

**ANSWER TO THE INTERIN REPORT CMA**  
**GOOGLE LLC MOBILE ECOSYSTEMS AND APPLE INC MOBILE**  
**ECOSYSTEMS**

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**BACKGROUND**

In February 2022, the CMA is asking for information to better understand competition about what this authority called “mobile-ecosystems” in the field of competition law enforcement. Specifically, the CMA is asking about four themes, and potential remedies to address the distortion of the Competition in mobile ecosystems.

**FIRST: OVERVIEW OF THE MOBILE ECOSYSTEMS**

**1.1. THE DEFINITION OF MOBILE ECOSYSTEMS**

In the interim report, the CMA ask *What are mobile ecosystems?* Thus:

*“What are mobile ecosystems?”*

*2.6. While mobile ecosystems contain a broad spectrum of hardware and software, they can be broadly characterized as comprising the following core set of products:*

- *Mobile devices: portable electronic devices that can be held easily in the hand, including smartphones and tablets, which can connect to the internet.*
- *Mobile Operating systems: the pre-installed system software powering mobile devices.*

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- *Applications (or apps): pieces of computer4 software providing additional functionalities to the devices and mobile Operating system on which they are installed.*<sup>2</sup>.

Now standing, the “Mobile Ecosystem” need to be understanding as an **organization**, or as a community of individuals. This categorization in the antitrust analysis of the mobile ecosystem is in accordance with modern economic doctrine which define the 'Platform- ecosystem' as a meta-organization<sup>3</sup>, as well, this is the sense when the firm Google LLC defined ANDROID platform as a community.

### **Illustrative example of Platform-Ecosystem as a Meta-organization**

To explain the “Platform-Ecosystem” as an organization (and not as a piece of technology), the example of picture of Ford’s Fabric can be used. In this example, think about the meaning of “FORD” for regulators in 1900, what is FORD they asked?

Figure 1. Ford Factory Picture in 1900



Source: [https://www.mlive.com/news/detroit/2018/01/historic\\_photos\\_fords\\_assembly.html](https://www.mlive.com/news/detroit/2018/01/historic_photos_fords_assembly.html)

<sup>2</sup> Page 43 CMA interim Report.

<sup>3</sup> Kretschmer, T, Leiponen A, Schilling M, Vasudeva G. “Platform ecosystems as meta-organizations. Implications for platform strategies”. Strat Mgmt J. October 2020; 1-20. Available at: <https://doi.org/10.1002/smj.3250>

At first sight, FORD for many people was just the things they can see, for instance the first factory building. However, rapidly, regulators started to understand that FORD was not the building of the factory, neither its owner Henry Ford, neither the cars that were producing, neither the employees who were hired, neither its managers, neither the brand nor the infrastructure nor the machines used to manufacture the cars. Regulators and academics understand that in the theoretical analysis, using a legal abstraction, FORD were a Firm, this is one **organization**.

If the “Mobile-ecosystem” is defined as one organization, in the new digital age, regulators need to start to differentiate between the participants of the organization and the meta-organization itself. This with the aim to clearly understand the dynamics of competition which occurs *within* the mobile ecosystem and the dynamics of competition between “mobile ecosystems”. Hence, it is different the firm Google LLC from the 'Android platform-ecosystem'. Similarly, is different the firm Apple Inc from the 'iOS platform-ecosystem'.

Defined Android as an organization is in accordance when Is describing the history of this platform. Johnson and Moazed (2016) described that in 2007, on the same day that the firm Alphabet offer the Android-OS platform, this company launched the Open Handset Alliance (OHA) which was a “consortium” of over thirty companies which included hardware manufacturers (e.g., Motorola, Samsung, and HTC), as well as mobile operators (e.g. Nextel and T-Mobile)<sup>4</sup>. In this date, Alphabet championed Android-OS platform and the OHA as the foundation of an open ecosystem that would increase innovation and stablish the industry standard for mobile Operatying systems. And Alphabet would be giving it all away for free<sup>5</sup>.

For the MIT professor Cusumano et al (2019), when the OHA was launched, software developers and network operators joined the coalition and agreed to promote open standards (e.g. technologies that multiple companies could freely license and use), and Alphabet promised

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<sup>4</sup> JOHNSON, Nicholas L and Moazed, Alex. “*Modern Monopolies. What it Takes to Dominate the 21<sup>st</sup>-Century Economy*”. St. Martin’s press. New York, May 2016. Kindle e-book edition, ISBN: 9781250091901., position 172.

<sup>5</sup> Ibid., position 172.

that member of this alliance could freely use the software as long as they agreed not to create Android forks (these are software built over Android-OS software)<sup>6</sup>.

Hence, the role of the firms Apple Inc and Google LLC about the Competition between developers within the iOS platform-ecosystem and the Android-OS platform-ecosystem, is that these firms are the **platform-operator**<sup>7</sup>, or platform-managers of each platform-ecosystem (or mobile ecosystems as the CMA labelled it in the interim report).

And in turn, this implies that the platform-operator have control over the organization. However, this control is not a bad thing. Opposite, a good governance of the meta-organization is beneficial for society. The function of the platform-manager is to coordinate and balance the different interests of several individuals who belong to the platform-ecosystem<sup>8</sup>. In general, platform-ecosystem's governance included the design of the core interaction, the strategies to create audience building, to perform the matchmaking function, to keep quality of the inventory, guarantee the product relevance to each consumer (filters), to restrict who can join, the curation task (which activities can happen in the ecosystem), as well as the creation of strategies to reinforce and monetize platform network effects. And to perform the complex tasks which involve platform-ecosystem's governance, the platform-manager need a large amount of data to see in real time what is happening in the large platform-ecosystem<sup>9</sup>. Is here, where artificial intelligence technology is helpful for the governance of the platform.

***In the field of competition law, what is bad for society is when the platform-manager implemented unduly strategies to reinforce the platform market power.*** One example is when one platform-manager used its control over the platform-ecosystem is when this firms used this control to block the development of a novel technology which can dismiss the platform's

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<sup>6</sup> CUSUMANO, A. Michael., Gawer Anabelle and Yoffie, David. “*The Business of platforms. Strategy in the age of digital competition, innovation and Power*”. Kindle e-book edition, May 2019. ISBN: 978-0-06-289633-9.

<sup>7</sup> For instance, the firm GOOGLE LLC is the platform-operator, manager, governor, of the Android Community but in any case, in a modern democratic society, this firm can be labelled as the owner of the community of individuals. That firm just is the owner of the infrastructure of the ecosystem: the operating-system platform software.

<sup>8</sup> After defining platform-ecosystems as meta-organizations, Kretschmer et al (2020) described that these meta-organizations are populated by autonomous individuals who independently make decisions based on platform-company rules, for them: “*Although each organization within a platform ecosystem may be legally independent (i.e., not under common ownership), they often make investments in co-specialization or sign exclusivity agreements that bind them into longer-term relationships*”. Kretschmer et al., Op. Cited., page 3.

<sup>9</sup> Johnson., Op. Cited., position 2526.

network effects. In this line, the economic doctrine refer how in a new era of hyper-competition where technologies developments are faster, platform-operators are resisting beneficial innovations to avoid the weakness of the platform network effects, and consequently, the loss of its monopolistic rent. Practice Kwon in the doctrine as **excess inertia** which is defined as “*the power of network effects to slow or prevent the adoption of new, perhaps better, technologies*”<sup>10</sup>. And which occurs “*when one or a few platforms can dominate a particular market because of the power of network effects, they may choose to resist, beneficial innovations in order to protect themselves from the costs of change and other disruptive effects*”<sup>11</sup>.

### **Classification of platforms**

In its book “Modern Monopolies” (2016), Johnson and Moazed held that ultimately platforms create value facilitating transactions (T) but while some platforms optimize exchanges, other platforms generate value by enabling producers to create complementary products. Consequently, these authors classified platforms thus<sup>12</sup>:

**Transactional platforms**: where the core transaction is an action in which two parties give and receive reciprocally. And as because this is a 1:1 exchange, the core transaction is a *double opt-in* (both parties have to agree for the transaction takes place) in which the maximum number of units of an item that a producer can exchange at a given time is one (even if some transactions involve groups of people). In other words, in exchange platforms, just a finite number of consumers is involved in any transaction:

**Maker or developer platforms**: where external producers create something, which is sent to many people (1: many). Thus, once a developer creates value and broadcasts it, the producer does not need to interact directly with consumers to consume the value unit.

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<sup>10</sup> Geoffrey et al., Op. Cited., p. 4029.

<sup>11</sup> Ibid., position 4029.

<sup>12</sup> Johnson., Op. Cited., position 694.

In the same line, the UNCTAD report (2019)<sup>13</sup> and professor Cusumano et al (2019) classified platforms in two key categories:

**Transactional platforms:** These platforms are “*intermediaries or online marketplaces that make it possible for people and organizations to share information, or to buy, sell or access a variety of goods and services*”<sup>14</sup>. For instance, the Play-App Store, The Apple App-store, Amazon marketplace or e-bay marketplace.

**Innovation platforms:** in which “*the platform serve as a technological foundation upon which other firms develop complementary innovations*”<sup>15</sup>. For instance, the Android innovation platform or the iOS platform.

In this line, Google LLC is managing the following platform-ecosystems, each one is a different organization:

1. **The transactional platform called as “*Google search platform*”.**
2. **The innovation platform called as “*Gmail platform*”.**
3. **The innovation platform called as “*YouTube platform*”.**
4. **The innovation platform called as “*Android platform*”.**
5. **The transactional platform called as “*Google Play app-store*”.**

In addition, the legal firm have developed and sell to customers the following devices:

- Pixel smartphones (devices).
- Pixel books (devices).
- Smart Home gadgets sold under the brand “Google Nest” (devices).
- Glasses with Virtual reality (VR) technology (devices).
- Chromecast devices (digital media player devices).
- FitBit werable devices.

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<sup>13</sup> UNCTAD Report., pages 25-26.

<sup>14</sup> Cusumano et al, Op. Cited, position 369.

<sup>15</sup> Ibid., position 369.

## **Participants of each platform-ecosystem**

After defined each platform as a single organization, its is necessary to defined who are the participants in each platform-ecosystem:

**Participants of the innovation Android Platform-ecosystem:** While the infrastructure of the platform-ecosystem is the operating system software (Android) (This is the platform software which serve as a technological foundation upon which other firms develop complementary innovations), the participants *within* the “Android OS innovation platform-ecosystem” are:

- **Developers of applications and software:** Developers of applications software (Apps)<sup>16</sup> and developers of software.
  
- **Developers of devices:** called as OEMs (Original Manufacturers). OEMs manufacturer not just of the touch screen devices (such Smartphones and tablets<sup>17</sup>), but as well, wearables devices (e.g., Smart-watches), and other devices: Smart-TVs, Smart-fridges, Smart-Glasses, smart-cars, Media players and Laptops. Examples of firms which belong to the Android ecosystem are: Asus, Blackberry, Cherry Mobile, Essential, Huawei, HTC, LG, Motorola, Nokia, OnePlus, Samsung, Sony, TCL, Vivo, Xiaomi, Redmi, ZTE, Amazon, DELL.
  
- **Users of Android.**

**Participants of App-Store transactional platform-ecosystem:** About participants of the “Google Play App-Store transactional platform” and the “Apple App-store” are:

- ◆ **Sellers of Application software (Apps-sellers):** The firms which sell apps using the App-store.

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<sup>16</sup> The interim report of the CMA looks like the CMA only have into account App-Developers.

<sup>17</sup> The CMA interim report limited the scope of the Android ecosystem only to smartphones and tablets.

- ♦ **Buyers of Applications software (Apps-consumers):** The individuals who buy apps using the App-Store.

Thus, every time that a App-consumer bought one App from one App-developer it occurs one transaction (T), using the transactional platform infrastructure of the App-Store, and the platform-manger charge a commission for each transaction.

### **Conclusion Point 2.6. of the Interin Report**

In the point 2.6. of the interin report, the CMA stated that components of mobile ecosystem are: Mobile devices (hardware), Mobile Operatying system (software) and applications (Apps). In this sense, the CMA still understand the “mobile-ecosystem” as a piece of technology and not as a meta-organization. Thus, in the final report, 'mobile-ecosystem' need to be defined as one **organization** (or community of individuals). And following, to determine who are the participants in each platform-ecosystem: (1) Android innovation platform ecosystem. (2) Google Play App-store transactional platform-ecosystem. (3) iOS innovation platform ecosystem and (4) Apple App-store transactional platform-ecosystem.

Other point is that the CMA held that for the purpose of this market study, we use the term mobile devices relatively narrowly to refer to smartphones and tablets (2.10). The only justification is that this approach is consistent with the approach taken by regulators in other jurisdictions. However, there other mobile devices which use Android-OS: wearables devices (e.g., Smart-watches), Smart-TVs, Smart-fridges, Smart-Glasses, smart-cars, Media players and Laptops, smart-speakers.

### **1.2. THE BUSINESS MODEL OF APPLE INC AND GOOGLE LLC**

In page 10, the CMA held: “*15. As illustrated by Figure 2, Apple and Google have different business models, each with their own key source of revenue. This affects their incentives and the way that they have developed their mobile ecosystems over time*”.



Other implication to understand the platform-ecosystem as a novel meta-organization is recognized that all digital platforms organizations have the same business model (called as Platform Business model) but monetize it in different ways. In its book “Modern Monopolies” (2016) Johnson and Moazed explain in detail platform as a business model. While MIT professor Cusumano explained in its book (2019) the different forms a platform organization can be monetized.

### **The Novel Platform Business Model**

In its book “Modern Monopolies” (2016), Johnson and Moazed explained that under the newest platform business model<sup>18</sup>, the firm does not manufacture a product or service but creates an infrastructure over which third parties are able to create and interchange value. Thus, for these authors, the real transformation of the recent technological revolution is not related to the Internet as a new distribution channel, but the true revolution was that: *“The aggregator and creator of business value is no longer a company’s supply chain or value chain but rather a network’s ecosystem. Value has moved from creating products and services to facilitating connections between external producers and consumers. The firm has collapsed as a center of production and instead has become the center of exchange. The areas where businesses could create and add economic value have shifted away from production and toward the curation and management of networks. That’s where platform business comes in.”*<sup>19</sup>.

Thus, when it is clear the novel platform business model, the correct affirmation is that the firms Apple Inc and Google LLC have implemented the same business model: Platform. Therefore, (1) the Android innovation platform ecosystem. (2) Google Play App-store transactional platform-ecosystem. (3) iOS innovation platform ecosystem and (4) Apple App-store transactional platform-ecosystem follow the dynamic of the novel platform business model.

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<sup>18</sup> Likewise, Sangeet (2015) distinguish between the traditional pipeline business model (pipes) and the novel platform business model (platforms), For this author *“We are not longer in the business of building software. We are increasingly moving into the business of enabling efficient social and businesses interactions, mediated by software”*. Sangeet, Paul Choudary. *“Platform Scale. How and emerging business model helps startups build large empires with minimum investment”*. Platform Thinking labs Ltd. 2015. Kindle e-book edition, ISBN: 978-981-09-6757-4.

<sup>19</sup> Ibid., position 1112.

## The Monetization of the Platform

In general, rather than selling the technology (one product) for a price to customers, the platform-operator invites users to join the platform, and later, when the platform have generated strong positive network, the platform-manager seeks how to monetize platform network effects. For instance, at the beginning, the platform-manager pull users to the platform *for free* and later charge for a freemium service in which users pay for a better version (e.g., premium place in Google AdWords or premium service in Linked in), or, once the platform have generated strong network effects charge for advertising (e.g., Google Search Platform or Facebook Platform, or as giving free the code of Android and charged for Google GMS services).

**A. Monetization network effects in innovation platforms:** As was said, innovation platforms create value by facilitating the development of new complementary products built by third-party over the platform infrastructure. And as long innovation platforms have high fixed costs to create new feature (R&D), and low variable costs (distributing software or data), the key here is to attract many complementors to grow the ecosystem which will help grow the number of users of the platform which will be led to increase of the numbers of developers, and so on<sup>20</sup>. Thus, in innovation platforms, network effects come from the increasing number or utility of complements: *“the more there are or the higher quality they are, the more attractive the platform becomes to users and complementors, as well as other potential market actors such advertisers”*<sup>21</sup>.

Consequently, successful innovation platforms, can monetize in two ways<sup>22</sup>: (i) The platform increase users’ willingness to pay for the platform itself, by adding new features and encouraging third parties to create complements that enhance the value of the platform (e.g. charging a subscription fee in Disney+ Platform), or (ii) the platform-manager choose to capture value as a portion of the sale of every complementary product or service selling by complementors (e.g., Sony collected a fee on every game sold for PlayStation<sup>23</sup>).

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<sup>20</sup> Cusumano et al., Op. Cited., position 1197 to 1213.

<sup>21</sup> Ibid., position 361.

<sup>22</sup> Ibid., position 1201.

<sup>23</sup> Ibid., position 1218.

**B. Monetization network effects in transactional platforms:** As transactional platforms usually create value facilitating the interchange of goods, services, or information, these platforms usually monetize charging fees for each transaction (e.g., Amazon marketplace or Apple App-Store), for advertisement selling (e.g. Apple App-store advertising), or offering additional services<sup>24</sup>. However, the monetization vary in terms of who gets charged, what gets charged, and which side is free or subsidized<sup>25</sup>.

**C. Monetization network effects in hybrid platforms:** In respect of hybrid platforms, there are two scenarios for monetize network effects:

**Innovation platform + transaction platform.** For Cusumano et al, the main reason why innovation platforms added one transactional platform (a marketplace) is to facilitate and control the distribution channel of complements, at the same time, to capture a larger portion of the value created in the platform. This because as innovation platforms are relatively useless without complements, the cheapest way to increase complementors is to encourage third-party developers to open innovate and then make easy distribution of developments through the transactional platform. For example, Apple Inc and Google LLC have added their businesses its owned transactional platform, Apple App-Store and Google LLC App-Store, after launching the innovation platform<sup>26</sup> (iOS Platform and Android-OS platform, respectively).

**Transaction platform + innovation platform.** Accordingly, to Cusumano et all, the main reason why transactional platforms add an innovation platform (in other words, they open their APIs to outside firms) is to stimulate innovation by third parties with a minimum of investment. Here, “*More apps or features generally make the transaction platforms a more compelling experience for users and create additional opportunities for monetization, such as to sell more advertisements or take different types of transaction fees*”<sup>27</sup>. For example, Airbnb, Facebook, or Amazon have added innovation platforms to add new functions and services developed by

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<sup>24</sup> Ibid., position 369.

<sup>25</sup> Ibid., position 1228.

<sup>26</sup> Ibid., position 1463.

<sup>27</sup> Ibid., position 1480 to 1498.

third parties with few investments. In addition, the data generated by transactional platform's users become a valuable asset that third parties can use (e.g., for marketing strategies). However, Cusumano et al advised that the use of data of platform users by external firms can lead to an unlawful practice as occurred in the Cambridge analytical scandal<sup>28</sup>.

## **Conclusion**

The firms Apple Inc and Google LLC have implemented the same business model called as Platform. However each firm have chosen how to monetize the respective platform in different ways: the primary source of revenue for Apple iOS platform comes from selling hardware – in 2020 around 80% of Apples worldwide revenue came from its hardware, with around 50% coming from the iPhone alone.

About the way Google monetize the iOS innovation platform the CMA held “*The majority of Google's UK revenues are generated from search advertising, which totalled 6.8 billion in 2019 in the UK. Google therefore has a strong incentive to invest in products and services, such as its Operating system and browser and to ensure that these are as widely adopted as possible, in order to generate traffic for its search engine and its other services that earn advertising revenues, including YouTube.*”. However, for the author, still it is not clear how Google LLC monetize Android OS innovation platform due to personalized advertising revenue is the way to monetize the Google Search Platform.

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<sup>28</sup> Ibid., position 1494.

## **SECOND: THE COMPETITION IN THE SUPPLY OF MOBILE DEVICES AND OPERATING SYSTEMS IN THE UK**

This theme is about the dynamic of the competition in the supply of mobile devices and operating systems. Although the CMA persist in analysing together the supply of mobile devices and the supply of Operating systems, it should be notice that these two kinds of competition obey to different dynamics of competition.

The only reasons which give the CMA is that the choice of mobile device and operating system are part of the same purchasing decision. However, the CMA incur in a contradiction because later the report stated in Figure 3.12. that not more than 30% of users consider the Operating system when make a device purchase. Therefore, The CMA need to reconsider assessing together product competition about the supply of the mobile device and platform competition about to offer an Operating system platform.

The following are the reasons why the CMA need to differentiate between (1) The Competition in the supply of mobile devices and (2) Platform Competition between innovation Operating-system platforms.

### **A. THE COMPETITION IN THE SUPPLY OF MOBILE DEVICES**

This is about to assess the dynamic of the competition between firms which sell mobile devices to customers in the geographical territory of UK.

This is the competition between firms which sell mobile devices: touch screen devices (such Smartphones and tablets<sup>29</sup>), but as well, wearables devices (e.g., Smart-watches), and other devices: Smart-TVs, Smart-fridges, Smart-Glasses, smart-cars, Media players and Laptops. For instance the competition between Asus, Blackberry, Cherry Mobile, Essential, Huawei, HTC, LG, Motorola, Nokia, OnePlus, Samsung, Sony, TCL, Vivo, Xiaomi, Redmi, ZTE, Amazon, DELL.

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<sup>29</sup> The CMA interim report limited the scope of the Android ecosystem only to smartphones and tablets.

This dynamic is about the classical notion of product competition. In classical economy theory market power in the selling side causes consumer welfare detriment due to higher prices and low quality. In this line, for years, it has been a broad consensus that the main criteria that should guide the enforcement of competition law is the Consumer Welfare Standard (CWS) according to which the harm of competition must be probed with the lessening to consumers' surplus (prices increase).

In practice, following the traditional definition of market dominance, legal Courts have identified the existence of a dominant position with market power on the selling side. Therefore, Courts have measured market dominance using market concentration metrics in the selling side (e.g., HHI or market shares). But the use of concentration indices requires previously to delimit the relevant market which is a tool for identifying “*the geographical area within which significant substitution in consumption or production occurs*”<sup>30</sup>. Usually, to identify this area, Courts use the SSNIP test, in which is necessary to combine different products into a single relevant market when those are substitutes between them due to these products restrain the firm’s ability to raise prices because customers switch to substitutes rather than pay higher prices (competitive restraints).

Therefore, about product competition the SSNIP when assessing the competition between suppliers of the different mobile devices:

1. Product competition between suppliers of smartphones (devices).
2. Product competition between suppliers of tablets (devices).
3. Product competition between suppliers of Smart glasses (devices).
4. Product competition between suppliers of digital media player devices (devices).
5. Product competition between suppliers of wearable (devices).

All of these devices are in accordance with the definition of mobile devices: “*portable electronic devices that can be held easily in the hand*”. However, the CMA just limited the scope of the market study to smartphones and tablets.

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<sup>30</sup> Case *Ohio et al v American Express Co et al* (2018). No. 16-1454.

## B. THE COMPETITION BETWEEN OPERATING SYSTEMS INNOVATION PLATFORMS

This is about to analysed the dynamic of the competition between platform-ecosystems which offer an Operating system infrastructure upon which other firms develop complementary innovations. Nowadays, it is about the competition between Android-OS platform, Apple iOS platform and Amazon fire-OS platform.

Here it is necessary to note that Competition between platforms differs radically from product competition. Cusumano et al (2019) stated “*platform competition is fundamentally different from product competition. As we have said before, in a platform market, it is the best platform, and not the best product, that usually wins*”<sup>31</sup>.

The differences which cited the doctrine between product competition and platform competition are the following:

1. In new platform competition, it was changed the type of competitors: Platforms are not firms which sell products to customers. Like it was said, in general, rather than selling the technology (one product) for a price to customers, the platform-operator invites users to join the platform, and later, when the platform have generated strong positive network, the platform-manager seeks how to monetize platform network effects. In this line, Google LLC and Apple Inc do not sell operating systems to customers for a price, these firms offer the operating system software platform upon which other firms have developed complementary applications software for free.
2. In new platform competition, platforms compete by trying to pull into the platform more users and by facilitating interactions<sup>32</sup>.
3. The strategies that platforms use to compete between each other are preventing multihoming and preventing niche competition (which is able to disintermediate the platform).

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<sup>31</sup> Cusumano et al., Op. Cited., position 2036.

<sup>32</sup> Geoffrey et al., Op. Cited., position 3744.

4. Platforms suffer mutual attempts by adjacent platforms to drain their users<sup>33</sup> (disintermediation of the platform).
5. Novel platforms are trying to grow on top of the platform<sup>34</sup>, exist the possibility that participants of the ecosystem (such extension developers) may create new platforms that could eventually take users away<sup>35</sup> (disintermediation of the platform).
6. Platform's competitors are not just the closest adjacent platforms. Product competition *"happened primarily between rival companies within one industry. Today, it happens across industries. The fiercest competition will be between incompatible, rival platform ecosystems and the networks of businesses they support"*<sup>36</sup>.
7. The dynamic of competition is different. Accordingly to Cusumano et al (2019), in a platform battle for market dominance, the winner will depend on who can build the largest installed base of users, who can create the best ecosystem, and who (if anyone) can lock in their customer base, limiting platform multi-homing and create a sufficiently compelling solution to reduce competition from niche players and differentiation in the market<sup>37</sup>.
8. In new platform competition *"who won and who lost depend less on product quality or features and more on who could bring multiple "sides" of the emerging market together and generate positive "feedback loops"*<sup>38</sup>.
9. Sangeet (2015) held that while in the traditional linear business model, scale was a result of growing business internal resources (production efficiency) platform scale is *"powered by the ability to leverage and orchestrate a global connected ecosystem of producers and consumers toward efficient value creation and exchange"*<sup>39</sup> (interaction efficiency).

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<sup>33</sup> Adjacent platforms are defined as platforms with overlapping user bases. See Geoffrey et al., Op. Cited., position 3729.

<sup>34</sup> Sangeet., Op. Cited., p., 3840.

<sup>35</sup> Geoffrey et al., Op. Cited., position 2407.

<sup>36</sup> Johnson., Op. cited., position 3628.

<sup>37</sup> Cusumano et al., Op. Cited., position 3322.

<sup>38</sup> Ibid., position 157.

<sup>39</sup> Sangeet., Op. cited., position 366.



## **Conclusion**

The CMA need to do a *bifurcation* in the competition analysis between

- 1. PRODUCT COMPETITION.**
- 2. PLATFORM COMPETITION.**

This fork in the theoretical model is necessary because it will be the base of futures research in the field of Competition Law.

Research about the dynamics about Platform Competition still are very incipient. This step would be the milestone that begins new Competition Law rules about technological transformation in new digital age.

## **THRID REMEDIES FOR THE DISTORTION OF THE COMPETITION ABOUT ECOSYSTEMS MANAGED BY APPLE INC AND GOOGLE LLC**

This short document do no pretend to make an exhaustive analysis of the remedies proposed in the interim report, just it pretends to reinforce the theoretical model, which will be used when assessing each of the potential remedies about the business strategies that are distorting competition about the markets where the firms Apple Inc and Google LLC are participating.

### **3.1. ANALYZIED THE MONOPOLIZATION STRATEGIES IMPLEMENTED BY THE FIRMS APPLE INC AND GOOGLE LLC TAKING INTO ACCOUNT THE DEFINITION OF PLATFORM-ECOSYSTEM AS A SINGLE ORG0ANIZATION**

#### **STRATEGIES IMPLEMENTED BY THE FIRM GOOGLE LLC**

##### **1. THE DISTORTION OF THE COMPETITION DUE TO THE FIRM GOOGLE LLC AS PLATFORM-MANAGER OF THE ANDROID OS PLATFORM AND THE PLATFORM-MANAGER OF THE PLAY APP-STORE TRANSACTIONAL PLATFORM.**

The fact that the firm Google LLC is the manager of the 'Android innovation OS Platform' and the 'App-store transactional platform' is causing incentives and the ability for the following anticompetitive practices:

- a) The use of sensitive commercial information get into in one platform but use in another. For instance, the use of commercial information get in the app review process to be accepted in the app-store for later develop it owns products.
- b) Tying and bundling strategies such the household of the API in the App Store and not in the Innovation platform or the updates of the operating system in the App-store platform and not in the innovation platform.

- c) Impose artificial barriers to entry when Google LLC shares a proportion of revenues from Play-Store transactions with OEMs when this firms set the Play App-Store as the default App-store and do not preinstall other app-stores in the devices.
- d) The self-preferencing of its own products in the App-Store.

**2. THE DISTORTION IN THE COMPETITION WHEN THE PLATFORM-MANAGER ACT AS PRODUCER IN THE ECOSYSTEM (INTERNAL DUAL ROLE)**

- a). The self-preferencing of its owned products (e.g., manipulating organic search results in the App-Store to benefit its owned apps).
- b). The excessive acquisition of firms which belong to the ecosystem, or that face a competitive threat to the platform.

**3. THE IMPLEMENTATION OF STRATEGIES WITH THE AIM TO MAINTAIN AND REINFORCE THE PLATFORM NETWORK EFFECTS**

When assessing the dynamics of platform competition, it would be realized that many of the strategies implemented for the platform-manager is about to reinforce the platform network effects or impede the loss of the platform network effects. With this approach would be easier to understand the following strategies implemented by the Firm Google LLC:

- a) The restriction of web apps and sideloading which undermine the network effects of the Android ecosystem.
- b) The restriction of Cloud gaming platforms.
- c) The obligation of owned payment system with the aim to disintermediate its competitor platforms.
- d) The antifragementation agreements with the aim to avoid the loss of the networks effects of the Android Platform.

#### **4. THE DISTORTION OF THE COMPETITION DUE TO THE FIRM GOOGLE LLC IS PLATFORM-MANAGER OF THE ANDROID OS PLATFORM AND THE PLATFORM-MANAGER OF THE GOOGLE SEARCH PLATFORM**

The tying and bundling strategies about the **ANDRODI INNOVATION PLATFORM** with the **GOOGLE SEARCH PLATFORM**. The fact that the firm Google LLC is the manager of the innovation OS Platform, and the Google search platform is causing incentives and the ability for the following anticompetitive practices, most of them tend to improve **GOOGLE SEAARCH PLATFORM**:

- a) To make agreements of share revenue with developers of the Android OS platform to reinforce the network effects of the Google Search platform (e.g., preinstallation or default setting of Google Search app in Android devices, and the YouTube App).
- b) Placement agreements in which Google LLC pay to OEMs for each device in which the manufacturers pre-install the Google search app as the default search engine on device browsers.
- c) Google LLC pays revenues to browsers vendors when they direct the web traffic to the Google Search.
- d) The monetization of one platform with the revenues of other platform (e.g., offer for a free price the Access to the Android platform but monetized the Google search platform and share the revenues with Android developers).
- e) The implementation of strategies which give a competitive advantage in personalized advertising services (e.g., Google Sandbox proposals).
- f) Limit innovation of browsers engines.
- g) The restrictions of third-party voice assistants to access the same functionalities that Google's Google Assistant.

## **STRATEGIES IMPLEMENTED BY THE FIRM APPLE INC**

### **1. The distortion of the competition due to Apple Inc is the platform-manager of the iOS innovation platform and the platform-manager of the Apple Play App-Store transactional Platform**

- a) The use of sensitive commercial information get into in one platform but use in another. For instance, the use of commercial information get in the app review process to be accepted in the app-store for later develop it owns product (e.g. Tile complaints about tracking).
- b) Apple limiting the functionality of web Apps in iOS platform: Apple use the restriction of webKit, the sole permitted browser engine on iOS, to limit the success of web apps which decrease the network effects of the iOS and App-Store.
- c) Apple's App-Store is the only App-store within iOS ecosystem.
- d) Other App-stores can not be download from the Apple App-Store.
- e) Apple Inc has restricted access of some APIs to itself. This is Apple Inc erect barriers to extension developers closing APIs not just to control the quality of the inventory, but to keep revenues than the platform generates<sup>40</sup>.
- f) Apple Inc has restricted access of some APIs to few firms (e.g., contactless payment technology).
- g) The webKit restriction to only use Apple browser engine help to maintain the network effects of the Apple App-Store.
- h) The obligation to use the Apple payment system which disintermediate its competitors from consumers.

### **2. The implementation of strategies with the aim to maintain and reinforce the platform network effects about each platform.**

- a. The restriction of web apps and sideloading which undermine the network effects of the Android ecosystem.
- b. The restriction of Cloud gaming services.

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<sup>40</sup> Ibid., position 2407.

- c. The obligation of owned payment system with the aim to disintermediate its competitor platforms.

### **3. The 'envelopment strategy'**

Geoffrey et al (2016) held that Apple is now endeavoring to use its iPhone platform to envelop the markets for mobile payment systems, wearable technology and assistant voices technology<sup>41</sup>. For instance, to restrict the ability of third-party voice assistants to access the same functionalities that Apple Google Assistant.

#### **3.2. THE CODE OF CONDUCT FOR EACH PLATFORM-ECOSYSTEM**

About the code of conduct, the guide would be that this CODE need to be in accordance with values of modern societies. Each platform-ecosystem organization need a public code which govern the rights and limitation of each of the participants of the organization. This code need to be elaborated with representants of all participants of the ecosystem.

In addition to the mentioned by the CMA is necessary an exhaustive rule about platform-ecosystem access to the infrastructure through API`s.

#### **RULES TO ACCESS TO THE PLATFORM-ECOSYSTEM**

One of the important points of the code is about regulate the access and exclusion of the ecosystem. The obligations for the platform-manger about access to the platform must be:

1. To published clear and transparent rules about conditions to be accepted in the ecosystem.
2. To regulate the agreements between the platform-manager and the developers of the innovation ecosystem.
3. The procedure for being accepted into the ecosystem need to be by written.

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<sup>41</sup> Geoffrey et al., Op. cited., position 3729.

4. The acceptable reasons to be rejected when asking for access need to be by writing and previously published.
5. The prohibition to tying the access to the ecosystem to acquisition of other products or services, or other platforms.
6. The burden of the proof to demonstrate the rejection for acceptance need to be in the platform-manager and not in the firm which ask the access.
7. The right to exclude one participant of the ecosystem for security reasons.

It is necessary to incorporate a neutral team (different from the platform-operator) which would decide the enforcement of the code of conduct. A neutral technical team.

**In addition, other rules that need to be included in the code of conduct are:**

1. Each ecosystem need a separate and transparency accounting.
2. The creation of the public register of platform-ecosystems and to recognize the legal personality of each platform-ecosystem.
3. The prohibition to monetize one platform-ecosystem with the revenues of another platform-ecosystem.
4. Build rules about taxation accordingly to the novel platform business model.
5. As well, is necessary to incorporate an ethical team about artificial intelligence technology and bio-engineering technology.