

Regulating Artificial Intelligence in the European Union and the United States

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ABSTRACT

Ethics is an increasingly important topic surrounding the development and deployment of artificial intelligence (AI), which has had many impacts on the general population, as it is integrated into society. As a result, the European Union (EU) has already taken steps to regulate AI to prevent or limit the negative impacts imposed on the public while also attempting to promote their capacity for technological innovation; however, the United States (US) has not acted as swiftly and lacks major, tangible pieces of legislation for the regulation of AI. This research reviews the AI legislation development and implementation processes used by the EU and compares it to the processes used by the US when implementing similar laws and ideas in the development of its own regulatory framework. Critiques of the EU's policies are assessed, and the political, economic, and social differences between the regulatory bodies are considered. This approach enables us to critically evaluate specific pieces of the EU's legislation and recommend those that can be practically integrated into future US policies.

Introduction

In the era of Big Data, ethics is a major topic surrounding the collection and distribution of people's personal data. Some principles of ethical data collection include people's ownership and consent of their data collection, companies' transparency in data collection, and companies' protection over the user's privacy (Cote, 2021). Many corporations often fail to meet these principles and conceal their data collection policies in the endless pages of their terms and conditions, the use of cookies, and the placation of the trust of consumers. Through these methods, companies can collect data on how consumers interact with their business, consumer preferences for products, and more (Knowledge at Wharton Staff, 2019). Although legitimate reasons such as improving product design and performance exist for this collection of data, many companies like PayPal share this data with third-party data brokers (Knowledge at Wharton Staff, 2019). This data can be used by both companies and third-party data brokers to understand what consumers want to see or hear; companies can use this knowledge to then manipulate the information consumers are exposed to (Ward, 2019).

An example of a company coming under scrutiny due to this type of data collection is Facebook, now known as Meta. Facebook, represented by its co-founder Mark Zuckerberg, has been the focus of multiple Congressional hearings; specifically, these hearings have focused on the platform's potential spread of misinformation and influence on the 2020 US presidential election (Duffy, 2022). Meta has been targeted by many state attorneys who have a larger goal of regulating Big Tech. However, the drafting of legislation to regulate companies such as Meta has been very slow and ineffective. In fact, multiple antitrust lawsuits, lawsuits focused on regulating concentrations of economic power, against Facebook have been dismissed by federal district courts, demonstrating the ineffectiveness of current antitrust laws (Wheeler, 2021).

More agile solutions are required for this level of data collection and abuse, requiring a more general set of behavioral expectations. With the advent of artificial intelligence (AI), these processes can be performed at increasingly fast rates, negatively impacting society greatly. The European Union (EU) has already taken

steps to regulate AI to prevent or limit the negative impacts on the public; however, the US has not acted as quickly, and the impacts of AI are already being displayed in people's lives. My study will describe the process the EU took to develop and pass its initial legislation for the regulation of AI and compare its process with the creation of regulation in the US, providing some recommendations for the US moving forward.

Integration of AI into Industries and Society

The pervasive integration of AI into society is ushering in a profound transformation. AI, a category consisting of machine learning, deep learning, and data analytics, is driving unprecedented advances in a variety of industries and businesses; for example, it is automating operations, optimizing decision-making, maximizing product or service quality, and analyzing data (Gorkhali, 2022). In the manufacturing sector, the computational abilities and independent decision-making of AI tools can be used to predict the management of machines, optimize production chains, and predict market trends (Gorkhali, 2022). Not only does AI play a role in larger industries, but it is also increasingly contributing to people's day-to-day experiences. AI models and solutions are progressively being used in hiring processes, criminal justice, education, and healthcare, using human behavior and traits for training data (Gade et al., 2019). AI is manifesting itself in unexpected ways in people's lives, e.g., from the thermostats in people's homes to personalized digital experiences. With positive and negative impacts already being observed due to the integration of AI in society, the path forward for determining the overall consequences of AI is still unknown.

Positive Effects of AI

Some positive impacts of AI tools have already been observed internationally, and both governmental and non-governmental organizations are using these improvements in technology in an attempt to support the Sustainable Development Goals established by the UN. For example, the commercial applications of AI have included increasing the ability of humans to rapidly find information, improving transportation and communication services, and improving the quality of healthcare (Yu et al., 2018). Moreover, organizations like Amnesty International and ElementAI have shown how AI models can be used to expose and quantify the digital abuse women face online (Tomašev et al., 2020). The Makerere University AI research group has developed automated monitoring processes for diseases like the viral cassava disease. Also, this group partnered with Microsoft Research to set up an electronic agricultural marketplace in Uganda. The possibilities of AI integration with technology are endless, with AI algorithms helping to predict poverty and locate burned-down villages in Darfur using satellite images and advancing predictive tools for climate action (Tomašev et al., 2020).

US Government Regulation Background

In the US, although AI has become a topic of increasing concern and discussion, the government is still in the early stages of AI regulation. With preliminary meetings being held among lawmakers, policy experts, and tech executives at the White House, plans are beginning to be mapped out regarding how to prevent the negative consequences of AI; the current goal is to create a federal agency to oversee issues related to AI (Kang, 2023).

Some advances that have been made already include the voluntary commitments of businesses to AI guidelines, other regulatory agencies such as the FTC opening investigations into AI companies, and the creation of an AI Bill of Rights blueprint (Kang, 2023). The blueprint entails five principles that promise to protect users from unsafe and ineffective systems, prevent discrimination by algorithms, prevent abusive data practices, inform users of AI use, and allow users to opt out of any AI system (Office of Science and Technology Policy, 2022). Although the US lacks any major, tangible pieces of legislation to regulate AI, other parts of the world such as the EU have already started implementing legislation to prevent the abuses of AI.

Development of Regulatory Legislation in the EU

Regulation Timeline

In the EU, the state of AI regulation has progressed much further than that in the US, with the EU's first talks on AI occurring in 2018. One of the earliest EU groups that took interest in the potential of AI was the High-Level Expert Group on Artificial Intelligence, which was appointed by the European Commission in 2018 (European Commission, 2022). This group is composed of industry experts who sought to provide helpful assessments of AI and guidelines for regulation to the European Commission. Throughout 2019 and 2020, the group created many documents including a definition of AI, Ethics Guidelines For Trustworthy AI, Policy and Investment Recommendations for Trustworthy AI, a final Assessment List for Trustworthy AI, and Sectoral Considerations on the Policy and Investment Recommendations (European Commission, 2022). Although these documents represented a soft-law approach with little to no legally binding agreements, the work done by this group helped to establish some of the founding principles for AI regulation in the EU. This work began shifting towards legislation when the AI White Paper was released by the European Commission in 2020, addressing how their guidelines and existing legislation were not sufficient to prevent the risks of AI (Nikolinakos, 2023). This document reaffirmed that AI was supposed to be a force of good in society and a tool for the people, confirming that a new regulatory framework was to be created (Nikolinakos, 2023). It also emphasized how trust is a necessary component for the adoption of AI in society, and an ecosystem of trust must be created by this regulatory framework (Laux et al., 2023). Although not creating a concrete framework itself, the White Paper indicated that the new framework needed to be specific to AI, follow a risk-based approach, and ensure its regulation could balance technological innovation and its ability to intervene when necessary (Nikolinakos, 2023). The European Commission's intentions and goals for their new regulatory approach to AI, however, still lacked clarity and focus in its signaling of regulation (Kazim & Soares Koshiyama, 2020).

Regulation Framework

These issues and frameworks were more clearly defined when the EU submitted its first proposal in April of 2021: the AI Regulatory Act to the European Parliament and Council of the European Union. This proposal more clearly defined a proportionate risk-based approach to regulation, where the risk of AI would be classified into unacceptable risk, high risk, limited risk, and minimal risk (Cameron F. Kerry & Tielemans, 2022). The AI Regulatory Act ensured greater regulation would be placed upon higher-risk uses of AI such as social scoring or interactions with children related to personal development or personalized education (Cameron F. Kerry & Tielemans, 2022). To enforce these regulations, the EU created the European Artificial Intelligence Board (EAIB), consisting of the European Data Protection Supervisor, the Commission, and national supervisors (Cameron F. Kerry & Tielemans, 2022). This board is necessary to ensure a high level of trustworthiness for AI systems, and it is defined by requirements of human agency and oversight, safety, privacy and data governance, transparency, and more. The level of trust and the acceptability of the risks of AI are closely related. In order for the Act to regulate risk and increase trust in AI, the board also needs to consider the attitudes of its citizens when making these assessments (Laux et al., 2023). However, there are concerns about the efficacy of this group, and critics question whether this type of enforcement will lead to a fragmented enforcement environment, where members will diverge on the levels of acceptable risk and willingness to regulate. Although for known AI systems like systems using product safety components where regulation can be predetermined, for unique, high-risk AI systems, both industry self-assessments and third-party assessments will be necessary, leading to potential insufficient regulations (Cameron F. Kerry & Tielemans, 2022). Overall, the main goals for

AI development in the EU are improving the capacity for technology and industry in the economy, preparing for changes made by AI by anticipating market changes, educating the population, improving social protection systems, and aligning its legislation with the EU's overarching values of peace, well-being, and democracy (Roberts et al., 2022).

Comparison of EU Regulation to US Regulation

It is recommended that the US follow the EU's example to ensure a safe environment for the development and use of AI. As of 2023, only approximately one-quarter of states have enacted legislation and another quarter have proposed legislation (Mahdavi et al.). In most of the state laws that have been enacted, the legislation tends to focus on restrictions regarding the use of AI for certain scenarios such as for hiring and focuses on the protection of the privacy of users rather than how to regulate AI as a whole. Although the states have only just started implementing their regulatory efforts, a federal initiative is still essential. As with many other laws such as gun laws, differing state and federal legislature have resulted in many disputes regarding the validity of these laws. Without a national effort to regulate AI, regulatory bodies will become very disorganized and may also create disputes over regulatory laws, which is detrimental to preventing the negative impacts of AI. Under the current condition of Congressional gridlock, a heavy bipartisan effort will be needed to push through regulatory AI legislation that is meant to protect citizens from detrimental impacts and data misuse.

Following the recent Blueprint for an AI Bill of Rights released by the White House in 2022 and the Executive Order on Safe, Secure, and Trustworthy AI in 2023, a new Act called the Artificial Intelligence Research, Innovation, and Accountability Act of 2023 (AIRIA) was recently proposed by various senators (Tobey et al., 2023). It has received support from members of the Senate Commerce Committee, the body overseeing the AI regulatory agencies, and significant attention from other lawmakers. The Act is divided into two sections: one promoting innovation and the other creating an accountability framework (Tobey et al., 2023). In these sections, the Act categorizes the impact of AI systems into either "high-impact" or "critical-impact," similar to the AI Act's risk assessments of AI systems in the EU. If the US continues to follow the EU's lead on the development of regulation, then the US will be more unified and prepared to usher in this new era of AI. Without a leading federal effort in the US, efforts and legislation on the state level will likely quickly become disorganized and fail at properly regulating and preventing the negative impacts of AI on the US population.

Conclusion

AI is quickly evolving and being integrated into society, and it has many impacts that affect people's everyday lives. Governments must take action and responsibility during this new era to properly regulate the development of AI. The EU has set an example as a leading figure in the development of regulation. Their AI Act includes a risk-categorization system that determines the level of regulation needed for each type of AI. While the EU has already enacted its Act, the US is lagging behind. At the state level, most states have already begun enacting legislation that provides simple defenses against the negative impacts of AI. At the federal level, there are blueprints and guidelines for how the government wishes to approach regulation as well as proposed pieces of legislation from various senators. In many of the more popular proposals, the systems of regulation resemble those of the EU's AI Act. The US should seek to continue following the EU's example of regulation in a timely manner to prevent any more abuses of AI in the US.

Limitations

This review was intended to summarize the current conditions of AI regulation in the EU and USA, and I attempted to compare and contrast the efforts that have been taken to date. However, like any study, there are some limitations.

In this research, sources were limited to papers available from Google Scholar and government websites. As many of these events and legislative changes are occurring in real-time, there is a lack of published literature available. Over time, it will be necessary to continue to evaluate the effectiveness of a risk-based approach to determine if it is an appropriate solution. Additionally, economic, social, and political factors unique to the US and EU should be considered in future comparisons.

Acknowledgments

I would like to thank my advisor for the valuable insight provided to me on this topic.

References

- Cameron F. Kerry, J. P. M., & Tielemans, A. (2022, June 1). *The European Union AI act: Next steps and issues for building international cooperation in AI*. Brookings.
[https://www.brookings.edu/articles/the-european-union-ai-act-next-steps-and-issues-for-building-international-cooperation-in-ai/#:~:text=In%20April%20of%202021%2C%20the,regulate%20artificial%20intelligence%20\(AI\).](https://www.brookings.edu/articles/the-european-union-ai-act-next-steps-and-issues-for-building-international-cooperation-in-ai/#:~:text=In%20April%20of%202021%2C%20the,regulate%20artificial%20intelligence%20(AI).)
- Cote, C. (2021, March 16). *5 principles of data ethics for business*. Harvard Business School Online.
<https://online.hbs.edu/blog/post/data-ethics>
- Duffy, C. (2022, January 17). *Here's how US lawmakers could finally rein in Facebook* | CNN Business. CNN Business. <https://www.cnn.com/2022/01/17/tech/meta-facebook-regulation/index.html>
- European Commission. (2022, June 7). *High-level expert group on artificial intelligence*. Shaping Europe's digital future. <https://digital-strategy.ec.europa.eu/en/policies/expert-group-ai>
- Gade, K., Geyik, S. C., Kenthapadi, K., Mithal, V., & Taly, A. (2019). Explainable AI in industry. *Proceedings of the 25th ACM SIGKDD International Conference on Knowledge Discovery & Data Mining*, 3203–3204. <https://doi.org/10.1145/3292500.3332281>
- Gorkhali, A. (2022). Industry 4.0 and Enabling Technologies: Integration Framework and challenges. *Journal of Industrial Integration and Management*, 07(03), 311–348.
<https://doi.org/10.1142/s2424862222500075>
- Kang, C. (2023, July 21). *In U.S., Regulating A.I. Is in Its "Early Days."* The New York Times.
<https://www.nytimes.com/2023/07/21/technology/ai-united-states-regulation.html>
- Kazim, E., & Soares Koshiyama, A. (2020a). Lack of vision: A comment on the EU's White Paper on Artificial Intelligence. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3558279>
- Knowledge at Wharton Staff. (2019, October 28). *Your data is shared and sold... what's being done about it?* Knowledge at Wharton. <https://knowledge.wharton.upenn.edu/article/data-shared-sold-whats-done/>
- Laux, J., Wachter, S., & Mittelstadt, B. (2023). Trustworthy artificial intelligence and the European Union AI act: On the conflation of trustworthiness and acceptability of risk. *Regulation and Governance*, 18(1), 3–32. <https://doi.org/10.1111/rego.12512>

- Mahdavi, G., La Lama, A. de, & Auty, C. M. (n.d.). *US state-by-state AI legislation snapshot*. BCLP. <https://www.bclplaw.com/en-US/events-insights-news/2023-state-by-state-artificial-intelligence-legislation-snapshot.html#:~:text=Introduced%20on%20February%2016%2C%202023,profiling%20and%20automated%20decision%2Dmaking>
- Nikolinakos, N. T. (2023). *EU policy and Legal Framework for artificial intelligence, Robotics and Related Technologies - the AI act* (Vol. 53). Springer International Publishing AG.
- Office of Science and Technology Policy. (2022, October). *Blueprint for an AI Bill of Rights*. The White House. <https://www.whitehouse.gov/ostp/ai-bill-of-rights/>
- Roberts, H., Cows, J., Hine, E., Morley, J., Wang, V., Taddeo, M., & Floridi, L. (2022). Governing Artificial Intelligence in China and the European Union: Comparing aims and promoting ethical outcomes. *The Information Society*, 39(2), 79–97. <https://doi.org/10.1080/01972243.2022.2124565>
- Tobey, D., Borden, B., Samp, T., Darling, C., & Loud, T. (2023, November 16). *US senators introduce Bill to establish AI Governance Framework*. DLA Piper. <https://www.dlapiper.com/en/insights/publications/ai-outlook/2023/us-senators-introduce-bill-to-establish-ai-governance-framework>
- Tomašev, N., Cornebise, J., Hutter, F., Mohamed, S., Picciariello, A., Connelly, B., Belgrave, D. C., Ezer, D., Haert, F. C., Mugisha, F., Abila, G., Arai, H., Almiraat, H., Proskurnia, J., Snyder, K., Otake-Matsuura, M., Othman, M., Glasmachers, T., Wever, W. de, ... Clopath, C. (2020). AI for social good: Unlocking the opportunity for positive impact. *Nature Communications*, 11(1), 719–731. <https://doi.org/10.1038/s41467-020-15871-z>
- Ward, J. (2019, February 4). *Why data, not privacy, is the real danger*. NBC News. <https://www.nbcnews.com/business/business-news/why-data-not-privacy-real-danger-n966621>
- Wheeler, T. (2021, June 29). *The court's Facebook decision shows why we need a digital regulatory agency*. Brookings. <https://www.brookings.edu/articles/the-courts-facebook-decision-shows-why-we-need-a-digital-regulatory-agency/>
- Yu, K.-H., Beam, A. L., & Kohane, I. S. (2018). Artificial Intelligence in Healthcare. *Nature Biomedical Engineering*, 2(10), 719–731. <https://doi.org/10.1038/s41551-018-0305-z>