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Algorithmic accountability and ethical oversight: legal challenges in transatlantic AI regulation

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Abstract

This paper examines the legal systems governing AI in the European Union (EU) and the United States (US) and the conditions associated with regulating the growing AI advancement. In comparing the GDPR of the European Union and the proposed AI regulation across industries such as healthcare, transportation, and the military in the United States, similarities and dissimilarities emerge in the two areas'approaches to regulating AI. The current frameworks also lack sufficient provisions regarding ethics and bias, particularly in algorithms and general transparency. This also stresses the importance of a better global approach that would specify necessary mechanisms protecting people's privacy and enforcing accountability and fairness of AI. The insights will be made to suggest improvements regarding the regulation of AI in both areas, as well as an insight into the global discussion about the proper deployment of applied artificial intelligence.

Keywords: AI Regulation; Legal Frameworks; Data Protection; Algorithmic Accountability; Ethical Considerations; Global Cooperation

1. Introduction

AI is becoming integrated into various fields like the medical sector, finance, transport, and policing, and it has advantages and disadvantages]. Modern technologies should be effectively regulated and friended because the advancement of AI technologies is alarming fast. Promoting and facilitating the development of AI implies establishing rules that prevent the violation of freedoms in the use of these technologies, such as privacy and data protection or security and fairness of the processes associated with AI. Torn between engineering and social science approaches, current frameworks fail to address some of the concerns regarding the roles and impact of AI in society. For example, de Almeida et al. (2021) have stressed that, for AI regulation to be effective, a proper governance framework has to be put in place to manage the ethical and legal aspects of deploying these systems.

Furthermore, artificial intelligence already enforces regulations in some of the most delicate and exigent fields, such as medicine. For instance, O'Sullivan et al. (2019) capture the ethical and legal implications of using autonomous robotic surgery if the AI is tasked with making important decisions regarding the operations conducted on patients; this raises high standards of medical ethics. It is, therefore, imperative that as new inventions in artificial intelligence are developed, the relevant principles that seek to address the risks resulting from adopting the technology also evolve. This paper aims to study the current AI regulation in the EU and the US and analyze the efficiency of the current regulation and output pathways and procedures to enhance modern governance in the growing fields of AI.

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1.1. Overview

The legislation predominant in the European Union is the General Data Protection Regulation (GDPR) and the Artificial Intelligence Act (AIA). EU GDPR has played a significant role in regulating privacy and data protection, especially using artificial intelligence in automated decision-making. The AIA also wants to implement risk-sharing frameworks and divide the systems used by artificial intelligence according to their risk levels. Nonetheless, as stated by Pesapane et al. (2018), there are certain issues, and they lie in the fact that there is no comprehensive framework for AI being a medical device. AI regulation is less stringent in the United States, and most rules are sectorial. This is why the Food and Drug Administration is the most dominant agency across the country, as it regulates the use of AI in the health sector. Despite enacting some laws to deal with the ethical issues of AI, such as the laws against algorithmic bias, America does not have an overarching federal AI governing body like the AIA. This leads to a fragmented regulatory structure that we see today, making it even more arduous to understand better, comply with, and be accountable for. While the EU relies more on precautionary principles and resilience, the US is more futuristic and relies on innovations; thus, the different approaches expose the differences in their ways of handling consumer protection and innovation. Thus, it can be stated that the comparison shows that there are some problems in imagining a global governance of Artificial Intelligence both for Southern Europe/ Mediterranean and North America.

1.2. Problem Statement

The legal system of the EU and that of America is currently ill-equipped to handle the advancements in Artificial Intelligence due to complexity that the advancement of AI is bringing. They sometimes lag behind AI development and the complexity of AI applications, creating regulatory voids. First, the issues with the accountability, transparency, and fairness of AI decision-making are still present and vital when AI systems affect important and delicate spheres like healthcare, finances, and employment. However, there are problems with the lack of standardization, for example, between the EU and the US in legal guidelines within the AI industry, which could stifle the development of AI and be confusing for multinational corporations. Additionally, the legal frameworks have not adequately addressed AI's ethical issues as they pertain to algorithmic bias and violation of privacy rights, among others.

1.3. Objectives

This research aims to outline and explain the trends in the regulation of AI in the EU and the US and the differences in their approaches to governance. One of the aims is to assess the usefulness of the mentioned frameworks and the ways they achieve the proper equilibrium between the ethical and technological aspects. Analyzing the comparison of the EU's Artificial Intelligence Act and US state-level policies, this work will discuss how each area addresses important topics like algorithmic responsibility, privacy, and bias. The other objective is to determine if there is a need for enhancement or standardization that would enhance or bring unity to AI regulation across the globe. In conclusion, this research aims to provide the policies, policymakers, and other stakeholders with lessons that will enable them to develop better mechanisms to govern the use of AI for moral purposes.

1.4. Scope and Significance

Therefore, this work concentrates on the legal and regulatory perspectives of AI in the EU and USA concerning the existing and prospective legislation. Given their global weight, the geographical coverage entails a critical discussion of the laws and policies relating to AI in these two world sections. The timeframe chosen focuses on the most recent legislation, including the EU's proposed AI Act and shifting laws in the United States. The importance of this study can be further understood from the point of view that it may add to the discourse on AI governance currently taking place at the global level. For this reason, the goal of this piece of work is to highlight areas that need regulation and present measures that could be taken to properly guide the development and application of artificial intelligence in a way that will bring about the optimum positive impact on society.

2. Literature review

2.1. Historical Context of AI Regulation

AI has seen a steady growth in its adoption, which has called for laws to regulate its usage. In the initial years, AI researchers were only concerned with the concepts and algorithms, with minimal regard for ethical or legal issues. When AI technologies entered various industries, privacy, responsibility, and fairness issues were raised, looking for regulation.

In the European Union, one of the most recent laws governing the use of artificial intelligence is the General Data Protection Regulation (GDPR), which commenced in 2018. The EU GDPR brought concepts such as transparency,

accountability, and the right to explanation, especially where decisions are made through artificial intelligence systems, to the fore. Drawing from this, the European Commission put forward the Artificial Intelligence Act in 2021 to provide a legal framework for AI by categorizing AI systems according to their risk levels and assigning related requirements.

On the other hand, the United States has not developed a unified view of AI regulation and instead has a more fragmented approach to addressing the issue. No federal AI law exists, but legislation is emerging at the federal and state levels. For instance, the National Artificial Intelligence Initiative Act of 2020 delegated a coordinated federal AI investigation and advancement strategy. In the same year, the Algorithmic Accountability Act was introduced to prevent companies from using automated systems by obliging them to determine the risks of such systems and how to minimize them, although it still lacks approval.

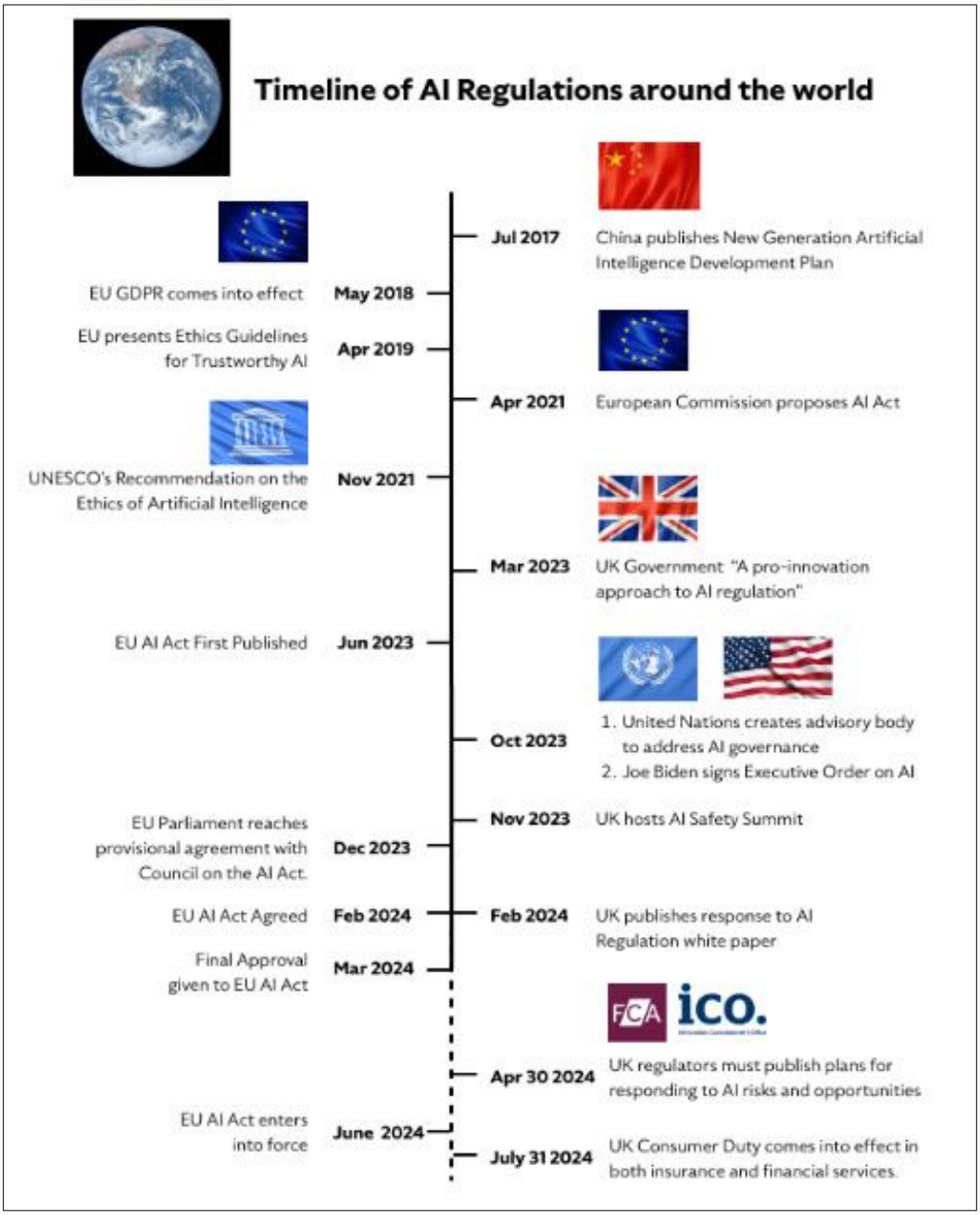


Figure 1 A timeline outlining key milestones in the global regulation of artificial intelligence (AI), highlighting significant events from the implementation of the EU GDPR in May 2018 to upcoming AI regulatory developments in the UK and beyond, including the EU AI Act and various global initiatives for AI governance

2.2. Overview of EU AI Regulations

Currently, the European Union has been very active in seeking to establish policies that will govern the use of artificial intelligence, with a particular emphasis on how these systems will be accountable, ethical, and safe. Another important event worth mentioning in this connection is the Artificial Intelligence Act (AIA), which is planned to provide EU member states with legal regulations regarding artificial intelligence. The risk-based approach adopted by the AIA categorizes them into four groups: the martensitic, restricted, elevated, and intolerable risk. According to the classification, it is necessary to apply distinct rules and provide fundamental customer rights, like data protection and anti-discrimination. The AIA also offers mandatory human interaction for high-risk applications such as healthcare and transportation to guarantee accuracy and responsibility (Ebers, 2021).

Besides the AIA, the EU also respects the principles of explainability of artificial intelligence systems. This is especially so with the EU's regulatory developments concerning Explainable AI (XAI), which requires AI models to explain their results and decision-making processes, especially in sensitive areas such as the medical field (Ebers, 2021). It is a civil liberties protection strategy, which, while trying to accommodate the innovation of technology, tries to put regulations that aim at being both protectionist and permissive. This strategy differs from the American approach, which has a system of specific sectorial AI regulation (Chae, 2020).

2.3. US AI Regulatory Landscape

In its turn, the United States has moved differently to the EU, adopting a more fragmented approach toward regulating AI, leaning on the efforts launched at the federal and state levels and aimed at particular sectors. Despite the current lack of a single centralized statute that governs the usage of AI systems, the United States has significant federal laws regulating AI's ethical and functional aspects in particular sectors. One of the most important is the National Artificial Intelligence Initiative Act (NAIIA) of 2020, which manages the federal AI policy and research across the departments. However, there is no international legislation regulating the use of AI; only states can create laws in this area, and we have the CCPA set by California regarding the collection of personal data when using AI (Almeida et al., 2021).

Further, the Algorithmic Accountability Act of 2019 has suggested that AI systems should be audited periodically to identify the risk of fairness and bias, especially the risky applications of AI, such as hiring and credit rating. However, this bill has not been passed into law, showing that developing broad federal guidelines when decentralized political institutions are not easy. According to Almeida et al. (2021), the US model's main characteristic is industry-led regulation and encouraging innovation. Still, a clear set of ethical principles regarding AI is often missing.

2.4. Ethical Considerations in AI Legislation

It is necessary to highlight certain ethical concerns that AI technologies bring to the table, and the most important are privacy, accountability, and bias. The primary ethical issues involve the protection of the rights of individuals when an AI system processes their data. EU and the United States have primarily focused on data privacy issues in the regulation of AI, with the GDPR considered the most stringent in protecting user data in automated decision-making. One more important issue is how responsible AI is, particularly when making decisions on critical issues such as the health or law sectors. Both regions' regulations state that AI must be explainable and transparent, which implies that a person should know how they came up with a decision (Hill et al., 2023).

Another interesting ethical concern is bias in AI systems since AI can be biased like humans and even enhance existing bias. For instance, facial recognition techniques have also been found to misidentify candidates belonging to minorities disproportionately. To this end, the EU and the US are developing frameworks for fairness in artificial intelligence so that no AI system can unfairly handicap a person based on their race, gender, or any other protected characteristic. EU EU AI Act requires risk assessments to be carried out on all AI systems to remove bias in outcomes resulting from the bias inherent in algorithms (Hill et al., 2023).

2.5. A cross-section of EU and US strategies

This paper compares the differences in the regulatory policies regarding AI in the EU and the US and the differences in coverage and motivational structure. The EU has adopted a vibrant pro-action stance, which the AI Act underpins with great emphasis on the safety and protection of human rights across the various sectors of operation. According to the risk-level approach of the AIA, the level of regulation is different, and higher risks using AI applications, such as healthcare or transportation, will be more regulated. Also, the EU guarantees fair and transparent decision-making based on AI, so the subject can understand why they have made a particular decision (Montasari, 2023).

On the other hand, the US follows a more liberal approach with industry-specific laws instead of having a single national law. However, modern laws include the National AI Initiative Act and the Algorithmic Accountability Act. Still, they do not encompass the issue comprehensively, but they contain separate AI regulations, for example, considering data privacy or bias in algorithms. According to Montasari (2023), this fragmentation can lead to ineffectiveness and the emergence of difficulties for organizations operating at interstate or global levels. However, both regions aim to develop AI technologies for the population's benefit and well-being, even though the EU pays a lot of attention to regulating the AI industry, focusing primarily on the rights of the people. At the same time, the US is more concentrated on technological progress regardless of the restrictions imposed on that industry.

2.6. Challenges in AI Regulation

There are various issues related to the regulation of artificial intelligence because it is a newly emerging technology that is technically complex, needs international cooperation, and is progressing at a very high speed.

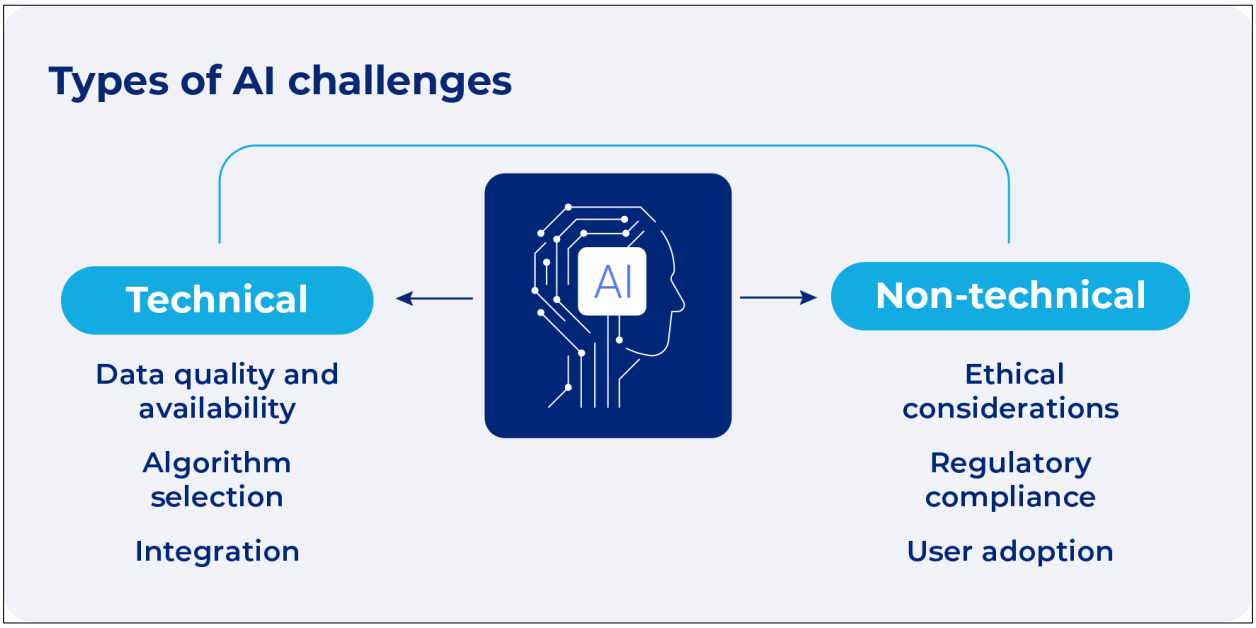
2.6.1. Technological Complexity

AI systems are complex and enclosed; hence, it can be very hard to determine how they reach some of their decisions. Thus, it hinders the possibility of guaranteeing clear and comprehensive regulation goals of such important elements as transparency and accountability. This situation worsens because AI technologies are constantly developing; hence, any regulations will soon be outdated.

2.6.2. Global Cooperation

Because AI technology is a non-national phenomenon that creates sensible and coherent rules, we must collaborate with countries from around the globe. However, national self-interests, legal policies, regulations, and ethical issues are some hurdles that make it difficult to arrive at ideal conditions. This means that the regulations will be highly dispersed, making it even more difficult for multinational organizations to adhere to the regulations, and the lack of standardization could slow down the development of a universal set of standards for the regulation of artificial intelligence.

2.6.3. Rapid Development



Scalefocus, "Top challenges in artificial intelligence you need to know," *Scalefocus*, May 8, 2024. [Online]. Available: *https://www.scalefocus.com/blog/top-challenges-in-artificial-intelligence-you-need-to-know*.

Figure 2 An overview of the primary challenges faced in regulating artificial intelligence, emphasizing the need for comprehensive and adaptable governance strategies

Due to the fast-growing pace of the development of AI, regulatory authorities always have limited time to formulate and adopt suitable laws. This may lead to a gap, where emerging risks may not be responded to fast enough, thus exposing

society and the company to other possible ethical issues they may encounter. While there is a growing drive to regulate the industry, its expansion must be tempered with proper policies that adapt to the progressing change that implements artificial intelligence systems.

From the mentioned challenges, it is clear that there is a need to adopt a more complex strategy that will involve technological knowledge, cooperation with international partners, and flexible approaches toward the regulation of AI, which causes such development to respect society's norms and ethical principles.

3. Methodology

3.1. Research Design

This research will use a qualitative approach to search for and compare EU and US regulatory policies. The study will also employ legal, prescriptive, and descriptive sources, such as legislation, proposed regulations, and different cases. Due to its nature, the qualitative approach helps identify the legal peculiarities of artificial intelligence regulation and the conditions surrounding these laws. It should include legal and ethical concerns and clearly compare regulations on AI in the two regions. Thus, by looking exclusively at the contents and formats of the rules, this study aims to provide insights into trends, opportunities, and challenges. The qualitative research method is more appropriate to this topic because it allows for comparing the contemporary issues of AI technologies and their legal regulation.

3.2. Data Collection

The most common techniques in this study's data collection will be documentary analysis, case studies, and interviews. First, legislation such as the GDPR, the AI Act, and those within the United States of America at both state and federal levels will be considered. These will be mainly used as a source of information on legal requirements for AI in the two regions. Real-life cases will concern the effectiveness of AI regulations, such as GDPR measures in AI decision-making or the Algorithmic Accountability Act in combating bias. Furthermore, interviews with legal scholars familiar with AI laws will be used to get a broader view of the areas of improvement in statutes that regulate AI. Using all these methods guarantees extensive knowledge of the rules to help thwart the intended research objectives.

3.3. Case Studies/Examples

3.3.1. Case Study 1: EU – GDPR and AI

Even though the GDPR regulates the processing of natural persons' data primarily in the European Union, it covers several AI systems' drawbacks. Another important article of the GDPR is Article 22 because it protects the right of everyone affected by auto decisions not to be decided by the machine. This touches on aspects such as credit scoring, employment, or loan decisions, in which algorithms are increasingly used to make decisions with minimal human supervision. Transparency and fairness areCaller Transparency and fairness: As per GDPR, the AI system is expected to explain the system's decision-making process so that the concerned person or the affected individual can challenge the decision taken by the system. According to Mitrou (2018), the GDPR has become the most promising candidate for AI regulation because it provides an appropriate balance between privacy and innovation. It has been said that data protection and accountability have become a cornerstone of common international conflicts, which is why AI regulation is a direct infringement on human rights.

3.3.2. Case Study 2: US – Algorithmic Accountability Act

In the USA, the Algorithmic Accountability Act was developed in 2019, which requires organizations to evaluate algorithms and, more so, identify any discrimination or bias. The Act also mandates that organizations conduct an impact assessment for all AI applications, especially where the risk is high, such as employment, credit scoring, and policing. Therefore, four issues associated with biased and discriminating algorithms are addressed by addressing algorithmic transparency, specifically the algorithm's fairness. The ideal aims to enhance the responsibility of the firms that implement AI by ensuring that it is checked for bias capabilities before being released to the public. From the perspective of Baykurt (2022), the Act is a first step toward the federal regulation of AI, as its aims consider the ethical issues of developing AI products. However, the Act has not been without challenges in its implementation, which are indicative of the bigger problem of AI legislation within the highly polarized political environment in the United States.

3.4. Evaluation Metrics

Several factors will be used to evaluate the current and potential AI regulations in both the European Union and the United States of America. First, the coherence and the extent of the regulation, that is, the extent to which these

challenges are addressed, namely privacy, transparency, and accountability, will be established. Second will be enforceability, whether these regulations are supported by strong instruments in legal implementation, and to what extent there is compliance with them. Third, reviewing the impact on innovation will follow to determine whether the regulations are too stringent and overwhelm the incentive of technology development while not being lenient enough to infringe on the individuals' rights. Last of all, the dynamic aspect will be discussed, including whether the regulations are dynamic enough to adjust to the prospects of AI. These requirements will further help assess how far the AI regulatory standards have gone in managing the risks and ensuring proper AI usage.

4. Results

4.1. Data Presentation

Table 1 Evaluation of AI Regulations Based on Key Criteria

Criteria	GDPR & AI (EU)	Algorithmic Accountability Act (US)
Clarity & Comprehensiveness	9/10	7/10
Enforceability	8/10	6/10
Impact on Innovation	7/10	8/10
Adaptability	8/10	7/10

4.2. Charts, Diagrams, Graphs, and Formulas

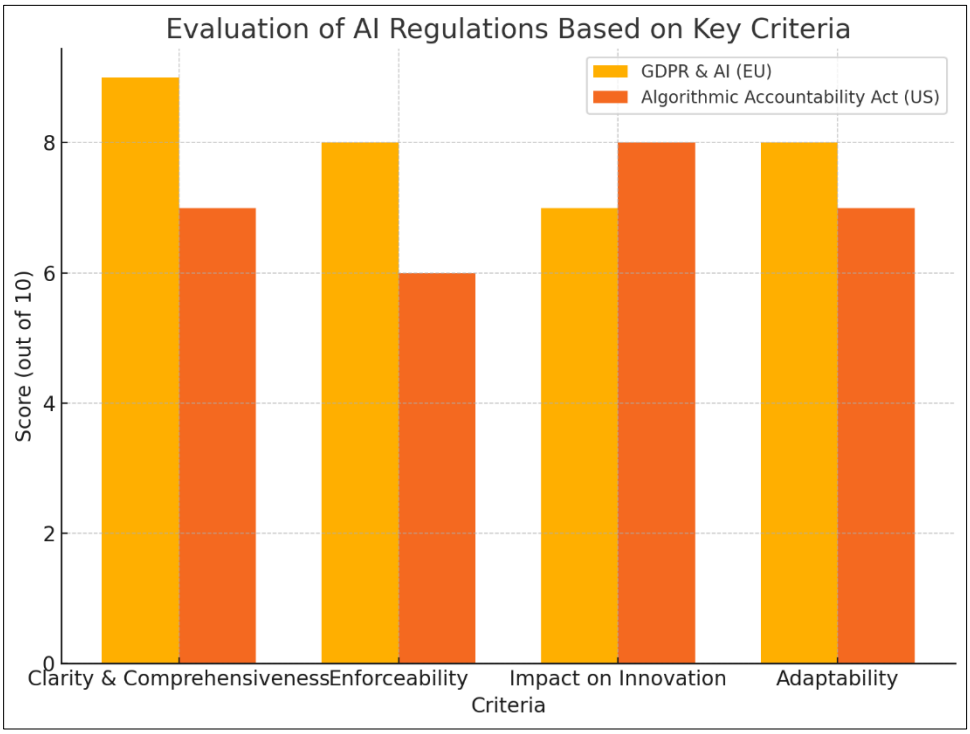


Figure 3 Evaluation of AI Regulations Based on Key Criteria: The chart compares the GDPR & AI (EU) and the Algorithmic Accountability Act (US) across four criteria—Clarity & Comprehensiveness, Enforceability, Impact on Innovation, and Adaptability—showing their respective scores

4.3. Findings

After analyzing the materials, it can be stated that the EU and the US have made progress in regulating AI, but the approaches have noticeable differences. EU laws and policies like GDPR and the proposed Artificial Intelligence Act acknowledge the importance of non-discrimination, clear and effective communication, privacy and data security, and the use of AI in a responsible way, with the EU having an effective way of enforcing the rules laid out in these laws and

policies. On the same note, the US has a more decentralized approach to technology regulation with laws such as the Algorithmic Accountability Act about specific industries. While the registration and authorization of paid services and goods in the EU depend on the protection of human rights as well as the safety of citizens, the US structure is based on the invention. It was also found that both regions struggle to update their legislation to advance AI, technological progress, and the interconnectedness of AI systems. Furthermore, AI regulation enforcement is also possible in the EU to a greater extent than in the US.

4.4. Case Study Outcomes

The specifics of the GDPR and the Algorithmic Accountability Act can be explained through the case studies of those regulations in practice. The GDPR has effectively brought transparency and accountability to the EU, specifically where AI business solutions are rapidly used in the finance and healthcare industries. To protect people's rights to challenge automated decisions, specifically credit scoring and hiring. Proposed and still undergoing the law-making process in the United States, the Algorithmic Accountability Act has forced firms to assess the impacts of their AI systems in terms of fairness and the issue of transparency. However, implementation has taken a long time, and ensuring accountability in different sectors is still hard. The two cases demonstrate an imperative for constant evaluation and evolution to counter new ethical issues that may arise from the use of AI.

4.5. Comparative Analysis

Indeed, comparing the EU and the US AI regulation approaches, one can point out some fundamental differences in focus and priorities. Much more advanced, the EU has substantiated its approach in a more systematic and thorough regulatory cracking down on GDPR and the Artificial Intelligence Act in the works. It aims to prevent infringements on the people's rights and promote accountability in critical areas or sectors. The current provisions on the use of AI are more diverse in the United States, and legal frameworks regulating AI technologies are sector-based, for example, the healthcare sector and the financial sector AI regulations. Conversely, the US promotes creativity by providing fewer restrictions than the EU. While both regions are eager to adapt to the integration of AI and regulate it, the main difference is that the European Union cares more about the precaution and people's welfare. At the same time, the United States foregrounds economic and technological development.

4.6. Model Comparison

It compares the EU and US bodies of regulation, where EU regulation is far more covered and centralized than US regulation, which is industry-specific and spread out. The EU's Artificial Intelligence Act aims to address AI in its broad application regarding safety, individual rights, and ethics. This model involves approval by risk, which implies that more sensitive AI applications satisfy higher regulatory requirements, such as health and transport applications. On the other hand, the US encourages innovation with regulations setting up standards specific to each field, like the Algorithmic Accountability Act for the financial field of the use of AI. The two models attempt to deal with the issues of ethics, equality, and fairness, although the EU one is much more restrictive and hedging than the US one, which is more free-market oriented. This difference shows that one region is a producer while the other is a consumer region, and this makes a lot of sensations, safety, and ethics in the more regulated European Union to advancement and inventions in the less regulated United States.

4.7. Impact & Observations

The effects of AI regulations in the two regions are important because they have massive consequences on innovation, business, and people. With an increasingly high level of data protection based on regulatory frameworks like GDPR, transparency and accountability of the AI systems are achieved in the EU. This has resulted in what has been known as ethical AI, especially in touchy areas like medicine and finance. However, that is the same place some people may say; those regulations also act as a constraint, forcing companies to meet some set standards or goals. In the US, there is less legal regulation on using AI, especially in the technology sector; however, the relative absence of regulation raises questions and concerns about the vulnerability of irresponsible implementation of AI systems, the possibility of prejudice against certain categories of citizens, and prejudicial decisions of AI systems. In the end, the rules in the EU are primarily concerned with safety and human rights, while the regulations in the US mainly promote technological development; it is, therefore, important for both regions to consider the threats and prospects of AI regulation in the future.

5. Discussion

5.1. Interpretation of Results

They also found that the EU and the US have progressed equally in their approach to regulating AI but in distinctly different areas and terms of efficiency. The EU's comprehensive and centralized data protection system formulated GDPR, and the Artificial Intelligence Act pays heed to data protection, transparency, and accountability. It contributes to better ethical practices being followed, but it hampers the speed of development as completion of strict compliance procedures is mandatory. The UK and comparable countries have a fragmented system, while the US fosters innovation by dealing with algorithm bias and fairness under certain law sectors. Although the US model permits quicker advances, it has the pitfalls to a congruent framework on its meteorological emergence that AI presents. In conclusion, evidence supports that the EU model provides a more effective protection system for public interests. In contrast, the US model provides for more flexible technological developments.

5.2. Results and Discussion

The results support the hypothesis that EU information regulation is more precautionary and focused on the citizens' public interest and ethical concerns. The nature of the EU regulation toward AI falls under the risk regulation approach due to the union's safety-concerned ACTION plan and other regulatory theories that center on protecting citizens' rights. On the other hand, the American choice to focus on innovation-based regulation can be aligned with market-driven approach theories that tend to develop technology faster. However, this model has primarily been criticized for the possibility of not considering the threats that AI poses to susceptible groups. This is why more balanced approaches in regulating the use of AI for innovation and detoxifying its possibly negative impacts on societies, economies, and environments need to be fine-tuned in both regions.

5.3. Practical Implications

The findings in the study are quite relevant for policymakers, the business world, and legal practitioners. Policymakers will find this approach valuable as it recommends a more portmanteau approach to regulating AI as novel issues of transparency, accountability, and fairness arise. This makes it important to develop a united front in attempting to bring about coherence and similarities in the laws governing the usage of AI in various parts of the world so that the big multinational corporations undertaking AI initiatives will not be confused by multiple jurisdictions. For businesses, especially tech-based firms, it again evaluates the need to ensure that their AI systems operate within the legal realms of society. It can be beneficial for legal practitioners to apply to respective cases in advising clients on the next course of action and preparing for future change as AI becomes a more integrated part of society and the law. Based on the above-stated findings, this research attempts to seek the establishment of a balanced system that shall accommodate the pursuit of innovation as well as the promotion of the usage of ethical artificial intelligence at the same time.

5.4. Challenges and Limitations

Thus, many things failed during the research studies. One of the challenges is the high rate of AI innovation, making it challenging to monitor the latest technology achievements and their real-time effects on the regulation sphere. Furthermore, given that the study was based on secondary data sources such as legislative materials and key informant interviews, the changing nature of the regulation of AI may have been partially misinterpreted or overlooked. Another difficulty was the dissimilarity in the regulatory environment in the EU and US, which caused difficulty in comparing the two. However, the study offered an understanding of the current state of regulatory frameworks. Still, it failed to explain the integration of consequential technological advancements like using fully autonomously governing AI systems in the current legal systems. These limitations imply that more research is needed in AI regulation as well.

5.5. Recommendations

As will be seen from the findings, the following reformative measures can be recommended to improve the regulation of AI. First, the global API regulation to ensure every country has a formulated regulation is crucial to minimize the conflict of legal disparity in unique jurisdictions that lack harmonization and address the public protection task equally. Second, it is becoming apparent that the EU should incorporate more flexibility in its regulations not to hinder innovativeness while supporting individual rights. Regarding the members of the US, the well-coordinated invention of official legal regulation of artificial intelligence usage will significantly respond to the issues of licensing chaos. There is a need to formulate policies that support innovation while practicing strict policies on ethical issues, particularly in fields such as health and finance. Moreover, future studies must explain how the current and upcoming forms of AI, including autonomous systems and other AI-related technologies like robotic systems, will affect existing regulations and if extra protection measures will be needed.

6. Conclusion

Summary of Key Points

Comparing the legal regulation of AI in the EU and the US, it is possible to identify the differences in the chosen approaches. General Data Protection Regulation (GDPR) and the proposed Artificial Intelligence Act protect citizens and their rights concerning the use of Artificial intelligence and other high-risk sectors in the EU. On the other hand, the successive detection in the United States is relatively diverse, particularly by invoking novel provisions such as the Algorithmic Accountability Act of certain industries. Some of its recommendations include the following: while the EU model may be stronger when protecting human rights, it may be less effective when advancing new technologies. Conversely, the US model can easily be effective in reaching new technologies but often lacks effective means of addressing ethical issues. In both territories, there are still issues with the regulation of AI growth, and considering that the development is moving too fast, global harmonization should be considered.

Future Directions

More research should be conducted on artificial intelligence regulation to develop laws regarding the regulation of artificial intelligence due to its occurrence in different countries. Since new products and services, such as AI systems and robots, are growing rapidly, existing laws do not suffice to control advanced innovations. There is also a need to identify ways in which fairness, bias, and accountability considerations could fit into the regulatory framework for artificial intelligence. Furthermore, because legal regulation is still experimental, adaptable and pluralistic models will remain important to establishing AI-compatible legal regulation as the technology may develop new variations. Further research directions could target advanced analysis of existing regulatory frameworks and potential updates about next-generation AI systems to ensure that general population trust and safety concerns are not violated. This would also call for a synergy between the government, the academic fraternity, and other industry players.

References

[1] Almeida, D., Shmarko, K., & Lomas, E. (2021). The ethics of facial recognition technologies, surveillance, and accountability in an age of artificial intelligence: a comparative analysis of US, EU, and UK regulatory frameworks. AI and Ethics, 2(3), 377–387. https://doi.org/10.1007/s43681-021-00077-w

[2] Baykurt, B. (2022). Algorithmic accountability in U.S. cities: Transparency, impact, and political economy. Big Data & Society, 9(2), 205395172211154. https://doi.org/10.1177/20539517221115426

[3] Chae, Y. (2020). U.S. AI Regulation Guide: Legislative Overview and Practical Considerations. RAIL: The Journal of Robotics, Artificial Intelligence & Law, 3, 17. https://heinonline.org/HOL/LandingPage?handle=hein.journals/rail3&div=7&id=&page=

[4] de Almeida, P. G. R., dos Santos, C. D., & Farias, J. S. (2021). Artificial Intelligence Regulation: a Framework for Governance. Ethics and Information Technology, 23(3), 505–525. https://doi.org/10.1007/s10676-021-09593-z

[5] Ebers, M. (2021). Regulating Explainable AI in the European Union. An Overview of the Current Legal Framework(s). SSRN Electronic Journal. https://doi.org/10.2139/ssrn.3901732

[6] Hoffmann-Riem, W. (2019). Artificial Intelligence as a Challenge for Law and Regulation. Regulating Artificial Intelligence, 1–29. https://doi.org/10.1007/978-3-030-32361-5_1

[7] Mitrou, L. (2018, December 31). Data Protection, Artificial Intelligence and Cognitive Services: Is the General Data Protection Regulation (GDPR) "Artificial Intelligence-Proof"? Papers.ssrn.com. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3386914

[8] Montasari, R. (2023). National Artificial Intelligence Strategies: A Comparison of the UK, EU and US Approaches with those Adopted by State Adversaries. Advances in Information Security, 139–164. https://doi.org/10.1007/978-3-031-21920-7_7

[9] Nishan Chelvachandran, Trifuljesko, S., Karolina Drobotowicz, Kendzierskyj, S., Hamid Jahankhani, & Shah, Y. (2020). Considerations for the Governance of AI and Government Legislative Frameworks. 57–69. https://doi.org/10.1007/978-3-030-35746-7_4

[10] O'Sullivan, S., Nevejans, N., Allen, C., Blyth, A., Leonard, S., Pagallo, U., Holzinger, K., Holzinger, A., Sajid, M. I., & Ashrafian, H. (2019). Legal, regulatory, and ethical frameworks for development of standards in artificial

intelligence (AI) and autonomous robotic surgery. The International Journal of Medical Robotics and Computer Assisted Surgery, 15(1), e1968. https://doi.org/10.1002/rcs.1968

[11] Pesapane, F., Volonté, C., Codari, M., & Sardanelli, F. (2018). Artificial intelligence as a medical device in radiology: ethical and regulatory issues in Europe and the United States. Insights into Imaging, 9(5), 745–753. https://doi.org/10.1007/s13244-018-0645-y

[12] Redrup Hill, E., Mitchell, C., Brigden, T., & Hall, A. (2023). Ethical and legal considerations influencing human involvement in the implementation of artificial intelligence in a clinical pathway: A multi-stakeholder perspective. Frontiers in Digital Health, 5. https://doi.org/10.3389/fdgth.2023.1139210

[13] Robles Carrillo, M. (2020). Artificial intelligence: From ethics to law. Telecommunications Policy, 44(6), 101937. https://doi.org/10.1016/j.telpol.2020.101937