

# ANSWER TO THE EUROPEAN CONSULTATION ABOUT VIRTUAL PLATFORMS AND AI GENERATIVE (Public Version)

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## BACKGROUND

In March 2024, the European Commission is asking for information to better understand the way European Competition Law can address the novel phenomena of what the Commission called “Virtual Digital Platforms” and “Artificial Intelligence Generative”.

One of the questions is about *which competition issues will likely emerge for the provision, distribution or integration of generative AI systems and/or components, including AI models?*

In response to this consultation, this brief letter addressed to the European Commission on march 2024 aims to answer briefly that questions, especially the way generative artificial intelligence is affecting intra-platform competition and innovation of society under Antitrust law analysis.

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2. Change of Paradigm: the first step is to stop understanding the cyberspace as a fictitious collective imaginary space.
3. The platform ecosystem as a novel meta-organization different from the firm and the market of the XX century
4. The dynamics of competition within the platform-ecosystem (inter-platform competition).
5. Theory of harm: the use of generative ai to create the inventory of the platform ecosystem is an exploitative practice: unfair remuneration or nor reward for creators.

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<sup>1</sup> I declare I have not received funds of any organization for the elaboration of this document. As well, I declare I do not have conflict of interests about issues analyzed in the document. Email: [dimontenegrocastro@gmail.com](mailto:dimontenegrocastro@gmail.com)

# 1. THE NEED OF A GENERAL THEORY ABOUT THE NOVEL “DIGITAL ORGANIZATION (DO)”

During XX century different sciences tried to explain what was named as “Industrial organization (IO)”. Industrial Organization was understood as a holistic and coherent approach about the function of one overall economic system for the 20-century.

In a nutshell, Industrial Organization (IO) analyses firm behaviour and industry dynamics, including the determinants of competition within markets, as well as the effects of public policies such as anti-trust law and government regulation about firms and markets. Basis on IO approach, were created different theories which pretend to explain the economic dynamics of the Firm and the market. For instance, the theory of the Firm (Coase, 1930), the theory of the free markets (Hayek, 1940) or the paradigm of Structure-Conduct-Performance (Bain, 1982). However, nowadays novel digital economy is not being analyzed under the perspective of a general model. On the contrary, each phenomenon is being seen as a series of unrelated issues between each other. Consequently, regulations of all of each area of novel digital organization, -such digital platforms, generative-AI, virtual worlds, IoT-, are being woven like an improvised patchwork quilt. In a graphic, regulation can be drafted as a patchwork, thus:

Graphic No. 1. Digital Organization’s regulation cannot be a patchwork of unrelated legal items



DMA	IA DIRECTIVE	VIRTUAL WORLDS
Metaverse	DSA	Virtual Assistants
Big Data	IoT	Cibersecurity

Hence, and as a critique of this disunified approach, very recently, some authors have proposed that the overall regulation of 21st-century Digital Organization (DO) must not be planned as a patchwork of unrelated legal issues. But novel regulation of the different phenomena of novel digital economy must be designed over the basis of one **unified theory** aimed at explaining this new economic system as a whole. This is because all of phenomena, which at first sight are

unrelated between them (such digital platforms, IA, Generative-AI, virtual worlds, metaverse, IoT, big data, algorithms, virtual assistants), are in effect phenomena which form one single organizational economic system.

Consequently, some authors have raised the hypothesis of how it is possible to create this unified theory about Digital Organization (DO).

Following this approach and being aware of the scope of such a demanding work, this brief letter addressed to the European Commission on march 2024 aims to briefly present some comments in order to lay the future foundations of **one unifying theory about “Digital Organization (DO)”**.

## **2. CHANGE OF PARADIGM: THE FIRST STEP IS TO STOP UNDERSTANDING THE CYBERSPACE AS A FICTITIOUS COLLECTIVE IMAGINARY SPACE**

The first step to elaborated a **unified theory** aimed at explaining novel Digital Organizations (DO), it is to stop defining the “Cyberspace” (or virtual space) as a fictitious collective imaginary space which was created *within* Internet. On the contrary, from a rigorous legal perspective, “the Cyberspace” must be understood as a fallacy created collectively by a lack of understanding of how new digital economy works.

About this subject, since the introduction of the first digital platforms, one of the questions between antitrust scholars has been *what is Google? If digital platforms are digital firms? Or, if digital platforms are a multisided market? in sum, what is an online platform?*

To answer these questions, nowadays almost all individuals believe that devices connected to the Internet network are objects to enter cyberspace. For many people, the notion of cyberspace is explained as an analog world that humans can enter using digital devices. Following this conception, at present time, many antitrust scholars, professors, lawyers, judges are using the expression of “Digital Markets” as different from “Real Markets”, or “Digital Firms” as different from “Real Firms”. And following this way of thinking,

regulators are facing many doubts about how to regulate this unreal cyberspace or the analog world.

However, this misconception about digital platforms is overcome when 'Digital Platforms' are defined by human sciences as novel meta-organizations. And as previous meta-organizations (such firms, countries or markets) these are just legal abstractions that are used by law systems to regulate social-economic organizations.

### **Illustrative example of Platform-Ecosystem as one organization**

To explain digital platform 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. At beginning, regulators asked what is FORD?

**Graphic No. 2. Ford Factory Picture in 1900**



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 theoretical analysis, -using a legal abstraction-, FORD were a Firm, this is **one organization**.

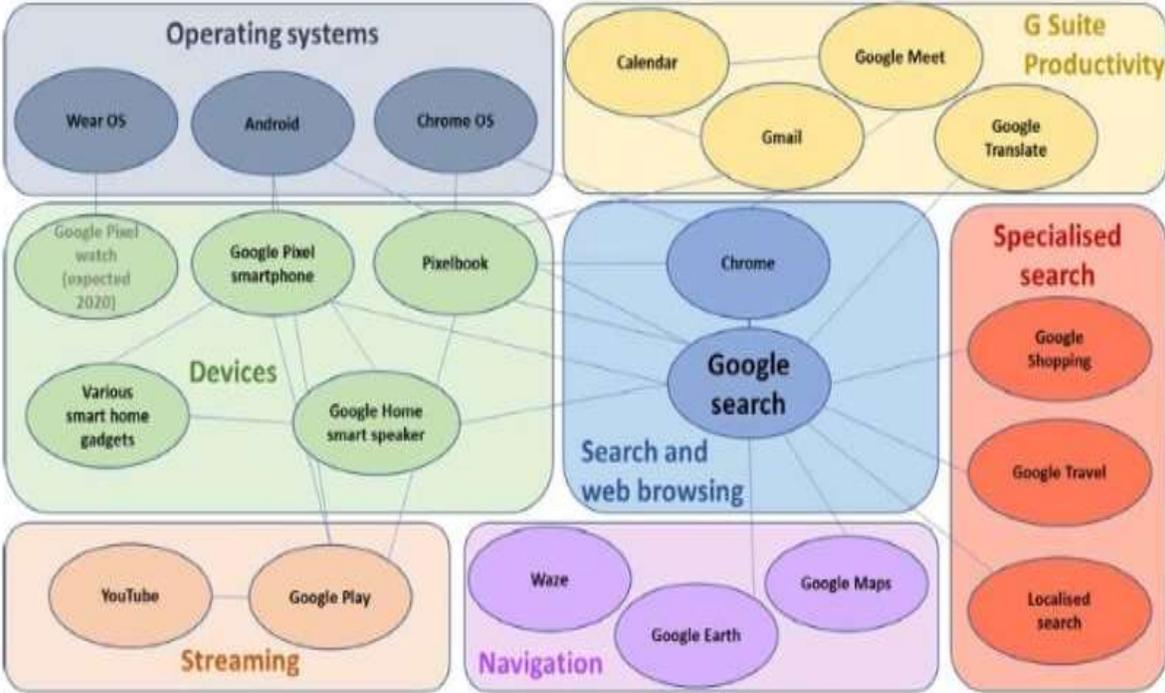
Hence, in this line of thinking, the regulation of digital platforms will be the regulation of another legal abstraction. In other words, a novel regulation about the novel digital economy<sup>2</sup>.

**3. “PLATFORM ECOSYSTEMS” AS A NOVEL META-ORGANIZATION DIFFERENT FROM THE FIRM AND THE MARKET OF THE XX CENTURY**

The second step to elaborated a **unified theory** aimed at explaining novel Digital Organizations (DO), it is to start defining “Platform Ecosystems” as a novel **organization** created in the XXI Century as a community of individuals.

Here, it has to be notice that the first attempt to define the platform ecosystems was to define it as a set of interrelated submarkets. For instance, the CMA draws the Google ecosystem as a set of submarkets (UK, 2020) Thus:

Graphic No. 3. The Ecosystem as a set of submarkets



Source: CMA, 2020.

<sup>2</sup> Not the regulation of a virtual world.

However, next years (2021 – 2024), some authors have defined the platform ecosystem no longer as a set of submarkets but as a new category of meta-organization<sup>3</sup>. A new type of economic organization different from the traditional market and the traditional firm.

But to start understanding platforms as a novel type of meta-organizations the first step is to describe the novel platform business model implemented by some entrepreneurs due to the recent fourth industrial revolution.

### 1.1. The newest platform business model

A worldwide recognized author and international speaker about platforms<sup>4</sup>, Paul Sangeet, in his book "*Platform Scale. How an emerging business model helps start-ups build large empires with minimum investment*" (2015)<sup>5</sup> distinguish between the traditional pipeline business model (pipes) and the novel platform business model (platforms)<sup>1</sup>. For this author "*We are no longer in the business of building software. We are increasingly moving into the business of enabling efficient social and businesses interactions, mediated by software*".

Similarly, two authors from managerial literature, Johnson, Nicholas L, and Moazed, Alex. The book "*Modern Monopolies. What it Takes to Dominate the 21<sup>st</sup>-Century Economy*" (2016) defined platform as "*a business that connects two or more mutually dependent groups in a way that benefits all sides*"<sup>6</sup>. For them, "*In plain English, platforms allow consumers and producers to connect and exchange goods, services, and information. By doing this, these businesses create new markets*"<sup>7</sup>.

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<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>

<sup>4</sup> For instance, conferences upload to YouTube platform at <https://www.youtube.com/watch?v=BOg34ROtuko> and <https://www.youtube.com/watch?v=x7lnmlSmtsI>

<sup>5</sup> Sangeet, Paul. "*Platform Scale. How an emerging business model helps start-ups build large empires with minimum investment*". Platform Thinking Labs Ltd. 2015. Kindle e-book edition, ISBN: 978-981-09-6757-4.

<sup>6</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, ISBN: 9781250091901., position 111.

<sup>7</sup> Ibid., Kindle e-book position 107. In the same line, Geoffrey G. Parker, Marshall W. Van Alstyne, and Sangeet, Paul. "*Platform Revolution. How networked markets are transforming the economy and how to make them work for you*". W.W. Norton & Company. New York. Kindle e-book, 2016. ISBN 978-0-393-24912-5. Too, Cusumano, A. Michael., Gawer

In addition, MIT professor Cusumano, A. Michael., Gawer Anabelle, and Yoffie, David, in the book title "*The Business of platforms. Strategy in the age of digital competition, innovation and Power*" (2019) explain the novel platform business model competition dynamic.

### **The value ecosystem**

Johnson and Moazed (2016) explain, under the newest platform business model the firm does not manufacture a product or service but creates an infrastructure over which third parties can create and interchange value<sup>8</sup>.

Thus, for these authors, the real transformation of the recent technological developments is not related to the Internet as a new distribution channel<sup>9</sup>, 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>10</sup>.

Following, Johnson and Moazed (2016) describe that the platform (as an organization) does not have a linear supply value chain, rather the value ecosystem is the new supply business chain<sup>11</sup>. These authors held *"A linear business's primary inputs are internal -it acquires resources and turns those inputs into outputs. But a platform's biggest resource is its network. A platform doesn't directly create much of the value that gets consumed. Rather it*

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Anabelle, and Yoffie, David. "*The Business of platforms. Strategy in the age of digital competition, innovation and Power*". May 2019. HarperCollins publishers. New York. Kindle e-book edition, ISBN: 978-0-06-289633-9.

<sup>8</sup> Sangeet., Op. Cited., position 265.

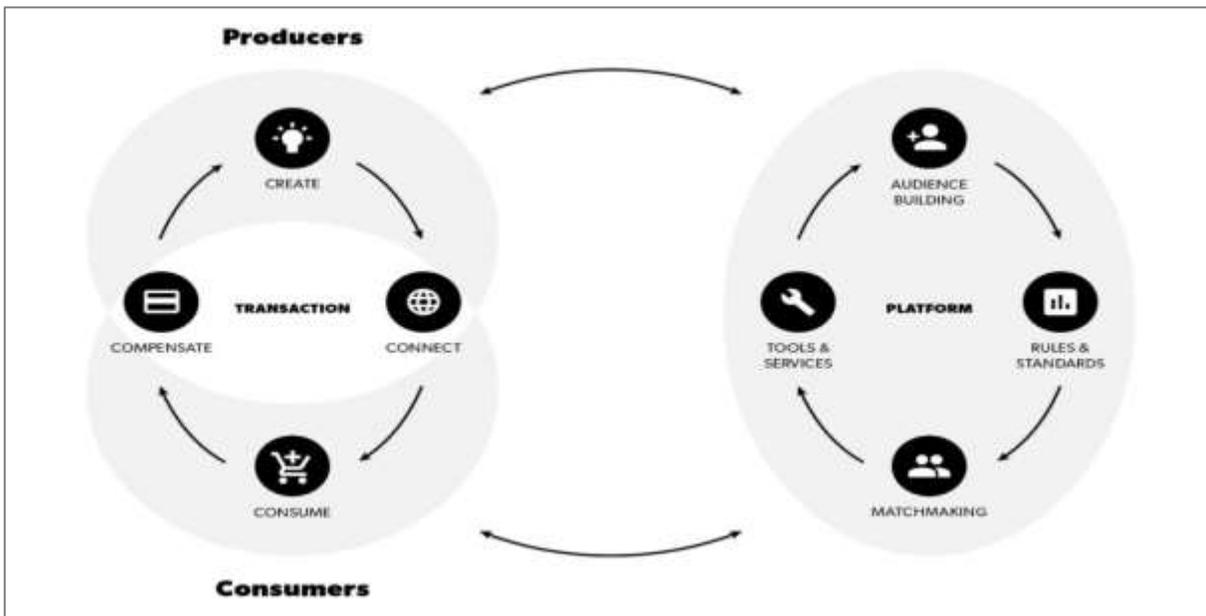
<sup>9</sup> This assumption is known as the "channel fallacy".

<sup>10</sup> Ibid., position 1112.

<sup>11</sup> Ibid., position 1761. (Similarly, Sangeet., position 476).

*facilitates a two-way exchange among its users. As a result, platforms don't have value chains in the traditional sense... a platform has a set of primary activities that directly create value for its users as well as a set of secondary activities that serve to support that value creation. Combined, these activities form a value ecosystem.*"<sup>12</sup>. As the following Figure show:

**Figure 4. The value ecosystem**



Source: Book Modern Monopolies, position 1774.

In the new platform business model, the core transaction in the value ecosystem is a set of four actions that producers and consumers need to repeat several times to create and interchange value. Thus:

**Creation by producers.** First, as the platform does not produce products or services, this firm needs to attract external producers which create an inventory and put it into its owned plug-and-play infrastructure. This inventory can be music videos, song tracks, movies, pictures, physical goods, personal services (transport, delivery), software applications (Apps), Art pieces. These units become the platform supply, and the platform is more valuable as more units of value are added on top of its infrastructure. Contrary, without these units of value the platform does not have value in itself.

<sup>12</sup> Ibid., position 1761.

**Connect.** Second, the platform company needs to attract some consumers to connect with this inventory provided by external producers.

**Consume by consumers.** Once consumers came into the infrastructure, the platform company needs those consumers to consume the value represented by the inventory. This action can be such as purchasing a physical good (Amazon platform), asking for a service (Uber platform), downloading an app (Apple App-store), or watching a music video (YouTube).

**Compensate.** The final step is when consumers create value. And this value is given to the producer in exchange for what they consumed. Consumers need to compensate producers. But this compensation is not always a monetary payment (a price), because there are many other ways in which consumers can compensate producers. Here, *“In the context of a platform, monetary value is transitory – it passes through and out the platform quickly. In contrast, reviews, ratings, likes, shares, comments, follows, and other types of compensation create value that’s stored in the platform and can increase the producer’s ability to get value out of it in the future.”*<sup>13</sup>.

As can be seen, for instance, about the YouTube music streaming platform, the platform-manger (Google LLC) does not manufacture the platform inventory (e.g., each music video) but are the external producers (artists) who produce each of the music videos. Thus, the artists are who create value to later upload the music-video piece into the platform infrastructure (software).

In this line, modern doctrine explains that the novel platform business model is in opposition with the traditional linear supply chain where value creation flows linearly through different firms (upstream markets to downstream markets) to the final consumer of the product or service. And which was the business model used by traditional firms.

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<sup>13</sup> Ibid., position 1834.

## 1.2. The definition of Platform-ecosystem as meta-organization

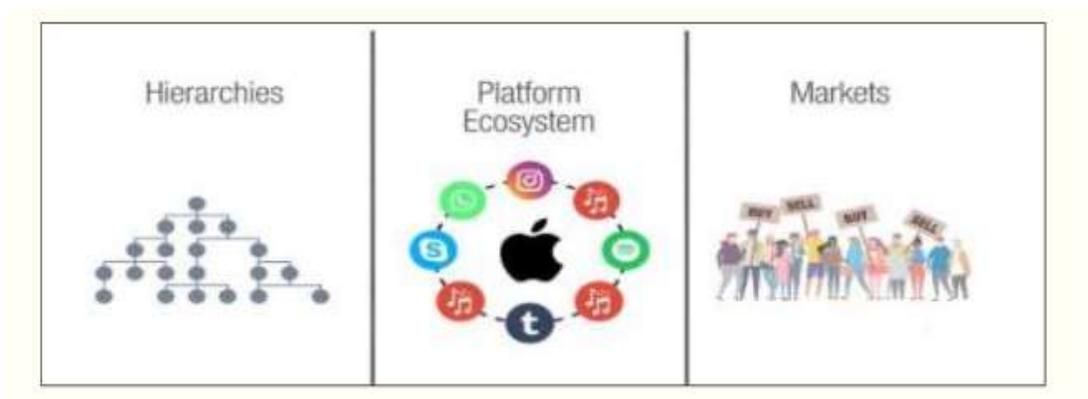
After defining Platform as a novel business model, it must be noticed that the implementation of this novel business model is creating a new type of meta-organization, labeled in the doctrine as 'Platform Ecosystem'.

In this line, authors such Kretschmer, T, Leiponen A, Schilling M, Vasudeva G. (2020) explain that 'platform-ecosystem' must be thinking as a new type of hybrid meta-organization between firms and markets which “*are less formal and less hierarchical structures than firms, and yet more closely coupled than traditional markets*”<sup>14</sup>.

For these authors, the distinctive feature of the platform-ecosystem is: “*it's a modular and interdependent system of core and complementary components bound together by design rules and an overarching value proposition. This makes platform ecosystems an organizational form on its own (a “meta-organization”), neither possessing the hierarchical instruments of a firm, nor the largely uncoordinated decision making of market.*”<sup>15</sup>.

In a graphic, and to start differentiated platforms from firms and markets, the Platform Ecosystem can be represented as a decentralized network of individuals, Thus,

**Graphic No. 5. The Ecosystem as a novel meta-organization**



Source: Schilling M.

<sup>14</sup> Kretschmer, T, Leiponen A, Schilling M, Vasudeva G. “*Platform ecosystems as meta-organizations. Implications for platform strategies*”. October 2020; pp., 1-20. <https://doi.org/10.1002/smj.3250>., page 1.

<sup>15</sup> Ibid., page 2.

#### 4. THE DYNAMICS OF COMPETITION WITHIN THE PLATFORM-ECOSYSTEM (INTER-PLATFORM COMPETITION)

After defined the “Platform ecosystem” as a novel type of meta-organization, the next question is to ask about how the dynamic of competition works within these organizations.

Thus, at the first place, it has to be notice that competition *within the platform-ecosystem* or *intra-platform competition* is about the legal rules and economic dynamic of the competition inside each meta-organization.

Johnson and Moazed (2016), in its book, explain how imperceptibly *“the pendulum has swung significantly from decentralization toward large organizations -platforms- that create what are, in effect, large, centrally planned markets”*<sup>16</sup>. For them, the recent technological revolution has *“invalidated Hayek’s assertion that a central planner can’t organize large-scale economic activity, Today, that’s precisely what’s happening to increasingly large sections of our economy. The only difference is that the central planner is not a government bureaucrat. Rather it’s a set of algorithms and software tools operated by a platform to manage and grow a decentralized network”*<sup>17</sup>. In this sense, they ask:

***“What is Google Search, for instance, but an enormous, centrally planned economy of content and information? All of this economic activity is being centrally planned and orchestrated by computers running algorithms (...)”***<sup>18</sup>.

Johnson and Moazed (2016) held: *“Platform combine characteristics of traditional organizations and markets. A platform is essentially a synthesis of Coase’s firm and Hayek’s market. The firm no longer invests in production but rather in building the infrastructure and tools to support and grow a networked marketplace or community. What these platforms are*

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<sup>16</sup> Johnson., Op. Cited., position 1187.

<sup>17</sup> Ibid., position 1165.

<sup>18</sup> Ibid., position 1178.

*creating are, in essence, centrally planned markets. That many would think of this as a contradiction is mostly a result of historical ideology rather than present-day fact*<sup>19</sup>.

And 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. Platform ecosystems are characterized by a large collection of relationships that are neither as limited and specific as spot market contracts nor as enduring and extensive as those within a hierarchical organization.*<sup>20</sup>.

#### **4.1. The components of the Platform Ecosystem**

And with the aim to clearly understand the dynamics of competition which occurs *within* the Ecosystem it has to be differentiated the different components. *Here, the question is what are the components of these novel organizations?* At first sight, there are three components:

- a) **The platform operator or the platform orchestrator:** The single economic unity which owned the digital infrastructure and centrally orchestrated the overall platform-ecosystem.
- b) **Platform participants:** Producers of the inventory and Consumers of the inventory.
- c) **The platform infrastructure.**

Each of these components will be explained following:

##### **a. The Platform orchestrator (the Platform Governance)**

The function of the platform orchestrator (or a platform-manger firm) is to coordinate and balance the different interests of several individuals who belong to the platform ecosystem.

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<sup>19</sup> Ibid., position 1124.

<sup>20</sup> Kretschmer et al., Op. Cited., page 3.

Thus, in general, the 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), The platform's curation task (restricting who can join and which activities can happen)<sup>21</sup>, as well as the creation of strategies to reinforce the platform network effects and to decide how to monetize the platform.

#### **b. Platform participants: The network of the Ecosystem**

As it was explained, platforms allow **consumers** and **producers** to connect and exchange goods, services, and information.

**Producers:** As the platform does not produce products or services, this firm needs to attract external producers which create an inventory and put it into its owned plug-and-play infrastructure. This inventory can be music videos, song tracks, movies, pictures, physical goods, personal services (transport, delivery), software applications (Apps), Art pieces. These units become the platform supply, and the platform is more valuable as more units of value are added on top of its infrastructure.

**Consumers:** Consumers need to connect with the inventory provided by external producers.

#### **4.2. Practices of illegal monopolization done by the platform operator within the platform-ecosystem**

About illegal monopolization it has to be notice that practices are made by the platform operator. Thus, in the field of competition law, illegal monopolization occurs in two circumstances:

1. If the platform operator does not manufacture a product or service but creates an infrastructure over which third parties can create and interchange value, *why is the platform*

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<sup>21</sup> Cusumano et al., Op. Cited., position 2793. Platform curation is about eliminating harmful content from the platform inventory.

*operator monopolizing all the value created within the Ecosystem? Or why the platform operator is capturing all the value created by participants within the Ecosystem?*

Respect of the first circumstance, is notorious the lack of a theory of value creation within the platform ecosystem. Because the first question is about how is created value and who create value in these novel organizations. Hence the creation of this theory of value creation is one of the great challenges of the human sciences in new century.

2. When the platform-manager implemented unduly strategies to create or to maintain one monopoly.

With this approach would be easier to understand the following strategies implemented by some platform-operators, and to elaborate modern theories of harm:

**Theory of harm: To reinforce the network effects of the platform ecosystem using illegal practices**

Respect of the second circumstance, 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.

- The restriction of web apps and sideloading which undermine the network effects of the Android ecosystem.
- The antifragementation agreements with the aim to avoid the loss of the network's effects of the Android Platform (Case Google, US, 2023).
- 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.
- Apple's App-Store is the only App-store within iOS ecosystem.
- Other App-stores cannot be download from the Apple App-Store.

**Theory of harm: The creation of unjustified barriers to keep the revenues that the platform generates**

For instance:

- 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>22</sup>.
- Apple Inc has restricted access of some APIs to few firms (e.g., contactless payment technology).
- The webKit restriction to only use Apple browser engine help to maintain the network effects of the Apple App-Store.

**Theory of Harm: The internal dual role is distorting intra-platform competition**

The distortion in the competition when the platform-manager act as producer in the ecosystem (internal dual role). This is seen as the self-preferencing of its owned products (e.g., manipulating organic search results in the App-Store to benefit its owned apps).

**Theory of harm: The 'envelopment strategy': Tying and bundling strategies done by the platform manager firm**

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>23</sup>. For instance, to restrict the ability of third-party voice assistants to access the same functionalities that Apple Google Assistant.

The same for Google: (i) preinstallation or default setting of Google Search app in Android devices, and the YouTube App. (ii) 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. (iii) Google LLC pays revenues to browsers vendors when they direct the web traffic to the Google Search.

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<sup>22</sup> Ibid., position 2407.

<sup>23</sup> Geoffrey et al., Op. cited., position 3729.

## **5. THEORY OF HARM: THE USE OF GENERATIVE AI TO CREATE THE INVENTORY OF THE PLATFORM ECOSYSTEM IS AN EXPLOITATIVE PRACTICE: UNFAIR REMUNERATION OR NO REWARD FOR CREATORS**

Like it was explained, Johnson and Moazed (2016) explain, under the newest platform business model the firm does not manufacture a product or service but creates an infrastructure over which third parties can create and interchange value<sup>24</sup>. For instance, about the YouTube music streaming platform, the platform-manager (Google LLC) does not manufacture the platform inventory (e.g., each music video) but are the external producers (artists) who produce each of the music videos. Thus, the artists are who create value to later upload the music-video piece into the platform infrastructure.

However, nowadays, several music creators (songwriters, performers) are complaining that while the revenues of the platform managers (e.g., Google LLC, Apple Inc, Spotify Ltd, Amazon Inc) and major music labels (Sony, Universal, Warner) are growing disproportionately, music creators are not receiving a fair compensation by its works, and in many cases, they do not receive remuneration at all (e.g., non-featured artists).

However, when the platform-manager act as producer in the ecosystem (internal dual role) it is just not a problem of distorting competition within the Ecosystem. The real problem is the lack of a fair remuneration of the creators of value within the Ecosystem. As it will be explained.

First, it has to be defined the internal dual role of the platform manager occurs when the platform manager starts to create the platform inventory. For instance, platform managers (such Google LLC and SONY) are starting to create music tracks with generative artificial intelligence technology. For instance, SONY CSL (Computer Science technology) is creating music with AI<sup>25</sup>, Another example is Deep-Mind of Google LLC.

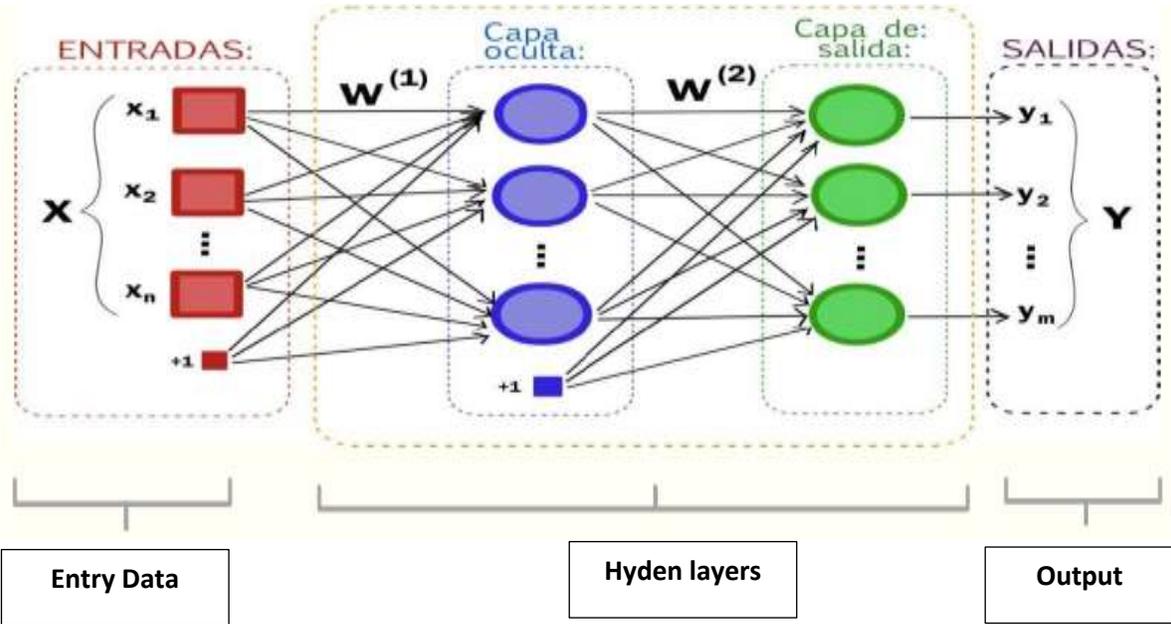
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<sup>24</sup> Sangeet., Op. Cited., position 265.

<sup>25</sup> [https://www.youtube.com/watch?v=LSHZ\\_b05W7o](https://www.youtube.com/watch?v=LSHZ_b05W7o)  
<https://www.youtube.com/watch?v=lcGYEXJqun8>

And about the training of the AI models with the data of the participants of the Platform Ecosystems it is need to understand how these models are created and trained. In a graphic, a Generative AI model can be described thus:

Graphic No. 6. A Generative Artificial model



Thus, about the development of generative artificial intelligence models, the complaints are focused on the use of data (entry data datasets) from ecosystem participants to train these models. And once trained, the only ones who can make a profit are the companies that develop these models. For instance, an AI model which creates music. This model was trained with the songs created by users of digital platforms. This are the producers of the ecosystem (e.g. the creators of content in YouTube), but the only one who can obtain revenues is the company who develop the model.

Hence, about the developing of artificial intelligence generative models there are many complaints about the use of data collected in the ecosystem to benefit the platform-operator own products and services. The platform manager is monopolizing this important data without to compensate anybody. Hence, the question arises again, If the platform operator

does not manufacture a product or service but creates an infrastructure over which third parties can create and interchange value, *why is the platform operator monopolizing all the value created within the Ecosystem? Or why the platform operator is capturing all the value created by participants within the Ecosystem?*

Other harms due to the development of AI-Generative models trained by platform operators:

- **Overproduction:** The development of Artificial intelligence without limits can create social and economic problems due to the overproduction that it can be generated. For instance, while a human takes hour to develop one work of music, AI can develop several pieces of work in a few minutes. The problem will be not about high prices but problems will be about overproduction.
- **Harm to Consumers:** Platform-operator will have incentives to manipulate and influence consumer choices.
- **Harm to innovation of society:** The problem with the development of generative AI models is that it can diminish innovation in society. This is because these models are trained with previous data to recognize patterns. The ability of these models to innovate has not yet been demonstrated. These models only generate works based on learned patterns. This is a very important point of discussion.

Similarly, in other digital platforms, the problems of overproduction, manipulation of users, lack of transparency and an unfair remuneration for producers are being noticed.

**Theory of harm: tying and bundling strategies. The Platform operators' firms are tying the use of AI Generative models to the use tradicitonal Digital Platforms**

## **6. THE DYNAMIC OF COMPETITION BETWEEN PLATFORM ECOSYSTEMS (INTRA-PLATFORM COMPETITION)**

Finally, competition between platforms differs radically from product competition. Professor 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>26</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 has generated strong positive network, the platform-manager seeks how to monetize platform network effects.
2. In new platform competition, platforms compete by trying to pull into the platform more users and by facilitating interactions<sup>27</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).
4. Platforms suffer mutual attempts by adjacent platforms to drain their users<sup>28</sup> (disintermediation of the platform).
5. Novel platforms are trying to grow on top of the platform<sup>29</sup>, exist the possibility that participants of the ecosystem (such extension developers) may create new platforms that could eventually take users away<sup>30</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>31</sup>.

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<sup>26</sup> Cusumano et al., Op. Cited., position 2036.

<sup>27</sup> Geoffrey et al., Op. Cited., position 3744.

<sup>28</sup> Adjacent platforms are defined as platforms with overlapping user bases. See Geoffrey et al., Op. Cited., position 3729.

<sup>29</sup> Sangeet., Op. Cited., p., 3840.

<sup>30</sup> Geoffrey et al., Op. Cited., position 2407.

<sup>31</sup> Johnson., Op. cited., position 3628.

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>32</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>33</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>34</sup>.

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<sup>32</sup> Cusumano et al., Op. Cited., position 3322.

<sup>33</sup> Ibid., position 157.

<sup>34</sup> Sangeet., Op. cited., position 366.