

# AI regulation: Challenges, the EU AI Act and Turkey's approach\*

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This paper discusses the ethical and technical challenges in AI regulation, the impact of the EU AI Act and concerns of experts, and Turkey's possible approach on AI regulation taking into consideration potential outcomes in adopting or not adopting the EU Act by addressing various obstacles in the processes of adopting and implying the Act. Through this analysis, this paper aims to explore regulatory challenges, their reflection on rulemaking processes and research processes in Turkey and evaluate the importance of geopolitics. The challenges in regulation are examined as 1) ethical questions and copyright problems and 2) regulatory problems, which discusses the following topics such as technical difficulties, the importance of global approach and international norms, significance of determining the aim and scope of the regulation. Moreover, the EU AI Act is examined as it offers risk-based solutions to the mentioned issues with a global approach and plays an important role in the field. However, there are obstacles to international cooperation such as 1) aligning with national policies and 2) capacity of the state to provide support to the private sector for research and implying the Act, 3) geopolitical priorities. Considering its regional importance, and being a candidate country, which actively carries out projects in this sphere within the scope of the EU, as well as being the observer state during the process of enacting the act, Turkey is analyzed as a case study. This study highlights the multifaceted aspects of AI regulation by discussing challenges and obstacles within the scope of rulemaking, challenges in international cooperation, and state level in the lens of Turkey.

*Keywords:* AI regulation, digital governance, global AI approach, copyright, the EU AI Act, Turkey's AI regulation, Turkey's AI Strategy.

## Introduction

Society benefits from artificial intelligence more and more thanks to its evolution in recent years. "Artificial intelligence has enormous potential benefits, from enhancing cybersecurity to improving health outcomes, but regulators will be looking more closely at its uses and implementation in 2020" [1]. However, there might be misuse in these applications, so their regulation has been a more serious topic than ever, considering ethical dilemmas and international law. Regulating artificial intelligence is crucial for defining its limits and supporting its evolution by international standards. Moreover, making decisions quickly on the future of AI regulation is as important as taking them effectively. It requires a multidisciplinary approach, expertise from different disciplines, and government and business cooperation.

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There are different acts and bills by various actors, regions, and countries on AI regulation. Professionals from different fields such as scientists, politicians, and AI researchers continuously evaluate possible approaches. However, the realization of the regulation is as important as enforcing it. So, the regulation of AI remains to be a controversial topic. EU AI Act, which is “the first comprehensive AI regulation” [2], voted on its position in June 2023 but not enforced yet, deals with the challenges and is voluntarily adopted by companies like Google and Microsoft [3; 4]. The Act aims to be a global model by the EU, however, the challenges in AI regulation and different obstacles in adopting the EU AI Act or drafting their own regulatory framework for different actors (such as Turkey, considering its regional importance, priorities and balance diplomacy) are challenging due to various dynamics. These factors and different aspects should be evaluated and considered to explore obstacles to a global AI approach.

This study aims to find answers to the questions 1) how the EU AI Act might affect Turkey's future regulation of AI and 2) how the challenges in AI regulation and the impact of the EU AI Act will affect in the context of Turkey. To find answers, it is first discussed the challenges of the AI regulation and the grey areas; and then the concerns on the EU AI Act to assess the implications of these challenges in adopting the regulation considering the different dynamics in the context of Turkey and geopolitics. Therefore, this paper aims to illustrate the AI regulation challenges and their reflection on the rulemaking and research processes in Turkey not only by the systemic or ethical challenges but also by focusing on the political and geopolitical context. The study holds importance as it seeks to discuss the overlooked obstacles at the state level in this sphere, which is critical to understanding and finding solutions for global AI regulation and fairness, and also evaluates the potential approach of Turkey considering various factors.

## Literature Review

The challenges in AI regulation are extensively researched in literature and there is a consensus in this regard. Before categorizing the challenges, Santos et al argue that different authors might describe the categories with their own words such as “equity” or “economic inequality”. Conducting a comprehensive literature review, the main challenges are identified in their study as “ethics”, “bias”, “privacy”, “fairness”, “equity”, “rights and liberties”, “transparency”, “value alignment”, “human control”, “misuse protection”. There are 22 challenges in total which they identified, and these challenges are linked to each other [5]. Another main concern of the experts is the “regulatory disconnect” or whether the regulation competes with AI [6]. So, since AI is rapidly evolving, the regulation must be in compliance and be constantly updated. Considering the concerns and challenges of regulation, there are different approaches to regulating AI. Gervais claims that “the actual regulation” is achieved by “code and kill-switches” and recommends from a more technical standpoint that the regulation might be achieved by modifying the code, and programming the machines' decision-making algorithms in accordance with the principles since “the human legal order is limited in that it can only target humans and legal persons — specifically programmers and users of AI machines.” However, shaping decision-making algorithms by coding is challenging as well, so, risk-based and definition-based approaches are considered to be more applicable to different models.

The EU AI Act aims to achieve an effective regulation which can be applied to different models by adopting a risk-based approach. Upon literature review, it is evident that the scholars agree on the need for regulation and the importance of the Act, however, there are concerns about the risk-based approach and the definitions in the Act as it has its shortcomings. The Act must clarify the definitions thoroughly and be applicable in different contexts. Because generalizing the regulatory framework is not only significant to pace with technology but also for applicability. Smuha et al argue that only a risk-based approach is not enough to effectively regulate AI as it might overlook critical variables and recommend clarification of definitions and adding extra features in evaluating [7, p. 16]. Another recommendation to overcome concerns on the approach, is “combination of various approaches helps to explain the multilevel governance of the AI sector, where national governments, supranational institutions, and international-oriented industry are involved in policymaking” [8]. It does not only make it more applicable in different AI ecosystems but also makes the Act more suitable for future changes.

Yet, current literature underscores the implications of challenges in the non-leading countries in this field. There are different obstacles in 1) adapting the Act in their political system (legislative system in the field, and the previous strategies), 2) adopting it as a model, and 3) enacting its own act within the geopolitical context. Hence, Turkey is a particularly significant country in this regard as it seeks balance diplomacy, is a significant state geopolitically and has previous efforts in this field such as participating in collaborative projects with the EU, and the National AI Strategy. Alp Coskun discusses the role of AI in investment decisions and in this regard evaluates the policy framework in Turkey and states that “...comparing the EU, the development of AI applications based on a policy framework has serious limitations in Turkey” [9], as it will have an impact on the AI ecosystem and consequences economically. In light of the findings, different aspects of regulation and potential obstacles in the case of Turkey are discussed.

## Challenges in AI regulation

The challenges in AI regulation overall can be identified as the unambiguity of the area and the challenges with the current efforts. The first issue is that there are still ethical and unclear questions about artificial intelligence such as copyright of deepfakes, and legal status of the systems. The second is the efforts so far have not been as effective as expected yet, due to various critical reasons as follows 1) there is no international law and standards. International cooperation is essential since cyberspace is borderless, which makes AI harder to regulate and limit; 2) standards such as fairness and transparency might be challenging and hard to apply to some models due to machine learning algorithms' randomness as well as financial considerations of the companies; 3) AI covers a vast spectrum, which requires various approaches for different products and fields.

The intellectual property rights of generative AI are still unresolved. It causes legal and ethical problems. AI-generated content is getting harder to distinguish than human-created content and can easily copy works of visual artists and musicians. So far, many countries have determined that AI work is free of copyright. In the USA, the Court agreed that “Artwork created by artificial intelligence isn't eligible for copyright protection because it lacks human authorship” [10]. In Germany, the author is accepted as the creator [11]. For this reason, the AI-generated work is free of copyright because it is not a legal

entity yet, the company who owns the AI model is, or in some cases, the authors/users may claim patent and ownership as they guide to create the work. These free of copyright works can make millions of dollars, and companies cannot seek any profit, which means financial loss [12].

Another considerable issue is the deepfakes, which can violate the rights of natural persons. The AI-generated work processes the natural persons' voices and images to create deepfakes. It is not illegal to use deepfakes in most cases (unless it complies with Fair Use). Along with AI-generated art/work, deepfakes are major concerns today not only because of copyright but also because they might violate the right to privacy [13].

From this perspective, if AI is not entitled to copyright as it is not a legal entity or a human, it cannot be responsible for its actions. It brings up some questions on high-risk and automated AI use as medical and critical infrastructure tools and autonomous cars. If an autonomous car causes a life loss, AI cannot be held accountable; but the user, the company or the government (due to the legal permission of distribution and use) might be. As these systems are newly adapted, there are not many precedents to analyze thoroughly. However, a self-driving car killed a pedestrian in 2018 in the USA. The user (because the car was not fully automated) and the company were found guilty. Also, it is noted that the pedestrian did not cross the crosswalk. The company was not charged, although it had safety reports beforehand revealing that it was too early to release self-driving cars [14]. Overall, the legal entity and responsibility of AI, in case of a life loss, should be determined as it remains as a grey area. Also, stakeholders should acknowledge possible consequences.

Besides these ethical and unclear questions on the use of AI, the answers must be global to solve them effectively. Firstly, regulations and standards aim to save humans from potential misuse, and they must be applied to everyone with these rights regardless of their region. Next, different standards require different models and tests that complicate marketing processes globally. Given these challenges, both experts from social sciences such as legal and ethics experts and also data scientists should work together to overcome them as Currie et al state [15]. In aiming for effective regulation, products must align with the regulation, and the regulation must align with ethics and prioritize fairness; however, the objectives and solutions must be interconnected with each other in reversed order as well. Ethics and fairness objectives must be practicable and within the scope of technical possibilities. So, not only experts from different spheres, but also multidisciplinary experts from related fields should work on the regulation. The nature of the challenges requires a multidisciplinary approach to clarify the ethical questions, implementation to law, and the solutions must be practicable regarding technical aspects. Considering that the AI regulation process is in its early stages now, instead of expecting international regulation soon, it would be wise to shift focus to globally principle-based approaches and international standards to prevent these regulatory incompatibilities from affecting the market.

Lastly, global approach and international cooperation are crucial factors to ensure effectiveness of regulation since there are AI systems which are used online such as Chat-GPT. As these models are used online, censorship or banning of these sites cannot protect the users competently. If a state bans Chat-GPT or a platform, it can still be accessed easily by VPN. Also, different obligations depending on the country or region might create unfairness in data collecting. These online AI systems have to be subjected to international regulation.

Although laws and standards aim to protect human rights, they may be difficult to implement because of machine learning algorithms. “AI systems, especially machine learning systems, can autonomously identify patterns from a large amount of data and identify therein its actionable qualities” [16]. These systems may create bias over time or due to the randomness of the models. There are various methods in machine learning to prevent different bias types, yet it is still a problem today. Although fairness and transparency are essential for responsible AI, and these policies are adopted by the pioneers of the field such as Microsoft and Google, which have high research capabilities on this field, this might be challenging, especially for small start-ups [17; 18]. Potential overregulation might slow down the process and, accordingly, suppress innovation. From my standpoint, to enact applicable laws, there must be a standardization for different scopes of AI, and most importantly, governments should provide professional help from experts in different fields and operate more research centers to make evaluation and assessment tests to support especially small businesses and start-ups.

As well as systematic challenges, to provide the transparency is also a challenge for the companies due to potential financial loss, unknown risks [19], since this policy overall might contradict data privacy for the models that use individuals' data to predict. Open-source code, on the other hand, makes the code publicly accessible, however, the company is the legal owner of the code/program, yet the competitors may easily come up with similar products with no effort. Transparency is significant for detecting biases and allows access to the data and reveals how the system works. However, the company's ownership and data privacy are subject matter of protection.

There are no particular answers and solutions to these questions and challenges in AI regulation as there are different methods and models. These challenges need to be solved by considering different applications, their method and models, and the risk scale. They appear differently in each model and application. Each type of application comes with its own risks and challenges.

Therefore, AI policy and regulation should be made considering these different models and possible approaches to them to prevent any contradictions between models and not allow inapplicable solutions. Moreover, AI evolves rapidly the current regulations should be prepared taking into account its potential and future problems. As Schuett states, the risk-based approach is a more effective approach than making policies based on the definitions [20]. According to my observations, the categories (science, medical, Fair Use, teaching) should be considered as well as the risk-based approach.

Bearing in mind the questions and possible approaches to preparing an effective policy and regulation, overregulation should be avoided. Regulation of AI is an extremely important topic considering its benefits and potential misuse. An effective regulation encourages safety and responsible AI, which supports human-centered AI in future. On the other hand, overregulation comes with its own risks such as slowing down innovation, creating challenges for especially small start-ups to pass assessment tests and consequently may increase prices. We believe in order to avoid overregulation, experts from different specialties should work together to succeed in making applicable AI regulations, especially in terms of assessment tests.

Additionally, governments and regions should integrate the regulation into their digital strategies to adopt a comprehensive approach as well and they should provide support to apply these assessment tests from experts. For responsible human-centered AI, both the

private sector and the governments should work together and support AI research centers to monitor the processes. Adaptation to act is a considerable process, which will take a longer time without the cooperation of the government and private sector. Moreover, governments and leading companies' support will ease the adaptation process and assist the act to remain applicable.

## The EU AI Act

The EU AI Act is a promising regulatory approach, even though it is still not enforced, and the adaptation to the Act is expected to take time. The Act poses a global importance and influences the USA Senate, and Latin America countries such as Brazil and Chile [21]. It is defined as “the first comprehensive AI Law”. It categorizes the AI systems based on the risk and offers different approaches and obligations. Also, the Act fosters a “human-centric AI approach” and applies to all AI systems. The Act, beyond any doubt, brings solutions to the challenges. However, enforcement of the Act is expected in 2024–2025 [22]. Although the Act is promising, AI constantly evolves and might demand new approaches and methods to regulate.

The Act fosters a risk-based approach as follows; prohibited, high-risk, limited risk, low and minimal risk [23]. Every system is banned in the prohibited/unacceptable risk such as biometrics use in public places (cases like migration, border control and law enforcement are excluded), social scoring, and manipulative, harmful systems. Systems under high-risk are subject to regulation “a safety component of a product or falling under EU health and safety harmonization legislation (e. g. toys, aviation, cars, medical devices, lifts)” and specific categories “could be updated” for now. Registration to the EU database system, conducting assessment tests, and other requirements would be mandatory. Limited risk is the category where the system interacts with humans (chatbots and applications to create deepfakes) and is subjected to transparency requirements. There are no obligations for the minimal risk category [23].

The Act is drafted considering the stakeholders' views and focuses on a risk-based approach, consumer protection and impacts on investment. As stated before, overregulation or the process of accomplishing assessment tests might have an influence on the innovation and market, however, according to the Center for Data Innovation's research, it will have a “chilling effect” [24]. There are some worries about the implementation such as according to transparency, the providers will have to register the EU's own database, also it is criticized by Metin Uzun as “it is important to consider the potential consequences of implementing a horizontal AI regulation that may not be able to keep up with the fast-paced, evolving technology landscape” [25]. Also, Renda states that “The principle of non-maleficence is currently defined in the Draft Ethics Guidelines in a way that is hardly actionable for policy-makers”, and “The Draft Ethics Guidelines contain provisions that are difficult to translate into concrete policy”, and argues there are lacks in definition [26]. Similarly, Smuha et al. “address (a) the Proposal's lack of clarity in its definition of AI, (b) lack of clarity concerning the position of academic researchers, (c) the gap in legal protection against military AI, and (d) the fact that security and intelligence agencies are not mentioned” [7, p. 14].

In accordance with these concerns, Franklin et al also state that there are technical definitions lacking in the Act and aim to clarify concepts by considering different vari-



ables as well, such as taking into account “preferences” when analyzing “behaviour” [27, p. 3, 8]. And “the European Commission focuses on high-risk applications, with almost no requirements for systems with low or minimal risk” [20]. The Act overall is an important step to regulate AI, but the success and effectiveness are still not clear. Moreover, a global approach on regulating AI should not be under the leadership of one region or country, but it should be discussed with all stakeholders to make the regulation effective, just and comprehensive.

## Turkey’s Future AI Regulation and Current Approach

Turkey is one of the countries which has already started to prepare the draft its AI regulation. Regulation also took place as a priority topic in the 6th workshop of the Turkish AI Initiative (TRAI hereinafter) [28]. Turkey actively cooperates with the EU, as a candidate state, and participates in 15 EU programs, which 2 of them directly related to artificial intelligence and ethics [29]. Turkey has attended as an observer to the processes of the Act [30]. Moreover, it carries out the EU program “A human-centered and ethical development of digital and industrial technologies” as a participant [31]. Besides the ongoing programs, The National AI Strategy of Turkey aligns with the European standards and aims to strengthen collaboration with the EU. However, it cannot be concluded that Turkey will adopt the Act as this decision will bring its own consequences, and transform not only the AI ecosystem in the country but also it will have an impact on geopolitics and economy. The rationale behind the choice of this case lies in Turkey’s 1) cooperation in the ongoing programs and aligning national strategy objectives with the EU, 2) geopolitics, 3) economic factors and R&D studies. Furthermore, the future act poses importance not only to the country itself but also to its foreign investors, and diplomatic relations considering Turkey’s balance diplomacy in the international arena.

Foreign-based IT companies, mainly Iranian and Russian, have been increasing rapidly in Turkey, especially since 2022 [32]. Before Turkey’s potential adoption of the EU AI Act, it should be analyzed the country’s place in artificial intelligence and ongoing strategies to understand its position. The role of artificial intelligence is already of paramount importance in Turkey’s policies and visions. However, Turkey is a country which has been working actively to adopt the newest technologies. Turkey has also many strategies for information technologies, such as TUENA (Turkey’s National Information Technologies Plan), which analyzes the adoption of information technologies, determines the needs of the country [33], and compares the other countries’ plans since 1999, also indicates standardization and norms, and one national strategy on artificial intelligence [34]. Another aligning provision with the EU Act’s fairness approach is supporting open code and conducting projects in public institutions to adopt a human-centered approach within the scope of “The Information Society Strategy and Action Plan” in 2015–2018. These plans and strategies, undertaken by the ministries, which not only show that there are already standards and preparedness, but also, they imply the future regulation and strategies of Turkey.

The main document which can be referred to in this field is “The National Artificial Intelligence Strategy” for the period 2021–2025. Regulation is one of the issues that are mentioned in the national AI strategy and the strategy implies norms such as responsible, human-centered, open AI. As can be observed from the priorities of the strategy, it aims to cooperate, accelerate digitalization, support academic research and train AI experts while

adopting a human-centered AI vision. The strategy is developed taking into consideration the views of academicians from leading universities such as Oxford, and Stanford, as well as the priorities and headings of EU countries' strategies. Another key aspect is that it greatly supports research and provides assistance to private sector and public institutions, whose significance in adaptation to regulation is stated in the initial section [35]. It is also stated in the strategy that "Sectoral Co-Creation Laboratories' are established to develop sectoral needs. Working groups will be established under the coordination of the Steering Committee Secretariat on 'technical infrastructure and platforms', 'data governance', 'human resources', 'law and ethics' and 'trustworthy and responsible AI'" [36].

Accordingly, it is expected that the future AI regulation of Turkey will comply with the standards and norms that are indicated in the strategies and visions of the country as there are already serious and valuable efforts in this sphere. Another important document in the field is "Recommendations for the Protection of Personal Data in the Field of Artificial Intelligence", which is prepared with reference to the following documents "Guidelines on Artificial Intelligence and Data Protection", published by the Directorate General of Human Rights and Rule of Law of the Council of Europe, the "Recommendation of the Council on OECD Legal Instruments Artificial Intelligence", and the Council of Europe's "(Draft) Ethic Guidelines for Trustworthy AI" [37]. It can be concluded that Turkey followed the European approach in regulating AI as a guide. Moreover, using artificial intelligence directly or indirectly in the projects aimed at can be seen in many plans within the scope of "The Century of Türkiye" (Türkiye Yüzyılı) [38], which is the second-century vision of the country.

It must be noted that the EU AI Act was adopted as a model by many countries not only to establish global norms and support international cooperation, but also the Act is thorough and drafted by professionals, academics and the private sector. The fact that preparing an artificial intelligence act is challenging due to many reasons, it increases the chances of Turkey's potential adoption. Also, Turkey has participated as an observer to the legislative processes and is a partner of "Humane AI" [39] which is a European research program.

On the other hand, realizing such a comprehensive and detailed act might be also challenging especially considering that Turkey is a popular market for foreign agents. Since 2021, the number of foreign-based firms has increased by 670 %, many of the firms are Iran and Russian-based (1363 firms) including the leading IT firm in Russia "Yandex" [30; 40]. However, the percentage of their investments in IT technologies is limited and the impact directly related with AI is not known. Europe is still the leading region in investments in all sectors in Turkey. Given these circumstances, the future AI act, based on the European model or not, carries a great deal of importance not only for the Turkish stakeholders but also for the foreign firms and investors. Should the European model be adopted in Turkey, foreign firms, even though the act is not adopted in their respective jurisdictions, must align with the European act to run their business in Turkey.

On the other hand, if Turkey, even though aims to comply with international standards according to the National AI Strategy [36], start working on enacting its own regulation, it will need to overcome various obstacles along with the economic factors. Since there are both technical and ethical challenges, unresolved gray areas (copyright, vehicles) etc., to regulate AI effectively demands a serious effort. It can be seen in the rulemaking processes in the EU that there must be a great capacity in the country for the academic base, many experts from different fields and research centers. It is not only economically burdensome but also requires an ample amount of expertise and academic depth.



Among the objectives of the National AI Strategy of 2021–2025, strengthening academic knowledge is one of the priorities. Additionally, cooperation with the private sector plays a crucial role in enacting regulation in this field. Similarly, companies such as Google and Microsoft were consulted during the processes of the EU Act. For this reason, the cooperation with the leading companies in the private sector and the situation in the AI ecosystem of the country are important aspects. Overall, such an attempt will be demanding and require an existing capacity.

Nevertheless, adopting the EU model also comes with obstacles. Such as geopolitical dynamics, the country's AI ecosystem and economic factors. No matter how Turkey aims to cooperate with the EU and seeks European values; another key aspect of the National AI Strategy is a nationalist approach in this field. Also, there is still a need for research and academic expertise to adopt the model and implement such complex regulatory systems. Another potential outcome is the regulation might slow down innovation and it becomes a bigger problem especially in developing countries in this field. Even in the EU, which is one of the largest markets and has much more diverse mechanisms, the Act brought serious concerns related to innovation [41–43]. Slowing down innovation, and potential concerns of foreign investors to adapt this process will have an impact. To avoid such obstacles not only for Turkey but also for other countries, the EU should provide not only the model but also continuous support in adopting the Act. In the first place, research centers should be encouraged and the teams in related countries should be trained for regulation to be effective.

Then, adopting the EU model does not directly give a guarantee in the European market, so, initially incentive packages should be offered to encourage the adaptation to the EU market to relieve economic worries as adapting is a long and complex process and will have an impact especially for countries if the foreign investors are not European (so that they would not directly need to work on the Act to continue their operations in Turkey, and they might leave the Turkish market). If the EU aims to lead in rulemaking in AI regulation, it must be acknowledged that regulation is a continuous process, which is not solely about law-making. Such support might encourage Turkey, however, understanding the importance of geopolitics is also essential. It might not only affect relations with foreign investors, but also diplomatic relations and hinder future cooperation, it is crucial especially bearing in mind that Turkey's balance diplomacy. Additionally, Finocchiaro states that “European “values”, a term that is cited a number of times within the proposal, stressing that the model elaborated is not only normative but also cultural. The aim is to make it clear that it is not only legal rules that are at stake, but also the culture that those rules express” [44].

In our estimation, considering the country's efforts in this field, it is most likely that Turkey will draft its own AI regulation in accordance with global standards and requirements, as well as the EU Act, yet it has been observed that it is unlikely to be taken at a direct model level. When considering the country's domestic and foreign policy, instead of taking it as a model, Turkey might make alterations taking into account its interests and priorities. In addition, it should be noted that Turkey analyzes the risks in the country and takes precautions bearing in mind its priorities in line with international standards, accordingly, establishes committees and provides assistance to the private sector. Therefore, future regulation will most likely comply with the EU AI Act, which is important in terms of the market and the country's global standing in this field, yet directly taking the act as a model is not implied by the authorities. It is envisaged that it will be drafted to meet the

needs of the public and private sectors by Turkey, as well as to protect the citizens and the country's national security. In the future, steps can be taken to support international cooperation within the scope of joint agreements.

## Conclusion

This paper attempts to discuss the challenges and gray areas in AI regulation and concerns with the EU AI Act and delve into the challenges in the adoption of the Act in the case of Turkey. Overall, regulation of AI has gained more importance in recent years, especially since 2021–2022, thanks to the popularization of generative AI. There are still certain issues such as ethical questions and copyright problems that need to be resolved for effective regulation. Right now, AI applications are in different areas and there are not enough precedents yet, and the scope of the regulation and its aim should be determined. Even though there are regulation attempts, they vary depending on the region and country. For this reason, standardization is one of the most significant requirements, especially considering online AI systems. Also, the integration of the regulation should be supported by the government and private sector (especially leading tech companies). To support the integration, research centers are the most important step to assist small start-ups and for exploring new methods for responsible AI.

The EU AI Act is an important example in this regard, and other Latin American countries are also preparing their digital strategies based on this model. Even though the Act is not enforced, and the effectiveness is unclear, it is a promising step for AI regulation. Another important aspect is the future regulations of other countries as many countries plan to take the EU AI Act as a model. Turkey is an important actor considering its investments in this field in the region. Authorities have not announced the future regulation; however, previous plans and strategies show that there are legal infrastructure and preparedness in the country. It is observed that Turkey adopts domestic and nationalist policies with prioritizing international cooperation and following latest global innovations in this field at the same time. Based on the reports of TRAI and the National AI Strategy of Turkey, prioritizing international cooperation and supporting research centers are considered as crucial and required steps. It can be argued that these steps are the solutions to the problems and challenges in regulation which are mentioned in the first chapter. Consequently, Turkey might draft its own regulation with considering global approaches and make international agreements or become a party of them. Overall, regulation of AI should be assessed in the context of artificial intelligence, as well as country's diplomatic relations, national strategical priorities, and economic factors since there are various dynamics play an important role in the adopting a regulation as a model or directly in the example of Turkey.

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