers and will account for more than a quarter of all payments in the UK by 2020. By preventing competing mobile wallets from offering these payments, Apple gives itself a clear competitive advantage. (Paragraph 6.37)
- Consideration of less restrictive measures, as outright restrictions on third-party access could severely distort competition (Paragraph 6.49)

○ Article 58a of the German Payment Services Supervision Act
- Obligation for system operators providing payment services and e-money infrastructure to grant access to technical infrastructure (such as NFC chips) without delay and under appropriate access conditions to payment service providers who pay the appropriate subscription fees (effective January 2020).
- The aim of the amendment was to allow payment service providers other than Apple Pay to access Apple's NFC interface, but since there was no change in the situation, in June 2021, a revised law was enacted that (1) sets the level of fees "not exceeding the actual cost per access," (2) guarantees functional equality by providing "standardized technical interfaces" for "all end devices" for access, and (3) stipulates that the system operator cannot deny access, even for security reasons.

(3) Main items on which we would like your opinion

1 For more information on facts and concerns
- How do (i) OS features, (ii) UltraWideBand, and (iii) NFC access restrictions affect the developer's business activities, respectively? What are the benefits if access to these is granted?
- Are there any other access restriction issues other than (i) through (iii) that would have a significant impact on the developer's business activities? What are the benefits if access to them is granted?

2. Effectiveness of new regulations, etc.
- Is option A effective in solving the problem? What are the benefits?
- Are there any other measures other than option A that are expected to work effectively to solve the problem?

3 Costs and risk factors associated with implementation of new regulations, etc.
- What costs and risks (e.g., security, privacy, etc.) would be associated with the implementation of option A?
- What are some possible measures to alleviate this problem?
- If there are cases where an exception to option A should be granted, what specific justification, if any, could be given for granting it?

## Conclusion

- Since the start of the competitive evaluation last summer, we have conducted interviews with many businesses and experts involved in the mobile ecosystem to investigate the actual situation in order to compile this interim report. In particular, we would like to thank the platform operators who provide operating systems and other products for their tremendous cooperation in answering many questions. We would like to thank all those involved for their cooperation.

  As mentioned in the “Introduction”, this interim report is a summary of the facts gathered in this way and an assessment of the situation at this point in time. This is a tentative summary at this time, including the options presented in the evaluation, and we have compiled and published it in order to receive opinions from a wide range of interested parties. We look forward to receiving input from a variety of perspectives.

  For your reference, we would like to present here our awareness of the issues that the Digital Markets and Competition Council was faced with in compiling this interim report.

  - First, let us discuss the importance of the mobile ecosystem.

    Smartphones have spread rapidly throughout our society, and through smartphones we can now enjoy a variety of services necessary for our daily lives. It offers tremendous benefits to both consumers and service providers.

    In addition to economic activities, the mobile ecosystem is also making a significant contribution to solving public issues, for example, by providing contact verification applications as a response to COVID-19 and as a means of communication during disasters.

    The mobile ecosystem, which has such an important role to play, is the result of many innovations, and the efforts to date by platform operators and other businesses that have been involved in the formation and development of the mobile ecosystem should be highly regarded.

  - On the other hand, the mobile ecosystem, which offers such great convenience, has also been evaluated to have a significant impact on our daily lives and economic activities because of its convenience, and its influence has even exceeded that of a nation state. In this context, various distortions have been pointed out, and the state of governance of the mobile ecosystem may be questioned.

    The challenges facing the mobile ecosystem are diverse, but from a competition policy perspective, one aspect of the composition of the ecosystem is the balance between consumers and service providers that the platforms link together. In other words, while a high level of convenience is realized for users (consumers) through the provision of many convenient services free of charge, the service providers on the other side of the two-sided market may be burdened with a variety of burdens while business opportunities are provided to them. The "pain" caused by this structure cannot be recognized from the user side, and it may be difficult to be cured by market forces while it is locked in as an access route to the user.

    If such a structure is fixed, the provision of diverse services that bring innovation to the ecosystem, including ventures, will be inhibited, which will ultimately be to the detriment

of users (consumers) who will not be presented with a variety of service options.

In addition, on various issues, there are arguments that justify the rules and specifications in the current ecosystem in terms of addressing security and privacy, but rather than viewing this issue as a dichotomy, we should raise the bar in security and privacy as well, with a variety of players presenting a variety of options and competition selecting the better technologies and services, and as a result, the direction of realizing the development of the entire ecosystem should also be explored.

- Third, we would like to point out the characteristics of the mobile ecosystem, which was the subject of the competition assessment in this study.

  Currently, competition concerns are being raised about the digital market in general due to its network effects and other characteristics, but it may be necessary to take a view of the overall structure within the digital market and discuss it. In particular, the mobile ecosystem built on the smartphone, which at this point is the largest gateway to the digital space, comprises layers of operating systems, app stores, and browsers, each of which has become an oligopoly, with its influence fixed in place. These layers have come to have a strong influence on the digital market as a whole, setting and changing the rules to be followed by the various players in the app layer, the web service layer, etc., that provide services. Thus, the operators that form the mobile ecosystem may be more influential than the players in other digital markets, and the concerns about the adverse effects of this influence may be more extensive. In considering the competitive environment of the digital market as a whole, it may be necessary to focus on the role of the operators that form the mobile ecosystem.

- Fourth, competition policy, including regulation of utilities, should be addressed. The current competition law system was enacted in the U.S. more than 100 years ago, and in Japan, the Antitrust Law was enacted after World War II under the strong influence of the U.S. Antitrust Law. While competition laws pursue efficiency through competition, for industries where natural monopolies operate on the supply side (e.g., electricity and gas), utility regulations have addressed the adverse effects of monopolies through a combination of efficiency based on economies of scale and prior regulation of conduct.

  However, monopolies and oligopolies are created by network effects on the demand side, etc., and technology changes rapidly, and in addition, once tipping occurs, the digital market is difficult to heal by the market, especially the mobile ecosystem, which is the subject of this competition assessment, as described in "2. Basic idea of what we should aim for and how we should respond", the characteristics of this situation make it difficult to respond appropriately within the framework of conventional competition policy, and it may be necessary to consider approaches that differ from this.

- Fifth, these issues surrounding digital platforms, for which competition policy is in need of major changes, are common challenges in countries around the world because their business transcends national borders. Against this backdrop, various proposals and recommendations have been made around the world, and some countries have institutionalized the issue, and other countries are also seeking ways to address this problem. The Headquarters for Digital Market Competition has been exchanging opinions with other countries, and we would like to contribute to the resolution of this common issue that is being tackled around the world by disseminating this report to

other countries and exchanging opinions with them.

We will also continue to monitor the discussions and developments taking place in other countries to further deepen our own considerations.

- These are the issues that we are aware of in putting together this interim report. In order to further deepen the study, we would like to receive insights from various people in Japan and abroad.

  We invite platform operators who form the mobile ecosystem, businesses involved in the mobile ecosystem, academics in law and economics, engineers involved in the technical aspects of business in the mobile ecosystem, consumers, and others to share their insights.

- As a concrete way forward, we will solicit opinions on this interim report, and based on the opinions we receive, we will continue to hold hearings with related businesses, experts, etc., study and organize the issues, including how to respond to them and their details, and compile and publish the final report of this competition assessment, taking into account the report on the investigation of actual conditions, which will be released by the Japan Fair Trade Commission. We ask for the continued cooperation of all parties concerned.

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