MINISTRY OF EDUCATION AND SCIENCE OF REPUBLIC OF KAZAKHSTAN
Kazakh National Research and Technical University named after K. I. Satbayev
Project Management Institute
Scientific and Educational Centre of Mathematical Economics

**Admitted to the defence**
Head of the Scientific and
Educational Centre of
Mathematical Economics
_____ Aubakirova S. K.
"_4th_" _of June___ 2021

# DIPLOMA PROJECT

Advances In Competitive Regulation of the Largest Digital Platforms

Major 5B050900 – Bachelor of Finance

Completed by: Nurila Omar

Research supervisor:
Máté Fodor,
Ph. D. Associate Professor
_____
"_07_" _June___ 2021

Almaty, 2021

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**ASSIGNMENT**
**for the diploma project**

Full name of the student: Omar Nurila
Full title of the project: Advances in the competitive regulation of the largest digital platforms
Approved by the Order from the Rector of Satbayev University №2131-b from 24.11.2020
Deadline for the completion of the diploma project: 23.05.2021
Summary of the diploma project:

1) *History of the Competition Law*
2) *Challenges of Competition in Digital World*
3) *Digital Competition Nowadays*
4) *History of digital antitrust cases*
5) *Upcoming Digital Antitrust Cases*
6) *Empirical Evidence*
7) *Browsers and Operation Systems Market Nowadays*

The list of graphical material (with an exact indication of the mandatory drawings) shown in: *10* slides of presentation work
Recommended main bibliography: *18 references*

Almaty, 2021

**Schedule**
**for preparation of the diploma project**

| Section name | Submission deadline | Notes |
|---|---|---|
| Literature review | 11.01.2021 – 25.01.2021 | |
| Hypothesis and research plan | 26.01.2021 – 08.02.2021 | |
| Research and analysis | 09.02.2021 – 22.03.2021 | |
| Conclusions | 23.03.2021 – 05.04.2021 | |
| Compilation of the work according to standards | 06.04.2021 – 21.05.2021 | |

**Signatures**
**of the consultants and normcontroller on the finished diploma project**
**based on the sections that applied to them**

| Section name | Consultant's full name (academic degree, job title) | Date of signature | Signature |
|---|---|---|---|
| Literature review | M. Fodor, PhD, associate professor | 25.01.2021 | |
| Hypothesis and research plan | M. Fodor, PhD, associate professor | 08.02.2021 | |
| Research and analysis | M. Fodor, PhD, associate professor | 22.03.2021 | |
| Conclusions | M. Fodor, PhD, associate professor | 05.04.2021 | |
| Normcontroller | S.K. Aubakirova, MSc, head of the centre | 21.05.2021 | |

Research supervisor _____ Fodor M.
Signature Full name

Student accepts all the assigned tasks _____ Omar N.A.
Signature Full name

Date 11th of January 2021

MINISTRY OF EDUCATION AND SCIENCE OF REPUBLIC OF KAZAKHSTAN
SATBAYEV UNIVERSITY

# REVIEW

## OF THE RESEARCH SUPERVISOR

to the diploma project of NURILA OMAR
(Full name of the student)

5B 050900
(code and name of the major)

Title of the diploma project: Advances in Competitive Regulation of the Largest Digital Platforms

Nurila has undertaken challenging research, which is a frontier field, even for the most renowned academics and practitioners in the area. (At this junction, it is worthwhile to mention that Nurila promptly read and referenced these newest research works.) Nurila first introduces the basic principles of competition regulation. Then, she discusses the particularities of digital markets that make the enforcement of conventional economic regulation highly problematic / impossible. Nurila then presents her extensive desk research on the competition authorities' economic assessment of the few digital cases that have arisen in the past decade. She then conducts simple, albeit novel empirical analysis on the efficiency of the EC's intervention in the WINDOWS/IE bundling case. Overall, I commend Nurila for having chosen a topic with an international scope and impact. I also praise her for her autonomous research and independent data collection. If my colleagues agree, I recommend a grade of A- (90 %).

**Research supervisor**
Full name, MÁTÉ MIKLÓS FODOR
degree and job title PhD, Associate Professor
Fodor
(signature)
«06» June 2021

# Advances In Competitive Regulation of the Largest Digital Platforms


SATBAYEV UNIVERSITY

Nurila Omar

Scientific and Educational Centre of Mathematical Economics

E. Turkebayev Project Management Institute

Satbayev University

A thesis is submitted for the degree of

Bachelor of Finance (5B050900)

Supervised by Professor Máté Fodor

June 2021

# Abstract

Диссертация тақырыбы: «Негізгі цифрлық платформалар арасындағы бәсекелестікті реттеудің жетілдірілуі». Жұмыста мәтіннің 20 парағы, оның ішінде бес график және екі кесте бар. Диссертация үшін қарапайым регрессия түрінде эконометрикалық талдау жүргізілді. Бұл диссертациялық жоба келесі компоненттерден тұрады: кіріспе, жалпы бәсекелестік туралы заңның тарихы, цифрлық әлемдегі бәсекелестіктің мәселелері, АҚШ және еуропалық бәсекелестік туралы заңдар, монополияға қарсы заңнаманың көшбасшысы ретіндегі ЕО, жаңа монополия бастамалары, цифрлық монополияға қарсы істердің тарихы, алдағы цифрлар Монополияға қарсы істер, операциялық жүйелер мен браузерлердің заманауи нарығы, эмпирикалық дәлелдер, қорытынды және библиография.

Тема диссертации: «Достижения в конкурентном регулировании крупнейших цифровых платформ». Работа содержит 20 страниц текста, в том числе пять графиков и две таблицы. По диссертации был проведен эконометрический анализ в форме простой регрессии. Этот дипломный проект включает в себя следующие компоненты: Введение, История общего закона о конкуренции, Проблемы конкуренции в цифровом мире, Законы США и Европы о конкуренции, ЕС как лидер в антимонопольном законодательстве, Новые антимонопольные инициативы, История цифровых антимонопольных дел, Предстоящие цифровые Антимонопольные дела, Современный рынок операционных систем и браузеров, Эмпирические данные, Заключение и Библиография.

The thesis is on “Advances in Competitive Regulation of the Largest Digital Platforms.” The paper contains 20 pages of text, including five graphs and two tables. Econometric analysis in the form of simple regression was conducted for the thesis. This diploma project includes the following components: Introduction, The History of General Competition Law, Challenges of competition in Digital world, US vs. Europe Competition Laws, EU as a leader in antitrust, New Antitrust initiatives, History of digital antitrust cases, Upcoming digital Antitrust cases, Operating systems and Browsers market nowadays, Empirical evidence, Conclusion, and Bibliography.

# Table of Contents

# Abbreviations

API – Application Programming Interface

B2C – Business to Customer

Bn – billion

CAGR – Compound annual growth rate

DSA – Digital Services Act

DMS – Digital Markets Act

ECSC – European Coal and Steel Community

EEA – European Economic Area

EU – European Union

FAAMG – Facebook, Amazon, Apple, Microsoft, and Google (Alphabet).

FTC – Federal Trade Commission

IE – Internet Explorer

IM – instant messaging

NCT – New Competition Tool

OEM – Original equipment manufacturer

OS – operating system

PC – personal computer

R&D – research and development

TFEU – Treaty on the Functioning of the European Union

US – United States

WMP – Windows Media Player

# 1. Introduction

A digital platform – is the environment in which a piece of software is executed. It is a foundation of self-service APIs (Application Programming Interface). (Bottcher, 2018) Nowadays, digital platforms capture all possible areas of vital activities. A platform may be a service (search engines, social networks, e-commerce sites), software (web browsers, operating systems), or even a device (smartphones and tablets). Types of successful digital platforms and their examples are:

- Social media platforms (Facebook, Twitter, Instagram);
- Media sharing platforms (YouTube, Spotify, Vimeo);
- Service-oriented platforms (Uber, Yandex, Airbnb, Booking);
- Knowledge platforms (Quora, Yahoo! Answers, Kundelik);
- Marketplaces (Amazon, eBay, AliExpress, Lamoda);
- Streaming platforms (Netflix, Amazon Prime, Disney Plus)
- etc.

Overall, the market of digital products and services is up-and-coming, especially after being in demand during the Covid-19 era. According to Grand View Research (2021), globally, the digital transformation market size was valued at $336.14 billion in 2020. Over the forecast period, 2021 to 2028, the global market capitalization is expected to grow at a compound annual growth rate (CAGR) of 23.6%. By 2028 it is expected to reach $1759 billion, which is greater than the worldwide market capitalization of beer production ($207.7 bn) or greater than the wine market ($325 bn) or than global airport operation market ($244 bn). (Ibis World, 2021) However, the digital platform market is expanding rapidly and bringing a threat to disturbing fair competition among the tech giants. Few leading companies set the trends and directions for all other smaller companies in digital platforms. Due to the tightening competition, in order to maintain a healthy and competitive environment in the market, there are specific rules to be followed. Those are competition or antitrust laws: they usually differ from one jurisdiction to another in their substance and practice.

Competition or Antitrust laws exist to protect the process of competition in a free market economy. It regulates anticompetitive behavior by companies, promoting market competition. An antitrust law's fundamental objectives are to protect consumers' interests (consumer welfare) and guarantee that entrepreneurs can compete equally. The public and private sectors implement regulations of the competition. To address this matter, national and regional competition authorities have formed international cooperation networks. Generally, competition law or antitrust law protects

economies in three ways: prohibiting agreements or practices that stifle free trade and competition between organizations, prohibiting the abuse of market dominance by a corporation, and inspecting mergers and acquisitions of large corporations. (Parenti, 2020)

Since the digital economy and digital platforms are complex and different from traditional markets, they need a different set of rules and regulations rather than standard ones. Applying general competition laws to digital antitrust cases does not seem efficient in dealing with tech giants. Multimillion-dollar fines do not deter tech companies from violating the rules of fair competition. As a result, in recent years, the digital platforms competition has undergone some changes. This paper will study the history of the competition, challenges of digital antitrust, past cases and remedies applied, analyze how efficient they were and what could have been done better. Additionally, there will be a hypothesis introduced and confirmed by empirical studies.

## 2. The History of General Competition Law

The History of competition law started in the 19th century: authorities saw it as necessary to create and impose a competition law during industrialization when dealing with growing manufacturing conglomerate monopolists in the oil, metals, and telecommunications market. The first modern statute on competition, the Sherman Antitrust Act, was passed in 1890 in the US. (T. Editors of Encyclopaedia, 2020) However, it was not widely used and applied in the beginning. During that time, the United States was dominated by a few economic powerhouses. To be more specific, dynasties such as Rockefellers and Morgans believed that consolidating whole industries into single firms, merging firms into trusts, or monopolizing the market – is the best way to control it.

Under the politics of these influential families, from 1895 to 1904, in less than ten years, more than 1800 manufacturing firms merged into 157 consolidated corporations. (Lamoreaux, 1985) J.P. Morgan consolidated steel, railroad, shipping, and electricity industries. In contrast, John D. Rockefeller combined dozens of state-based oil companies into one Standard Oil. By 1984, Standard Oil controlled 91% of oil production and 85% of sales across the US; this situation subsequently became the first-ever antitrust case. President Theodor Roosevelt's administration filed an antitrust suit against Standard Oil and 45 other companies for antitrust law violations in 1906. After a five-year legal battle, the Supreme Court ordered a breakup of Standard Oil into 34 separate companies. (Constitutional Rights Foundation, 2007) Over time, these companies started to compete with each other, healthy competitive environment in the oil industry allowed new firms to enter the market.

Followed by this case, most of the dominant trusts had been broken up or regulated in another way under antitrust law. However, when World War I began, the government could not afford to have a feud with big businesses because at that time, if antitrust law applied to a company at all depended on the political situation and usefulness of that company to a country during the war. However, across the Atlantic, Nazi Germany was rising with the help of industry dominant companies. During World War II, secretary of war, Kenneth Royall concluded, "big monopolies brought Hitler to power and started the whole world into a war," which raised concerns about ongoing politics towards big businesses. (Crane, 2018) According to law professor Eleanor Fox, the US government was concerned that the country could tip towards fascism or communism if there would not be a competitive and diverse society. Therefore, Congress passed an Act in 1950 to strengthen the mandate against mergers. As can be observed, the first set of laws has changed to become as effective and comprehensive as they are these days.

## 3. Challenges of Competition in the Digital World

Governments have no issues regulating markets established centuries ago – so-called traditional markets because authorities have considerable experience in these fields. The set of rules and regulations applied to those markets have gone through various political situations and been tested during the wars, economic depressions, and steady growth and development. However, it is challenging for authorities to regulate new markets, such as digital platforms. Since the creation of the Internet, it has made and still making a revolutionary impact on generations of people. With the availability of PCs and the Internet, various digital platforms were invented to benefit consumers' social welfare: these days, communication became affordable, online shopping and banking save valuable time, access to data and news is instant, remote working became possible. The development and growth of the digital market have shown tremendous progress over the last three decades. Nevertheless, the way digital platforms operate is entirely different from traditional markets; thus, regulating them is complicated.

At first, companies used one-sided platforms; they were operated by organizations themselves and selling to customers directly. An example of this kind of network is instant messaging (IM). The number of contacts that a user can reach usually determines which IM tool they choose. The instant messaging industry has historically been considered a one-sided market (a market where most of its value is derived from one group of users), and network effects (benefits

derived from interactions between participants within a single class) as same-side exchange benefits. (Gallaugher, 2013)

However, the tech giants nowadays provide two-sided platforms that bring together two different but interdependent user groups. Economists would call a two-sided market a market structure with two types of participants, who must deliver value to enable the network to function. A cross-side exchange benefit occurs when an increase in users on one side of the market leads to a rise in users on the other side. (Sequoia, 2018) Famous examples are Uber, which connects drivers who offer a service and users who pay for it. Payment networks such as PayPal connect retailers and cardholders; Amazon connects shoppers and retailers; Video creators and viewers are connected via YouTube and Netflix, while Facebook connects content producers and consumers. "A two-sided market [is defined] as [a market] in which the volume of transactions between end-users depends on the structure and not only on the overall level of the fees charged by the platform." (Rochet & Tirole, 2006) As can be seen above, companies based on platforms have completely changed the way businesses operate, and therefore how they compete. To be more specific, here are some issues:

- In the digital world, sometimes competitors have to use each other's platforms to capture the market share. Due to this, the platform holder eventually gains an advantage over the competitor who loses control over sensitive information. A platform owner can access all its merchant competitors' sensitive data and take advantage of it by analyzing and using it for one's self-benefit.
- Leverage in vertical integration: platforms may discriminate in listing their own services versus third-party services. For example, search engines favor their services and search results by displaying them above all others.
- Online shopping platforms may favor some retailers whose discounts drive out independent vendors, hurting fair competition within the platform. Local companies and consumers may suffer due to e-commerce giants' business practices; they serve as gatekeepers deciding which firms have access to platforms and which ones do not.
- Listed prices are subject to restrictions. There may be an injunction prohibiting companies from selling elsewhere at a lower cost.
- Antitrust regulators of digital platforms, in addition to all the abovementioned difficulties, face some other common challenges, too, tying and bundling of goods and services, suspicious mergers and acquisitions, cartels, monopolization of markets, etc.

## 4. The US vs. Europe Competition Laws

The United States antitrust law and European Union competition law are two leading antitrust regimes in the world; however, it is considered that the most advanced set of laws regulating anticompetitive conduct is European Union Antitrust Law. Even though the antitrust law started its path first in the United States back in the 19th century, The EU Competition Law has more comprehensive and broader criteria for bringing antitrust suits applied to digital platforms. At a conceptual level, US antitrust violation has two main elements: anticompetitive conduct, defined as conduct that does not improve product quality, reduces costs or reduces above cost prices – meaning it is not efficiency or welfare-enhancing. The second element is an increase in market power caused by that conduct, - states the professor of Law practice at Stanford Law School and former acting Assistant Attorney General in charge of the antitrust department at the US Department of Justice – Douglas Melamed. (Melamed, 2020) For comparison, EU Antitrust law prohibits exploiting existing market power: such a concept is not practiced in the US. In the United States, it is not forbidden for a firm to take actions contrary to the interests of trading partners, as long as the measures do not harm the market structure and a firm does not increase its market power.

Additionally, 52 different government agencies can enforce US antitrust law: the Federal Trade Commission (FTC) and the Justice Department at the federal level and each of the 50 states. It can also be enforced by any private person – corporate or individual, affected by a violation of the antitrust laws. US antitrust law – is a law of general application that applies to all commercial activities/ with limited carve-outs for state jurisdiction and some regulated industries. Melamed states that the deterrence effect of the US Antitrust Law is its most significant effect on the economy; an ambiguous antitrust law does not deter welfare-enhancing acts. Given the above, he claims that in the US, Antitrust Law needs to be predictable. Unlike the EU Commission, the US authorities are very cautious because mistakenly determining that a firm violated the antitrust laws or engaged in any competitive conduct is a more serious issue than a false negative erroneously concluding that a firm did not violate the antitrust law. The argument is a government decision blocking a transaction prohibiting a course of conduct is irreversible in any reasonable period.

## 5. EU as a leader in antitrust

Competition Law in Europe first appeared in 1923 in the form of anti-cartel law in Germany. A couple of years later, Sweden and Norway adopted similar laws. However, with the Great

Depression in 1929, the importance and development of antitrust law have been overshadowed by other events in Europe. After the Second World War, under pressure from the United States, German and British lawmakers passed the first competition legislation in Europe. EU Competition Law spread on a regional level to several European countries in 1951 as the European Coal and Steel Community (ECSC) between France, Italy, Belgium, the Netherlands, Luxembourg, and Germany. It took place right after World War II to prevent Germany from regaining its dominance over coal and steel. That is what contributed to the outbreak of World War II. In 1957 The Treaty of Rome, also known as the European Economic Community (EEC), was introduced. It established the main objective of the EEC: "institution of a system ensuring that competition in the common market is not distorted." Nowadays, the EU Antitrust Law consists of four domains:

- Article 101 of TFEU (Treaty on the Functioning of the European Union) prohibits cartels, controls collusion, and other anticompetitive practices.
- Article 102 of TFEU prevents the abuse of firms' dominant market positions, such as price discrimination and exclusive dealing.
- Council Regulation 139/2004 controls proposed mergers, tests whether a concentration (i.e., merger or acquisition) with a community dimension (i.e., affects several EU member states) might significantly impede effective competition.
- Article 107 of TFEU controls direct and indirect state aid given by the Member States of the European Union to companies.

The principles of competition policy are generally applicable to the digital economy. However, their implementation will be affected by the challenging economic characteristics of digital markets. According to Kovacic, the former Chairman of the Federal Trade Commission, the jurisdiction of the European Commission plays the leading role in setting global standards and influencing the way other countries think of Competition Law. He claims that the EU's position in dealing with high-tech companies has been much stronger than the US.

## 6. New Antitrust Initiatives

These days there are few initiatives introduced by the EU Commission: the European Commission published drafts of the "Digital Services Act" (DSA) and the "Digital Markets Act" (DMA) on December 15, 2020. According to the EU Commission, digital services encompass a wide range of online services, from simple websites to internet infrastructure services and online

platforms. The DSA primarily applies to online intermediaries and platforms such as online marketplaces, social networks, content-sharing platforms, app stores, and online travel and accommodation platforms. Digital Markets Act regulations govern online gatekeeper platforms. A gatekeeper platform is a digital platform that functions as a bottleneck between businesses and consumers for critical digital services in the internal market. However, classifying platforms as gatekeepers to apply special remedies and blacklist some practices for them in advance would reduce the incentives of a firm to invest in R&D. Blanket prohibitions of market conduct could interfere with the development of markets and block essential innovations that could benefit consumers. Particular behavior can both be harmful and pro-competitive, depending on the market environment. The scope and depth of remedies cannot be appropriately calibrated without a theory of harm. Additionally, they may prevent smaller local platforms from competing with global ones.

The previously introduced initiative by the Commission was the ex-ante regulation of gatekeepers. Suggested New Competition Tool aimed at allowing structural remedies to be applied before a market tip. So, the idea of this practice is the same: regulating the platforms identified as gatekeepers by not allowing them to implement a list of forbidden practices and applying remedies based on some actions that did not make any impact on the market. The issue of this approach is that the Commission will identify platforms as gatekeepers based on their market share. There is already a high concentration of e-commerce market players on a global scale. In terms of the number of online sales made, recent studies suggest that nearly half of everything is sold through three leading B2C platforms, AliBaba (via TaoBao, Aliexpress, and TMall), Amazon, and JD.com. Each of these marketplaces offers an international selection of products. There are still a few geographic areas in which their market shares could not be considered a sign of dominance. AliBaba, for instance, has a market share of 56% in China. (Hanbury, 2019) According to Amazon, 40.4% of B2C e-commerce in the US is e-commerce via the Internet. (Droesch, 2021) Although B2C e-commerce was relatively low in Western Europe in 2011, its share was 24.8%. (Boutin, Boutin, & Fodor, 2020) The popularity of Amazon varies by country in Europe. When it comes to B2C e-commerce in the UK, only 15% of the market was owned by Amazon. (Basul, 2019) On the other hand, there are also European platforms that have higher market shares in their countries. Allegro, for instance, has a 45.2% share of the B2C e-commerce market in Poland, and Emag has a 50% share of the B2C e-commerce market in Romania. (Boutin, Boutin, & Fodor, 2020) As a result, these local companies could attract more attention from the antirust Commission than Amazon, which is clearly an unfortunate course of action.

Mistakenly determining that a platform is a gatekeeper puts it in danger of losing its competitive advantage. For local non-giants firms with higher market shares, blacklisted practices and ex-ante remedies are unbearable. This particular type of regulating digital platforms is extremely risky. On the other hand, timely identified and correctly prevented anticompetitive conduct (which is an extremely and almost impossible task due to various complications) could save several years of a court battle, irreparable damage to the market structure, and preservation healthy competitive environment. However, up to this time, the Commission did some remedies and actions that did not help restore fair competition but rather discouraged businesses from investing in certain fields and products. Later in this paper, the past digital antitrust cases will be considered to assess the effectiveness of past remedies.

## 7. History of digital antitrust cases

### *Alphabet Inc. (Google)*

Alphabet Inc. is an American multinational conglomerate. It was created through a restructuring of Google in 2015 and became the parent company of Google and several former Google subsidiaries. The company faced charges in 2010 for obtaining a dominant position on the search market illegally, the platform used anticompetitive practices to raise its power and squeeze out competitors. Authorities claim that the more favorable positioning and display by Google, in its general search results pages, of its own comparison-shopping service compared to competing services is an abuse of dominant position by a firm. The EU authority decided that Google has 90 days from the date of notification to implement a remedy to end abuse and refrain from any act or conduct which would have the same or similar object or effect. Additionally, there was a fine imposed on Alphabet for the illegal actions; the final amount totaled $2.7 billion. (The European Union Competition, 2017)

In 2015 the EU Commission initiated second antitrust proceedings against Google about its business practices related to Android. This investigation aimed to determine whether Google abused its dominant position and hindered the development and market entry of rival mobile operating systems, applications, and services for smartphones and tablets. Apparently, Google tied Google Search and Google Chrome with Android products, violated licensing obligations, and granted payments to equipment manufacturers and mobile network operators to pre-install no competing search services within an agreed portfolio. The Commission required Google to

end the single and continuous infringement and imposed a fine of $5.1 billion. (The European Union Competition, 2018)

In 2016, Commissioner Margrethe Vestager, in charge of competition policy in the EU, claimed that the Commission strengthened the case of Google favoring its comparison-shopping service in its general search result pages. Authority initiated proceedings against Google's mother company Alphabet. A company was proved to be engaged in three distinct types of conduct. The decision concludes that the duration of the single and continuous infringement was more than ten years long. As a result, the decision listed several practices Google cannot implement anymore and imposed a fine that amounted to $1.69 billion. (The European Union Competition, 2019)

### *Apple Inc.*

Apple Inc. is an American multinational technology company that designs, develops, and sells consumer electronics, computer software, and online services. In 2012, the Attorney General of the US brought a civil antitrust action against Apple and five book-publishing companies. They conspired to eliminate retail price competition and raise the price of e-books. It was proven that Apple's Senior Vice President of Internet Software and Services contacted the publishers to set the meeting and discuss horizontal price-fixing conspiracy. It appears that publishers controlled the prices of the e-books and let Apple have 30% of the Commission. The Supreme Court of the US imposed a fine of $450 million. (The United States Department of Justice, 2012)

### *Microsoft Corporation*

Microsoft Corporation is an American multinational technology company. It develops, manufactures, licenses, supports, and sells computer software, consumer electronics, personal computers, and related services. Microsoft had allegedly been accused dozens of times of breaching antitrust laws in the US and the EU.

#### *Server Interoperability & Windows Media Player cases*

The first case dates back to the late 1990s; in May 1998, US authorities accused Microsoft of illegally thwarting competition in order to protect and extend its software monopoly in the personal computer (PC) market. Primarily through the legal and technical restrictions, it put on the abilities of PC manufacturers (OEMs) and users to uninstall web-browser Internet Explorer and use other programs such as Netscape and Java. (The United States Department of Justice, 1998)

On the other side of the Atlantic, in addition to investigating Sun Microsystems' complaint about the server interoperability, the European Commission announced in 2000 that it was also examining Microsoft's tying of Windows Media Player to its personal computer operating system (The European Union Competition, 2000)

Microsoft lost both cases: the US Department of Justice threatened to split the company into two; however, a later agreement in 2001 merely forced the company to make its software more compatible with other developers. European Commission, on the other hand, in the decision of 2004, demanded to release a version of Windows without the Media Player, punished a company with a fine of $794 million, and divulged the server information for 120 days. Microsoft Corporation fully paid the fine and introduced a new version of Windows without Media Player. Nevertheless, it did not fully implement the antitrust decision and has not disclosed server information. In July 2006, the EU fined Microsoft for an additional $449 million for the days of delay. As time passed, Microsoft did not comply with the rules and continued to disobey the order to uncover the server data. Consequently, in 2008 the EU imposed an additional fine of $1.44 billion, which was reduced to $1.38 billion in 2012 by the European Court of First Instance after Microsoft appealed. (Kanter, 2012) The decade-long battle of Microsoft Corporation and the EU Competition Commission seemed over.

*Theory of harm (server interoperability case)*

Microsoft controls an undeniably dominant position in the PC operating system market due to its high market share, barriers to entry, and indirect network effects. As a result of Microsoft's dominance, the company refused to share information with its competitors that would have allowed them to design workgroup server operating systems that were interoperable with Windows's workgroup networks. Microsoft's conduct hindered technical development, abusing its position. Consumers could have benefited from new and better products if competitors had access to litigious information. In particular, this applies to security features. According to the Commission, the refused product had no actual or potential substitute. Microsoft's refusal to divulge interoperability information was not validly justified, according to the Commission.

*Theory of harm (Windows Media Player Case)*

According to the Commission, the operating system and a media player are two different products. However, it was not possible to purchase a Windows OS without a Windows Media Player. Apparently, Windows OS forced manufacturers to add only WMP, and if they wanted to add

the other one, it had to go along with the WMP. On the other side, the OSes such as Sun and Linux proposed third-party media players with the possibility to change them. Such kind of distribution channel made the WMP the most widespread and dominant media player on the market. Since supporting numerous media players is costly for content developers, they decided to stick with the most popular one – WMP. The Commission found out that there are no competitors for WMP that can compete with its distribution advantages. Due to the distorted competition on the market, the Commission stated that it was unnecessary to prove the tying abuse. Waiting for evidence could cause the media players market to collapse. The Commission rejected Microsoft's argument that tying lowers transaction costs for consumers by saying that there is no reason to tie it with WMP specifically. The manufacturers should allow customers to choose the pre-installed media player, stated the Commission.

*Internet Explorer case*

In 2009, the European Commission raised a concern about tying the Internet Explorer with Microsoft OS within the European Union. Claiming that it harms competition between web browsers, undermines product innovation, and ultimately reduces consumer choice. The main accusation was Microsoft's illegal tie-up of its Internet Explorer web browser to its dominant client personal computer operating system – Windows. The company forced Original Equipment Manufacturers (OEMs) to pre-install Internet Explorer with Windows. As soon as the case began, Microsoft representatives were given the option of turning off and on Internet Explorer for users and OEMs. Additionally, Microsoft committed to offering Windows users an unbiased choice among different web browsers. A pop-up window was supposed to prompt people to choose and install one of 12 popular browsers or let them stick with Microsoft's Internet Explorer. These solutions were part of a deal Microsoft struck with the Commission within the European Economic Area (EEA). However, in 2012 authorities were informed of a failure to comply with the commitments by Microsoft. Later, the Commission imposed a fine of $731 million. (BBC News, 2013) In total, up to these days, Microsoft has paid more than $3.35 billion in fines to the EU Commission.

*Theory of harm (IE case)*

Microsoft's refusal to allow OEMs and consumers to purchase Windows OS without Internet Explorer resulted in anticompetitive effects: users do not usually switch to other browsers when they already have one installed. Searching for one, choosing, then downloading and installing it, all of these actions decrease the willingness of users to switch to alternative browsers. Especially if they

lack technical skills. (Commission Decision of 16.12.2009 - Microsoft (tying), 2009, pp. 10-11) It is difficult for competing browsers to help users to overcome the inertia. For the distribution of other browsers to be successful, users need to be aware of the existence of alternative products and need to be convinced not to stick with Internet Explorer. (Commission Decision of 16.12.2009 - Microsoft (tying), 2009, p. 10)

By tying the browser with Windows and using it as the distribution platform, which is by the fact is the leverage of network effect, Microsoft was trying to gain a dominant position in the browsers market. As a result, other browsers could not compete with Internet Explorer because the abovementioned mode of distribution was unavailable for them. (Commission Decision of 16.12.2009 - Microsoft (tying), 2009, p. 9)

As a result of the network effect, Microsoft exploited the dominance it has created abusively. Since the IE was the most dominant software platform for web content, developers tended to develop content and applications exclusively. So, the IE was gaining its popularity with the help of distribution through the Windows OS and the unintended support from developers. This case is a clear example of the competition distortion and stifling of innovation.

*The results (IE case)*

The inability of the Commission to see the new rising market of mobile operating systems and their browsers affected the remedies applied to this case. Restrains the Commission have put on Internet Explorer demotivated Microsoft to invest and develop browsers for PCs and mobile operating systems. This decision may happen to be the move that helped Google in its future success in the browsers market. Perhaps Microsoft might have been encouraged to develop browser-based apps without the Commission's decision. However, Internet Explorer’s market share is close to zero nowadays, and Chrome is the new browser's market leader.

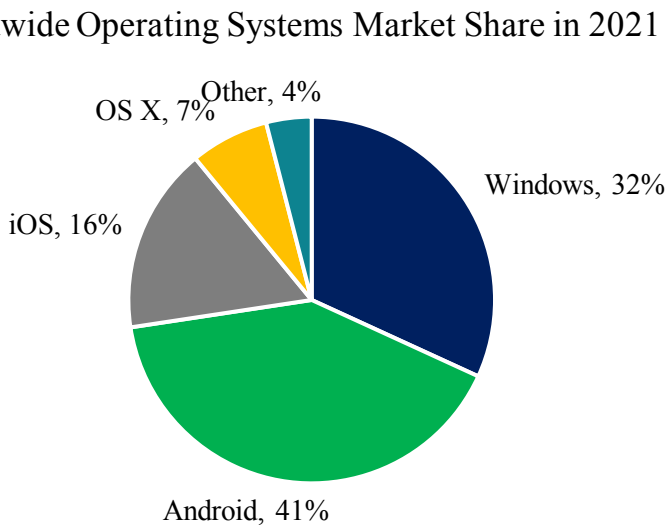
## 8. Upcoming Digital Antitrust Cases

According to the official European Commission Competition website, several cases are initiated by the authorities against big tech companies. In 2020, the Commission initiated proceedings against Apple and its App Store practices, against Amazon Marketplace and Buy Box service. Over the past few years, the EU is strengthening regulation around digital platforms, especially around Big 5 or FAAMG (Facebook, Amazon, Apple, Microsoft, and Google). The main worry is that they prevent other smaller firms from competing in the European market and hinder

innovation. Imposed fines to the companies of FAAMG are comparatively low to what companies actually have earned when breaching the competition law. For example, the record fine of $5.1 billion imposed on Google was only 3.7% of their total revenue in 2018. Additionally, as shown in the case with Microsoft Corporation, such big companies can choose to disobey the authorities' decisions if they do not wish to cooperate. Many in the EU, including the Commission itself, were frustrated with the current state of competition law and the enforcement of it against digital giants, according to antitrust specialists. The initiated investigations have dragged on for years, resulting in lengthy disputes and few functional changes. The most recent example involves Ireland and Apple Inc., whose European headquarters are located in the country. In 2016, the Commission ordered Ireland to recoup $13.8 billion in unpaid taxes from Apple. However, both the Irish government and California-based Tech Company have contested this decision. The EU court claimed that the Commission failed to prove that there had been a tax advantage. Now, the case proceeded to the EU's highest court; this battle is continuing for more than four years. To conclude, it is evident that the current rules were not designed for a digital economy and need to be updated.

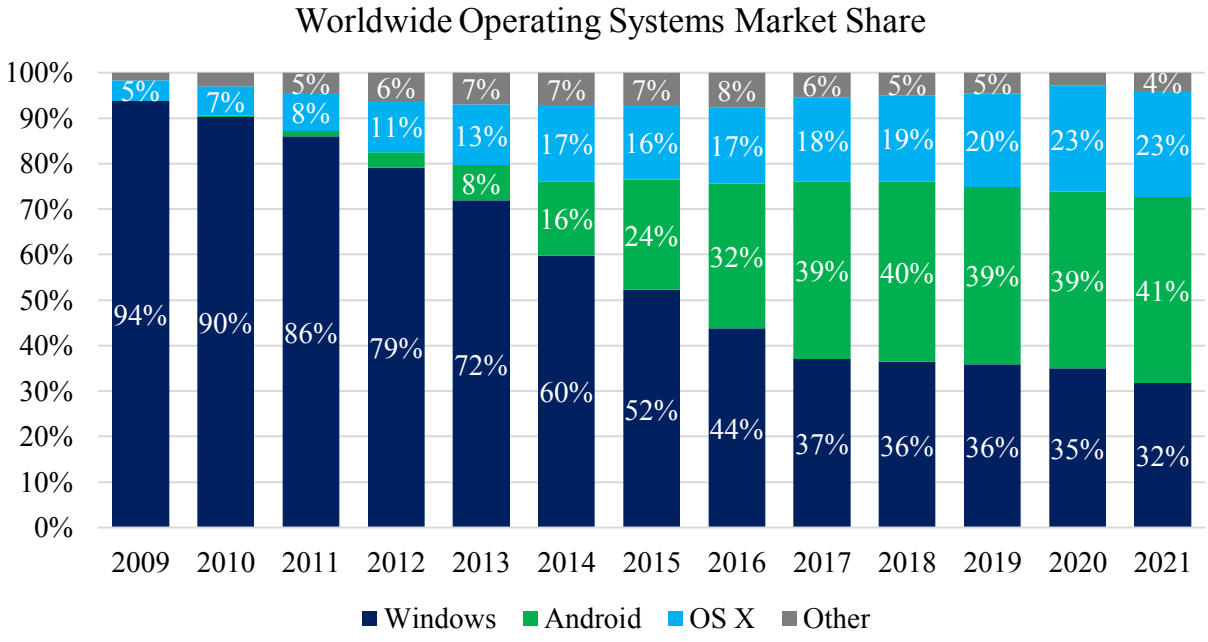
## 9. Operating Systems and Browsers Market Nowadays

This paper will closely analyze Microsoft's Internet Explorer case and the European and American browser markets to prove my hypothesis. The operating system's market has changed dramatically in the last ten years. The new player, Android, captured 40% of the market in a matter of few years. Nowadays, its market share worldwide is more significant than of Microsoft's Windows. However, it is worth mentioning that this market breakdown of operating systems below in a chart is for PCs, tablets, and smartphones altogether. In operating systems for personal computers, Windows still holds the dominant position with 75% of the market share.




The Source: Global Stats Statcounter

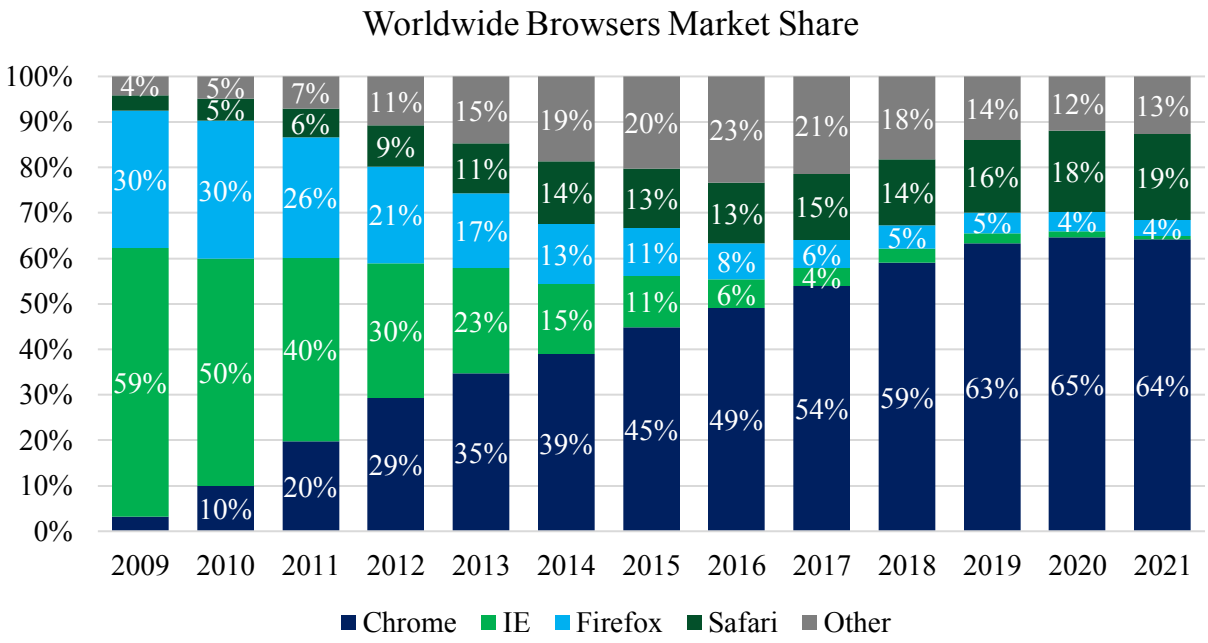
In studying the dynamics of the operating systems market, it is evident that Microsoft has lost its dominance over the past years. As can be observed, Android's market capturing looks quite aggressive. The company was doubling its market share in the first years of entering the market. Consequently, Android that entered the market in 2011 already in 2017 took the dominant position from Microsoft's Windows. These days Android is prevalent on the operating systems market for five years in a row with a market share of around 40%. The graph below demonstrates the worldwide market share of OSes in dynamics for PCs, tablets, and smartphones.




The Source: Global Stats Statcounter

As for the market of operating systems for desktops, Microsoft holds the dominant position since 2009. Even though Microsoft lost 20% of market shares for the last 12 years, it still captures more than 75% of desktop operating system users.

On the other hand, the browsers market is more balanced between browsers market for desktop and browsers market for smartphones, tablets, and desktops. It is seen how the browsers such as Internet Explorer and Firefox are losing their market shares in favor of Chrome. Here is the graph below showing the worldwide market share of browsers in dynamics from 2009 to 2021.



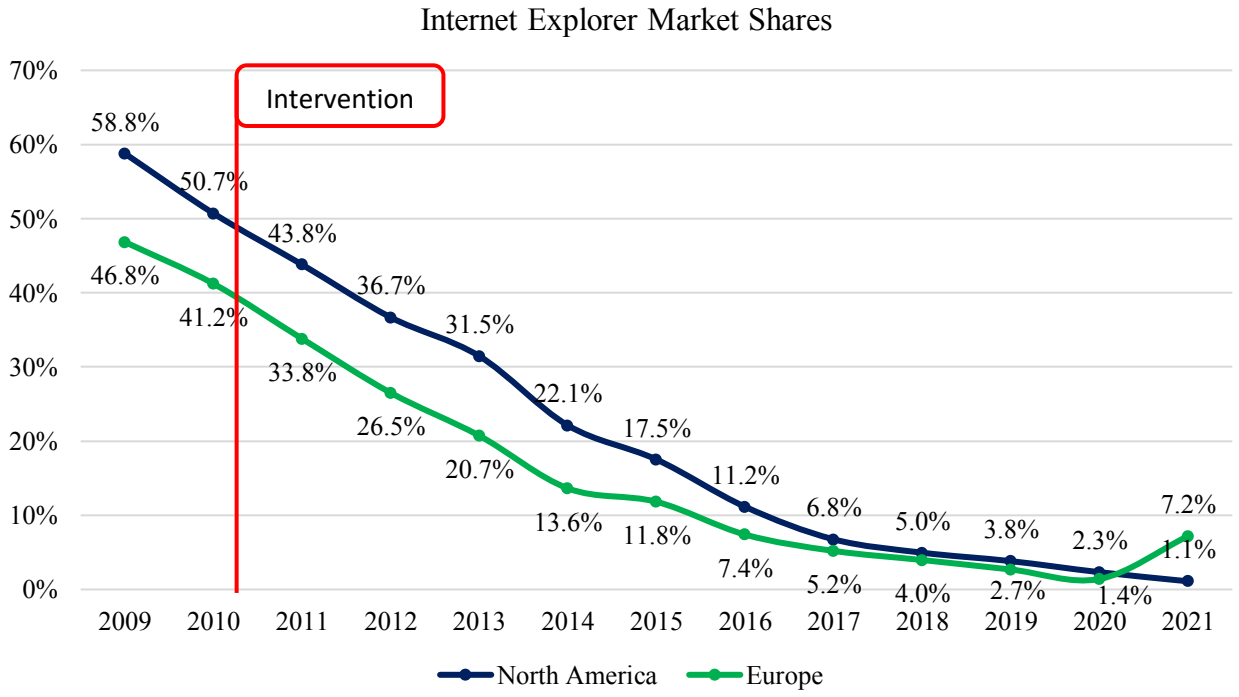

The Source: Global Stats Statcounter

## 10. Empirical Evidence

To determine whether the Commission's interventions were effective, a Microsoft Internet Explorer case will be examined in more detail. The intervention took place in March of 2010 within the whole European Economic Area. Starting from that day, Microsoft was not allowed to tie IE to the Windows OS. Instead, the company had to offer its users the screen to choose the browser they wanted to be installed on their personal computers. After the intervention, users were supposed to switch to other browsers, Internet Explorer's market share would have fallen dramatically compared to countries where the intervention did not occur. All things being equal, if the difference between US and European IE market shares changed after the intervention, it means that the intervention had

a measurable impact. There is no clear indication whether IE's distribution advantage comes from OEM encapsulation, or the ubiquity of Windows. In Europe, the operation eliminated OEM distribution, but the Windows channel of distribution remained intact to some degree. The difference between the post-intervention market shares of IE and Windows in Europe may indicate the importance of the Windows distribution channel more than the market shares of Windows in North America. For the analysis, monthly browsers' market share information in Europe and North America from 2009 to the present was used.

As can be seen below on the graph, market shares of Internet Explorer on the browsers market in Europe and North American have relatively the same trends from 2009 until 2020. And even after the intervention that happened in March of 2010, it does not seem that it dramatically affected market share on the European browsers market.




The Source: Global Stats Statcounter

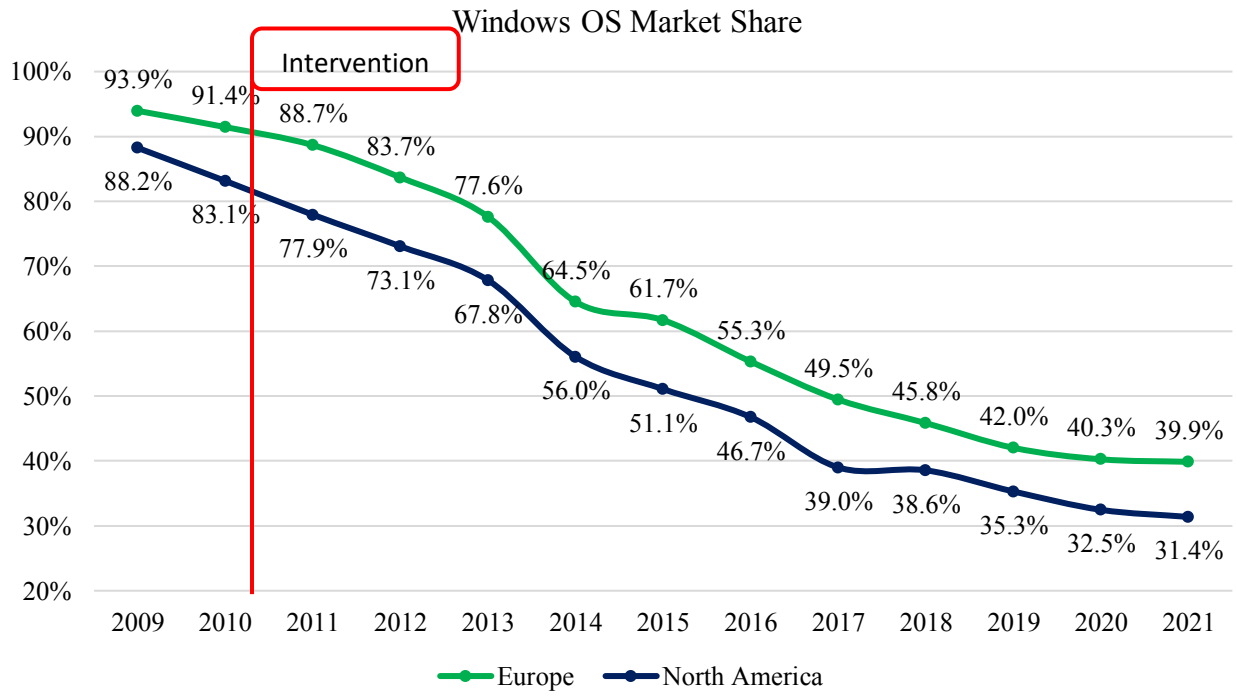
The hypothesis is that the intervention conducted by the Commission was not effective and has not restored fair competition on the browsers market. In addition, the Commission at that time overestimated the browsers' potential and had a theory of browsers replacing the operating systems. The Commission feared that tying IE to Windows perpetuates its dominance. However, the fall of the IE did not hurt the Windows' ubiquitous nature, which means that their fears were misguided. The second hypothesis to prove is that the natural decline of IE's market power as a result of

competition did not hurt the Windows' ubiquitous nature. The simple regression analysis in Stata will be conducted to see if there is a difference in how the browser market developed in Europe, where the intervention took place, and how it developed in North America, where Microsoft was not restrained from spreading the IE tied with Windows.

| Y | *IE Market Shares in EU* | Coefficient | Std. Error | t-value | 95% CI |
|---|---|---|---|---|---|
| X_1 | *IE Market Shares in NA* | 0.9982142 | 0.0098488 | 101.35 | 0.9787497 – 1.017679 |
| X_2 | *Intervention dummy* | 1.687993 | 0.8497693 | 1.99 | 0.0085557 – 3.367431 |

According to the table with results, we accept the hypothesis at a 95% significance level. Since the dummy is insignificant, the difference in market development between the two regions is negligible, which means that the intervention did not affect market conditions in European Union.

Whereas for the second hypothesis, monthly Operating Systems market share information in Europe and North America from 2009 to the present was used. As can be seen below, just like the graph with browsers, overall trends in Europe and North America are the same. Markets in both regions move in the same direction with similar amplitudes.




The Source: Global Stats Statcounter

Regression analysis run in Stata shows that the intervention did not hurt Microsoft. The second hypothesis is also accepted at a 95% significance level.

| Y | *Windows Market Shares in EU* | Coefficient | Std. Error | t-value | 95% CI |
|---|---|---|---|---|---|
| X_1 | *Windows Market Shares in NA* | 1.007077 | 0.0101404 | 99.31 | 0.9870363 – 1.027118 |
| X_2 | *Intervention dummy* | -1.223642 | 0.9320422 | -1.31 | -3.065679 – 0.618396 |

## Conclusion

Digital platforms worldwide are strengthening in their positions of being irreplaceable and essential parts of people's lives. With the growth perspectives of this field comes tight competition, and for that competition to be fair, the Competition laws are to be followed. As could be observed above, the standard Anticompetitive/ Antitrust/ Competition laws do not apply to complex digital markets. They are not able to address the issue and prevent future anticompetitive conduct. The Commission's latest proposals on regulating the digital markets all base on labeling platforms as gatekeepers in advance (ex-ante) based on market share and restricting certain practices for them. As analyzed above, this approach has its difficulties in implementation and several drawbacks. Labeling platforms as gatekeepers may demotivate them to innovate, which we already have seen in past cases. As studied within the framework of my empirical analysis, Microsoft's Internet Explorer tying case was analyzed. Conducted regression shows that the intervention was not effective and did not have any effect on market structure. Additionally, as part of a theory, this investigation may disincentive Microsoft to invest in browser-based applications that would allow them to enter the emerging mobile browsers market.

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Заведующий кафедрой заявляет, что ознакомился (-ась) с Полным отчетом подобия, который был сгенерирован Системой выявления и предотвращения плагиата в отношении работы:

**Автор:** Омар Нуриля Адилкызы
**Название:** Advances in the competitive regulation of the largest digital platforms.
**Координатор:** Матэ Фодор
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**Коэффициент подобия 2: 1%**
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Интервалы: 0
Микропробелы: 1
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4 июня 2021 _____ Аубакирова С.К.
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Заявляю, что я ознакомился (-ась) с Полным отчетом подобия, который был сгенерирован Системой выявления и предотвращения плагиата в отношении работы:

**Автор:** Омар Нуриля Адилкызы
**Название:** Advances in the competitive regulation of the largest digital platforms.
**Координатор:** Матэ Фодор
**Коэффициент подобия 1: 8.7%**
**Коэффициент подобия 2: 1%**
Замена букв: 0
Интервалы: 0
Микропробелы: 1
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## Метаданные

Название
**Advances in the competitive regulation of the largest digital platforms**

Автор
**Нурила Омар**

Научный руководитель
**Матэ Фодор**

Подразделение
**ИУП**

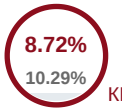
## Список возможных попыток манипуляций с текстом

В этом разделе вы найдете информацию, касающуюся манипуляций в тексте, с целью изменить результаты проверки. Для того, кто оценивает работу на бумажном носителе или в электронном формате, манипуляции могут быть невидимы (может быть также целенаправленное вписывание ошибок). Следует оценить, являются ли изменения преднамеренными или нет.

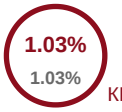
| | | |
|---|---|---|
| Замена букв | ß | 0 |
| Интервалы | A→ | 0 |
| Микропробелы | · | 1 |
| Белые знаки | ß | 0 |
| Парафразы (SmartMarks) | a | 31 |

## Объем найденных подобий

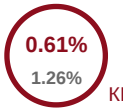
Обратите внимание!Высокие значения коэффициентов не означают плагиат. Отчет должен быть проанализирован экспертом.



КП1



КП2



КЦ

**25**
Длина фразы для коэффициента подобия 2

**5549**
Количество слов

**36610**
Количество символов

## Подобия по списку источников

Просмотрите список и проанализируйте, в особенности, те фрагменты, которые превышают КП №2 (выделенные жирным шрифтом). Используйте ссылку «Обозначить фрагмент» и обратите внимание на то, являются ли выделенные фрагменты повторяющимися короткими фразами, разбросанными в документе (совпадающие сходства), многочисленными короткими фразами расположенные рядом друг с другом (парафразирование) или обширными фрагментами без указания источника ("криптоцитаты").

### 10 самых длинных фраз

Цвет текста

| ПОРЯДКОВЫЙ НОМЕР | НАЗВАНИЕ И АДРЕС ИСТОЧНИКА URL (НАЗВАНИЕ БАЗЫ) | КОЛИЧЕСТВО ИДЕНТИЧНЫХ СЛОВ (ФРАГМЕНТОВ) | |
|---|---|---|---|
| 1 | https://www.keyword-suggest-tool.com/search/microsoft+fraud+department+microsoft+corporation/ | 31 | 0.56 % |
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