International Center for Law & Economics

Comments of the International Center for Law & Economics

Competition in Digital Ecosystems in Mobile Devices (iOS and Android)

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I. Introduction

The International Center for Law & Economics (ICLE) appreciates the opportunity to provide comments on the Competition and Markets Authority's (CMA) investigations into Apple and Google's mobile ecosystems.

While the CMA's goal of promoting online competition is laudable, any interventions taken under the Digital Markets, Competition and Consumers Act (DMCC) should be grounded in robust empirical evidence and should consider the dynamic, rapidly evolving nature of the smartphone industry and its underlying markets. There is still a long way to go before the CMA concludes its investigation, but early signs suggest that these prominent features of the mobile industry are currently underappreciated. Indeed, the CMA's invitation to comment explains that:

> Apple and Google hold an effective duopoly in mobile ecosystems. Their control over these increasingly crucial ecosystems means both firms hold powerful positions and can unilaterally determine the 'rules of the game', making it difficult for rival businesses such as browsers or alternative app stores to compete.[1]

As our comments explain, however, competition in the mobile industry is far more intense than the CMA's study recognizes. There are also growing reasons to believe that the costs of intervention are far more significant than is typically acknowledged. Given this, a fundamental change of course is required to ensure that any intervention delivers on the pro-growth agenda that has become a key priority of the UK government.[2]

Against this backdrop, our comments aim to highlight key competitive dynamics in mobile ecosystems, the importance of preserving incentives for innovation, and the need for clear policy objectives.

A. Competition in Mobile Ecosystems

Contrary to the CMA's conclusion that Apple and Google operate as an entrenched duopoly, the mobile ecosystem is, in fact, characterized by vigorous competition. iOS and Android continuously innovate to differentiate themselves, with Apple prioritizing seamless integration and security, while Android offers openness and customization. This rivalry has resulted in significant advancements in user experience, security, and app-ecosystem development.

Additionally, robust competition is evident in the substantial user churn between iOS and Android. Studies show that up to 20% of users switch platforms within a given period, demonstrating a dynamic and contested market, rather than one suffering from "lock-in". Data-portability measures,

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[1] *Strategic Market Status Investigations into Apple's and Google's Mobile Ecosystems - Invitation to Comment*, COMPET. MARK. AUTH. (23 January 23, 2025), at 11, *available at* https://assets.publishing.service.gov.uk/media/67911997cf977e4bf9a2f1aa/Invitation_to_comment.pdf (hereinafter 'Invitation to Comment').

[2] Keir Starmer, Prime Minister, United Kingdom, *Speech at the International Investment Summit* (14 October 2024), https://www.gov.uk/government/speeches/pm-international-investment-summit-speech-14-october-2024; Joe Pike, *Starmer Asks UK Regulators for Ideas to Boost Growth*, BBC (28 December 2024), https://www.bbc.com/news/articles/cy0n14ywzqpo.

such as Apple's "Move to iOS" and Google's "Data Transfer Tool", further reduce switching costs and enhance consumer choice.

B. The Unintended Consequences of Regulating Mobile Ecosystems

The CMA's proposed interventions risk causing significant unintended consequences. Similar regulatory efforts in other jurisdictions—such as the European Union's Digital Markets Act (DMA)—have demonstrated that well-meaning interventions can inadvertently reduce competition and degrade the consumer experience.

Mandated interoperability, for instance, can weaken platform security, exposing users to heightened risks of fraud and data breaches. Furthermore, enforced changes in platform operations, such as choice screens or restrictions on pre-installed applications, have often failed to meaningfully alter market dynamics, while imposing high compliance costs on businesses. Similarly, regulatory constraints on app-distribution models and monetization strategies could disrupt the delicate balance that sustains investment in mobile ecosystems.

In short, rather than imposing sweeping structural interventions, the CMA should adopt a cautious and evidence-based approach that recognizes the competitive and innovative nature of the mobile ecosystem. Overregulation risks distorting market incentives, reducing innovation, and harming consumers. Regulatory measures should be tailored to address demonstrable harms, without undermining the fundamental drivers of competition and technological progress in mobile ecosystems.

II. Strong Competition in Mobile Ecosystems

In its invitation to comment, the CMA explains there is "limited effective competition between iOS and Android". According to the CMA, this is because there is differentiation between these two ecosystems and, partly as a result, users rarely switch from one operating system to the other. In the CMA's own words:

> The CMA has previously found that once people choose a mobile device, they rarely switch between operating systems.[3]
>
> ...The study found that there was limited effective competition between iOS and Android, given the segmentation of the supply of mobile devices and operating systems and that users rarely switch between iOS and Android devices.[4]

But this conclusion overlooks certain important aspects of competition in this space. To be more precise, the fact that few users move from one operating system to the other is not synonymous with a lack of competition. Indeed, as we explain below, modest churn rates—about 15-20%—can be consistent with large contestable market shares and intense competition. This is particularly true when

[3] Invitation to Comment, *supra* note 1, at 10.

[4] Invitation to Comment, *supra* note 1, at 12.

the entry of new users is considered. In simple terms, intense competition is possible without the entire market being contestable, particularly if firms cannot discriminate between contestable and non-contestable users based on price.

Along similar lines, antitrust law & economics scholarship consistently finds that user switching (or the lack thereof) is not, in and of itself, indicative of intense competition (or its absence).[5] Given this, there is insufficient evidence that competition is absent in the smartphone industry, and that iOS and Android should be designated under the DMCC.

A. High Levels of User Churn

One of the most compelling indicators of competition between iOS and Android is the high rate of user churn between the platforms. Contrary to widely held belief, consumers frequently switch between iOS and Android, undermining the notion of ecosystem lock-in.

The CMA's assertion that there is limited effective competition between iOS and Android rests on an assumption that brand loyalty prevents meaningful switching. The numbers, however, tell a different story. According to the latest data, only 35% of iOS users cite brand as the most important factor in their smartphone choice, compared to 16% for Android users.[6] While this suggests a higher brand attachment for iOS users, it does not imply the absence of competition. Instead, it highlights how consumer preferences are shaped by perceived quality and features. These are factors that both Apple and Android manufacturers actively refine in an effort to attract users.

Another critical aspect of competition is the ability to transfer data and apps across platforms. The CMA acknowledges that modern switching tools mitigate many of these concerns, with only 8% of switchers reporting dissatisfaction with the process.[7] While some barriers to switching may still exist, this is not the only factor that consumers consider.

The CMA's data indicates that 31% of iOS users and 35% of Android users see no significant benefits in switching operating systems.[8] This does not, however, reflect direct unwillingness to switch, but rather user satisfaction with their current device. In fact, 11% of iOS users and 12% of Android users considered switching when purchasing a new smartphone but ultimately did not[9], demonstrating that competition remains a significant factor in consumer decision-making.

The CMA's figures also show that iOS primarily targets the premium segment, accounting for 77% of smartphones sold for more than £300 in 2021, while Android holds 100% of the lower-end

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[5] This is a corollary of the "cellophane" and "reverse cellophane" fallacies. *See* Luke Froeb & Gregory J. Werden, *The Reverse Cellophane Fallacy in Market Delineation*, 7 REV. IND. ORG., 241-247 (1992).

[6] *Mobile Ecosystems: Market Study Final Report*, COMPET. MARK. AUTH. (10 June 2022), at 48 (hereinafter 'Final Report').

[7] *Id. at* 64

[8] *Id.* at 57

[9] *Id.* at 57

market (devices sold for £300 or less).[10] While the CMA suggests that iOS and Android largely operate in separate market segments, evidence suggests that competition extends beyond direct price comparisons.

Looking beyond the CMA's market study, some of the best available data stems from the European Commission's *Google Android* decision.[11] This data is now several years old and must therefore be taken with a pinch of salt, but it nonetheless paints a compelling picture of smartphone competition (that runs counter to the Commission's ultimate conclusions).

According to the Commission's own numbers, roughly 39% of all smartphone sales are contestable. This comprises both new users without prior brand loyalty (roughly 25% of purchases at the time, although this number is likely lower today), and roughly 20% of existing users who switch brands when they purchase new devices.[12] For context, these churn rates are in the same ballpark as other industries that cannot remotely be called anticompetitive, such as general retail, travel, and financial/credit services.[13]

This churn is facilitated by the constant evolution of features and pricing strategies. For instance, Apple's introduction of more affordable iPhone models, such as the iPhone SE, has attracted price-sensitive Android users. Conversely, the proliferation of high-end Android devices with cutting-edge technology, like Samsung's Galaxy series and Google's Pixel phones, has drawn iOS users seeking alternative experiences. This fluidity underscores a vibrant competitive environment in which neither platform can afford complacency.[14] This contradicts any assumption that the operating system is irrelevant to consumer choices. Instead, it reflects an environment where firms aggressively compete to enhance user experience and retain customers.

In short, it is important to remember that there is some degree of brand loyalty in nearly all markets, and that this rarely constitutes an obstacle to inter-brand competition. The CMA's study provides no benchmark against which to assess its claims. In other words, its market study merely shows that smartphone users exhibit *some* brand loyalty, not that they exhibit *too much* of it for competition to thrive.

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[10] *Id.* at 28

[11] *See* Commission Decision AT.40099 (Google Android), slip op., (18 July 2018).

[12] Dirk Auer, *Making Sense of the Google Android Decision*, INT'L CTR. L. ECON. (25 February 2020), at 20, *available at* https://laweconcenter.org/wp-content/uploads/2020/02/Auer-Making-Sense-of-the-Google-Android-Decision-White-Paper.pdf.

[13] *See, e.g.*, Raphael Bohne, *Customer Churn Rate in the United States, by Industry*, STATISTA (9 November 2024), https://www.statista.com/statistics/816735/customer-churn-rate-by-industry-us.

[14] *Id.*

B. Ease of Data Portability

The CMA's Mobile Ecosystems study cites several factors that might prevent users from switching to new platforms. As the CMA puts it:

> 3.89 Evidence from market participants (including survey evidence) and our survey suggested that users face four categories of potential barriers to switching between mobile devices with different operating systems:
>
> • learning costs associated with switching mobile ecosystem;
>
> • transferring data and apps across devices;
>
> • managing subscriptions across devices; and
>
> • the availability and characteristics of Apple's and Google's first-party (ie developed and operated by Apple and Google) apps, services, and other devices.[15]

What this study does *not* reveal, however, is whether these minor inconveniences have a significant impact on user switching, or whether they merely represent a minor (and competitively irrelevant) departure from perfect competition. In other words, all markets present some minor frictions that may marginally reduce the intensity of competition—switching from one supermarket to another, for instance, implies learning costs to absorb the layout of the new store—but this does not mean these markets aren't intensely competitive.

In that respect, there are important reasons to believe that competition between the two platforms is stronger than is typically recognized in competition policy circles. Ever since the first iPhone was introduced in 2007, each iteration of both companies' operating systems has included features that could be found in previous version of the other:

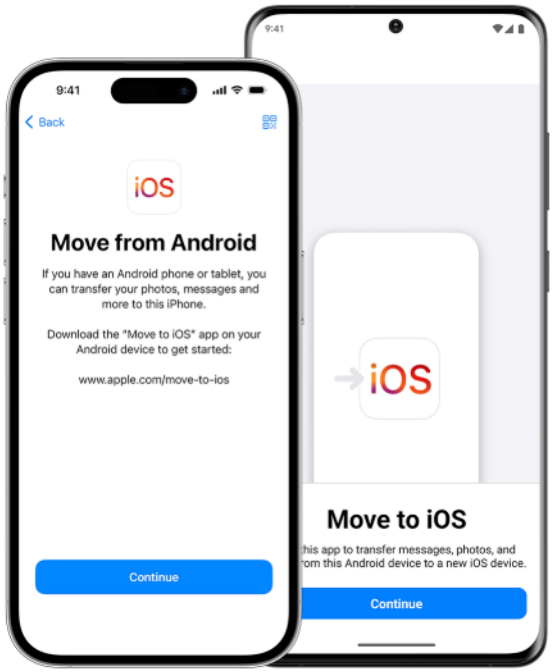
> Features like picture-in-picture, live voicemail, lock screen customization and live translation were all found on the Android operating system before eventually making their way to iOS. And though the use of widgets to customize your home screen was long held as a differentiator for Android, that feature too eventually found its way to iOS.
>
> On the other hand, Android's Nearby Share feature is remarkably similar to Apple's AirDrop, and Android phones didn't get features like "do not disturb" or the ability to take screenshots until some time after the iPhone had them.
>
> Apple removed the 3.5mm headphone jack from the iPhone in September 2016, and I distinctly remember that at Google's launch event for the Pixel the following month, chuckles went round the room when the exec on stage proclaimed, "Yes, it has a headphone jack." Google itself went on to also ditch the headphone jack, with the Pixel 2.
>
> ...Rumors that Apple would remove the physical home button on the iPhone X were circling long before the phone was officially unveiled in September 2017. Are they the same rumors Samsung responded to when it "beat Apple to the punch" and removed the

[15] Final Report, *supra* note 6 at 57.

> home button from its Galaxy S8 earlier that same year? Or did both sides simply arrive at such a big design decision independently?[16]

Another critical factor enhancing competition in mobile ecosystems is the ease of data portability. Both Apple and Google have made substantial efforts to simplify the process of transferring data between their platforms, thereby lowering switching costs for consumers. Apple's "Move to iOS" app allows Android users to seamlessly transfer contacts, message history, photos, and even app data to their new iPhone.[17] Similarly, Google's "Data Transfer Tool" facilitates the migration of data from iOS devices to Android smartphones with minimal friction.[18] Moreover, both Apple and Google have webpages that help users to switch from one platform to the other (see Figure 1).

FIGURE 1: Apple's 'Move from Android to iPhone' Tutorial



SOURCE: *Apple*

This isn't the only evidence that Apple and Google are engaged in fierce competition for potential users. Online comparisons of Android and iPhone abound.[19] Likewise, the business press often

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[16] Andrew Lanxon, *Android vs. iPhone: 15 Years of Innovation Through Rivalry*, CNET (24 April 2024), https://www.cnet.com/tech/mobile/smartphone-showdown-15-years-of-android-vs-iphone.

[17] *Move from Android to iPhone or iPad*, APPLE, https://support.apple.com/en-au/118670 (*last visited* 7 February 2025).

[18] *Switch Is Easier than Ever*, ANDROID, https://www.android.com/switch-to-android (*last visited* 7 February 2025).

[19] *See, e.g.*, Michael Muchmore & Gabriel Zamora, *Android vs. iOS: Which Phone OS Really Is the Best?*, PCMAG (13 November 2024), https://www.pcmag.com/comparisons/android-vs-ios-which-mobile-os-is-best; Prakhar Khanna, *iPhone Vs. Android – Which One Should You Get?*, FORBES (16 February 2024), https://www.forbes.com/sites/technology/article/iphone-vs-

describes the fierce rivalry between Apple and Google.[20] And numerous academic studies have reached similar conclusions about the nature of their competition. Nicolas Petit refers to Apple and Google as "moligopolists",[21] while David Evans has described their rivalry as "dynamic competition".[22] Marshall Van Alstyne and his coauthors have analyzed the strategies that both Google and Apple have deployed to outcompete one another.[23]

Finally, both Apple and Google regularly file reports with securities regulators that cite the other firm as an important competitor (if not by name). For example, Apple has noted in its 10-K filing that:

> The Company believes the availability of third-party software applications and services for its products depends in part on the developers' perception and analysis of the relative benefits of developing, maintaining and upgrading such software and services for the Company's products compared to competitors' platforms, such as Android for smartphones and tablets and Windows for personal computers.[24]

While Google has noted in its 10-K:

> We face competition from: Companies that design, manufacture, and market consumer electronics products, including businesses that have developed proprietary platforms.[25]

The upshot is that the competitive battle in which iOS and Android are engaged is marked by continuous advancements across multiple dimensions, including user-interface design, hardware integration, app-ecosystem quality, and security features. Apple's iOS is known for its seamless integration with hardware, delivering a tightly controlled and optimized user experience. Conversely, Google's Android offers a more open ecosystem, allowing for greater customization and a wider variety of device choices from multiple manufacturers.

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android; Bartosz Szczygieł, *iPhone vs Android Users: Key Differences in 2024*, NetGuru (8 January 2025), https://www.netguru.com/blog/iphone-vs-android-users-differences.

[20] *See, e.g.*, Rhiannon Williams, *Why Competition Between Apple and Google Is More Brutal than Ever*, THE TELEGRAPH (29 September 2014), https://www.telegraph.co.uk/technology/google/11127694/Why-competition-betweenApple-and-Google-is-more-brutal-than-ever.html; Bianca DiSanto, *Google vs. Apple: Why Their Competition Is Good for You*, THE HOYA (21 October 2016), https://thehoya.com/google-vs-apple-why-their-competition-is-good-for-you; *Can Google or Huawei Stymie Apple's March Towards $4trn?*, THE ECONOMIST (24 October 2024), https://www.economist.com/business/2024/10/24/can-google-or-huawei-stymie-apples-march-towards-4trn.

[21] NICOLAS PETIT, BIG TECH & THE DIGITAL ECONOMY. THE MOLIGOPOLY SCENARIO (2020).

[22] David S. Evans, *Why the Dynamics of Competition for Online Platforms Leads to Sleepless Nights But Not Sleepy Monopolies*, SSRN (25 July 2017), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3009438.

[23] Marshall W. Van Alstyne *et al.*, *Pipelines, Platforms, and the New Rules of Strategy*, HARV. BUS. REV. (April 2016), at 1-9.

[24] Apple Inc., Annual Report (Form 10-K), at 1 (29 September 2018).

[25] Alphabet Inc., Annual Report (Form 10-K), at 5 (31 December 2017).

These differing approaches and business models do not mean that Apple and Google fail to compete. To the contrary, those difference are *a function of competition*. As Randal Picker has explained in the context of the case initiated by the European Commission against Google Android:

> Google undoubtedly wanted to support Android through its advertising business as that was its great competitive advantage. Embedding Google Search in Android is the natural way to do that. It meant that Android would come with a third-party payment mechanism built in and it meant that the price of Android handsets would presumably be lower given that the Android software itself would be free.
>
> **This is really the point of business model competition. Apple was being Apple: vertically integrated hardware and software**. Did that with the Macintosh, did that with the iPhone. Microsoft was being Microsoft: it had dominated the OS market for the open IBM PC architecture and it hoped to do exactly that for mobile phones. There would be lots of handset makers, just as there were PC makers and Microsoft would make money off of phone OSs. **Google was offering a different business model: lots of handset makers and advertising-supported software.** The competition between Microsoft and Google was precisely over which way of paying for phone OS software would win.[26] [Emphasis added.]

These tools reflect the companies' acknowledgment of consumer demand for flexibility and choice. By reducing barriers to switching, Apple and Google have created an environment where users can make platform decisions based on current preferences and needs, rather than be locked into a single ecosystem. This ease of mobility is a testament to the competitive pressures both platforms face, driving them to continuously enhance user experience and value propositions.

This combination of vigorous platform rivalry, significant user churn, and robust data-portability mechanisms paints a clear picture of a highly competitive mobile ecosystem. This competition not only fuels innovation but also ensures that consumers retain the ultimate power to choose the platform that best meets their evolving needs. Not only does this cut against arguments for designating both iOS and Android as strategic market status (SMS) players, but perhaps more importantly, it significantly tilts the cost-benefit analysis of regulatory intervention (which we discuss in the following section) toward a lighter-touch approach, as competition can be expected to discipline market players' behaviour.

III. The Unintended Consequences of Regulating Mobile Ecosystems

The regulation of mobile ecosystems presents a complex set of tradeoffs. While regulatory interventions, such as enforcement of the DMCC, aim to promote competition and consumer choice, they also risk unintended consequences that could hinder innovation, reduce incentives to invest, and

[26] Randal Picker, *The European Commission Picks a Fight with Google Android over Business Models*, PROMARKET (23 July 2018), https://www.promarket.org/2018/07/23/european-commission-picks-fight-google-android-business-models.

alter the fundamental dynamics of platform competition. Given this, it is important for the CMA to ensure that conduct requirements do not inadvertently and unnecessarily penalize consumers.

As we explain below, there are at least three important ways in which heavy-handed enforcement of the DMCC may do more harm than good. For a start, some of the conduct requirements contemplated by the CMA have been tried in other jurisdictions, and have failed to deliver benefits; second, enforcement may delay or prevent the deployment and integration of artificial-intelligence (AI) technologies into existing platforms; finally, it may nullify valuable product differentiation that currently enables consumers with diverse preferences to choose the type of platform *they* prefer, rather than having to settle for a one-size-fits-all design.

In recognizing these tradeoffs, regulators like the CMA can adopt a more nuanced approach that preserves the benefits of competition while addressing legitimate concerns in the digital marketplace. This is particularly true given the important competition between Android and iOS. Indeed, even if the CMA decides to designate these activities as SMS, the fierce competition between both platforms means any anticompetitive harms to consumers are likely to be small, and the benefits of regulatory intervention are thus less likely to outweigh the costs discussed below. In short, the risk of regulatory errors is great in markets where there is significant competition.

A. Interoperability, Choice Screens, and App-Store Fees

Regulatory interventions, even when well-intentioned, can lead to unintended consequences that may harm consumers and the broader market. The CMA should be vigilant in identifying and mitigating such risks. For example, regulations aimed at increasing competition by mandating interoperability or data-sharing requirements could inadvertently compromise user privacy and security. Similarly, policies designed to curb perceived anti-competitive behaviours might reduce the incentives for platforms to invest in innovative technologies and features.

Lessons from international jurisdictions, particularly the European Union's Digital Markets Act (DMA), offer valuable insights into the potential pitfalls of overregulation. The DMA's stringent requirements have led to significant compliance costs for companies and have sometimes resulted in reduced functionality and user experience. For instance, mandated changes in platform operations to ensure fairness have, in some cases, led to decreased efficiency and increased complexity for both developers and users.

As explained above, at least three of the potential interventions contemplated by the CMA appear to raise significant risks of unintended consequences. For a start, the CMA's invitation to comment suggest that the authority is considering mandated interoperability to increase mobile competition, as well as the use of choice screens:

> Potential measures could include: i. Requirements for Apple and Google not to restrict interoperability as required by third-party products and services (such as rival browsers, digital wallets and connected devices) to function effectively and compete with Apple's and Google's own products and services...

> iii. Requirements for Apple and Google to make changes to choice architecture in factory settings or subsequent device settings; in order to enable users of mobile devices to make active and informed choices about the product or services they use and/or set as a 'default' service.[27]

As ICLE scholars have discussed in more detail elsewhere, such interventions are unlikely to deliver net benefits to UK consumers.[28] In comments submitted to the European Commission, we conclude that:

> The forced interoperability proposed under Article 6(7) introduces significant risks to user security. Many of the features targeted for interoperability—such as devices' NFC capabilities and wireless-file transfer functionalities like AirDrop—are integral to the iOS ecosystem's security infrastructure. These features were designed with stringent safeguards to prevent unauthorized access and to ensure that users' sensitive information remains protected. By mandating that third-party developers gain access to these APIs and functionalities, the Commission's approach would create opportunities for exploitation by malicious actors.[29]

This is not just theoretical speculation. The Microsoft/CrowdStrike outage that kept airlines, hospitals, banks, and other businesses down for hours in July 2024, generating great disruption for thousands, appears to have been—at least in part—generated by an interoperability mandate.[30] Likewise, mandated interoperability may have a detrimental impact on device reliability and performance:

> For example, allowing third-party applications to run in the background without adequate controls can significantly reduce battery life, as has been observed on competing platforms like Android.15 As one journalist put it: "Got the case of a quickly dying phone? It might be your background apps!".16 The issue arises because background activity consumes system resources, often without users' awareness. And because users may be unable to attribute battery degradation to a specific application, developers may have weak incentives to minimize the energy their apps consume.[31]

The upshot is that mandated interoperability threatens to degrade aspects of the iOS and Android experiences that consumers value deeply.

Along similar lines, the choice screens contemplated by the CMA have been tried and tested in other jurisdictions, where they have systematically failed to deliver the outcomes desired by regulators. For

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[27] Invitation to Comment, supra note 1 at 27.

[28] Geoffrey A. Manne, Dirk Auer, & Mario A. Zúñiga, *Comments of ICLE to Commission Consultation on Proposed Measures for Interoperability Between Apple's iOS Operating System and Connected Devices*, INT'L CTR. L. ECON. (8 January 2025), https://laweconcenter.org/resources/comments-of-icle-to-commission-consultation-on-proposed-measures-for-interoperability-between-apples-ios-operating-system-and-connected-devices-dma-100203.

[29] *Id.* at 7

[30] *Id.* at 8

[31] *Id.* at 9

example, the implementation of browser and search-engine choice screens for Android in Europe does not appear to have meaningfully affected competition or market shares for those services.

More fundamentally, there are serious doubts that default placement has the competitive significance that is typically ascribed to it. As Geoffrey Manne writes, commenting on the U.S. *Google Search* case and the European Commission's Google Search proceedings:

> With respect to the conclusion that the cost to users of choosing the non-default option is higher, that is inherently true, of course. But it is arguably trivially so…
>
> Among other things (more of which are discussed below), it must be noted that, even when users are presented with a neutral option (e.g., a "choice screen"), they appear to make essentially the same choices as when presented with a default. In Europe, where Google has since 2020 implemented a search engine choice screen on Android following the EU's 2018 antitrust decision against it, Google's share of the search engine market has barely budged.
>
> By the same token (at least when Google is the non-default) users are apparently quick to switch from a less-preferred default in order to get access to Google Search:
>
> > In a 2016 experiment, Mozilla switched the default GSE on both new and existing users from Google to Bing. By the twelfth day, Bing had kept only 42% of the search volume. After some additional time, those numbers dropped to 20– 35%….
>
> It is exceedingly difficult to square these facts with the court's conclusions on the functional irrelevance of non-default options.[32]

Finally, the CMA also contemplates interventions to boost app-store competition, either by forcing Apple to allow third-party app stores or by preventing Google from deploying revenue-sharing agreements that prevent fragmentation of the Android ecosystem:

> Potential measures that may be appropriate to promote competition in relation to native app distribution could include:
>
> 1. A requirement for Apple to allow alternative app stores to operate on iOS.
>
> 2. A requirement that prevents Google from making revenue share payments in return for certain additional requirements in relation to the Play Store, e.g. setting the Play Store as the default app store and not preloading alternative app stores on devices.[33]

Beyond the security and reliability worries discussed above, these measures have the added harm that they target the monetization of today's most successful mobile platforms, with two major consequences. The first is that these platforms can be expected to respond by resorting to inferior monetization strategies that penalize consumers and small developers. The second is that, even with these

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[32] Geoffrey A. Manne, *A Critical Analysis of the Google Search Antitrust Decision*, INT'L CTR. L. ECON. (14 August 2014), at 16-17, *available at* https://laweconcenter.org/wp-content/uploads/2024/08/Manne-Google-Search-Decision-Analysis-2024-08-14.pdf.

[33] Invitation to Comment, *supra* note 1 at 24.

changes, weaker monetization will have a knock-on effect on the platforms' incentives to innovate, leading to a worse mobile experience for users in the long term.

B. Integration of AI Services

A further concern is that the CMA should avoid policies that could hinder the integration of AI technologies. Indeed, overregulation could stifle the development and deployment of AI innovations, depriving consumers of the benefits of more intelligent, responsive, and personalized mobile experiences. Encouraging a regulatory environment that supports AI integration is essential to foster continued growth and innovation in the mobile ecosystem.

The CMA's invitation to comment, however, suggests the authority may pursue policies that prevent incumbent tech firms from competing in this space, thereby preventing the product integrations discussed above and reducing competition in this highly dynamic space:

> Overall, mobile operating systems, app stores, and browsers each act as a gateway between consumers and the businesses that want to reach them online. Apple and Google are both key gatekeepers to online content on mobile devices, because:
>
> > … Further, Apple and Google are in a position to control how new artificial intelligence (AI) services such as chatbots and personal assistants are integrated into their mobile operating systems.[34]

AI is being integrated into various aspects of mobile ecosystems, from predictive text and photo categorization to health monitoring and augmented-reality applications. Google's AI-driven features, such as real-time language translation and adaptive battery management, highlight AI's potential to improve usability and efficiency. Apple's focus on on-device AI processing ensures user privacy, while delivering powerful features like facial recognition and intelligent photo sorting. Heavy-handed intervention threatens these valuable product integrations.

Another important fear is that, paradoxically, efforts to prevent incumbent platforms from competing freely in generative-AI markets may backfire and lead to less, not more, competition. Indeed, upstarts like OpenAI are currently acquiring a sizeable lead in generative AI.[35] While competition authorities might like to think that other startups will emerge and thrive in this space, it is important not to confuse those desires with reality. While there currently exists a vibrant AI-startup ecosystem, there is at least a case to be made that significant competition for today's AI leaders will come from incumbent Web 2.0 platforms—although nothing is certain at this stage.

Policymakers, including the CMA, should beware not to stifle that competition on the misguided assumption that competitive pressure from large incumbents is somehow less valuable to consumers

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[34] *Id.* at 9

[35] *See, e.g.*, Paul Baier, *Estimated Market Share of Closed-Source LLM Models in 2024*, GENAI INISIGHTS (24 August 2024), https://gaiinsights.substack.com/p/estimated-market-share-of-closed.

than that which originates from smaller firms. This is particularly relevant in the context of merger control.

C. The Importance of Differentiation

Differentiation between iOS and Android is a cornerstone of healthy competition in the mobile ecosystem. Each platform offers a distinct user experience, catering to diverse consumer preferences and fostering innovation through unique approaches to design and functionality. Apple's iOS is renowned for its seamless integration with hardware, stringent privacy controls, and a curated app ecosystem that prioritizes quality and security. In contrast, Android's open-source nature allows for extensive customization, a wide variety of device options, and greater flexibility for developers.

The CMA's invitation to comment recognizes this much, acknowledging both that user satisfaction is high and that there is important differentiation between Android and iOS:

> Mobile devices play a valuable role in people's lives. Reported consumer satisfaction levels are high and this is in part due to substantial investment by Apple and Google and other device manufacturers, software developers and content providers over the years in bringing forward new features and updates to their products and services...[36]

> The study found that the supply of mobile devices and operating systems was segmented into broadly two groups – higher-priced devices supplied with Apple's iOS system and lower-priced devices sold with Google's Android operating system.[37]

This differentiation not only enhances consumer choice but also drives each platform to innovate continuously. For example, Apple's emphasis on privacy has pushed Android to introduce more robust privacy features, while Android's customization capabilities have influenced iOS to offer more flexible user-interface options in recent updates. The unique strengths of each platform contribute to a dynamic competitive landscape that benefits consumers.

Regulatory interventions that aim to homogenize these platforms could undermine the very competition they seek to promote. The CMA's policies should respect the distinct characteristics of both iOS and Android, ensuring that regulatory measures do not inadvertently force one platform to emulate the other. Preserving the diversity of approaches within the mobile ecosystem is essential to foster innovation and meet the varied needs of consumers. Indeed, as ICLE scholars put it in an amicus brief submitted to the U.S. Supreme Court in the *Epic v Apple* proceedings:

> Centralized app distribution and Apple's "walled garden" model (including IAP) increase interbrand competition because they are at the core of what differentiates Apple from Android, the other major competing platform. They play into Apple's historical business model, which focuses on being user-friendly, reliable, safe, private, and secure. Even Epic recognized that Apple would lose its competitive advantage if it were to

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[36] Invitation to Comment, *supra* note 1 at 10.

[37] *Id.* at 12

> compromise its safety and security features. For Apple and its users, the touchstone of a good platform is not "openness," but carefully curated selection and security, understood broadly as encompassing the removal of objectionable content, protection of privacy, and protection from "social engineering," and the like. By contrast, Android's bet is on the open platform model, which sacrifices some degree of security for the greater variety and customization associated with more open distribution. These are legitimate differences in product design and business philosophy.[38]

IV. Conclusion

The CMA's investigation into Apple and Google's mobile ecosystems raises important questions about competition and innovation in the digital economy. As our comments explain, however, the assumption that these ecosystems function as entrenched duopolies with limited competition is misguided. The mobile industry is characterized by dynamic competition, with continuous innovation, significant user choice, and considerable investment in platform development.

Rather than pursuing heavy-handed regulatory interventions that could distort incentives and hinder innovation, the CMA should adopt a cautious and evidence-based approach. Apple and Google compete vigorously, not just with each other but also with a broader landscape of technology firms, including manufacturers, service providers, and developers that operate across various segments of the mobile ecosystem. User-churn rates and the contestability of key market segments indicate that competition remains robust.

Interventions that force interoperability, restrict pre-installed applications, or mandate alternative app stores carry significant risks. Lessons from similar regulatory actions—such as the European Union's Digital Markets Act—suggest that such measures often lead to unintended consequences, including degraded user experience, increased security risks, and reduced incentives for investment and innovation. In contrast, market-driven differentiation, where consumers can choose between Apple's integrated approach and Google's open ecosystem, provides a natural check on anticompetitive behaviour, while maximizing consumer choice.

Given the rapid pace of technological change and the evolving nature of digital markets, a prescriptive regulatory approach could stifle innovation and reduce the competitive benefits that users currently enjoy. Instead, the CMA should focus on clear and proportionate policy measures that address demonstrable harms without undermining the fundamental drivers of competition. The objective should not be to re-engineer these ecosystems, but to ensure that competition remains vibrant and that consumers continue to benefit from technological advancements and product differentiation.

In this context, we urge the CMA to approach its investigation with a view toward fostering innovation, preserving incentives for investment, and avoiding unnecessary regulatory burdens that could

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[38] Geoffrey A. Manne & Daniel G. Gilman, *ICLE Amicus to US Supreme Court in Apple v Epic*, INT'L CTR. L. ECON. (27 October 2023), at 15-16, *available at* https://laweconcenter.org/wp-content/uploads/2023/11/ICLE-Amicus-Apple-v-Epic-SCt-10.27.23-FINAL.pdf.

harm consumers, developers, and the broader digital economy. A well-calibrated approach—grounded in empirical evidence and mindful of the risks of intervention—will ensure that the UK's digital markets remain competitive and dynamic in the years to come.