

A COMPARATIVE LEGAL ANALYSIS OF AI REGULATIONS: CASES
OF EU AND TÜRKİYE

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Cases of EU And Türkiye

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DECLARATION OF ORIGINALITY

I, Pelin Su Biter, certify that

- I am the sole author of this thesis and that I have fully acknowledged and documented in my thesis all sources of ideas and words, including digital resources, which have been produced or published by another person or institution;
- this thesis contains no material that has been submitted or accepted for a degree or diploma in any other educational institution;
- this is a true copy of the thesis approved by my advisor and thesis committee at Boğaziçi University, including final revisions required by them.

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ABSTRACT

A Comparative Legal Analysis of AI Regulations:

Cases of EU And Türkiye

This thesis provides a comparative legal analysis of AI regulations, focusing on the EU AI Act and how it would affect the case of Türkiye. The thesis will first elaborate on the driving factors and documents leading to the EU AI Act. It analyzes the possibility of a Brussels effect of the AI Act. By decoding the main pillars of the act, it provides an understanding of the legal nature surrounding the act, and discusses the effects of one of the most important features of the act, which are the risk-based approach and human-centric governance on the strategic autonomy of the European Union. After understanding and analyzing these features, the thesis will further discuss how the concepts of Brussels Effect and Strategic Autonomy can affect Türkiye's regulatory attempts on AI, which could be beneficial to understand what can really shape the future for Türkiye's AI governance.

ÖZET

Yapay Zeka Düzenlemelerinin Karşılaştırmalı Yasal Analizi: AB ve Türkiye

Örnekleri

İşbu tez, Avrupa Birliği'nin Yapay Zeka Kanunu'na odaklanarak Yapay Zeka düzenlemelerinin karşılaştırmalı bir yasal analizini yapmayı ve özellikle olarak Türkiye'yi Yapay Zeka hukuku kapsamında nasıl etkileyeceğini analiz etmeyi amaçlamaktadır. Tez, öncelikle Avrupa Birliği Yapay Zeka Kanunu'nun yapılmasına öncü olan faktörleri ve belgeleri detaylandıracaktır. Yapay Zeka yasasının Brüksel Etkisi olasılığını analiz edecek, yasanın ana hatlarını açıklayarak, yasayı çevreleyen yapıyı anlamaya yardımcı olacaktır. Yasanın en önemli özelliklerinden biri olan risk temelli yaklaşım ve insan merkezli yönetişimin Avrupa Birliği'nin stratejik özerkliğine etkilerini tartışacaktır. Bu özellikleri anladıktan ve analiz ettikten sonra, Brüksel'in etkisi ve stratejik özerklik kavramlarının Türkiye'nin yapay zeka konusundaki düzenleyici girişimlerini nasıl etkileyebileceğini tartışacak ve bu da Türkiye'nin yapay zeka regülasyonunun geleceğini gerçekten nelerin şekillendirebileceğini anlamak için faydalı olacaktır.

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ABBREVIATIONS

AI	Artificial Intelligence
CU	Customs Union
DSA	Digital Services Act
EC	European Commission
ECHR	European Convention on Human Right
EDIH	European Digital Innovation Hubs
EGE	The European Group on Ethics in Science and New Technologies
EU	European Union
DSM	Digital Single Market
EP	European Parliament
EU	European Union
GPAM	General-Purpose AI models
HLEG	High-Level Expert Group
NAIS	National Artificial Intelligence Strategy
NGO	Non-governmental Organization

CHAPTER 1

INTRODUCTION

1.1 Introduction

Even though AI technologies have been a part of our lives for years, with more developed versions, their governance has become a necessity. The EU has released the world's first comprehensive AI act after years of discussions. After the AI Act being enforced in 2024, the possible effects it may have on other jurisdictions' laws have become a question. This thesis will mainly try to analyze how the EU AI Act can affect other countries' AI regulations, focusing on the case of Türkiye. The discussions will be made with two key features of the EU AI Act, firstly analyzing the possible Brussels Effect, and also exploring it within the scope of EU's strategic autonomy.

1.2 Purpose of this thesis

It is known that EU regulations affect and inspire different legal systems worldwide. The EU AI Act is a groundbreaking legal document since it regulates one of the newest and most important technologies in the world. What is really aimed at with this thesis is to reveal the scope of the EU AI Act and with that to understand how the AI Act is related with EU's strategic autonomy and its regulatory influence called Brussels Effect, also analyzing how this scope can affect other countries, mainly focusing on the case of Türkiye.

1.3 Research questions

This thesis will first explore Q1 and Q2 to have an understanding of the EU AI Act and its intersection with Brussels effect and Strategic Autonomy. After that, answers to these questions will provide the baseline to find an answer and do the analysis for Q3.

Q1: What is the role and potential of the EU AI Act's Brussels effect on AI-related acts?

Q2: What is the contribution of the risk-based and the human-centric approaches in the EU AI Act as a part of the Strategic Autonomy of the EU?

Q3: How do these Brussels Effect and Strategic Autonomy concepts construct a base for AI regulatory attempts in Türkiye?

1.4 Methodology

This thesis will use legal dogmatic (doctrinal) research method while trying to answer the above-mentioned research questions. This is a conceptual discussion thesis; therefore, it does not include any empirical data but rather includes analysis of sources of law, regulations, policy documents, and scholarly opinions to answer the mentioned research questions. It is structured to firstly understand the driving dynamics of AI in the EU, and the main principles of the EU AI Act, the effects of these principles, the Brussels effect of the act, the driving factors of risk-based and human-centric approaches, and their effects to EU's strategic autonomy. Then, it will analyze how these can affect the legal harmonization attempts in the case of Türkiye.

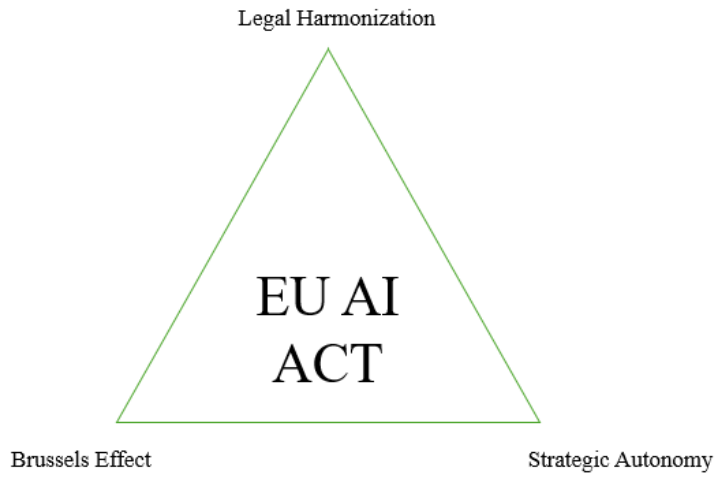


Figure 1. Conceptual model of the study

CHAPTER 2

LITERATURE REVIEW

2.1 AI technology and the term AI

In our rapidly evolving world, societies raise concerns while embracing evolving technology, recognizing both its opportunities and challenges. Artificial intelligence is one of the significant technologies that has been an essential topic for the last few years.

Actually, AI has played a significant role in our lives for years, with tools like translation tools or virtual assistants like Siri. However, what is different now is that, with the release of the ChatGPT model in 2022, artificial intelligence technology has adopted a new face that we haven't seen before, AI that is more intelligent and more capable than before.

The term AI has been in our lives since 1955, when Professor John McCarthy defined it as “the science and engineering of making intelligent machines” (Manning, 2020, para. 2).

However, the definition of AI could be different based on perspective. For some, it is only limited to the technological product they use. However, it has a broad range of interpretations, usually influenced by the background or expertise of the individual or group defining it.

The definitions that are most important, especially in terms of this thesis would be the difference between how engineers and computer scientists define artificial intelligence versus how legal scholars define it. Finding the right definition for AI, is an important task, as there is a difference between the perceptions of engineers, computers scientists and the legal scholars.

From the perspective of engineers and computer scientists, AI is more about its technical abilities, which normally require human intelligence. However, legal scholars try to define and understand AI more based on its implications and accountability.

2.1.1 EU's definition of AI

Many institutions and governments have defined artificial intelligence in different ways; the way the European Union defined artificial intelligence is also particularly important, as it shows their understanding and approach to AI, leading up to the EU AI Act. It is observed that the definition of AI has evolved throughout time, becoming more abstract but extensive within the scope of AI's capabilities. EC, in its communication to the EP with AI for Europe in 2018 defined AI as "... systems that display intelligent behaviour by analysing their environment and taking actions – with some degree of autonomy – to achieve specific goals." (European Commission, 2018, "Introduction" section, para. 3). These systems could be integrated into hardware like robotics and cars, or they could be entirely software-based like voice assistants and image analysis software.

With the release of a Definition Of AI: Main Capabilities And Disciplines in 2019 by HLEG on Artificial Intelligence, EU defined AI as:

software (and possibly also hardware) systems designed by humans that, given a complex goal, act in the physical or digital dimension by perceiving their environment through data acquisition, interpreting the collected structured or unstructured data, reasoning on the knowledge, or processing the information, derived from this data and deciding the best action(s) to take to achieve the given goal... (High-Level Expert Group on Artificial Intelligence, 2019, p. 4)

The difference from the 2018 definition is that the new version takes a more comprehensive approach to AI, it acknowledges the human activity in the design of AI systems and underlines its ability to adapt.

In the draft of the EU AI Act, proposed in 2021, EU defined AI as:

software that is developed with one or more of the techniques and approaches listed in Annex I and can, for a given set of human-defined objectives, generate outputs such as content, predictions, recommendations, or decisions influencing the environments they interact with; (European Commission, 2021, “Definitions” section, para. 1)

The Annex I mentioned three main approaches:

- Machine learning approaches (e.g., supervised, unsupervised, reinforcement learning)
- Logic- and knowledge-based approaches (e.g., knowledge representation, expert systems)
- Statistical approaches (including Bayesian estimation and search methods) (European Commission, 2021, “Annex I” section)

The EU AI Act’s latest version, which was approved by the European Parliament in 2024, included the following definition for AI:

a machine-based system that is designed to operate with varying levels of autonomy and that may exhibit adaptiveness after deployment, and that, for explicit or implicit objectives, infers, from the input it receives, how to generate outputs such as predictions, content, recommendations, or decisions that can influence physical or virtual environments; (EU AI Act, 2024, “Definitions” section, para. 1)

This definition by the EU has a broader scope compared to the draft resolution in 2021. The techniques and approaches were removed, which provided more flexibility, and adaptability was also included.

2.2 The driving dynamics of AI in the EU

2.2.1 EU's vision for AI

The EU's vision for AI is shaped by a global leadership expectancy supported by two main elements: global economic power and public support. The European Union has set the goal of being a leader in AI as evident in policy documents like coordinate plan on AI. The EU's search for leadership in AI technologies has several different reasons. Firstly, there is huge economic potential in AI leadership, according to a report conducted by Strand and Partners, there is a potential of €600 billion contribution to the gross value added of the European economy until 2030 (Strand Partners, 2024). The EU aims to enhance its competitiveness worldwide and secure part of this economic value by positioning itself as a leader in the field of AI.

This leadership is also important to prevail its global competitors in technology mainly United States and China. Being a strong competitor leader in artificial intelligence technologies would affect the European Union's geopolitical influence importantly.

EU AI Act is the consequence of this goal, EU put itself in a leading position for the global regulatory framework of AI. This leadership has provided EU to enforce its values and principles and shape the newly emerging AI regulatory framework with European standards. With the EU AI Act, EU took a few steps forward into the leadership position in AI technologies, since regulations are one of the most important tools to secure a leading position.

According to a report by PwC Strategy& Analysis, generative AI in Europe can increase GDP growth by 0.4% to 0.7% by 2030, which will add \$1 trillion in GDP (Strategy&, n.d.). This will be a significant and substantial GDP growth even

for an economy like EU. This also suggests that AI technologies could be a cornerstone that can shape and change the future of many industries.

With the significant rise of AI technologies worldwide, the EU market has been experiencing its share and has been in an increasing growth of market size. According to Grand View Research, the market was assessed at around USD 66.4 billion in 2024 and is projected to grow at a compound annual growth rate of 33.2% from 2025 to 2030 (Grand View Research, 2024). AI, while maintaining its growth, is shaping industries and creating new opportunities for businesses.

AI has been transitioning business processes and strategies for each and every aspect of businesses, like utilizing optimization for operations management, supply chains, enabling personalized marketing, dealing with vast amounts of data easily, and improving decision-making with predictive analysis in a variety of different industries. Even the legal sector is one of the industries that has started to revolutionize with AI. There are legal AI tools for contract drafting, negotiation, review, case law research, case preparation etc.

In such a vibrant and growing market, European businesses are increasingly adopting AI-based strategies to enhance their operations and competitiveness. As of early 2025, over 13% of EU small businesses with at least 10 employees, and 42% of large companies have embraced AI (Dell'Anna & Yilmaz, 2025).

This growing market of AI is bringing many opportunities as well as challenges. It is important for countries and a supranational entity like EU to be aware of development of these technologies, and make sure that its citizens are able to use it to increase efficiencies in their businesses and their personal life. However, it is also important to be aware of the challenges this new technology may bring and protect them from possible downsides.

The study by the Implement Consulting Group indicates that 61% of jobs in the EU are expected to work alongside AI which would require citizens to be trained for digital skills (Implement Consulting Group, 2024). Another economic impact of AI is its benefit to increasing efficiency and supply chains while reducing operation costs.

With a possible huge economic impact along with transforming businesses and industries, the EU had to take a stance for AI from many points like investments, education, regulation. This is also supported by the public opinion. Public opinion has an important place in European Union policy-making processes. To understand the perceptions and concerns of its citizens, the European Union uses different tools and the Eurobarometer is one of them. EU, with its Eurobarometer survey in 2017 has understood the thoughts of its citizens on AI and has begun shaping its policies for artificial intelligence. 52% of the respondents stated that they were not aware of AI and they hadn't seen or heard something about AI in the last 12 months. The majority of respondents with 61% had a positive attitude toward AI and 88% stated that AI technology requires a careful management (European Commission: Directorate-General for Communications Networks, Content and Technology & TNS Opinion & Social, 2017). These findings, especially the part where the vast majority of citizens stated that there was a need for a careful management of AI, is extremely important because this seems to be one of the important measures that was giving the European Union an important role for AI policy.

2.2.1.1 AI strategy and policy, AI Act

AI strategy is the framework that EU adopted to achieve its leadership goals and objectives for AI technologies in accordance with its values. EU's AI strategy was

determined with the release of coordinated plan on AI in 2018, which was later updated in 2021. This plan summarizes several cornerstones of the EU's AI strategy: Investing more into AI including small and medium sized enterprises, strengthening AI research and innovation, developing AI skills, encouraging entrepreneurship to ensure a competitive workforce, establishing trustable data for AI which will contribute training of AI, having the trust of the society by building up a human centric, ethical AI practices in line with the values of EU and building guidelines and framework for it.

With the 2021 report, EU commission stated the need to accelerate investments by proposing at least EUR 1 Billion in a year on AI Technologies, to have an aligned AI policy to prevent fragmentation and achieve its goal of trustworthy and safe AI in a more effective way.

The EU AI strategy focuses on three primary pillars: boosting technological and industrial capabilities, addressing the socio-economic effects of AI, and providing ethical as well as legal governance (Ulnicane, 2022).

EU's AI Policy refers to mechanisms that implement the EU's AI strategy. The Digital Europe Programme, Ethics Guidelines for Trustworthy AI, and EU AI Act are all one of these policies that help EU to get one step closer to its AI strategy.

2.2.1.2 Digital transformation

European Parliament released its digital decade policy program 2030 in its decision dated December 2022. This digital decade program aims for the EU to have a digital transformation by 2030. There are four main pillars of the program: to provide and equip citizens with essential digital skills, to support private sector businesses while enhancing the public sector with digitalization, and developing digital infrastructures.

The agenda stated that this path had to include European values like human rights, democracy, sustainability, and similar values, also had to include each and every European from diverse backgrounds and different parts of the society.

In an entity with digital transformation policies like European Union, AI technology has an important place. Digital infrastructure goals along with the need for a trained workforce both support digital transformation in AI technologies.

2.2.1.3 Digital sovereignty

Digital sovereignty may be defined as control over different parts of digital including infrastructure and regulations (Hughes & Saurugger, 2024). EP Research Service with its report in 2020, stated the concern of Europeans on losing control in digital environment (Madiaga, 2020). An important part of these concerns is the fact that the increasing power of non-EU technology companies, particularly from the US and China, threatens the EU's ability to regulate and compete effectively. The European Commission has made its aim to achieve digital sovereignty by improving EU's strategic autonomy in critical areas such as data protection, cybersecurity, and AI as a response to these concerns.

To achieve its digital sovereignty goals and have control over digital technologies EU had to implement measures, policies, and provide initiatives. GDPR to safeguard data privacy, the European Cybersecurity Act which protects Europeans from cybersecurity threats, were all actions for EU's digital sovereignty. EU AI Act is one the important steps to help the EU achieve its digital sovereignty. EU provided international standards for AI governance and put itself in a leading position by gaining control over AI regulations.

Digital sovereignty is more than regulations; it encompasses a huge area of digital space. However, regulations may be of the utmost importance since the one who regulates digital technologies has the right to impose sanctions, control the market, and affect many other things.

Another important objective for digital sovereignty is EU's digital single market approach, which is an initiative that aims to make European markets for online transactions one, united, and removing trade barriers across Europe. Digital Markets Act (DMA) and the Digital Services Act (DSA) within this scope, aims fair competition and protect consumers in the digital space. These also support EU's digital sovereignty since it provides a framework for harmonizing digital regulations.

2.2.2 Regulatory landscape, Strategic Autonomy and Brussels Effect

2.2.2.1 Strategic Autonomy

The EU's strategic autonomy is the EU's ability to operate independently in key areas without relying on external countries (Damen, 2022). It represents EU's global power, and each policy they make for strategic autonomy contributes to this power.

EU has its strategic autonomy pursuit in many key sectors; technology, and innovation are one of them, and with rapidly increasing artificial intelligence technology, EU had to take a step forward.

GDPR is the world's most comprehensive data protection regulation, which took effect in 2018 in the European Union. It aims to protect the personal data of Europeans no matter where the data is located worldwide. After its release, it was a question of whether big tech companies would comply with its standards around the globe. Since not complying meant losing the EU market, big tech companies like Facebook and Microsoft stated that they would comply with the regulation. Besides

this, GDPR influenced many jurisdictions like Türkiye and India, which adopted GDPR into their legal systems.

Therefore, it is possible to say that GDPR has gained worldwide recognition, which puts the EU in a strong and leading position for data protection and provided a strong strategic autonomy in the realm of data protection. Right after this, when companies were racing to develop AI, governments found themselves in a “race to regulate AI (Smuha, 2021). In this race, the strategic autonomy GDPR created for EU, has encouraged the EU to put itself in a leading position for AI governance too.

The EU AI Act is a regulation that puts Europe in a leading position for AI regulations; with this, EU becomes the first one to regulate AI technologies in a comprehensive way by applying its own values in the regulatory landscape of AI without being dependent on other countries.

The AI act and the EU's ambition for strategic autonomy are connected, EU AI Act is a consequence of EU's pursuit of strategic autonomy. The EU's aim is to make sure that they are not technologically dependent, and provide that AI advancements are in compliance with European standards. Silverman and Elliot see the act as a consequence of the EU's wish for strategic autonomy in the digital, also serving to its digital sovereignty (Righini & Van der Eycken, 2024).

However, there are still difficulties, especially in balancing encouraging innovation and maintaining regulatory control. It regulates AI but the practical implications of it remains vague. The fact that whether it will make global technology away from EU or not shall be seen in the upcoming years. Having power compared to global competitors is important however, it is also important to find the balance between strategic autonomy and global tolerance.

EU's goal of strategic autonomy through the AI Act is also a step forward for achieving technological sovereignty. It shows EU's ambition to be a leader in the world in AI governance while making sure AI systems are in line with their norms and values.

2.2.2.2 Regulatory competition

Establishing a regulatory framework for AI governance can enhance legal certainty, and build trust in AI (Smuha, 2021). Regulatory competition is fueled by this understanding.

Countries like US, China have decided AI guidelines reflecting their own priorities. However, there was a lack of a comprehensive codification for AI, and the EU has positioned itself in a leading position for a comprehensive AI regulation. This strategy could impact global markets by forcing international companies looking for access to a broad consumer base to comply with EU regulations and help the EU dominate the AI market.

EU, putting itself forward in this regulatory competition with its competitors, and its wish to be the first one to regulate the AI market is the result of its aim of strategy autonomy and digital sovereignty.

2.2.2.3 The Brussels Effect

The Brussels Effect is the EU's ability to set global regulatory standards unilaterally. Due to the attractiveness of the EU market, multinational companies voluntarily adopt EU regulations worldwide to have the market access. This effect happens in two ways: the de facto Brussels Effect, where companies independently comply with

EU rules globally, and the de jure Brussels Effect, where foreign governments formally adopt EU-style regulations (Bradford, 2019).

GDPR sets one of the examples of this effect, after influencing many countries and jurisdictions like Japan, Türkiye, and California (USA). Having such a great Brussels effect example like GDPR, it was reasonable for the EU to lead the way for the regulation of AI technologies too, with the intention of dominating the global market. The Brussels Effect of the EU AI Act is still uncertain, but given the extent, power, and impact of the EU worldwide, it is possible that it can have a similar effect like the GDPR.

The EU AI Act's de facto impact is uncertain because AI systems and their regulations are still evolving, however, its de jure influence is already emerging, with signs that other governments are drawing inspiration from its provisions (Tarafder & Vadlamani, 2024).

Bradford states five factors as the determinants for Brussels effect (Bradford, 2020), those are:

Market size: the bigger the market size it is more likely that the companies would have the need to try to stay in the market despite changing regulatory frameworks.

Regulatory capacity: The EU's ability to carefully craft laws that protect those subject to it.

Stringent Regulations: The ability of the regulation that will have Brussels Effect to be more stringent than those who will adopt the regulation.

Inelastic Targets: a product's inability to respond to regulatory changes.

Non Division: a product to operate compliant with the EU standards in all other territories, most of the time it is because of the fact that having two different versions of a product could be costly or time-consuming.

An article by Linklater Law Firm interprets the comprehensive nature of the EU AI Act as more complementing to innovation rather than constrictive (Roberts et al., 2024). This legal certainty complementing innovation will help to enhance the Brussels Effect of it.

The work of Siegmann and Anderljung about how the EU AI Act will create a Brussels effect is an important one. It outlines the likelihood based on the de facto and de jure effect distinction. The report uses Ana Bradford's determinants for affecting the Brussels effect (Siegmann & Anderljung, 2022). For the de facto effect, the report find the chance of the effect very likely by stating that when it comes to international companies operating in EU, with the EU AI Act, they will have two chances whether to comply with it or not, considering the market share of EU and its importance it will be very likely that companies will comply with the act to be able to continue operating in the EU market.

What is also important is whether they will make their product compliant with the act just for the EU market or for international markets as well, in this aspect report states that having two different versions of a product can be technically costly besides that considering the credibility of EU regulations worldwide having an EU compliant product even in a jurisdiction that does not have the act in force, could increase the trustworthiness and credibility of that product. They also state that the extent of likelihood is different for every product, and they seem to think that the chances are higher for a Brussels Effect, especially for high-risk products in international companies. The report uses four channels for de jure adoption:

Blueprint channel: a country's wish to apply EU law on its own because it believes that it is in line with its principles,

Multilateralism Channel: a country's wish to adopt EU law because it is encouraged by an institution or it became a standard.

De Facto Channel: Big international companies to lobby lawmakers to adopt the law.

Conditionality channel: EU to have extraterritorial effect on other countries, mostly based on economic conditions, a bit like follow our rules or you can't get into my market.

This part finds that de jure effect will also be likely, especially for countries that have strong trade relations with the EU and underlines that de facto effects in different countries can create a de jure effect, especially with lobbying efforts of big tech companies, but they are not certain whether it will succeed. Report concludes by stating that the channels that seem to be more successful are blueprint and multilateral channels.

Tarafder and Vadlamani, with their research, recognize the Brussels effect GDPR caused and try to compare whether the EU AI Act is likely to end up providing such an effect (Tarafder & Vadlamani, 2024). The authors state the difficulty of comparing the effect of a Data Protection Act to an AI act, considering the fact that AI is still developing and its potential implications cannot be foreseen clearly. However, they state that it is likely that the AI act will have a Brussels effect.

2.3 The timeline and development process of the EU AI Act

The prior work for a proper and functioning AI policy started in 2018 and gained momentum throughout time. Recently, AI has become a critical part of all policy documents regarding the future of the EU.

2.3.1 EGE statement on Artificial Intelligence, Robotics and Autonomous Systems

EGE, which is an independent advisory group reporting to the president of the European Commission, published a statement in March 2018 about AI, robotics and autonomous systems. The statement states that within the rise of AI, robotics and so-called ‘autonomous’ systems, there was a need for a comprehensive approach to develop a common ethical and legal framework for these technologies.

This statement calls for launching such a process, with essential ethical principles based on EU values including human dignity, autonomy, responsibility, justice, democracy, the rule of law, security, privacy, and sustainability, to provide a direction. It proposes that Europe should take a leading role in this process.

2.3.2 EC, *AI*: Commission outlines a European approach to boost investment and set ethical guidelines

The European Commission, with its press release dated 25 April 2018, has recognized the importance of AI and presented a strategy to make EU a worldwide leader in AI technologies. The commission stated that the EU should increase funding for AI research and innovation by minimum €20 billion by 2020.

The Commission, with the aim of leading the AI development, recognizes that developing AI presents ethical and legal challenges. To address this, they shall present ethical guidelines on AI development, grounded in the EU's Charter of

Fundamental Rights, because even with the new technologies, the EU's values remain the same. Additionally, they plan initiatives to help workers adapt as AI transforms many jobs, such as modernizing education, supporting job transitions, and promoting digital skills development.

2.3.3 Member states, and commission to work together to boost artificial intelligence, made in Europe (December 2018)

In order to achieve its plan to be a global leader in AI, The European Commission has laid out the importance of collaboration among its member states and has planned strategies to increase the efficient coordination. To advance AI technologies, member states should develop national AI strategies that will enhance investments. There will also be efforts to build out large shared datasets, scholarships, and AI education programs will be expanded through integrating AI into curricula.

Most importantly, Europe is attempting to lead the way in developing trustworthy, ethical AI guidelines that can become an international standard. The aim of Europe is to have world-class AI with cooperation across countries and sectors, while upholding core values.

2.3.4 HLEG on AI, Ethics Guidelines for Trustworthy AI (April 2019)

HLEG on AI which was appointed by the European Commission, published guidelines in April 2019, with the goal to create up a framework to make sure that AI systems are lawful, ethical, and robust during their entire life cycle. The guidelines show the need to respect ethical concepts like human autonomy, to do no harm, and clarifiability. It also outlines seven principles of trustworthy AI, including

transparency, accountability, privacy, and actions that benefit environmental and society's welfare.

It promotes responsible development of innovation with minimized risks in the world of AI. It recognizes AI's potential with possible benefits to society, such as enhancing democracy and sustainability. However, it also mentions AI's risks, especially in human rights and justice. The guidelines are not legally binding, but they plan to act as a supplement to the existing law and promote global cooperation to implement ethical AI systems.

2.3.5 White Paper on AI (February 2020)

The white paper on AI is about EU's vision to promote trustworthy AI that respects fundamental rights and creates advantages to individuals and businesses. The paper highlights the opportunities AI presents, such as enhancing healthcare and fighting climate change. At the same time, it also acknowledges the important risks of AI, including concerns about safety, privacy, discrimination, and lack of transparency in decision-making.

The EU wants to increase investment in AI research, skill-building, and support small businesses in adopting the technology to be able to completely use AI's potential while responding to these challenges. They point out and discuss the risks of the existing regulations' scope on AI and possible legal fragmentation. They suggest introducing regulations especially for "high-risk" AI applications.

The Commission also started a public consultation to receive feedback on the White Paper's proposals. The goal with this was to promote innovation while applying measures to establish reliable AI systems aligned with European values.

2.3.6 Framework of ethical aspects of AI, robotics, and related technologies (2020)

The EP issued three resolutions on October 20, 2020, that make recommendations to the commission on AI, for a civil liability regime, intellectual property rights, and ethical aspects of AI. The resolution for ethical aspects of AI provides recommendations to the commission and states the importance of human-centered AI and points out to values such as dignity, transparency, non-discrimination, gender equality, fundamental human rights and freedoms, and sustainability. EP suggests a risk-based approach for the regulatory framework with stricter rules for high-risk technologies to provide safety. At the same time, the resolution highlights the need for a strong ethical framework.

EP also proposes national supervisory authorities for governance, while also promoting collaboration across the EU to avoid fragmented regulations for strong governance. This strategy intends to establish a consistent ethical and regulatory framework for AI technologies across the EU.

2.3.7 Proposal for a EU AI Act (2021)

EC submitted its proposal for the EU AI Act on April 21, 2021 along with its annex which is the “Coordinated Plan on Artificial Intelligence”. This proposal with the aim of achieve the objectives mentioned in every document until this point by creating a legal framework for trustworthy AI. Objectives are mentioned in detail at the beginning pages of the proposal which is an explanatory memorandum.

The framework which proposed a risk-based approach for AI systems is designed to be in line with existing EU laws and complement them. The proposal introduces regulatory sandboxes that will provide the controlled testing of AI technologies for increasing innovation. Special attention has been given to small and

medium-sized enterprises by introducing provisions that minimize the regulatory burdens to provide compliance.

2.3.8 The future of European competitiveness Report (September 2024)

The report prepared by Mario Draghi underlines the challenges the EU faces in the last years that have slowed its growth in the rising global competition. The report shares the need to be more productive with action and change, along with possible strategies for enhancing the EU's competitiveness.

The report underlines EU's weakness in new technologies, however mentions that AI is a new technology that the EU still has time to lead the way of it. Considering the big chances that the AI will have in sectors that the EU is the leader in development of AI in Europe is important. The report also mentions the effect of regulatory barriers to limit growth for the technology sector for new companies while also mentioning that the GDPR and EU AI Act has the potential to slow down the development of national AI Technologies because of the complexity, possibility contradictions.

2.3.9 A Competitiveness Compass for the EU (January 2025)

The report highlights the EU's need to use its strengths, overcome obstacles and take its competitiveness back since the EU has fallen behind in competitiveness to other major economies. The main problem is because of an absence of innovation, where the EU can't turn its ideas into market-ready Technologies.

The report lists AI as one of the important Technologies that the EU has to be at the forefront of, recognizes the EU's position as leading the global regulatory

framework in technologies like the EU AI Act, and states that it is now time to shift focus to increase productivity outcomes from technology.

Timeline for the EU AI Act continued as follows:

- Council of the EU adopted General Approach on the proposed AI Act (November 25, 2022).
- Amendments adopted on the proposed act by the European Parliament (June 14, 2023)
- The European Council adopted the EU AI Act (21 May 2024)
- The EU Official Journal published the AI Act (12 July 2024)

2.4 Main pillars of the EU AI Act

2.4.1 Introduction

The EU AI Act is a significant regulation not just for the European Union but for the global AI landscape. It proposes to regulate AI technologies by securing the protection of the rights of individuals and businesses within its scope. As the first of its kind, it puts the European Union in a leading position for trustworthy and safe AI technologies.

This section will mention the core pillars of the EU AI Act, explaining how AI technology is regulated, and will explain their intended benefits as well as the challenges they may present.

Countries around the world have different ways of regulating AI. These differences are shaped by their cultural values, legal traditions, and priorities. The EU decided to have a more unified approach among its member states by establishing the EU AI Act. In contrast, the United States has a more decentralized approach; there is no federal AI regulation in the USA yet. However, states are

acting on their own terms to regulate AI. While the State of Colorado adopted an AI act that is similar to the EU AI Act by following a risk-based approach, some states did not.

China follows a centralized approach, unlike the USA. However, China has national security concerns and goals for economic growth, and its AI governance is influenced by it (Sajduk & Dziwisz, 2024), while the EU is more influenced by democratic values and consumer protection.

2.4.2 Detailed analysis of the main pillars of the EU AI Act

2.4.2.1 Risk-based approach

2.4.2.1.1 Definition and categorization of risks

The EU AI Act adopts a risk-based approach for AI systems (EU AI Act, Preamble 26). The higher the risk from AI, the stricter the rules applied will be which makes sure that regulations are appropriate and secure for the potentials of AI applications.

There are four categories of risks, which are :

Unacceptable risk AI systems: systems that pose an important threat to citizens' safety and cannot operate within the EU. These systems are prohibited by the act. The act identifies eight practices that constitute an unacceptable risk; some of these practices include social scoring, emotion recognition systems, and biometric categorization.

High-Risk AI Systems: High-risk AI systems also pose an important threat to the safety of citizens, but not to the degree that requires a ban, but rather a really careful and strict management. The act defines two categories of high-risk systems:

- 1- AI systems that are a safety component of a product and must undergo a third-party conformity assessment (EU AI Act, Article 6).

- 2- Systems mentioned in Annex III of the act, some of those systems include AI used in remote biometric identification, critical infrastructure, immigration and asylum.

Limited Risk AI Systems: These are also called transparency risks since it is a transparency obligation that requires users of AI systems to be informed about the fact that they are interacting with an AI unless it is obvious from the perspective of a reasonable person. Also, generated content like deep fakes should be labeled as artificially generated.

Minimal or no-risk AI systems: The AI systems that do not fall into the scope of previously mentioned levels of risk create no or minimal risk. These systems are not under any obligation within the scope of EU AI Act, but businesses might choose to implement voluntary codes of conduct in line with Article 95 of the EU AI Act.

2.4.2.1.2 Rationale behind the approach

The risk-based approach acknowledges the varied applications of AI. These range from low-risk uses, such as spam filters, to high-risk scenarios like biometric identification. EU AI Act, with its preamble 26, explains the rationale behind the risk-based approach to provide a proportionate and effective set of rules. With this approach, the EU prevents overregulation and makes sure that obligations at the necessary amount are imposed.

Johns, Thorton, De Silva (2025) criticize the risk-based approach of the EU AI Act for several reasons. They argue that risk measurement is flawed and that there is no universally accepted AI definition, which results in uncertainty in regulatory standards. Also, the focus on high-risk AI systems overlooks the potential harms from lower-risk systems, which can be undetected.

Ebers (2024) states that, the absence of risk-benefit analysis where both the risks and benefits of an AI technology are conducted and which outweigh is determined; reliance on predefined, closed risk categories leads to over-regulation of low-risk systems and under-regulation of high-risk ones; and the broad definition of results in unnecessary regulatory burdens are some of the pitfalls mentioned by Ebers.

Wachter (2024) also points out limited amplific evidence listed in the act by stating that the applications mentioned for high-risk AI systems within Annex III are not sufficient to explain all of the high-risk areas, like media, science, and academia.

Almada and Radu (2024) state that the rules for high-risk AI systems are comprehensively defined but formulated in abstract terms that can lead to arbitrary interpretations.

While there are those who criticize, there are also many who support the risk-based approach. Csernatoni (2024) states that the risk-based approach of the AI Act serves to the human-centric governance of AI.

Mantelero (2024) states that the risk-based approach of the act is beneficial, by providing a room for an acceptable risk and most importantly focusing on the high-risk systems with stricter rules, it creates a room for innovation and growth.

Mema (2024) interprets the risk-based approach aspect of the EU AI Act as one of its most innovative features.

2.4.3 Human-centric governance

Human-centric and trustworthy AI is one of the first things that the EU defined in recital one of the EU AI Act. The Act accepts a human-centric approach and

promotes the use of AI in a way that contributes to human well-being and protects the fundamental rights and freedoms of its citizens.

The Pirozzoli (2024) underlines the importance of a human-centric AI governance considering the fact that there is a comprehensive AI application area; therefore the governance of it can seriously impact the society in order for AI and humans to be able to exist together. Act promotes the responsible use of AI by focusing on ethical principles such as human dignity and non-discrimination while also creating a balance among innovation and law.

Larson et al. (2020), before the publication of the act, stated the importance of need for social and technical infrastructure for a trustworthy and a human-centered regulation that is reflection of European values.

A report by AI & Partners (2025) state that EU AI Act is drafted in a trustworthy way that benefits whole society that is in line with democratic principles. Besides protecting citizens and businesses, it set an example for responsible development of their technologies that is beneficial for the society with this EU also put itself in a leading position for global development of AI with European values.

Helberger (2024) states that she is expecting the core principle of human-centric approach of the act that respects and protects fundamental rights of those who are subject to it to be in force even after 20 years.

However, despite these, there are also discussions about the extent of its protection. Almada and Radu (2024) criticized the AI Act for providing limited protection of fundamental rights.

2.4.4 Sanctions and enforcement

2.4.4.1 Overview of penalties

The EU regulates penalties for noncompliance with the AI Act provisions within Article 99 of the act. While determining the penalties, the EU also shows the importance of proportionate and effective sanctions. According to the article, possible sanctions are:

Those engaging in forbidden AI activities will be fined up to EUR 35 million or 7% of the company's total worldwide annual turnover, whichever is higher. For non-compliance with high-risk AI systems and non-compliance with some other provisions, it is EUR15 million or 3% of the company's turnover.

The fine applicable will be the lower amount for small and medium enterprises and start-ups. These significant penalties show the EU's dedication to making sure that AI systems are regulated in a strict and responsible way while also considering proportionality.

2.4.4.2 Enforcement strategies

The enforcement strategy that the EU has is more of a decentralized strategy.

Member states are responsible on their own for monitoring compliance with the act; however, EU still plays a role with coordination and advisory functions.

At the decentralized level, every member state is required to set up or appoint at least one market surveillance authority, along with at least one notifying authority.

Notifying authorities will be responsible for implementing the necessary processes for assessing, designating, and notifying conformity assessment bodies, as well as overseeing their activities. These processes must be developed in collaboration with the notifying authorities from all member states. Market

surveillance authorities will carry out compliance investigations and enforcement measures in accordance with the AI Act. They will operate per EU Regulation 2019/1020, which governs market surveillance and product compliance.

AI Office, on the other hand, which is a centralized enforcement body established by the EU Commission, has the right to enforce provisions related to General-Purpose AI Models.

Söderlund and Larsson (2024), state that GDPR has faced inconsistent enforcement across member states of the EU, and it is possible for AI act to have similar issues concerning the fact that they have similar enforcement mechanisms.

2.4.4.3 Comparative analysis with the GDPR

The fines that can be imposed within the EU AI Act are more severe compared to the GDPR. However, two regulations have similar enforcement mechanisms; while the EU AI Act has market surveillance authorities for decentralized enforcement, GDPR has data protection authorities. For the centralized enforcement, while the AI Act has AI office GDPR has European data protection board.

2.4.5 Gradual implementation

The EU AI Act features a gradual implementation of its provisions. This approach is designed to give stakeholders time to adjust to the new requirements introduced with the Act while important provisions take effect quickly. The main milestones in the Act's implementation are:

- August, 2024: EU AI Act enter into force
- 2 February 2025: Prohibited AI practices must be withdrawn from the market

- 2 August 2025: Provisions for obligations of providers of general-purpose AI models, appointments of member state bodies and penalties come into force.
- 2 August 2026: All provision of the Act comes into force, including obligations for high-risk systems but except Article 6(1) of the Act
- 2 August 2027: Article 6(1) begin to apply
- 2 August 2031, The Commission conducts assessments and provide EU parliament report about enforcement of the Act.

The gradual implementation will help businesses to adapt to the environment that the AI act creates. Especially considering the possible heavy penalties, this approach will encourage businesses to experiment more and prepare their technologies for upcoming regulations.

Also, the regulators will be able to better assess the impact of each provision and address unforeseen challenges in a timely and more effective way. However, the extended timeline could delay the introduction of essential protections and create regulatory gaps during the transition phase.

2.4.6 Cooperative business environment and innovation support

EU AI Act creates a supportive business environment and increases innovation with methods like regulatory sandboxes and fostering collaboration.

2.4.6.1 Regulatory sandboxes

Regulatory sandboxes are legal structures that permit the supervised experimentation of innovative technologies. They have two roles, which are to foster business and provide regulatory learning (Madiaga & Van De Pol, 2022).

Regulatory sandboxes are important in the context of AI technologies, considering the fast evolution of technology and the possible risks coming with the AI systems. EU AI Act regulates regulatory sandboxes with the aim of supporting innovation.

Member states have to set up at least one AI regulatory sandbox. This will help to develop and test new AI systems with regulatory supervision before these systems are launched or used (EU AI Act, para. 138).

AI regulatory sandboxes provide a platform for experimentation so that AI systems can be tested without the burden of compliance. It will also help regulators observe the implications of AI technologies firsthand and understand them in practical, real-world examples.

2.4.6.2 Fostering collaboration

EU aims to create a collaborative ecosystem among member states and EU with the EU AI Act. This need for collaboration is one of the reasons for the establishment of the EU AI Office. Effective collaboration between the AI office and other enforcement bodies is important in terms of providing a consistent implementation of the act.

Another important thing the EU did is to foster collaboration between public and private entities. The initiatives that the EU launched, like Horizon 2020 and Invest AI (2025), plan to create funding for private entities and foster collaboration between public and private entities.

2.4.7 EU AI Act and market dynamics

2.4.7.1 Impact on the digital single market

EU AI Act is a supportive mechanism for the EU digital single market with the goal of preventing fragmentation caused by national laws of the member states (Cantero Gamito & Marsden, 2024). Therefore, the Act's most important impact on the DSM is to create a harmonized AI regulation across the EU.

The harmonized regulatory framework provided by the EU AI Act can also help companies from member states to provide AI services to other member states easily without different regulatory burdens. This will make cross-border transactions for AI services easier and contribute to the digital single market approach.

2.4.7.2 Economic implications

EU AI Act aims to support innovation and investment in AI technologies (Cancela-Outeda, 2024, p.6). However, the act introduces many financial burdens for developers and deployers of AI systems.

Compliance with the act, like providing up-to-date technical documentation, human oversight, and establishing a quality management system, is costly. This burden of compliance costs may slow down innovation and entrepreneurship within the AI industry (Butt, 2024). Besides the financial burdens of compliance, noncompliance can cause even heavier financial penalties.

Therefore, it is possible to say that these economic implications created by the EU AI Act can discourage many companies, especially small and medium enterprises, and entrepreneurship in AI technologies. EU drafted different provisions for some cases for SME's like the applicable penalty being the lowest one for SME's

as mentioned above. However, the effectiveness of these precautions is yet to be seen.

2.4.7.3 Ecosystem creation

EU AI Act is complementary to the GDPR and DSA for Europe's digital power. Together, they create a comprehensive and strong regulatory framework for development of AI technologies while protecting fundamental rights and providing data protection.

Besides shaping the future of the EU's digital future with the ecosystem it creates, it also creates a global ecosystem by setting global standards for AI governance, creating influence beyond European borders.

2.5 Türkiye's vision for AI

2.5.1 Introduction

As previously discussed, it is a fact that AI's rapid development is changing the world. It is affecting government policies, economies, and the job market. It is reasonable for each country to wish to have access to this kind of technology to develop its citizens and businesses. Türkiye, located geographically as a bridge between Europe and Asia, is engaging in this technological evolution to have a place in the global AI landscape.

2.5.2 National AI Strategy (2021-2025)

Presidency of Republic of Türkiye has released the national AI strategy (NAIS) in August 2021. This strategy is important especially considering that this is the first AI strategy document released by the Turkish government. The report shows

Türkiye’s vision as “creating value on a global scale with an agile and sustainable AI ecosystem for a prosperous Türkiye” (Digital Transformation Office & Ministry of Industry and Technology, 2021).

The primary objectives of the NAIS are :

- Fostering AI expertise and creating new jobs
- Enhancing data infrastructure
- New educational programs will be introduced
- Establishing ethical frameworks to speed development of AI
- Positioning Türkiye among the top 20 countries in international AI indexes
- Having a strong international corporation and participation for AI development

It is also planned with the strategy document that a NAIS Steering Committee will be established to oversee the implementation of NAIS. Also, an AI Ecosystem Advisory Group, including private sector, academic, and NGO representatives, will monitor the NAIS to enhance the effectiveness of the process with their opinions.

2.5.3 Artificial intelligence 2024-2025 action plan

NAIS (2021-2025) has been updated as NAIS Action plan 2024-2025 in 2024 concerning the recent developments in AI technologies and the country's needs. The new action plan explicitly determines the necessary actions, responsible and relevant institutions, and strategic priorities associated with them.

Some of the key actions include a Turkish large language model (LLM) will be developed, a national regulation will be prepared that is in line with international norms, a legal research guide for AI Applications will also be prepared. Additionally,

a trusted AI mark will be introduced as a certification mechanism to ensure the compliance of AI applications.

This new update is important for Türkiye because it is a document that shifts Türkiye's position from broad AI policies to specific goals. It states that Türkiye is taking action on AI development and regulations with a more specific and target-oriented approach.

2.5.4 Türkiye's engagement with EU AI initiatives

Türkiye's participation to observe EU AI legislative processes and its collaboration in European research programs like Humane AI . Also Türkiye's participation in the EDIH network, through consortiums like "AI EDIH Türkiye," which will support digital and green transformation with an emphasis on AI.

These actions of Türkiye are important for us to understand that Türkiye has been active with its AI policies about aligning with the EU. By engaging with EU AI initiatives, Türkiye shows a commitment to fostering an AI ecosystem in line with European standards.

2.5.5 AI regulatory framework in Türkiye

Currently, Türkiye does not have an AI regulation. However, the country relies on existing regulations for AI-related issues, such as the Turkish code of obligations, consumer protection law, and data protection law.

Turkish data protection authority released a nonbinding document including its recommendations to protect data in AI. This document includes recommendations for processing data in AI applications. Some of the key recommendations include respecting fundamental rights and freedoms, human

dignity, the necessity of privacy impact assessments, minimizing data usage, and allowing individuals to object to data processing.

2.5.5.1 Proposed AI act in Türkiye

In June 2024, a draft law on AI was introduced to the Turkish Grand National Assembly by MP Ömer Faruk Gergerlioğlu. The proposed act defined its aim with its Article 1 as to ensure the safe, ethical and fair use of AI technologies, and maximize the benefits of AI systems to society. With this, it is possible to say that the proposed act and the EU AI Act can have similar goals and objectives.

However, despite their similarities, the two laws are designed in different ways. The proposed act contains only eight articles, while the EU AI is a comprehensive regulation with 113 articles.

The second article of the draft provides definitions for AI, Providers, Deployers, Importers, Distributors, and AI operators. Considering the fact that the EU act has 68 definitions, including definitions of risk, GPAM, it is possible to say that the Turkish version lacks significant definitions. Another important aspect is Turkish definition of deployers does not contain public authorities which means that public authorities who are deployers of AI systems cannot be considered within the scope of Turkish AI act.

The third article underlines the fundamental principles like transparency, security, and fairness, which is in line with the EU AI Act even though its scope is narrow and needs further discussion.

EU AI Act has a risk based approach that defines 4 different levels of risk, the proposal does not explicitly categorize AI systems by risk levels but states with its 4th article that a risk assessment shall be conducted and that specific precautions

should be taken for high-risk systems while the proposal does not include a definition of high risk AI systems nor what should these precautions should be.

Article 5 of the proposal states that supervisory authorities should detect compliance with the act but it doesn't explain on who should be the competent supervisory authorities.

The proposal has a penalty clause with its article 6 inspired by EU AI Act since it contains fines up to specific threshold or a percentage of companies annual turnover. However it has not as detailed like the EU AI Act and there are many missing point. Whether the higher or the less penalty would be applied, or there is a penalty for banned AI applications, there is also no definition of what would constitute a banned AI application.

Articles 7 and 8 of the proposal are the provisions about the laws entry into force.

Therefore, it is possible to say that the proposed act would not meet the needs of Türkiye or any country since it has gaps it does not provide a comprehensive legal protection. However, this act stands as a starting point, a benchmark for Türkiye's and AI regulation journey.

2.5.6 Impact of EU AI Act on Turkish industries

Turkish companies operating in the EU market must comply with the EU AI Act because of the extra-territorial reach of the EU AI Act. This means that even if a company is legally based in Türkiye, it must be in compliance with the European standards when engaging with the EU market.

However, what must be assessed if it is considered to directly adapting the EU AI Act into Turkish legal system, would be the understand the ecosystem of

companies in Türkiye and how many of them are operating in the EU. Additionally, it is important to determine whether Türkiye wishes to apply the same regulatory standards to foreign companies operating in Türkiye and to those exclusively serving the Turkish market.

While there is no research on the Turkish companies operating in the EU, ITOSAM has research about Turkish AI companies. Number of Turkish AI companies went from 572 in 2020 to 1195 in 2024. Therefore it is possible to say that Turkish market is trying to catch up with the trend of AI companies and a significant growth within the country has been seen.

2.6 Türkiye and the EU: alignment, EU AI Act

2.6.1 Introduction

Türkiye and the EU have a long-standing relationship shaped by many economic and political factors. Despite stalled EU accession negotiations, Türkiye still is a candidate country and continues to harmonize its laws with the EU acquis. These relations would be important to analyze and understand the actions Türkiye can take in terms of the EU AI Act.

2.6.2 Türkiye's relationship with the EU

The official relationship between Türkiye and the EU began with the signing of the Ankara Agreement on September 1, 1963, between Türkiye and the EEC, the EU's predecessor. The Ankara agreement was planned to have three stages: the preparatory stage, transitional stage, and final period with the establishment of a Customs Union between Türkiye and the EEC.

Türkiye applied for full EU membership in 1987, which marks a beginning point for Türkiye's wish to join the EU. Türkiye was recognized as a candidate for EU membership in 1999 at the Helsinki European Council. However, the negotiations for membership began in 2005.

Turkish government announced its “National Programmes for the Adoption of the EU Acquis” in 2001, which covers the necessary actions to be taken by Türkiye in the short and medium term to achieve EU standards of rights and obligations to get full membership of the EU.

Despite efforts for years, Türkiye's accession process has remained stable in recent years. Even though Türkiye is not an EU member, it is still a candidate country. The EU, in its working documents on Türkiye dated 2024, stated that Türkiye's membership process stands still due to concerns about Türkiye's democracy and rule of law (European Commission, 2024). However, despite this process, it stated that Türkiye is a key EU partner in areas such as trade and migration and that Türkiye was the 5th largest trading partner of the EU in 2023, with EUR 206 billion.

Türkiye responded to the report with its press release. It acknowledged positive aspects in the report but rejected criticisms of its political system, stating that the EU's assessments are biased (Republic of Türkiye Ministry of Foreign Affairs, 2024). Despite their disagreement on certain issues, Türkiye stated that it is committed to strengthening EU-Türkiye relations in a constructive way and expects practical steps from the EU to accelerate its membership process.

2.6.3 Alignment efforts of Türkiye to the EU legislation

Türkiye has taken important steps to align its legislations with the EU acquis. These efforts cover various areas, a notable example include the Personal Data Protection Law (KVKK), inspired after the EU's GDPR also alignments in competition law, consumer protection, and environmental regulations.

Personal Data Protection Law (KVKK): Türkiye enacted KVKK in 2016, the law was based on the EU Data Protection Directive (European Parliament & Council of the European Union, 1995). However with the release of GDPR in 2018 the realm of data protection has changed. Türkiye with its 8th Judicial Reform Package, dated March 2024, has made some changes within the KVKK to better align with the GDPR. Turkish Data Protection Authority has underlined harmonization with the EU acquis as one of the reasons for these changes. However this attempt of Türkiye was not seen enough by the EU, EU stated that despite the changes KVKK was not aligned with the EU standards (European Commission, 2024).

Besides KVKK, Türkiye took many actions to be in line with EU acquis throughout the history. The first Consumer Protection Law of Türkiye adopted in 1995 was in line with EU consumer protection principles. Also, Turkish Competition Authority applies principles similar to the EU Competition Law.

2.6.4 Necessity for Türkiye to comply with EU standards

2.6.4.1 Economic integration

An important part of Türkiye's economic integration with the EU is the Customs Union, established in 1995 with the CU Agreement. The agreement facilitated removal of tariffs, and mandated Türkiye to align its customs tariffs and regulations, commercial policies, competition policies, intellectual property rights with the EU.

Fast forward to the present day, this integration has significantly increased bilateral trade, reaching €206 billion in 2023 and making Türkiye, EU's fifth-largest trade partner.

Therefore, it is possible to say that there is a significant level of economic integration between Türkiye and EU. This level of economic integration highlights the necessity of Türkiye to comply with EU standards to maintain and enhance its trade relationships with the EU. Also, compliance with EU standards is important for Turkish companies to maintain their access to the European market.

2.6.4.2 Regulatory harmonization

Aligning Turkish regulations with EU standards will allow easy transactions between two geographies. It will increase the trust in Turkish regulations and therefore attract foreigners more in terms of investments and migration. It will also increase the competition of Turkish industries to abroad.

The Brussels effect, helps with regulatory harmonization among different countries. An ECIPE paper by Bauer and Pandya (2024) state that a regulatory fragmentation can make the international business environment more complex, and it could be challenging and costly for businesses to trying to deal with this complexity along with trying to keep up with the business environment.

Harmonization for each sector can bring different benefits. In terms of technology and AI, aligning with EU standards would mean catching up with the digital development, increasing tech sector's global reach and creating a competitive AI ecosystem for Türkiye.

2.6.5 Necessity for Türkiye to comply with EU AI Act

Türkiye is a candidate for EU membership but is still not an EU member and is not legally bound to adopt the EU AI Act. However, Turkish AI companies operating in the EU must comply with the EU AI Act due to its extraterritorial reach. This means many Turkish businesses will be implementing EU AI standards, even though Türkiye has no official AI law yet, considering the global reach of technology.

Considering everything discussed: EU-Türkiye relations, alignment with EU acquis, Türkiye's wish to be an EU member state, economic ties, it is possible to say that there is a degree of political and economic pressure for Türkiye to at least consider regulatory harmonization with EU.

CHAPTER 3

DISCUSSION

3.1 Conceptual discussion of Brussels Effect, Strategic Autonomy, and EU AI Act features

There is an interplay between the risk-based approach and human-centric governance of the EU AI Act and the EU's Strategic autonomy. The EU, by adopting a risk-based and human-centric approach, takes a different, first of its kind in AI technologies and strong stance on AI governance. It regulates AI Technologies in a new way that balances innovation and regulation by applying stricter rules on higher-risk systems, and shows what could be possibly "safe". It is a human-centric regulation that puts the safeguarding and protecting the rights of citizens first, rather than the potential innovative business solutions or improvements in an innovative ecosystem. With these features EU brings a groundbreaking solution to potential risks of AI, by bringing innovative, safe, different regulation that complements to human well-being, it increases its digital sovereignty and gains strategic autonomy in the AI regulations realm. Strategic autonomy is more about the EU's role and goals as a leading international actor (Beaucillon, 2023).

By leading the way for this groundbreaking legislation, the EU assures to inspire others and create a potential Brussels Effect for other AI regulations as well. Considering the market size, regulatory capacity of the EU along with a well-crafted, first comprehensive AI act that complements fundamental human rights, it will most likely create a Brussels effect both in de facto and de jure ways. However, of course, the extent of these effects will be different based on each country.

3.2 Case of Türkiye

After answering the Q1 it is understood that it is very likely that the EU AI Act will have a Brussels effect for other AI regulations all around the world. Also with Q2, it is answered that features of the risk-based approach and human-centric AI governance serve as a cornerstone for EU strategic autonomy in AI governance. This discussion part of the thesis will try to answer how these Brussels Effect and Strategic Autonomy concepts construct a base for AI regulatory attempts in Türkiye.

Firstly, to analyze the Brussels effect side, the determinants of the Brussels Effect by Anu Bradford, along with the analysis of Siegmann and Anderljung in the case of the EU AI Act, shall be discussed with the case of Türkiye.

EU's AI *market size* is 15% of the worldwide market, also considering EU being one of the most important trading partners of Türkiye it is very unlikely that Turkish companies would want to leave that big of market size of a Union it has been partners with.

EU AI act is a *stringent* and comprehensive regulation, especially with risk based approach which underlines that it has almost no tolerance for higher-risk AI systems, considering the fact that Türkiye does not have any AI regulation in force, the other laws in force are not enough to create a protective measure like the EU AI Act, and the proposed AI act does not make a comprehensive protection rather creates a brief framework so all lead to the fact that the EU AI Act would be appealing to Turkish companies who wish to attract customers who value protection in terms of stringency.

EU's regulatory capacity is strong, considering the past legislations of the EU, like GDPR, combined with EU being the first one to regulate AI will create a strong emphasis on other countries, and Turkish companies, considering the fact that

they are part of a county that wants to be a part of this union would feel the need to get benefits from this craftsmanship.

In terms of inelasticity, it is inability of a product to respond to regulatory changes. Due to the candidate status of Türkiye, there is already an accepted motivation towards legal harmonization with the EU. Considering the fact that the AI market is still in development in Türkiye and there is no enforced regulation on AI, the EU AI Act stands as the main legal document that can provide legal certainty, credibility, and make Türkiye closer to EU integration. AI-focused, innovative product and services in Türkiye will therefore be aligned with the EU norms and values. Compared to countries such as China, where AI generated products and services conflict with the EU norms and values, Türkiye's candidate status eventually provides a limitation to cope with the EU governance of AI, making the Brussels Effect applicable. In this regard, inelasticity may be interpreted as the Brussels effect that provides legal certainty for the Turkish AI market but also enforce a controlled progress that prioritize risk orientation and human-focused AI development. The long-term benefits of access, alignment, and legal certainty are likely to increase inelasticity and encourage Turkish firms to comply voluntarily with the EU AI Act. Non division or costs of differentiation can cause different effects based on each company and their product. Based on the nature, technical, and legal differentiation of the product, the markets that the company is active in, can all affect it. Therefore it is possible to say that there is a possibility of high cost differentiation in the case of Türkiye, which can lead to the Brussels effect; however, it would not be possible to generalize this to a case of Türkiye since the outcome and effects may be different based on each company. Also, it must be noted that because of the concept of interoperability, it is expected that global regional, and national AI systems will

naturally develop the technical ability to work together. It seems very likely that this criteria of non division will be less important or maybe ineffective in the future.

In terms of de jure Brussels Effect: In terms of blueprint channel, Türkiye currently does not have an AI regulation, the proposed AI act is really basic framework that does not provide enough coverage for such an important technology, also considering the fact that preparation of EU AI Act took years, it could be possible and reasonable for Türkiye to inspire from a ready to use act.

In terms of conditionality channel, Türkiye has been part of the EU acquis for years therefore, it is important for Türkiye to be in line with European regulations since it could strengthen Türkiye's position in terms of EU alignment and membership, also maybe non-alignment can put Türkiye in a non-advantageous position since it would mean not complying with EU acquis.

Multilateral channel also seems possible, considering the fact that ISO is also working on a standardization in AI (International Organization for Standardization, n.d.) and that standardization could happen through EU and considering that this kind of standardization would be important for Türkiye because of past efforts can create de jure Brussels effect on Türkiye. However the extent of this effect may be different based on the relevant institute or the consensus therefore it would not be right to generalize without the possible details of this channel.

Lastly for the De facto channel considering the international extent of AI technologies there will be companies operating in line with the AI act in Türkiye, however considering the newly emerging market of AI in Türkiye those companies would not be effective and strong enough to lobby and affect decisions of lawmakers.

In light of all of these, it is possible to say that the EU AI Act is very likely to create both de facto and de jure potential Brussels Effect in Türkiye and affect its

regulatory attempts to regulate AI. However, the extent of these are not the same, I am of the opinion that the EU AI Act has more of the potential to create de jure Brussels effect particularly driven by blueprint and conditional channels in Türkiye especially considering the factors of lack of AI regulation in Türkiye, EU Türkiye trade relations and Türkiye's EU acquis position. Therefore, it is likely that the Brussels effect will cause some legal harmonization attempts in Türkiye. However, it must be noted that the Türkiye's position with EU, its trade relations, EU acquis position they all are encouraging factors for Türkiye to choose to be a part of this and continue to harmonize its legal system.

To discuss how the strategic autonomy driven by a risk-based approach and human-centric governance affects Türkiye's regulatory attempts. The EU has a strong strategic autonomy with the AI act backed by being the first one to bring a risk-based approach and human-centric governance for AI that promotes innovation, democracy, the well-being of its citizens, and the values EU upholds. The position of the EU, its strong ability to regulate a newly emerging technology with a structure it created on its own, which reflects European values, could be inspiring for Türkiye. This strength offers Türkiye an attractive legal model that could lead the legal harmonization attempts. This regulatory harmonization may increase Türkiye's credibility in the EU market, considering the strong trade relations with the EU, besides this, it would mean an alignment with a globally recognized regulation, which could also bring prestige in the global market.

Risk-based approach balances innovation and protection that could help Türkiye to provide a well-crafted protection for its citizens and benefit from a reputation of already in forced regulation. The human-centric approach upholds

democratic values, which is something that Türkiye should also stand for, especially concerning Türkiye's membership in ECHR.

There is one more important aspect that needs to be discussed on this issue, being inspired by the EU's strategic autonomy, and starting a legal harmonization in accordance with the AI act, would that mean that Türkiye is not pursuing its own strategic autonomy, and could it create any disadvantages for Türkiye? As elaborated before, Türkiye has its own national AI strategy, therefore, it could be possible for Türkiye to not to accept legal harmonization with EU and pursue its own strategy. However, in my opinion, it would not be reasonable for Türkiye to pursue a completely independent strategic autonomy of its own. What should be done if there is a goal of its strategic autonomy would be to merge the legal harmonization along with its own national development goals.

Strategic autonomy could be a common regulatory imperative for both the EU and Türkiye. Türkiye could strengthen its governance by being a part of the EU's strategic autonomy. Also, besides all of this, there is an aspiration of Türkiye to be an EU member; therefore, it wishes to be a part of that strategic autonomy one day.

3.3 Conclusion and limitations

In light of the everything, we discussed that it is very likely for the EU AI Act, the comprehensive and well crafted regulation that is first of its kind to create a worldwide Brussels effect and inspire other countries AI regulations.

Not only being the first comprehensive AI regulation, but also bringing innovative legal protections for its citizens especially through them by its risk based approach and human centric governance EU AI Act gains the EU a strong strategic autonomy in the realm of AI governance.

We conclude that the Brussels Effect of the EU AI Act and EU's strategic autonomy with the EU AI Act strengthen by the risk-based approach and the human-centric governance of the act will more likely to effect the regulatory attempts for the AI governance in Türkiye. It will likely to eventually create a legal harmonization between EU and Türkiye. Especially considering Türkiye's EU candidacy status, strong trade relations with the EU, and the lack of a national AI regulatory framework.

However, it must be noted that there is no developed AI market in Türkiye as of the present day, along with no proper AI regulation attempts. The current act proposal is really limited and does not create a room for further discussion along with the lack of Turkish AI market.

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