COMPETITION POLICIES AND THE HIGH-TECH MARKET

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Abstract

In the modern era of technology, the use of High-Tech elements, such as Artificial Intelligence, Internet of Things, software, and any other smart gadgets, is becoming a prominent element in business operations and commercial activities and it is considered a special factor of economic growth. The High-Tech industry has a significant impact on the economy and society as a whole, which generates worries on a variety of fronts, from data security to the creation of democratic will. However, the concerns about competition are limited to the tendency of digital marketplaces to rise to monopolies. Reduced outputs, increased prices, income transfers from consumers to producers, and significant expenditures by corporations to establish a monopoly are all negative outcomes of monopolies. Due to these concerns, competition authorities have become more vigorous in combating High-Tech's monopolistic inclinations and anti-competitive practices. The aim of this Bachelor thesis is to offer an overview of European Union Law and Competition Law as a branch, analyze the big players of the High-Tech industry, to raise awareness on the anti-competitive practices used by the High-Tech corporations, and to present the already existing competition policies and regulatory laws.

Key words: competition policies, high-tech market, European Single Market, European Union Law, abuse of dominant position

Introduction

The aim of this scientific article is to offer a perspective on the existent competition policies and legislation, an overview of the historical evolution of it during different periods of time and through the founding Treaties of the European Union. An assessment of the degree in which the big players on the High-Tech market comply with the rules laid down in the specific articles from the Treaty on the Functioning of the European Union (TFEU), when a company is believed to breach the legal rules and to abuse of its dominant position, which are the anti-competitive practices in the European Union (EU) and practical examples and cases in which High-Tech companies made an infringement to the existent competition policies and

legislation. Moreover, a brief description of the High-Tech Market and of the central companies of it has been made, and also the trends and the key characteristics of this industry have been presented in a further subchapter.

This subject is a very interesting and complex one, given the fact that the main goal of the European Communities (EC), and of the European Union further on, has been the creation of a free market, with no barriers, quantitative restrictions and measures having equivalent effect, in which trade between member states of the EU is undertaken without any constraints. Robert Schuman's declaration, from 1950, which was the steppingstone for the creation of what we know in the present as the European Union, represents the basis of the Internal Market, which, later on, was finally capable to establish the four freedoms: free movement of goods, of services, of persons and of capital. The first two freedoms, specifically the free movement of goods and the free movement of services and another freedom which derived from the four main ones, free movement of companies, facilitated the creation of a legal framework for competition at the European Union level. Competition law is a branch of the European Union Law, which has as primary objective to protect and nurture competition through fundamental and well-established rules laid down by the Treaties. The protection of competition does not benefit only the producers, but also the consumers who are free to choose from a large variety of products, services, and producers. Moreover, due to the competition policies and to the free entry on the market, the producers are motivated to gain competitive advantages by producing and offering high quality goods and services, and also by using proper conduct, so they would not be accused of infringement of the legislation with regards to competition.

Also, the case-law of the European Court of Justice plays a major role in the establishment and development of competition policies all over the European Union. The case-law has been backed up by other European Union acts, such as EU Antitrust Policy, which is developed from Articles 101 and 102 TFEU, communications done by the European Commission and NCAs.

With regards to the structure of the scientific article, it contains three main chapters: Introduction to the European Union Law, in which the principles, main institutions, main acts and the effect of EU law on the current legislation of each MS has are presented; Overview of the competition policies and the High-Tech Market, in which the historical evolution of the Competition Law, enforcement of the EU competition rules, relevant concepts with regards to competition policies in the High-Tech Market, a brief description of the High-Tech Market and the challenges of competition policies in the single market are included. The last chapter is

meant to present some future perspectives on the competition policies in the context of significant, imminent development of the EU High-Tech Market.

With regards to the methodology used, the conducted research was based on theoretical assessments as well as interpretations found in the literature, as well as studies particular to EU law, namely the competition policies and adherent legislation in the EU. Personal judgments and recommendations have also been formed based on the information obtained.

1. Introduction in the European Union Law

1.1. Historical evolution and concept of the EU Law

Robert Schuman made his proclamation in 1950, four years after Winston Churchill gave his address in Zurich, laying out his proposal, which he worked on with Jean Monnet, declaring that a united Europe was essential for the preservation of world peace (Robert Schuman Foundation, 2011). The first six nations ratified the Treaty Establishing the European Coal and Steel Community in 1951. (France, Germany, Italy, Belgium, Netherlands, and Luxemburg). The Treaty of Lisbon was signed in 2007 and went into force in 2009, after almost fifty years of development and transition. Moreover, the Maastricht Treaty (1993, nowadays referred as Treaty on European Union) and the Treaty of Rome (1957, nowadays called the Treaty on the Functioning of the European Union) are the two major treaties that laid the framework of the European Union (Kaczorowska-Ireland, 2016).

The European Union sprang from post-World War II communities formed with the goal of establishing a durable peace. The EU has evolved to include 27 member nations throughout the years. Member States are sovereign nations that retain their independence, but they pool their independence in attempt to acquire influence and authority in certain areas (Petkov & Krastev, 2018).

The European Union Law is a unique legal construct (Barnard & Peers, 2020). It encompasses all of the legal regulations that apply inside the EU legal system and regulate the organization and operation of the European Institutions, as well as the particular laws that must be followed in the various sections of the single market (Dumitru & Stoican, 2020).

EU Law is the only way to bring the EU's establishment and the principles it represents to life. The EU law can also be perceived as a set of legal regulations, an autonomous legal system

that works in tandem with each MS national laws. This system includes the legal standards that must be followed inside the Union in terms of how the institutions work and are organized, as well as specific laws that must be followed in various domains of economic activities as specified by the Treaties. The EU is, therefore, a genuine reality from two perspectives: it was founded on law, but it is also a society founded on law. The fact that it operates under the rule of law rather than compulsion or violence distinguishes it from previous attempts to unite Europe. The EU Law is mostly made up of regulations and other secondary sources of legislation that are intended to confer rights and responsibilities on individuals and their Member States within the legal system. More precisely, they are the general law principles that are part of each Member State's national legal system, as well as the rules governing the EU's exterior implications and other interdependent norms, as well as the ECJ case-law.

1.2.Sources of legislation in the EU Law

In the EU Law, the legal doctrine divided the sources of legislation in two different categories: primary and secondary sources of legislation.

The primary sources of legislation are the founding and the two treaties, specifically TEU and TFEU, considered fundamental legal acts of EU Law (Boulouis, 1997), which lay down harmonized rules that must be applied and respected in each and every member state of the EU, and also other international treaties and their associated protocols. (Dumitru & Stoican, 2020)

The founding treaties which are, in order of their ratification, the ECSC Treaty, the EEC and EURATOM Treaty, Merger Treaty, Treaty of Luxembourg, Treaty of Brussels, Single European Act (SEA), Maastricht Treaty, Treaty of Amsterdam, Treaty of Nice, and last but not least, Treaty of Lisbon. Because the social, economic, and legal frameworks have changed over time and the life of the citizens reached new dimensions due to the constant development of the EU and of the social reality, the founding treaties were replaced with newer ones, closer to the actual situation, which are TEU (ex-Treaty of Maastricht) and TFEU.

The regulations, directives, decisions, opinions, and recommendations are all under the umbrella of secondary sources of legislations. These are acts adopted and issued by the EU institutions, which are used with the scope of exercising the EU’s competences. The EU acts have different power and regime, based on the effects they produce and on their specific nature.

- Regulations are the most important secondary source of EU legislation, due to the fact that they are not meant to be implemented at the MS level through national channels. They are legally binding in their entirety, have general and both horizontal and vertical direct application, and produce immediate effects for all MS. They are obligatory on anybody who comes into contact with them anywhere in the European Union. They don't require any additional action from Member States and can be used by Member State courts as soon as they go into effect (Petkov & Krastev, 2018). The direct applicability of the regulations was demonstrated through ECJ case-law, specifically the ruling of the Fruit & Vegetables Joined Cases 16-17/62 stated that "a regulation, being essentially of a legislative nature, is applicable not to a limited number of persons, defined or identifiable, but to categories of persons viewed abstractly and in their entirety" (Confédération nationale des producteurs de fruits et légumes and others v Council of the European Economic Community. , 1962). In addition, the direct effect of the regulations is laid down in the following ECJ cases: Van Gend en Loos for vertical direct effect (NV Algemene Transport- en Expeditie Onderneming van Gend & Loos v Netherlands Inland Revenue Administration., 1963) and Defrene v. Sabena for horizontal direct effect (Gabrielle Defrenne v Société anonyme belge de navigation aérienne Sabena, 1976).
- Directives are not as vastly applicable as the regulations, being obligatory only for the MS to which they are specifically addressed. These secondary sources of legislation are not directly applicable. They offer the objective which needs to be attained and leave the implementation for the MS, which have a specified period of time to translate the directive in their national legislation, so they can produce the desired effects. However, they produce a vertical direct effect, as it is illustrated in the ECJ case Van Duyn v Home Office (Yvonne van Duyn v Home Office, 1974).
- In the EU Law, decisions are given in relation to a specific topic, to a very specific target audience, such as a MS, a group of individuals, or companies. It is laid down in the Treaty that the target audience of a decision must receive a notification with regards to it. The decision enters into force and starts producing legal effects from the moment when the notification is received by the audience to which it is addressed (Dumitru & Stoican, 2020).
- Recommendations and opinions, as it is specified in the Treaty, are not binding to anyone. The EU institutions, predominantly the Commission, is guaranteed by the Treaty with the freedom to formulate recommendations and opinions whenever it

considers it is necessary (Dumitru & Stoican, 2020). These acts may be helpful in specific matters, and in making some formal clarifications. Furthermore, the Treaty empowers the Commission to make recommendations and offer views as needed, as long as they "advance the Union's general interest." (Petkov & Krastev, 2018)

International Law, general principles of Law and fundamental rights represent some other sources of EU Law, which are considered supplementary by the doctrine.

1.3.Principles of EU Law

The EU Law and its application are based on some fundamental principles: principle of conferral, supremacy of the EU Law, principle of proportionality and principle of subsidiarity. The heart of EU law as a distinct and autonomous legal system are general principles particular to EU law (Castellarin, 2019). When primary/secondary legislation is insufficient to resolve a disagreement, the Court of Justice resorts to supplemental law, which is based on unwritten sources of law having judicial provenance. These pertain to international law, which is tied to general legal ideas. Different concepts, such as the requirement of good faith or the principle of territoriality, are used as guidance by the Court of Justice in relating to international law.

- Principle of conferral

According to this principle, the European Union institutions do not have a general authority to take the actions necessary to fulfill the EU's goals. Nonetheless, the extent of the Union's capacity to act is specified in each chapter of the founding Treaties. As a result, the EU may only operate within the constraints set forth in the Treaties by the Member States in order to achieve the shared aims. The concept regulates the boundaries of EU competencies stated in the TFEU, while the principles of subsidiarity and proportionality determine how these competences are used.

Exclusive competencies, shared competences, and supported competences are the three types of competences. The exclusive competencies relate to those areas in which the EU is free to act and make decisions, such as customs union, monetary policy for euro-using Member States, common trade policy, and so on.

When the Union has to work with national institutions on issues like as the internal market, economic, social, and territorial integration, consumer protection, and so on, shared competencies will be utilized.

Finally, supportive competence refers to acts in which the European Union's responsibility is confined to providing complementary assistance to Member States and in which the European Union is not authorized to harmonize legal frameworks in specific areas. Health, business, youth, education, culture, and so on are all included in this area.

The limits of EU's competencies are laid down in case-law of the ECJ, a relevant case being the one of Germany v. Parliament and Council (Federal Republic of Germany v European Parliament and Council of the European Union, 2000) on banning cigarettes' advertising.

- Principle of supremacy of the EU Law

The supremacy of the EU Law over national legislation has no formal foundation in the treaties but was devised by the European Court of Justice as part of its "new legal order" (Flaminio Costa v E.N.E.L., 1964) notion, according to the Costa v ENEL case. As a result, the supremacy of EU law is a consequence of the EU legal order's sovereignty: any EU law norm takes priority over any provision of national law (Apostolovska-Stepanoska & Ognjanoska, 2020). Supremacy, according to the CJEU, comprises the need for national courts to "put aside" any competing national norm where an EU regulation applies in a specific case.

- Principle of proportionality

This principle is one of the legal concepts that regulate decision-making processes and joint strategic objectives, as well as the establishment and transposition of European Union legislation into each MS's law. The role of the proportionality principle, as it may be claimed, is to govern how the European Union uses its powers, both in respect to Member States and persons, and to analyze those states' actions. This is a very vague principle, which is mostly mentioned together with the principle of subsidiarity. Proportionality was acknowledged through the case IATA v. ELFAA (International Air Transport Association and European Low Fares Airline Association v Department for Transport, 2006), given the fact that, in this case, it was not a matter of competence, but of the proportionality of the adopted measure (Dumitru & Stoican, 2020).

- Principle of subsidiarity

The subsidiarity principle, along with the conferral and proportionality principles, has constitutional validity, as stated in Art. 5 of the EU Treaty. The concept can be interpreted in two ways: firstly, the EU should intervene when the defined objectives can be completed more effectively at a community level; secondly, the Union is not allowed to act when the set

objectives can be accomplished competently by each Member State. So, its goal is to decide if the Union may interfere or if the Member States should take action on their own (Doussis, et al., 2019).

Subsidiarity argues that decisions should be made with residents and regions in mind, regardless of the field of interest. Essentially, national concerns should be dealt with at the national level, but cross-border issues, such as the company's seat transfer, should be dealt with at the Union level, as outlined in the following sections. The Subsidiarity Principle is to be considered in domains where the Union and its Member States share competence, taking into account the competencies granted by the Principle of Conferral. A "subsidiarity test" must be fulfilled to determine who is better qualified to act in a certain region. If it is determined that the concerns have cross-border implications, Member States will be unable to adequately address them. With regards to the case-law of the ECJ, the principle of subsidiarity was used in the judgement of the Vodafone Ltd case (Vodafone Ltd and Others v Secretary of State for Business, Enterprise and Regulatory Reform, 2010), in which the mobile operators stated that the MS are more suitable for the establishment of roaming prices. The Court’s answer was that fixing the ceiling for roaming was a justified action, bearing in mind the principle of subsidiarity.

1.4. The impact of EU legislation on national laws

As long as the aforementioned principles are met, legislative actions have an impact on each Member State's domestic legislation. Direct impact and supremacy, a notion that states that EU law takes precedence over national legislation, are the two pillars on which EU law is built.

The Court of Justice of the European Union was the first to mention the direct effect through the Van Gend en Loos case (NV Algemene Transport- en Expeditie Onderneming van Gend & Loos v Netherlands Inland Revenue Administration., 1963). For the EU legislation to have direct effect, the Van Gend en Loos Criteria should be met: the provision must be sufficiently clear and precise, unconditional and there must exist an identifiable right granted by the primary sources of legislation – the treaties (Dumitru & Stoican, 2020). In this case, the Treaties consider both the Member States and the individuals who may be affected by the European institutions' acts. Individuals are given rights in this way, which can be used in specific circumstances to bring a case before a national court. The direct effect can be horizontal or vertical (Craig & De Burca, 2017).

Another effect may appear, which is created and developed by the ECJ in order to avoid the strict limitations of the directives, and, implicitly, of the direct effect. The so-called indirect effect refers to the fact that the national laws of the MS should interpret the national law in line with the EU Law, so the most suitable measures need to be taken by the MS with the objective of ensuring the fulfillment of the obligations provided by the treaties. The indirect effect intervenes in the judgement of two famous cases, Von Colson (Sabine von Colson and Elisabeth Kamann v Land Nordrhein-Westfalen, 1984) and Harz (Dorit Harz v Deutsche Tradax GmbH, 1984), which are based on a directive which was improper implemented.

2. Overview of the competition policies and the High-Tech Market in the European Union

2.1. Historical evolution of competition policies

Since the beginning of time, human beings have been competitive by nature, given the fact that, in the prehistorical era, they had to work and to fight for survival, to procure food and shelter, to develop themselves through different stages of evolution, starting with the homo sapiens and ending with the modern humans we are surrounded with. It is no surprise that competition has become a great part of our lives, in the personal and professional fields, even in the business world and in the different industries humans operate in.

The European Union and its development are tightly entwined not only with the four freedoms that can be found at its core: free movement of goods, freedom of establishment and to provide services, free movement of capital and the free movement of persons, but also with the competition policies which regulate these freedoms, especially the free movement of goods and services (Barnard, 2022). The first two freedoms, specifically the free movement of goods and the freedom to provide services, are very complex, anti-competitive practices and unfair competition being some of the main issues plaguing the world since its early beginnings.

Reflecting on the past, it is difficult to evoke a time when individuals did not try to be the best in their field of activity, regardless of the fact that it is in their personal lives or in their lives as professionals or in business. The numbers of companies and professionals in every industry have in fact changed, but it is fundamentally ingrained in human nature to be competitive and to do anything in their power to stand out from the crowd and to reach their full potential. The continuous seeking of better opportunities in terms of economic situation, higher access to

business opportunities and development or the desire of the corporations to gain profit and to provide value to large masses of customers are some of the causes that have prompted the evolution of competition policies not only in the European Union, but also worldwide throughout time and continue to do so nowadays to some extent.

The history of competition law must be traced briefly to the Robert Schuman Declaration of May 9, 1950. The proposal to place French and German coal and steel production under a High Authority, with the participation of other European countries which later signed the European Coal and Steel Community Treaty, Italy, and the Benelux countries, is the basis for economic development and the first step towards a free economy, a free market with no economic barriers and any other restrictive and anti-competitive measures.

Particularly, the Schumann Declaration encouraged the future implementation of production and investment plans with price mechanisms and the establishment of reconversion funds to facilitate production rationalization. The future European Coal and Steel Community (ECSC), created and developed under the provisions of the European Coal and Steal Community Treaty (Treaty of Paris, 1951) in the aftermath of the World War II had as the principal objective to ensure the integration of markets and to increase the coal and steel production. At that time, it was believed that through resource integration, conditions to ensure the most reasonable production distribution and the highest productivity would gradually form.

In an international effort to combat harmful cartels, competition goals were incorporated. In a following message, the community's goals—specifically, market development and production rationalization—as well as the strategies to be used to combat cartels are further described. In this particular context, the word “competition” was first mentioned in a primary source of European Union legislation, as a means to prevent fixed price ceilings, attribution of production quotas and tariffs and the separation of markets.

The emerging problem of cartels, which were perceived as a measure which would not only restrict, but also eliminate competition was the basis of the provisions from the European Economic Community Treaty (Treaty of Rome, 1957) with regards to the free global training of goods, elimination of trade barriers between the member states of the community and the control of competition restraints through the establishment of an international organization which is specialized in competition, such as the well-known nowadays World Trade Organization (WTO).

Since the signing of the Treaty of Rome, one of the most important aspects of EU policy has been competition policy. The Rome Treaty established a mechanism that ensures fair competition in the single market. The major goal of such a system was to establish some well-developed and effective competition laws in order to ensure that the European market functions properly and that consumers are treated fairly. Setting and enforcing laws to guarantee that firms compete fairly, which promotes them to be more efficient and creates more options for customers, is what competition policy is all about (Jones & Sufrin, 2019). This contributes to lower pricing and higher quality. Furthermore, competition within the EU would provide EU firms a competitive advantage in worldwide markets. (Cavlak, 2019)

More similarities with the general pool of targets in future treaties, but highly specialized in meeting the goals of competition, are revealed by the High Authority's commitment to the valuation of the central resources - coal and steel. Even in those times, competition regulations played an important role in the European Community economy because they maintained their objective and role throughout time: to guarantee that businesses operate on an equal basis and that consumers have access to a wider range of products and services at competitive prices and terms. The notion of fair competition on equal footing is critical to the EU Single Market's successful functioning (European Court of Auditors, 2018).

Given the fact that there was a lack of price elasticity in the coal production, the need of competition policies became more significant, so, back then, the competition law was called upon for the following matters:

- Ensuring that the supply of the central resources, coal and steel, is stable within the Common Market
- Keeping a high level of competition in each of the industries present on the market, so the consumers could benefit from fair prices and qualitative products
- Facilitating the development of the market players
- Creating a competitive trade environment, both for the benefit of consumers and businesses
- Eliminating the discrimination against cross-border buyers, by ensuring that the pricing conditions on the Common Market are suitable and that consumers can choose freely with respect to suppliers or delivery zone

- Ensuring that the competition mechanism is not threatened by discriminatory and anti-competitive practices against producers and protecting them against unfair or even artificial competition
- Maintaining the export prices to equitable limits, in order to benefit not only the consumers, but also the suppliers
- Developing a plan to exploit and conserve the natural resources on the Common Market in a rational manner
- Safeguarding the normal competitive environment

By observing the matters for which competition law was called upon, we can easily state that the objectives of competition policies are highly in connection with the economic environment, and they have not only a legal, but also an economic core. Competition can be described, in economic terms, as an equilibrium between demand and supply on the market, benefiting the customers and ensuring their freedom of choice from a variety of market players.

Returning to Robert Schuman's initial plan, which was to create a Common Market, free of barriers and restrictions or other measures having equivalent effect, and to create an environment which was optimal for economic development and growth of the industry, by reaching the highest productivity level and the most equitable price for the main resources in that period – coal and steel, we can say that, nowadays, his plan gained a greater relevance by looking at where the Common Market started and where it is in this certain moment, because we have the opportunity to live in a world in which the member states of the European Union reached the highest level of economic integration and the goods and services are moving freely, with no restrictions, reaching consumers from every corner of the Union.

Nowadays, in connection to the Internal Market, protecting competition from restrictions has been made part of the objective of the Internal Market in Art. 3 (3) of the Treaty of the European Union as may be seen in Protocol 27 to the Treaty of Lisbon on the Internal Market and Competition, as it is laid down by the Case C-52/09, ECLI:EU:C:2011:83 (para 20)—TeliaSonera Sverige of the European Court of Justice. This protection against distortions of competition, and thus a true competitive system, is reflected by the fact that it is based on ensuring equality of opportunity for all market participants. (Frenz, 2016)

Articles 101 to 109 of the Treaty on the Functioning of the European Union (TFEU) govern European Union competition law. These articles should be considered in light of Article 3(3) Treaty of the European Union (TEU), which states that one of the EU's goals is to create a

"highly competitive social market economy" (Whish & Bailey, 2012). In line with Protocol 27 to the European Union Treaties, the development of an internal market (Article 3(3) TEU) must contain a system that ensures that competition is not skewed. (Whish & Bailey, 2012) Protocol 27 is an essential element of the Treaty provisions and, under Article 51 TEU, has the same legal authority. (Whish & Bailey, 2012) The European Union competition laws, which are vital for the internal market to function properly, are regulated by the EU itself.

The Union has sole power over EU competition regulations under Article 3(1)(b) TFEU. To put it another way, it is a competency that the EU does not share with the EU Member States. Furthermore, both the EU and its Member States are required by Article 119(1) TFEU to coordinate their actions "in conformity with the principle of an open market economy with free competition." (Whish & Bailey, 2012)

At the Romanian level, competition law was enforced right after the implementation of the Acquis Communautaire. Until 1989, Romania was governed by a centralized state economy. The massive privatization process in the immediate aftermath led to the replacement of some state monopolies with private ones, in the other market sectors operating intense competition between small and medium-sized enterprises. Regulations in the field of competition allowed adjustments to these trends. The protection of economic activities in a competitive manner is enshrined in constitutional figures on the economy and public finances. The constitutional text lays down the general conditions for the conduct of economic activities and also rules the fundamental principles of competition. Also in Romanian law, there is a stand-alone branch dedicated to competition. (Almășan, 2018)

2.2.Enforcement of the European Union competition rules

The EU Commission's role in EU competition policy and enforcement is crucial. It has "broad discretionary powers" over whether and when to apply EU competition legislation. As a result, the Commission has the authority to prosecute violations of EU competition law. It can do so by formulating policy and legislative initiatives, conducting investigations into specific economic sectors, scrutinizing mergers and state aid, and fining corporations that violate EU competition regulations. In recent years, the EU's competition legislation has undergone significant changes. Starting with the modernization effort, several changes to EU competition legislation were adopted in the late 1990s and early 2000s. (Whish & Bailey, 2012)

Given the fact that the three big fields in which competition law must be applied are antitrust, mergers and state aid, the Commission's decision-making powers in enforcing the European Union competition rules are specific to each of the three above-mentioned areas:

- With regards to antitrust, the Commission has the authority to prohibit anticompetitive behavior, impose substantial fines of up to 10% of the affected companies' annual turnover, and impose any other conditions on companies (in the form of binding commitments) that it deems necessary to restore effective competition in the Single Market. (European Court of Auditors, 2018)

- With regards to mergers, the Commission has the option of prohibiting corporations, authorizing them with restrictions that eliminate or reduce the danger of anticompetitive consequences, or simply authorizing the merger. It also has the authority to penalize corporations for procedural infractions such as failing to notice a merger, completing a merger before receiving approval, or giving incomplete or misleading information in the context of merger control. (European Court of Auditors, 2018)

- With regards to state aid, if it is incompatible with the effective functioning of competition in the Single Market, the Commission can prohibit support measures for enterprises and force Member States to reclaim any state assistance they have supplied. (European Court of Auditors, 2018)

Government support to enterprises (state aid) is governed by the European Union regulations and is overseen by the Commission, according to the Article 107 TFEU. Loans and grants, for example, are prohibited unless they meet particular criteria: tax benefits; products and services offered at preferential prices; government guarantees that improve a company's credit rating in comparison to its rivals. Furthermore, "no state aid of any kind may be offered to failing firms that have no prospect of becoming economically viable." (Directorate-General for Communication (European Commission), 2014)

However, the European Commission is not the only institution which is authorized to monitor the way in which competition policies are enforced and applied in the member states. In the European Parliament, there are two specific committees which deal specifically with competition rules and consumer welfare and protection:

- Committee on Economic and Monetary Affairs (ECON)

ECON has the responsibility to regulate and monitor the economic and monetary policies of the Union, the functioning of Economic and Monetary Union and the European monetary and financial system, the free movement of capital and payments, the international monetary and financial system, rules on competition and State or public aid, tax provisions, financial services, institutions and markets including financial reporting, auditing, accounting rules, corporate governance and other company law matters specifically concerning financial services. (EU Monitor)

- Internal market and consumer protection Committee (IMCO)

The IMCO Committee is responsible for the legislative oversight and scrutiny of EU rules on the single market, including the digital single market, customs and consumer protection. (Anna Cavazzini - IMCO Committee Chair) With regards to competition, it removes potential obstacles to the functioning of the EU single market and promoting and protecting the economic interests of consumers. (European Commission)

Another institution of the European Union which plays a significant role in the fair application of competition policies is the European Court of Justice. The European Court of Justice is the institution of the European Union which is ensuring EU law is interpreted and applied the same in every European Union member state and that EU institutions abide by the EU law. (Dumitru & Stoican, 2020) The Court's numerous historic judgements have had a substantial impact on Europeans' everyday lives over the years, helping to re-establish viable competition on EU markets, resulting in a larger range of higher-quality products/services at lower costs. The EU's General Court now hears competition matters, with appeals to the Court of Justice. National courts can (and in certain situations must) submit matters to the Court of Justice for clarification on how EU competition law should be applied to a particular situation. (European Commission). For the European Court of Justice, the most pressing area is related to the mergers operations, as this is the most time-sensitive of any aspect of competition law. (Marsden, 2009)

Prior to 2004, the Commission was the only legal entity with the direct legal capacity to implement EU antitrust regulations. After that, a significant reform established a new enforcement structure in which the Commission and national competition authorities (NCAs) of EU Member States execute EU competition laws directly. Prior to 2004, the Commission was the only legal entity with the legal capacity to implement EU antitrust regulations. After that, a significant reform established a new enforcement structure in which the Commission

and national competition authorities (NCAs) of EU Member States execute EU competition laws directly. (European Court of Auditors, 2018)

However, the Commission has a double obligation in this situation: it is solely accountable not only for its own investigations, but it also has the overall responsibility and necessary legal tools to ensure that all NCAs apply EU competition rules in a uniform way. (European Court of Auditors, 2018) This makes the Commission both the key enforcer of EU competition rules and the guardian of the treaties, which are the primary sources of EU legislation providing competition guidelines.

2.3.Relevant concepts with regards to competition policies in the High-Tech Market

Before properly exploring the complex subject of competition law and competition policies in the European Union, the understanding of some key terms and relevant concepts with regards to competition is essential.

The concept of market

The market is the environment in which economic activities take place. In economic terms, the market is the place where supply and demand meet. (Almășan, 2018) Any market, regardless of the typology in which it falls, expresses a multitude of transactions; it also adapts and correlates the needs of producers and buyers or, in a broader sense, of demand and supply, in accordance with the economic laws for the exchange of material values. (Căpățână, 1998)

With regards to competition policies, the concept of market has a different meaning, given the fact that not all suppliers find themselves competing for a greater position on the market. This is the reason why the concept of “relevant market” was developed. (Coman, 2019)

According to the Commission’s notice on market definition, defining the relevant market is a decisive consideration which influences the outcome of a case. The goal of defining the relevant market is to determine the competitive limitations that the companies in question confront by identifying the rivals who can influence their business decisions. Market definition is crucial in antitrust enforcement (Articles 101 and 102 of the Treaty on the Functioning of the European Union (TFEU)) and merger control because it permits market power to be measured. (Latham & Watkins, 2021)

In the notice, there are two aspects to the relevant market: the relevant product market and the relevant geographic market. The definition which has been provided by the Commission for

the relevant product market is the following: “a relevant product market comprises all those products and/or services which are regarded as interchangeable or substitutable by the consumer, by reason of the products’ characteristics, their prices and their intended use”. The concept of substitutability can be observed from two points of view: from the demand point of view and from the supply point of view. For example, suppose that there is an increase in the price of smartphones, but the quality remains unchanged, then would consumers stick with smartphones and still buy the product, or would they switch to purchasing a normal phone, which is not considered “smart”? If a significant number of consumers which were loyal to smartphones until the rise in the price of the devices subsequently change their purchasing habits and switch to normal phones, it can be said that the two different devices are interchangeable and substitutable, given the fact that they are products categories on the same market: the High-Tech Market. This is a practical example on demand-side substitutability. But suppose that normal phones become more expensive, and consumers still choose to buy them, would the High-Tech companies switch to producing normal phones? Most likely not, given the fact that it is difficult and requires significant funds to change the production line in this industry. Thus, for the phones producers, the two products from the example are not interchangeable and substitutable as they are for the consumers. This is how the supply-side substitutability works. According to Continental Can (Europemballage Corporation and Continental Can Company Inc. v Commission of the European Communities, 1973) and United Brands (United Brands Company and United Brands Continentaal BV v Commission of the European Communities. Chiquita Bananas, 1978) cases of the European Court of Justice, the substitutability concerning the demand is significantly the most essential aspect in evaluating the relevant product market, because consumers' opinions are the deciding factor in any business’s operations.

With regards to the relevant geographic market, the case law of the European Union has a great influence in defining and developing this central concept. The most pertinent case in defining the relevant geographic market is the United Brands case (United Brands Company and United Brands Continentaal BV v Commission of the European Communities. Chiquita Bananas, 1978) of the European Court of Justice, in which the ECJ outlined the legal criteria for determining the appropriate geographic market. The relevant geographic market, according to the Court, is "a clearly defined geographic region in which the product is offered and where the conditions are sufficiently uniform for the effect of the undertaking's economic power to be evaluated." For instance, suppose that an iPhone is 10% cheaper in the official and

authorized Apple Store in the city center. Would the consumers drive to a cheaper store which sells the same iPhone in the city suburbs, which are very far away from the center, or would they rather buy the iPhone from the store which is closer to their home or to their work? Last but not least, some other barriers which should be taken into consideration when characterizing the relevant geographic market are the language barriers, distinct legal norms and distance or transport. (Whish & Bailey, 2012)

2.4.Description of the High-Tech Market

The big international cloud service providers that dominate market share through economies of scale and vertical integration, including Google, Amazon, and Microsoft, are significant players on the High-Tech market. This market also includes digital product and service firms with a large market share in their respective categories, such as Meta, Apple, and Android (Sustainable Digital Infrastructure Alliance, 2022).

The main focus of this subchapter is on the factors which influence the big players on the High-Tech Market and how relevant are they in the misuse of dominant position in case of certain companies, such as Google and Apple.

First of all, the High-Tech Market is characterized by rapid innovation and continuous developments of the technology behind the products we all know and use in our daily lives. The digital industry is distinguished by fast technical improvements as a consequence of this innovation. As a result, new products and platforms are released on a regular basis (Verhaert, 2013). This rapid invention adds greatly to the digital sector's high dynamic character. Regulating such a fast-paced industry is getting increasingly challenging. The law is at risk of falling behind everyday practice. The dominant businesses' position in this sector differs significantly from dominating firms' positions in more "traditional" sectors or marketplaces. Regardless of how dominating they are in the High-Tech Market, the companies simply cannot afford – or do not want to – to stop innovating. If they stop innovating, they will simply be overtaken by other businesses (Verhaert, 2013). The High-Tech Market's fast innovation continuously redefines the relevant market's borders or even develops new relevant markets. When it comes to applying EU competition law in this industry, the problems of ever-changing borders are particularly obvious (Directorate-General for Internal Policies of the Union (European Parliament), 2016). According to the EP, EU competition legislation in the High-

Tech Market should concentrate on "potential drivers of innovation, entrance, and contestability" (Directorate-General for Internal Policies of the Union (European Parliament), 2016).

Second of all, another two characteristics which are strongly intertwined are economies of scale and network effects. In the High-Tech industry, network effects tend to lead to a high level of market saturation (Directorate-General for Internal Policies of the Union (European Parliament), 2016), since this impact occurs when a growing number of people use specific goods or services, raising the value of those goods or services. These effects, when combined with economies of scale, are seen to be substantial barriers to potential competitor businesses' entry into the industry, since this mix enables a particular company to gain a big market share at low costs (Verhaert, 2013). Moreover, economies of scale assist big players in the high-tech market since it allows them to gain more profit: the bigger the sales volume, the lower the average unit cost (O'Donoghue & Padilla, 2006).

For instance, similar network effects and benefits from economies of scale appear to exist in Google's Android-based platform and Google Apps suite. Furthermore, it is well-known that Google acquires large numbers of computer parts, minimizes the usage of unneeded components, and operates its servers with the ideal workforce proportion.

A last important function, in my opinion, is compatibility, which refers to the ability of systems or goods to work together seamlessly so that the consumer's life is made easier and more digitalized. As a consequence, this needs a variety of standard-setting operations in order to avoid fragmentation and incompatibility among the numerous digital systems, platforms, and products, as well as to assure the industry's effective and natural day-to-day functioning. This characteristic enables for efficient competition between minor companies and major ventures, as well as preventing lock-in effects on both sides of any particular digital platform, whereas a lack of it would hinder users from moving between platforms or goods without difficulty (Directorate-General for Internal Policies of the Union (European Parliament), 2016).

3. Challenges for competition in the EU Single Market

3.1.Antitrust

The growth of what has come to be known as Big Tech has been aided by digitization: Google (whose parent company is Alphabet), Facebook, Apple, Microsoft, and Amazon (Jamison,

2019). Because of digitization, several economic elements of marketplaces that previously received little attention are now so prominent that they look novel and startling, such as market share and economies of scale when thinking about competition policies and competitive or even anticompetitive practices.

Antitrust laws are meant to ban anticompetitive agreements and the misuse of market power. Article 101 of the Treaty on the Functioning of the European Union establishes a framework for European antitrust policy, which forbids agreements between two or more independent market operators that restrict competition. This clause applies to both horizontal and vertical agreements. In the general restriction, there are just a few exceptions. The development of a cartel amongst rivals, which may entail price-fixing and/or market sharing, is the most extreme kind of illegal action breaking Article 101. Furthermore, Article 102 of the Treaty bans enterprises with a dominating market position from abusing their position, such as by charging unjust prices, restricting output, or refusing to innovate to the detriment of customers.

Antitrust laws ban and sanction the abuse of dominant position and the price fixing. The Commission has approved a number of non-regulatory papers, which can take many different forms (notices, guidelines, so on and so forth). Such documents are designed to clarify in further detail the Commission's stance on a variety of matters, such as the interpretation of substantive antitrust regulations or procedural problems like file access (European Commission).

The emerging antitrust legislation has the ability to dramatically disrupt how these massive corporations conduct business, by disabling their primary integration strategy, which has allowed them to bind users together, control marketplaces, and generate billions of euros in income (Espinoza, 2022).

3.2.Abuse of dominant position

Businesses with market strength are prohibited from unjustly abusing their strong market positions under UK and EU competition law, which is known as "abuse of dominance." Having a dominating position, on the other hand, is not a violation of competition law in and of itself. The only thing that is banned is the abuse of that status. (Davis, 2020)

Exclusionary and exploitative abuses are the two basic forms of abuse. Exclusionary abuse refers to dominating firms' actions aimed at stifling competition and preventing it from developing. Exploitative abuse occurs when businesses take advantage of their consumers, for example, by lowering output or raising product prices over the competitive level. Article 102 TFEU applies to both discriminatory and exploitative practices, as the Continental Can case (Europemballage Corporation and Continental Can Company Inc. v Commission of the European Communities, 1973) demonstrated. An example of an exclusionary abuse is found in the Case AT.40099 — Google Android. As a result, the vast majority of infringements of Article 102 TFEU are largely exclusionary abuses. "For the purpose of giving guidance on its enforcement priorities, the Commission confines itself at this time to exclusionary behavior and, in particular, certain specific categories of exclusionary conduct that, based on its experience, appear to be the most prevalent," says paragraph 7 of the Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings. (European Commission, 2009)

With regards to the unfair use of dominant position, assume that a company that does not have a dominant position in the relevant market raises the prices of its products unilaterally. In such a case, customers would be tempted to choose to simply switch and buy their items from another company, putting the original company out of business and bringing it closer to insolvency, and, later on, bankruptcy. Some businesses, on the other hand, are so powerful and dominating on the market that they may, without the external intervention of their competitors or consumers, negatively impact and distort competition by abusing their market dominance. This is essentially what the ban of Article 102 TFEU is about.

As previously mentioned, it is vital to make the distinction between having a dominant position, which does not represent an offense in and of itself; and abuse of that dominant position, which is an infringement of Article 102 TFEU. A definition of the concept of "dominant position" was laid down by the ECJ in United Brands v Commission: It "relates to an undertaking's economic strength, which allows it to prevent effective competition from being maintained on the relevant market by granting it the ability to act to a significant degree independently of its competitors, customers, and ultimately consumers."

Another well-known case of abuse of dominant position is the case of Apple Inc, which is a big player in the High-Tech market. Apple breached the provisions of Article 102 TFEU by misusing the dominant position, in order to extra-charge its customers and gain unfair

competitive advantage in front of its competitors. According to the EU's competition commissioner, Apple's App Store regulations unfairly hinder music-streaming competitors.

One relevant indicator in assessing the present market power of a company is the market share. Based on the Article 102 TFEU, a business which has a 40% market share is considered to be the dominant player on the market. In European case law, specifically in the British Airways one (British Airways plc v Commission of the European Communities, 2007), the General Court of the European Court of Justice reached a finding of dominance, which is set to 40% and above of the market share. Once this dominant position is reached, the business has the duty to make sure it does not abuse of the power it holds, so it has a "special responsibility" not to deform competition, as it is laid down in the judgement of the case Michelin v Commission (NV Nederlandsche Banden Industrie Michelin v Commission of the European Communities, 1983). Market shares are interpreted by the Commission in light of a variety of other market factors, such as market dynamics and product differentiation. The variation of market shares throughout time is also taken into account in turbulent markets. The Commission's investigation of probable exploitation of dominance by undertakings includes assessing the market leadership of those undertakings. Significant or considerable market power is the core topic of EU competition legislation and policies.

3.3.(Cross-border) Mergers and acquisitions

Mergers and acquisitions have long been a common business strategy, and they continue to be a viable choice for strategic expansion. Cross-border mergers and acquisitions have increased in popularity as a result of technical advances and globalization. Cross-border mergers and acquisitions have a lot in common with domestic mergers and acquisitions. However, due to their international nature, they also involve unique challenges, as countries have different economic, institutional (i.e., regulatory), and cultural structures (House, et al., 2002). The mergers and acquisitions strategy can be a way to access new and lucrative markets, which leads to the expansion of the market for a company's goods or services. In terms of cross-border acquisitions within the European Union, acquiring an already established foreign company helps the acquiring firm to gain access to its capital, such as its knowledge base, technology, and human resources, as well as gain access to local markets and key constituencies. The merger operation is decided by the general meeting of each participating company, under the conditions requested by the law for the amendment of the constitutive act of the company (Dumitru & Stoican, 2019).

This kind of operation ensures a lot of leverage for the properties (Hijzen, et al., 2007). In terms of cross-border mergers within the European Union, the fusion between two already existing companies, from two different countries, is a win-win situation in terms of access to resources, labor, and capital.

There are several types of mergers and acquisitions:

1) Horizontal mergers and acquisitions, which take place between companies at the same stage from the same industry. By putting together their resources, the companies strive to achieve greater market power, reduce costs, expand the product offer, and reduce competition.

2) Vertical mergers and acquisitions, which take place between companies with a buyer-seller relationship. The aim of this type of mergers and acquisitions is to decrease uncertainty and to benefit from economies of scope. More precisely, they want to attain "efficiencies formed by variety, not volume".

3) Conglomerate mergers involve two companies from unrelated business industries and activities, which choose to merge in order to diversify their business operations, diversify or reduce their exposure to risk, or cross-sell their products.

There are some factors which influence the choice of using the cross-border mergers and acquisitions within the European Union strategy as a method to enter the market. Talking about business-level factors, some of the most influential ones are based on the experience and acquiring new knowledge. Working with a foreign business is an essential step in growing your cultural horizon, meeting with new and different perspectives and discovering another organizational culture. The entrepreneurs try to gain new information and knowledge whenever they have the opportunity, so many of their decisions are based on this factor. Another important factor consists of value creation. A merger between two companies can be undertaken in order to maximize the wealth of their shareholders. In most cases, combining two companies generates synergies that increase the value of the newly formed company. Synergies, which simply mean that the combined value of two firms is greater than the total of their individual values, can appear at the revenues and costs level. In terms of revenues, a cross-border mergers and acquisitions strategy can increase a company's ability to generate revenues through market expansion, production diversification, and other Research & Development techniques. From a cost synergy point of view, a successful cross-border merger and acquisition within the European Union may result in economies of scale, access to new

technologies, and furthermore, to the improvement of the company's cost structure (Caizza, et al., 2017).

From a historical point of view, The ECSC Treaty was the only treaty which would have provided the basic rules of what we call nowadays mergers. Given the fact that an essential feature of this Treaty was the establishment of a common High Authority to deal not only with supervising the market, monitoring compliance with competition rules, and ensuring price transparency, but also to stimulate competition (Fairhurst, 2010).

"Among the first aspirations of the Member States of European Union has always been the creation of a unique Internal Market, without any internal barriers, enjoying the free movement of goods, persons, services and capital" (Dumitru, 2020).

After three failed proposals of a merger regulation in the years 1973, 1981, and 1984, there was finally adopted a uniform regulation of European Merger Control. The most difficult part of implementing this regulation, even after more than fifteen years of negotiations, was to find a compromise between the three main powers, France, United Kingdom, and Germany.

Even though some aspects of this legislation were subject to further scrutiny, and since mergers have wider consequences than cartels or violations of dominant position, the European Merger Control Regulation established a well-balanced regulatory structure that ensured legal clarity by establishing thresholds, procedures, and terms that enabled companies planning mergers to make better decisions.

After another failure, but this time in terms of proving "that the merger would lead to a collective dominant position on the market for short-time package holidays" (Dumitru, 2020), transparency, the presence of a creditable retaliatory mechanism, and a detrimental effect on consumers and rivals were all described in the Decision as three criteria for demonstrating collective superiority.

Now, the main piece of legislation for European Merger Control is the European Union Merger Control Regulation, which is meant to simplify and explain the concentrations framework, as well as procedural elements, and to adjust contact between the institution examining the concentration and the transaction parties (Dumitru, 2020).

The majority of merger laws are concerned with market structure regulation. Almost all competition laws aim to control market structure. Market concentration is one aspect of market structure that is governed by competition law; however, merger regulations are often geared to

address behavioral issues as well. The number of enterprises in a market and their proportional market shares are both measured by market concentration. The amount of market concentration is a good indicator of how competitive the market is going to be. A high degree of market concentration is connected with increased market power, lower competition, and fewer competitive restraints on existing enterprises, which is a problem of competition law.

A relevant example of a merger by acquisition in the High-Tech market would be the Meta company, previously known as Facebook Inc. When it was still called "Facebook", the company bought WhatsApp in 2014 and Instagram in 2010, which, back then, were emergent communication platforms, used by an increasing mass of people. This is how Meta gained the biggest market share and is now in a leadership position.

3.4.State aid

According to the EU Law, State assistance is defined as a benefit given to businesses on a selective basis by national public authorities in whatever form. As a result, individual subsidies, and broad-based measures available to all businesses are not covered by this ban and do not constitute state aid (examples include general taxation measures or employment legislation) (European Commission).

State aid, in general, is forbidden under the Treaty on the Functioning of the European Union (TFEU) due to its anti-competitive consequences. Without State Aid regulation, for example, Member States may participate in unsustainable subsidy contests, or perfectly viable businesses may be forced out of business because their competitors got unfair state subsidies (Department of Enterprise, Trade and Employment).

A measure must have the following characteristics to qualify as State aid:

- There has been a government interference or use of state funds that can take a variety of forms (for instance grants, interest, and tax reliefs, guarantees, government holdings of all or part of a company, or providing goods and services on preferential terms, etc.).
- The interference gives the receiver a benefit on a preferential basis, for example to particular businesses or key industries, or to businesses located in specific regions.
- As a result, competition has been or will be reduced, because of non-equitable benefits granted to specific undertakings (European Commission).

In the realm of state aid, European Treaty law seems to assign distinct competencies to two primary players. On the one hand, the Commission is responsible for monitoring national state

aid in order to avoid internal market competition distortions. However, member states retain sole authority over the design and implementation of their individual assistance programs, as long as they do not infringe European competition legislation (Blauberger, 2009).

Articles 87(2) and, more significantly in practice, 87(3) of the EC Treaty enable exceptions to the rule, allowing national state aid programs to be tailored. Certain types of help are listed in Article 87(3) of the EC Treaty as being consistent with the common market.

- Aid to promote the economic development of areas where the standard of living is abnormally low or where there is serious unemployment (Marco Colino, 2019).
- Aid to facilitate the execution of an important project of common European interest or to remedy a serious disturbance in a member state's economy.
- Aid to facilitate the development of certain economic activities or of certain economic areas, where such aid does not adversely affect trading conditions to an extent contrary to the cohesion of the EU.

To provide a fair playing field on the Single Market, a strong competition and state assistance framework is essential (Government of the Netherlands, 2021).

An example of state-aid-based anti-competitive practice is Case Tirrenia di navigazione v European Commission, in which an Italian aid measure that aided a cartel member's firm was investigated. Tirrenia di Navigazione requested that the Commission's Decision 2020/1411 on State Aid to Adriatica, Caremar, Siremar, Saremar, and Toremar (Tirrenia Group) be revoked (Tirrenia di navigazione SpA v European Commission, 2020).

For at least two reasons, Decision 2020/1411, with regards to the specified case, was noteworthy. First, it determined that some of the support measures did not constitute State aid. Second, several additional State assistance measures were incompatible with the internal market because they violated Article 101 TFEU, which forbids restrictive agreements and coordinated conduct among businesses (Lexxion, der juristische Verlag, 2022).

Paragraph 276 of the decision is particularly relevant, given the fact that it provides some guidelines with regards to how the state aid is granted:

“(276) The procedure under Article 108 TFEU must not produce a result which is contrary to the specific provisions of the Treaty. Therefore, the Commission cannot declare State aid, certain conditions of which contravene other provisions of the Treaty, to be compatible with the internal market. The obligation by the Commission to ensure that Articles 107 and 108

TFEU are applied consistently with other provisions of the Treaty is all the more necessary where those other provisions also pursue, as in the present case, the objective of undistorted competition in the internal market” (European Commission, 2020).

The goal of a cartel and the goal of a statute imposing a public service duty are, without a doubt, diametrically opposed. The former seeks to hurt customers, whereas the later seeks to assist them (Lexxion, der juristische Verlag, 2022).

4. Infringement of the competition law – analysis on three specific cases

4.1.The Apple Case

Apple has been regarded as a prominent designer and developer of computer hardware and software since its founding in 1976. Steve Jobs and Steve Wozniak created Apple Computer together in a garage in 1976. In 1978, this fledgling business changed the computer industry by introducing the Apple II, the first all-purpose desktop PC. However, Steve Jobs' success was fleeting, and he left the firm in 1985 to establish Pixar Animation Studios. In the 1990s, he returned a decade later and rejuvenated the firm. The corporation created various breakthrough technologies under Steve Jobs' guidance. Apple had profoundly revolutionized the computer, music, mobile phone, and retail sectors with stylish products, inventive shops, and new business models.

In order to analyze Apple’s status in the High-Tech market, a Porter’s Five Forces framework needs to be discussed.

The degree of rivalry among the technical industry's top companies is fierce. Google, Amazon, Microsoft, Lenovo, HP, Samsung, and others are among Apple's competitors in the business. All of these brands are in a fierce battle, with the loss of one potentially benefiting the other. Furthermore, competition has a significant impact on Apple's performance and earnings. It may be argued that a new entry to this industry would not pose a significant threat to Apple's market share since the cost of starting a new firm in this sector is extremely high and generating a brand name as well-known as Apple's would be costly and time-consuming (Maverick, 2022).

However, Apple's danger of substitutes is growing as the price of its most famous item, the iPhone, rises. Because quality and innovation in these two firms are coming closer, and price

plays a significant factor in customers' decision-making process, Apple's rising pricing trend may reduce its market share in comparison with its nearest rival in the smartphone sector, Samsung.

Certainly, Apple will not face significant difficulties in terms of supplier bargaining power because Apple is the primary client for the majority of its suppliers. As a result, they wouldn't risk losing Apple's purchases (Maverick, 2022). Individual bargaining power, on the other hand, is a tremendous force in the market, given the high degree of competition and variety of items available. This force is decreased for Apple, though, because it has a high level of consumer loyalty. Because of this high level of devotion, the world's largest IT corporation by revenue is able to offer its goods at significant profit margins (Campbell, 2017).

Because Apple has a dominant position on the market and is very aware of the benefits that this power brings, the company is affecting its competitors by establishing different measures in order to keep their customers loyal and kind of engaged in the brand.

Recently, the EU has been pressing charges on Apple, which is one of the biggest players on the High-Tech market, claiming that the tech giant breaches competition law. According to the European Commission, due to its App Store policies, Apple unfairly disadvantages music-streaming competitors.

This is the first antitrust case brought by the European Union against Apple. It comes after a June probe by the bloc, which discovered that App Store commission payments being passed on to consumers.

The investigation was initiated when Spotify, a Swedish music streaming service that competes with Apple Music, filed a complaint two years ago about the company's policies. Apple's domination of the iPhone and other devices, according to regulators, has allowed it to become the leading provider in the fast-growing field of mobile payments, putting its competitors in a position of disadvantage.

The case exemplifies Europe's policy of regulating the digital economy through a variety of means. Aside from antitrust proceedings, the European Union has passed two new rules since March to address what policymakers regard as anticompetitive business practices and insufficient procedures by internet and social media companies to remove criminal content from their websites and services (Satarino, 2022). I strongly believe that this case represents the stepping stone of the emerging competition policies and it will give smaller competitors the

courage to speak up against the abuse of dominant position not only in the High-Tech market, but also in any other industry. In the future, this case will be a basis for interesting analyses with regards to the method in which the competition policies will develop and regulate the High-Tech market more rigorously, by putting an end to the anti-competitive practices and to the abuse of dominant position.

4.2.The Microsoft Case

In the software sector, Microsoft has long been associated with a strong position. And, with such long-standing power, incidents of abuse become an unavoidable part of the picture.

Microsoft is a multinational technology corporation founded in 1975 by Bill Gates and Paul Allen after recognizing and defining the critical demands of consumers. They concluded that the firm they are starting would be a future necessary requirement for people, and that by offering IT services, they will be helping to improve people's lifestyles. By offering the necessary and practical products in the market, Microsoft has established a strong brand image and credibility among the public. The company offers a variety of tools to assist businesses improve their efficacy and efficiency. This covers cross-device apps, desktop applications, software platforms, programming environment, video games, server manufacturing, and the creation of business solution programs, among other things. The company's products are not limited to software development; it has expanded to include the entire industry of computer technology and hardware design and implementation of systems and smart devices, including the sale and purchase of smart phones, tablets, PCs, and video games that are manufactured using Artificial Intelligence. Due to these aspects, Microsoft is considered one of the biggest players in the technological world, which aids in the production of high outcomes and revenues.

By analyzing Porter’s five forces, it is easily noticeable that Microsoft dominates the software, operating system, and cloud computing markets. Microsoft is now pursuing an aggressive approach, in which they are attempting to produce high-quality products and services in order to obtain control over buyer bargaining power to a certain extent. Furthermore, as rivalry grows, Microsoft has decided to pursue a unique business strategy in order to differentiate its products from those of their competitors, such as the Azure platform, Xbox, and operating system. They are also attempting to stay current with technology as it is launched. As a result, they have secured and maintained future business and continue to stay ahead of competitors in terms of the company's name, innovation, and business strategy.

Given the fact that Microsoft clearly was and still is one of the biggest players on the market, with a high market share, the company knows how to use this dominance in its favor, but in an unfair way, by creating some relevant disadvantages for its competitors from the industry.

In the first case, The European Commission proceeded to file a complaint against Microsoft on August 30, 2001. The European Commission suspected Microsoft of breaking the law by including their multimedia player in Windows. Numerous companies created media players, and only Microsoft had a near-monopoly on distribution by attaching the product to its own operating system. Manufacturers and consumers were denied the freedom to choose whatever programs they desired for their PCs, especially because WMP could no longer be uninstalled or removed. Competitors were denied the option to compete with Microsoft's goods solely on the basis of technological superiority. This might result in a loss of fair market competition, a fall in customer preference, as well as less innovation (European Commission, 2001). The European Commission ruled on April 21, 2004, that Microsoft had exploited its monopoly and infringed EU law by leveraging its "near monopoly" of Windows to drive out competitors in other software categories (Commission Decision of 24.03.2004 relating to a proceeding under Article 82 of the EC Treaty (Case COMP/C-3/37.792 Microsoft), 2004).

Another relevant case - Microsoft v. Commission of the European Communities (Microsoft Corp. v Commission of the European Communities, 2007), in which the main actor remains Microsoft, is related to the interoperability, concept which was explained earlier in the thesis.

Sun Microsystems lodged a complaint with the European Commission in 1998, stating that Microsoft had refused to give it with information essential to allow Sun to improve its software for compatibility with Microsoft's operating system software. An investigation was launched by the Commission. The Commission widened its probe in February 2000 to include Microsoft's behavior surrounding the Windows Media Player. Late that year, the Commission issued a Statement of Objections accusing Microsoft of failing to share interoperability data for its Windows software (Competition Policy International, 2007).

Microsoft's unwillingness to disclose compatibility information to the software developer was criticized by the Court in a 2007 ruling. The Court determined that the compatibility information that Microsoft declined to give was critical to Sun Microsystems' capacity to compete properly in the group server market. The software developer's servers were unable to interface with Microsoft's Windows operating system without the information, potentially

causing the firm to lose potential clients. According to the ECJ, Microsoft's reluctance to disclose the information was an anti-competitive behavior in violation of Article 102 TFEU.

4.3.The Google Case

4.3.1. The Google Android Case

Google has been leading the development of the Android mobile operating system since 2005. Android has been the main operating platform for smart mobile devices in the European Economic Area (EEA) in recent years, to the point that Android now powers the majority of smartphones in Europe, Apple’s iOS and Microsoft’s Windows phones being close competitors (European Commission, 2015). Furthermore, Android represents an open-source mobile operating system, which means that anybody may make use of it. The Android operating system, in conjunction with a variety of Google's proprietary applications and services, is used by the vast majority of smartphone and tablet makers. However, manufacturers must sign into specific agreements with Google in order to have the right to put certain apps and services on their Android devices (European Commission, 2015).

By conducting Porter’s 5 forces analysis, it can be observed that competitors pose a significant challenge in the smartphone sector. In this market, there are five significant rivals, all of which are extremely lucrative businesses with a track record of innovation and competitiveness. Each of these major competitors is financially secure enough to invest in advertising efforts or smart acquisitions in order to steal market share from Android. Because the sector is developing so swiftly, certain market share shifts may occur without long-term consequences.

On the other hand, newcomers pose a modest threat. For all but the largest technological businesses, entering the worldwide distribution of cutting-edge technology is practically difficult, but corporations may enter single value chain parts considerably more easily. Smaller, more capable companies might join the smartphone market in the same manner that Google did: by offering the android mobile operating system to current manufacturers.

Substitutes pose a little threat. Smartphones have emerged as a viable alternative to laptop computers, netbooks, and basic mobile phones. The threat of the smartphone being replaced is low because it functions as a fusion of numerous units. On the other hand, suppliers power

poses a significant concern. Suppliers play a critical role in every technology-related company by delivering progressively low-cost materials for manufacturing.

Last but not least, buyer's power poses a modest threat. Buyers do not have much of a choice in today's economic and technology world but to acquire these goods. Because purchasers can't readily substitute a smartphone or function without one, their strength lay in brand switching rather than avoidance.

According to this analysis, as it was observed before in the previous cases, Google's Android has a great power in its industry, and with great power comes an even greater responsibility to not suppress competition. However, Google's Android did this by engaging in an anti-competitive practice, which provided the tech giant with an unfair competitive advantage.

The main issue with Google and its operating platform, Android, is similar with the one from the Microsoft case, in terms of interoperability. In the context of Google's Android case, the benefits of interoperability for software developers and consumers become apparent: software developers want their operating systems and mobile applications to reach as many consumers as possible, and consumers clearly Hopefully their Android devices are compatible with as many mobile apps as possible (Körber, 2014). Google has so far refused to disclose closed elements of Android's open-source code to manufacturers (Amadeo, 2018). This would allow them to develop competing unofficial Android operating systems by modifying Google's Android operating system (Amadeo, 2018). From a legal standpoint, Google's refusal is clearly tantamount to refusing to provide competitors with complete information about interoperability, even though such information is necessary for them to effectively compete on an equal footing with Google's official Android operating system.

The Commission's ruling on Google Android found that Google violated Article 102 TFEU by entering into a series of anti-competitive agreements with Original Equipment Manufacturers and Mobile Network Operators, agreements meant to protect Google's leading position on the market (Katsifis, 2021).

However, Google made an Appeal to the Commission's decision, so Google's case with regards to anti-competitive practices are far from being solved.

Another allegation made in the Google Android case is about a vertical dealing agreement in which Google was engaged with the manufacturers.

Sole supply agreements and exclusive purchase agreements are the two categories of exclusive dealing agreements. The former refers to a contract that forbids a supplier from providing goods or services to anybody outside a single "downstream" consumer. The latter refers to a contract that forbids a "downstream" consumer from making purchases from suppliers other than a designated one. It appears that Google's policy of forbidding manufacturers from creating customized versions of its official Android OS amounts to exclusive purchase agreements. The particular provider is Google, and the "downstream" clients are the producers of smartphones and tablets. Google's major concern is that these manufacturers will succeed in creating rival iterations of Google's official Android OS that will be viable alternatives to Google's official Android OS and may eventually displace Google from its leadership position in the operating system industry (Whish & Bailey, 2012). The main worry of the Commission is that since manufacturers and developers are not allowed to create alternative Android versions, Google's actions might have an anti-competitive foreclosure impact on the operating system market. Additionally, exclusive buying agreements can be done wither by a contract between the parties or de facto. Since manufacturers that want to purchase Google Apps are legally prohibited from creating customized variants of Google's official Android OS, Google's arrangements with manufacturers are plainly contractual (Stylianou, 2016).

According to the case law of the CJEU, exclusive purchase agreements should be viewed per se (Whish & Bailey, 2012). The Court appears to believe that exclusive buying contracts made by powerful companies inherently breach Article 102 TFEU in Michelin II (NV Nederlandsche Banden Industrie Michelin v Commission of the European Communities, 1983). In Hoffmann-La Roche (Hoffmann-La Roche & Co. AG v Commission of the European Communities, 1979), the court adopted a per se strategy similar to this one, reasoning that an enterprise that has a dominating position on a market and forces customers […] to obtain all or almost all of their needs solely from it is abusing that position, according to Article 102 TFEU. The Commission similarly has a negative impression of exclusive purchase arrangements. Many of its concerns with exclusively purchase agreements are expressed in its Guidance, particularly where dominant corporations are involved (European Commission, 2009).

4.3.2. Google online shopping case

The European Commission fined Google a record 2.4 billion euros on June 27, 2017, for breaking EU competition rules. More particular, the Commission found that Google had violated Article 102 TFEU by exploiting its dominant position in the online general search

services market. On its general search page, Google has done so by preferring its own comparison-shopping service (Google Shopping) above competitor comparison shopping services.

I think that we have all used Google in order to search for a product once in our lifetime. It was easily noticeable that the Google results would appear at the top of the search page, displayed separately from the generic results, in some boxes with images, details about price and other information with the scope of attracting the consumers, whereas the other search results appeared in the basic blue links as a form of static text. This fact made the European Commission believe that Google was using its algorithm to downgrade the other product sources, which were not included in Google Shopping, by putting them at the bottom of the search page, less visible than the products which were part of Google Shopping. People, as a form of not very rational consumers, tend to click on the first search results when making an online acquisition, especially newer generations, such as Millennials and Gen Z-ers, due to the fact what we want to spend less time in the online environment, especially after the Covid 19 pandemics, when all of our activities were transposed into the virtual space. It is proven that we do not spend too much attention when we online shop on the search results shown at the bottom of the search page, given the fact that we want to find the products we search for in less than two or three minutes, to put them in cart and to finish all the steps of an online transaction as soon as possible. Google knows well the consumers, their preferences, and their shopping habits, and this is the reason why it is such a strong player on the market.

In court, with regards to the Google Shopping case (Google and Alphabet v Commission (Google Shopping), 2021)the Commission claimed that Google's self-preferencing had resulted in a decrease in traffic from Google (general search) to competitive comparison-shopping sites, as well as depriving customers access to a wider range of items and competitors on the market (Persch, 2021).

5. Conclusion. Perspectives for the Competition policies in the context of significant, imminent developments on the EU High-Tech Market

Large technological firms like Google, Facebook, Apple, and Microsoft have a significant effect on the economy and broader society, which raises worries about a variety of issues, from data security to the democratic process of forming wills. They frequently turn into monopolies as well, which presents a problem for competition law. Monopolies have negative outcomes such as decreased outputs, increased prices, money transfers from manufacturers to consumers, and high acquisition costs for businesses (Reims, 2022). This also explains why Google, Facebook, Microsoft, Apple, and other companies have been the target of countless competition law lawsuits, probes, and investigations by national and European authorities.

In conclusion, I would like to underline that the implementation of the Articles related to competition from the TFEU is greatly complicated by the unique features of the digital industry. For instance, Article 102 TFEU appears to have been created largely for "conventional" markets and industries that don't display the same characteristics as the High-Tech industry. The Guidance provided by the Commission, with regards to competition policies in the digital sector has its own flaws and hazards, while being a welcome contribution for the application of the TFEU Articles in the digital economy. Furthermore, the Guidance is not a legal document. The "traditional" markets are also impacted by the quick developments in the digital sector since these conventional sectors are also becoming more digital. The number of antitrust cases has dramatically increased in recent years, which heightens the urgency. In order to address the difficulties facing the digital industry from the standpoint of EU competition legislation, a number of remedies have been proposed. There must be more than just different, complementary methods in order to properly close the gaps between the law and the reality of the digitalized world, and the proposals shall be seen as a method to enhance the application of the TFEU Articles related to competition.

In my opinion, the law, and the way the TFEU Articles are transposed into practice need to be completely, thoroughly and systematically reformed. The cases presented in the previous chapter, the Apple case, the two Microsoft cases and the Google Android case, can be seen as situations for which the current competition policies were not prepared, thus, the dynamics of the High-Tech market and the continuously evolving elements and factors which stimulate

competition in that sector are not accurately reflected by the conventional competitive limitations.

However, a more proactive approach to competition policies is troublesome for a number of reasons. Mainly, it results in challenging-to-predict legal evaluation considerations for businesses. Actively enforcing competition laws requires making commercial judgments, which competition agencies and courts may often be unable to handle. For instance, the appropriate officials and judges lack the necessary training to discern between the benefits and drawbacks of a search engine that incorporates numerous services or is impartial. Similar to the penalties, the remedies need for ongoing oversight and can't be used as frequently or without more staffing from the competition authorities.

Additionally, it is possible that proactive competition law enforcement measures won't be sufficiently realizable. A case in point is the European Commission's ruling on Google Shopping, which among other things mandated that Google restructure Google Search so that Google Shopping and rival shopping sites be treated the same way in its search engine results. The equivalent rivals, however, continue to claim that Google Search's modifications do not uphold the Commission's requirement.

As it was explained earlier in the thesis, mergers, state-aid and antitrust are seen as measures which are intended to reduce competition on the markets, but there is no clear guidance with regards to those measures and their impact on the High-Tech market, which is characterized by constant innovation, digital development and the entry of new players which may or may not remain on the market, due to the bigger and more evolved players, with high market shares and an already well-established base of loyal customers and reputation.

The concept of abuse of dominant position is the key to all the challenges that competition in the High-Tech market faces nowadays.

For the regulation of digital markets, the European Commission has suggested a new regulatory instrument. In order to maintain competitive and equitable digital markets, the Digital Markets Act (DMA) aims to restrict the market conduct of so-called gatekeeper corporations.

Five points of dispute emerge when examining the proposal's main clauses from an economic standpoint: The economic damage of a few of the provisions would be both unclear and in theory questionable; the claimed dichotomy between specific sorts of commitments cannot be checked; and, last but not least, while the DMA wants to control existing gatekeepers, the

"tipping" of marketplaces and the emergence of further gatekeepers is just not secured by this proposal (Budzinski & Mendelsohn, 2021).

From a legal standpoint, the first challenge is the lack of precision regarding the nature and objectives of the DMA. This is further complicated by procedural provisions and a compliance system with numerous uncertainties and lacunas. All of these factors hinder the envisioned rigor of the regulatory oversight and its odds of making digital markets extra systemically competitive and fair.

The DMA is governed by Article 114 (1) TFEU. This clause grants the European Union the authority to enact laws that further harmonize existing laws, completing or assuring the operation of the common market, in this instance the single digital market. Despite this, the text of Article 114(1) TFEU continues to place a heavy emphasis on harmonizing the laws already in place in the member states. The TFEU's Article 114 has developed into more than merely a mechanism for harmonizing national laws and completing the single market (Chalmers, et al., 2019). As a result of the development of more comprehensive legal frameworks like the banking union as well as the extensive harmonization of consumer safety and product regulation, it is now the Commission's primary and most frequently used legal basis for defining and shaping the single market.

The DMA has a number of particular requirements for businesses on the High-Tech market in addition to its broad scope and intention to support a variety of potential antitrust actions. These consist of interoperability, consumers' right to uninstall any preinstalled software, and be given the option to choose which service to use when configuring a new device, access to data, transparent advertising, no more self-preferencing (Google online shopping case for reference), and, last but not least, app store requirements (Apple case for reference) (Vincent, 2022).

From my perspective, the DMA is a fresh and needed-more-than-ever contribution to the already existing competition legislation in force, but it is not enough to regulate the High-Tech market in an exhaustive manner, because the digital industry is in constant development and the practices are changing more rapidly than we can even imagine. Moreover, the DMA can be expected to lessen the already recognized anticompetitive behavior and agreements by high-tech businesses, but it is not likely to bridge the enforcement gap for competition law against digital services. There are primarily two reasons for this. First, due to its ex-ante character, it is unable to counter new anticompetitive behavior and agreements that the regulated corporations would most likely come up with in response to the removal of their prior

instruments by regulation. Secondly, it ignores the creation of new gatekeepers and only tries to exert control over them after they have eliminated viable competitors.

I strongly believe that there should exist an equilibrium between the ex-ante and ex-post measures would limit the anticompetitive use of economic power in High-Tech ecosystems by refreshing the merger control regulation and adapting it to the digital era we live in, by enhancing the interaction between abuse of dominant position control, an ex-post tool to cope with economic power that could not be averted, and merger control as an ex-ante tool to prevent potentially damaging economic power. It is difficult to see why a revised competition policy regime should not be able to achieve the objectives which the DMA is meant reach without the drawbacks of ex-ante regulation if the policy makers add an improved and remodeled list of conduct and arrangements that are per se forbidden in cases of market power, accounting for the digitally driven ways of unfair competition harm.

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