

Artificial Intelligence Regulation on Labour Market: Comparative Perspectives on the European Union Artificial Intelligence Act in the Indonesian Context

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Abstract

Advances in artificial intelligence technology (AI) have created new challenges for the legal framework in the field of labour law. The approval of the European Union (EU) AI Act in March 13th, 2024, aimed at ensuring the safety and ethical use of AI systems in the EU, has made a significant step forward in regulating AI. This article explains the development of law-making process of the EU AI Act and finds a connection between the EU AI Act and labour market which that law might be the grand design to regulate many aspects of labour side. It then critically evaluates the development of law in Indonesia which is far from expectation to regulate AI within its legal system. Although the challenges and constraints of AI in the labour market have already occurred and are being felt, the task of building up the right legal framework for the needs of workers in the labour market is already at hand. Finally, this paper underlines the importance of comprehensive regulation of AI within legal system for ensuring business

climate, employment, data privacy, transparency, ethics, and accountability. However, AI Act in Indonesia remains vague, especially in the labour market sector, and does not regulate AI in its legal system. Therefore, AI Act is necessary for Indonesia to overcome current and future challenges on labour market.

KEYWORDS *European Union AI Act, Ethical AI, Labour Law, Risk Management System*

Introduction

The European Union (EU) has approved the new artificial intelligence (AI) Act in March 13th, 2024.¹ The EU AI Act² of 2024 is an important legislative milestone in the European Union's approach to the regulation of artificial intelligence (AI). The Act, introduced to address growing concerns about the impact of artificial intelligence on society, aims to establish a harmonised regulatory framework for the development, deployment and use of artificial intelligence systems throughout EU member states. The main provisions include guidelines for high-risk AI applications, measures of transparency and accountability, data governance standards and compliance mechanisms.³ The EU AI Act, which sets out clear rules and standards to promote innovation and preserve basic rights, ethical principles and social values during the age of AI technology.⁴

The relationship between the EU AI Act and the labour market is complex and contains many aspects. The EU AI Act, aimed at governing artificial intelligence technologies, namely those with high-risk uses, has several consequences for the labour market. Firstly, it promotes the growth and acceptance of AI systems which could improve productivity and efficiency in specific industries, leading to changes in the skills required and job dynamics. In addition, by establishing criteria for the transparency and accountability of

¹ See Cynthia Kroet, "Lawmakers approve AI Act with overwhelming majority", *EURO News*, March 13, 2024. Available online at <https://www.euronews.com/my-europe/2024/03/13/lawmakers-approve-ai-act-with-overwhelming-majority>

² The hierarchy of norms in EU legislation currently consists of five main levels, descending in order: the Articles, Charters, General Principles of Law, Legislation, Delegated Acts and Implementation Acts. The EU AI Act is in the second level in the hierarchy of norm in EU legislation. It means that, the EU AI Act has a strong foundation as norms. All EU Member State must obey that act as well.

³ See Kroet, "Lawmakers approve AI Act with overwhelming majority",

⁴ Kroet.

artificial intelligence, it might potentially shape the emergence of novel professional positions focused on overseeing and ensuring compliance with AI governance.⁵ Nevertheless, concerns have arisen surrounding the possibility of job displacement caused by automation and the necessity of enhancing the skills of the workforce to adjust to evolving employment demands. The EU AI Act will have an influence on the labour market and depend on the ability of policymakers, businesses, and educational institutions to effectively address the problems and opportunities posed by AI regulation.⁶

Currently, Indonesia has not specific regulation on AI, especially in labour law.⁷ Indonesia should regulate AI system within legal system, as EU has been practicing,⁸ in order to overcome the difficulties and exploit the potential risks of artificial intelligence. Indonesia can exploit the transformational capabilities of AI technologies, while protecting potential risks, implementing clear ethical guidelines and standards for the development of AI, regulating risk-based AI applications, ensuring data governance and privacy protection, and promoting education and awareness.

This study explains the basic and conceptual view of EU AI Act and also explains the progress of EU since the initial stage and debate to regulate AI in 2016 until the approval by the EU parliament in March 2024. Aside from that, the AI Act will be attributed as an important design to regulate many things affected by AI technology. Furthermore, this article also addresses whether Indonesia needs the same legal framework regarding AI Act as EU has been practicing for its legal system. The EU AI Act as a good practice for Indonesia since Indonesia still lacks specific regulations on AI technology while various

⁵ John Howard, "Artificial intelligence: Implications for the future of work." *American Journal of Industrial Medicine* 62, no. 11 (2019): 917-926.

⁶ See Amanda Kavanagh, "What impact could the EU's AI Act have on jobs?", *EURO News*, January 11, 2024. Online at <https://www.euronews.com/next/2024/01/11/what-impact-could-the-eus-ai-act-have-on-jobs>

⁷ See Rofi Aulia Rahman, et al. "Constructing Responsible Artificial Intelligence Principles as Norms: Efforts to Strengthen Democratic Norms in Indonesia and European Union." *Padjadjaran Jurnal Ilmu Hukum (Journal of Law)* 9, no. 2 (2022): 231-252. See also Junaidi Junaidi, Pujiono Pujiono, and Rozlinda Mohamed Fadzil. "Legal Reform of Artificial Intelligence's Liability to Personal Data Perspectives of Progressive Legal Theory." *Journal of Law and Legal Reform* 5, no. 2 (2024): 587-612; Zico Junius Fernando, et al. "Robot Lawyer in Indonesian Criminal Justice System: Problems and Challenges for Future Law Enforcement." *Lex Scientia Law Review* 7, no. 2 (2023): 489-528.

⁸ See Zhonghua Wu, and Le Cheng. "The EU Artificial Intelligence Act: Regulating Subliminal AI Systems: by Rostam J. Neuwirth, London, Routledge, 2023, xiii+ 129 pp.,£ 48.99 (cloth)." *The European Legacy* 29, no. 3-4 (2024): 431-433.

challenges and constraints faced in the labour market sector remains continue. Therefore, the arisen problems cannot be solved by law since the insufficient legal instrument in Indonesia.

The method that are utilised in this article are doctrinal legal research with statutory and jurisprudential reception. This article explicates the development of law-making process of EU AI Act and find a link between EU AI Act and labour market which that law might be the grand design to regulate many aspects of labour side. It then critically evaluates the development of law in Indonesia which is far for expectation to regulate AI within its legal system. Despite the fact that the challenges of AI in the labour market have already occurred and are being felt, the task of building up the right platform for the needs of workers in the labour market is already at hand. Finally, this article suggests that Indonesia needs to enact AI Act to overcome now and future challenges of AI on labour market in Indonesia.

Development of the EU AI Act

The European Union Artificial Intelligence Act (EU AI Act) is a legislative proposal introduced by the European Commission to govern the advancement and implementation of artificial intelligence (AI) systems within the European Union. The EU AI Act has been approved by the EU Parliament and will officially come into effect for Member States in either May or June 2024.⁹ This signifies a notable advancement in the establishment of a complete regulatory framework for AI technologies in the region. The EU AI Act encompasses various crucial aspects, such as scope and purpose, a risk-based approach, prohibited behaviours, transparency and accountability, data governance and privacy, as well as market surveillance and enforcement.¹⁰

⁹ See Kirk J. Nahra et al., "The European Parliament Adopts the AI Act", *WILHMAREHALE*, March 14, 2024. Online at <https://www.wilmerhale.com/en/insights/blogs/wilmerhale-privacy-and-cybersecurity-law/20240314-the-european-parliament-adopts-the-ai-act>

¹⁰ The rule making process has been started since 2016 when the Commission proposed the draft of civil law and rules on robotics. In 2020 and 2021, the EU Parliament adopted a number of non-legislative resolutions calling for EU action, as well as two legislative resolutions calling for the adoption of EU legislation in the field of AI. First resolution that the Commission establish a legal framework of ethical principles for the development, employment and use of AI, robotics and related technologies in the Union. In the second resolution called for harmonisation of the legal framework for civil liability claims and imposition of a regime of strict liability on operators of high-risk AI systems. In 2020, EU Commission established a White Paper on AI. Finally, after long and comprehensive debate, the first comprehensive AI Act has been approved by the EU Commission in March 2024.

The EU AI Act has the objective of guaranteeing the reliable and ethical use of AI technologies, while also fostering innovation and competitiveness within the EU. The objective is to create regulations that promote public confidence in AI systems and mitigate possible hazards connected with their use. The EU AI Act is a significant legislative proposal designed to regulate the rapidly growing field of artificial intelligence (AI) within the European Union. The Act establishes the limits within which AI technologies can be created, implemented, and used in different areas throughout EU member states.¹¹ The scope of AI applications is extensive, covering a broad range from consumer products to intricate industrial systems and governmental operations. The Act aims to achieve complete AI governance across the EU by regulating all aspects of AI application, leaving no area unregulated.¹²

The EU AI Act can be fostering the responsible and ethical utilisation of AI, while also fostering innovation and competitiveness in the EU's digital domain.¹³ The widespread adoption of AI technology has raised significant worries about their possible effects on fundamental rights, safety, and societal well-being.¹⁴ Therefore, the Act aims to inspire public trust in AI systems by implementing explicit regulations and criteria that uphold ethical norms and minimise related risks. Furthermore, the Act seeks to promote ongoing innovation and ensure the responsible development and use of AI within the European Union by establishing a well-defined framework. The EU AI Act demonstrates a proactive and forward-thinking approach to managing the complexity of AI governance in the 21st century.¹⁵

Moreover, the risk-based approach involves categorising AI systems into various risk levels¹⁶ according to their possible influence on fundamental rights, safety, and social well-being.¹⁷ Stringent rules and rigorous control are imposed on high-risk AI applications. The regulatory structure of the EU AI Act is

¹¹ See Simona Ramos, and Joshua Ellul. "Blockchain for Artificial Intelligence (AI): enhancing compliance with the EU AI Act through distributed ledger technology. A cybersecurity perspective." *International Cybersecurity Law Review* 5, no. 1 (2024): 1-20.

¹² See Article 28 (2) of the EU AI Act. See also Guillem Bas, et al. "The EU AI Act: A pioneering effort to regulate frontier AI?." *Inteligencia Artificial* 27, no. 73 (2024): 55-64.

¹³ Urs Gasser, "An EU landmark for AI governance." *Science* 380, no. 6651 (2023): 1203-1203.

¹⁴ Alessandro Mantelero, "AI and Big Data: A blueprint for a human rights, social and ethical impact assessment." *Computer Law & Security Review* 34, no. 4 (2018): 754-772.

¹⁵ Jérôme De Cooman, "Humpty Dumpty and High-Risk AI Systems: The Ratione Materiae Dimension of the Proposal for an EU Artificial Intelligence Act." *Market and Competition Law Review* 6, no. 1 (2022): 49-88.

¹⁶ De Cooman.

¹⁷ De Cooman.

primarily built on a risk-based approach, which acts as its guiding premise. This methodology classifies artificial intelligence (AI) systems into various levels of danger, taking into account their potential to affect fundamental rights, safety, and the overall well-being of society.¹⁸ The Act categorises AI applications based on their risk profiles, ensuring that regulatory requirements and monitoring are appropriate for the level of risk associated with each system.¹⁹ AI applications that pose a high risk, meaning they have the potential to greatly impact persons or society, are subject to stricter rules and closer examination. This may involve prerequisites such as strong transparency measures, documentation of data sources and methods, and improved accountability procedures. On the other hand, artificial intelligence (AI) systems that are considered to have lesser risks may be subject to less strict regulation, which allows for more flexibility and creativity.²⁰ The EU AI Act achieves a balance between enabling technical progress and protecting against potential risks by customising regulatory interventions based on the risk levels of AI applications. This approach promotes trust, transparency, and responsible deployment of AI inside the European Union.²¹

The EU AI Act forbids several AI techniques that are deemed high-risk or present substantial risks to the rights and safety of humans. These may encompass artificial intelligence systems created to control human behaviour, carry out social scoring, or implement biometric identification in public areas without sufficient safeguards.²² The EU AI Act establishes a list of forbidden actions designed to restrict the use of high-risk AI systems that present substantial risks to the rights, safety, and independence of individuals.²³ These limitations act as safeguards to prevent the exploitation of AI technology and to ensure that ethical standards are maintained during their development and use.²⁴ The Act prohibits techniques that aim to control human behaviour, exploit vulnerabilities, or conduct surveillance without sufficient safeguards. This encompasses the utilisation of AI systems for the purpose of social scoring,

¹⁸ De Cooman.

¹⁹ De Cooman.

²⁰ De Cooman.

²¹ See Rahman et al, "Constructing Responsible Artificial Intelligence Principles as Norms: Efforts to Strengthen Democratic Norms in Indonesia and European Union."

²² See Bianca Piachaud-Moustakis, "The EU AI Act." *Pharmaceutical Technology* 47, no. 11 (2023): 8-9.

²³ See Philipp Hacker, "What's Missing from the EU AI Act", *Verfassungsblog*, December 13, 2023. Online at <https://verfassungsblog.de/whats-missing-from-the-eu-ai-act/>

²⁴ Ariel López González, et al. "Ethics in Artificial Intelligence: An Approach to Cybersecurity." *Inteligencia Artificial* 27, no. 73 (2024): 38-54.

which has the potential to result in discriminatory consequences or violate the privacy and self-governance of persons. In addition, the Act forbids the use of AI technologies that utilise biometric identification in public areas without adequate protections, thus protecting against possible misuse of authority and infringement of private rights. The EU AI Act seeks to cultivate a responsible and reliable AI ecosystem by forbidding certain high-risk behaviours. Its goal is to ensure that the advantages of AI technology are achieved without jeopardising fundamental rights or social well-being.²⁵

The Act also highlights the importance of transparency and accountability in the creation and implementation of AI systems.²⁶ AI developers and users must offer explicit explanations of AI decision-making processes, keep records of data sources and algorithms, and establish systems for addressing and holding accountable any AI-related harm. The EU AI Act incorporates transparency and accountability as essential principles to foster confidence and guarantee the responsible deployment of AI technologies in the European Union. The legislation lays a strong focus on transparency, mandating that developers and users of AI must offer explicit and comprehensible explanations of the decision-making processes employed by AI systems. This involves providing information about the data sources utilised to train AI algorithms, as well as offering insights into the algorithms themselves.²⁷ This allows stakeholders to evaluate the independent and impartiality of judgements made by AI. Furthermore, the Act requires the consistent creation and management of detailed records throughout the entire lifespan of artificial intelligence. This promotes responsibility and provides a means of seeking redress in situations when harm or mistakes occur due to AI. In addition, the EU AI Act implements measures to address and ensure accountability, guaranteeing that those impacted by AI choices have means to seek redress and that those liable for AI systems are held responsible for their actions. The EU AI Act seeks to enhance public trust in AI technology by fostering openness and accountability. It also aims to mitigate potential

²⁵ Ugo Pagallo, Jacopo Ciani Sciolla, and Massimo Durante. "The environmental challenges of AI in EU law: lessons learned from the Artificial Intelligence Act (AIA) with its drawbacks." *Transforming Government: People, Process and Policy* 16, no. 3 (2022): 359-376.

²⁶ Sebastian Fritz-Morgenthal, Bernhard Hein, and Jochen Papenbrock. "Financial risk management and explainable, trustworthy, responsible AI." *Frontiers in Artificial Intelligence* 5 (2022): 779799.

²⁷ Manuel Portela, et al. "A comparative user study of human predictions in algorithm-supported recidivism risk assessment." *Artificial Intelligence and Law* (2024): 1-47.

dangers and ensure that the deployment of AI conforms to ethical and societal norms in the European Union.²⁸

The EU AI Act specifically targets data governance concerns pertaining to AI, encompassing aspects such as data quality, fairness, and privacy. The initiative advocates for the utilisation of superior and inclusive datasets in AI training, protects individuals' privacy rights in AI applications, and strives to reduce the dangers of prejudice and discrimination in AI-powered decision-making. The EU AI Act prioritises data governance and privacy to guarantee the development and implementation of AI technologies that uphold individuals' rights and foster confidence in the digital ecosystem. The Act implements rigorous regulations to control the management of data utilised in AI systems, with the objective of protecting data integrity, impartiality, and confidentiality.²⁹

An important element of data governance in the EU AI Act is the encouragement of superior, inclusive datasets for the purpose of training AI systems. This aids in reducing the risks of partiality and prejudice in decision-making led by artificial intelligence by guaranteeing that AI systems are trained on varied and inclusive datasets that precisely mirror the populations they cater to.³⁰

Furthermore, the Act contains measures to safeguard persons' privacy rights in relation to AI applications. The document establishes explicit criteria for safeguarding data, guaranteeing that AI developers and users adhere to the principles of minimising data, limiting its usage to specific purposes, and maintaining openness. This includes actions like as acquiring explicit consent for the gathering and handling of data, using technology that enhance privacy, and complying with data protection rules like the General Data Protection Regulation (GDPR).³¹ Moreover, the EU AI Act requires the establishment of measures to reduce the dangers of re-identification and unauthorised entry to sensitive data. This entails implementing strong security protocols to protect

²⁸ See Gerald Spindler, "Algorithms, credit scoring, and the new proposals of the EU for an AI Act and on a Consumer Credit Directive." *Law and Financial Markets Review* 15.3-4 (2021): 239-261.

²⁹ Spindler.

³⁰ Joan Stewart et al., "EU Adopts World's First Comprehensive AI Regulation", *WILEY Law*, March 15, 2024. Online at [https://www.wiley.law/alert-EU-Adopts-the-AI-Act-The-Worlds-First-Comprehensive-AI-Regulation#:~:text=EU%20Adopts%20World's%20First%20Comprehensive%20AI%20Regulation&text=On%20March%2013%2C%202024%2C%20the,artificial%20intelligence%20\(AI\)%20globally](https://www.wiley.law/alert-EU-Adopts-the-AI-Act-The-Worlds-First-Comprehensive-AI-Regulation#:~:text=EU%20Adopts%20World's%20First%20Comprehensive%20AI%20Regulation&text=On%20March%2013%2C%202024%2C%20the,artificial%20intelligence%20(AI)%20globally).

³¹ Stewart et al.

against data breaches and unauthorised entry, as well as guaranteeing the encryption and anonymization of personal data utilised in AI systems.³²

The legislation implements tools for market surveillance and enforcement to guarantee adherence to its terms. This entails establishing regulating entities, implementing sanctions and penalties for failure to comply, and promoting collaboration among EU member states to ensure the effective enforcement of AI legislation. The EU AI Act implements strong procedures for market surveillance and enforcement to guarantee adherence to its obligations throughout the EU.³³ This entails establishing specialised regulatory entities responsible for overseeing the compliance of AI systems with the Act's stipulations, examining grievances, and enforcing penalties for failure to comply.³⁴ These regulatory bodies cooperate with national authorities and other relevant stakeholders to synchronise enforcement operations and enable the exchange of information. Punishments for breaches of the EU AI Act may encompass monetary fines, penalties, or additional regulatory actions designed to discourage non-conforming conduct and encourage compliance with the Act's stipulations. The EU AI Act aims to maintain transparency, accountability, and ethical behaviour in the creation and use of AI technology in the European Union by implementing efficient market monitoring and enforcement measures.³⁵

The EU AI Act is a substantial endeavour by the European Commission to provide a unified regulatory structure for AI technologies in the EU. The objective is to advocate for the conscientious and principled utilisation of AI while tackling the potential hazards and difficulties linked to its implementation across different industries.³⁶

Connecting the New EU AI Act to Labour Law View

The relationship between the European Union Artificial Intelligence Act (EU AI Act) and the labour market is complex and important, as it reflects the deep influence that AI technologies have on job patterns and workforce growth

³² Stewart et al.

³³ Stewart et al.

³⁴ See Alexandra White, "How stakeholders are welcoming EU AI Act", *IAPP News*, March 14, 2024. Online at <https://iapp.org/news/a/reactions-to-the-newly-passed-eu-ai-act/>

³⁵ White.

³⁶ White.

in the EU.³⁷ The EU AI Act is a legal framework that aims to control the responsible development, implementation, and use of artificial intelligence in different areas.³⁸ The Act seeks to promote trust and confidence in AI technologies among businesses, consumers, and legislators by establishing guidelines for transparency, accountability, and ethical usage of AI systems. Trust is essential for promoting the acceptance and advancement of AI, which, in turn, might impact the development of the job market.³⁹ Moreover, the EU AI Act does not have a specific provision that directly addresses the employment market. Nevertheless, the European Union (EU) has been diligently engaged in developing multiple initiatives and policies concerning the ramifications of artificial intelligence (AI) and automation on employment and the labour market.⁴⁰

An important paper is the "EU White Paper on Artificial Intelligence - A European approach to excellence and trust,"⁴¹ which was published by the European Commission in February 2020. This document presents the European Union's plan for artificial intelligence (AI), which includes an analysis of its effects on the job market.⁴² The text explores the necessity of providing workers with new skills and knowledge to adjust to the emerging job opportunities resulting from AI and automation. It also emphasises the significance of safeguarding labour rights and protections in the era of digital advancements.⁴³

In addition, the European Commission frequently releases publications and research regarding the digital economy, labour market developments, and the influence of technology on employment. These documents frequently

³⁷ Ricciardi Celsi, Lorenzo. "The Dilemma of Rapid AI Advancements: Striking a Balance between Innovation and Regulation by Pursuing Risk-Aware Value Creation." *Information* 14, no. 12 (2023): 645.

³⁸ Müge Fazlioglu, "Contentious areas in the EU AI Act trilogies", *IAPP News*, August 30, 2023. Online at <https://iapp.org/news/a/contentious-areas-in-the-eu-ai-act-trilogies>

³⁹ Holm, Jacob Rubæk, and Edward Lorenz. "The impact of artificial intelligence on skills at work in Denmark." *New Technology, Work and Employment* 37, no. 1 (2022): 79-101.

⁴⁰ Ali Zarifhonorvar, "Economics of ChatGPT: A labor market view on the occupational impact of artificial intelligence." *Journal of Electronic Business & Digital Economics* 3, no. 2 (2024): 100-116.

⁴¹ See European Commission, *White Paper on Artificial Intelligence - A European approach to excellence and trust*, (Brussels: European Commission, 2020).

⁴² Stefan Larsson, "On the governance of artificial intelligence through ethics guidelines." *Asian Journal of Law and Society* 7, no. 3 (2020): 437-451.

⁴³ Martin Kwan, "Automation and the international human right to work." *Emory International Law Review Recent Developments* 35 (2021): 37-57.

discuss the consequences of artificial intelligence (AI) and automation on the creation of jobs, the skills needed, and the dynamics of the workforce.⁴⁴

An essential element of the EU AI Act's connection with the job market is its capacity to influence employment trends. The extensive utilisation of AI technologies has the capacity to both generate and eliminate employment opportunities, contingent on the manner in which these technologies are executed and incorporated into diverse sectors. AI-driven automation can streamline monotonous operations, allowing human workers to dedicate their efforts to more intricate and innovative endeavours. However, it may also lead to employment displacement in some industries when repetitive operations are mechanised. The EU AI Act contributes to influencing this dynamic by advocating for the proper implementation of AI that considers its effects on employment. The Act aims to promote the deployment of AI technologies in a way that combines efficiency improvements with the impact on the labour market. Its goal is to reduce the possible loss of jobs and allow the creation of new employment opportunities.

Moreover, the EU AI Act emphasises the significance of enhancing skills and providing training to guarantee that the workforce is well-prepared to succeed in an economy driven by artificial intelligence. With the ongoing advancement of AI technology, there is an increasing need for individuals who possess expertise in fields such as data science, machine learning, and AI ethics. The Act acknowledges the necessity of implementing reskilling and upskilling programmes to empower workers to adjust to evolving skill demands and capitalise on prospects in growing industries. The EU AI Act seeks to empower workers to fully utilise AI-driven innovation by investing in education and training programmes that provide individuals with the necessary skills to properly harness AI technologies. This will enable them to navigate the changing labour market scenario.

The connection between the EU AI Act and the labour market is complex, involving factors such as employment trends, skill enhancement, and workforce adjustment in response to technological advancements led by AI. The EU AI Act aims to assist a seamless transition to a future where AI is widely used by promoting responsible deployment of AI, building trust in AI technology, and

⁴⁴ See European Commission, "Europe's Digital Decade: Digital Targets for 2030", online at https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/europe-fit-digital-age/europes-digital-decade-digital-targets-2030_en accessed on March 28th, 2024

supporting programmes that create AI capabilities. It also ensures that the advantages of technological innovation are distributed fairly across society.⁴⁵

The EU AI Act is characterized by its commitment to the use of ethical AI and risk mitigation strategies and establishes a revolutionary model to address the potential impacts of labour rights and employment models. The provisions of the Act, which relate to the fight against discrimination, the protection of privacy and the assurance of transparency in AI systems, have the potential to transform the future labour law, requiring tailor-made adjustments to cope with the unprecedented challenges posed by AI technologies in the workplace.⁴⁶ Furthermore, the constant emphasis on accountability and responsibility for AI systems underscores the imperative to formulate clear frameworks to define responsibility in cases of incidents or conflicts related to AI in the workplace. This drive can stimulate the discussion of the liability clauses in labour agreements, potentially contributing to the amendment of labour laws to clarify employers and AI developers' obligations to ensure a secure and equitable working environment.⁴⁷

Furthermore, the provisions of the Act requiring continuous monitoring and assessment of the performance of AI systems and compliance with regulatory benchmarks aspire to catalyse the integration of similar monitoring mechanisms into labour laws. The objective of this integration is to facilitate the continuous evaluation of the impact of artificial intelligence on labour and to accelerate timely changes in labour regulation as required by technological advances.⁴⁸ The Act serves as an avant-garde approach to the intersection of AI technology and labour law, announcing a new era of legislative evolution aimed at preserving workers' rights, promoting equitable employment practices and effectively governing the integration of AI into professional environments.⁴⁹

⁴⁵ Karen Elliott, et al. "Towards an equitable digital society: artificial intelligence (AI) and corporate digital responsibility (CDR)." *Society* 58, no. 3 (2021): 179-188; Mona Sloane, "To make AI fair, here's what we must learn to do." *Nature* 605, no. 7908 (2022): 9-9.

⁴⁶ Aude Cefaliello, and Miriam Kullmann. "Offering false security: How the draft artificial intelligence act undermines fundamental workers rights." *European Labour Law Journal* 13, no. 4 (2022): 542-562.

⁴⁷ Immad A. Shah, and SukhDev Mishra. "Artificial intelligence in advancing occupational health and safety: an encapsulation of developments." *Journal of Occupational Health* 66, no. 1 (2024): uiad017.

⁴⁸ József Hajdú, "Technological Disruption and the Evolution of Labour Law in Hungary", in *Technological Disruption in Labour and Employment Law*, eds. Marc De Vos et al., (Cambridge: Cambridge University Press, 2024), pp. 197-202.

⁴⁹ József Hajdú, "Gradual Transformation of the Right to Work in Digital Environment: A Perception of Increasing Digi-technological Unemployment", *Acta Universitatis Szegediensis Forum: Acta Juridica et Politica* 13, no. 1 (2023): 79-94.

The EU AI Act presents an opportunity to safeguard the rights of workers in instances where legal frameworks are nascent or ambiguous through expansive interpretation. Employing progressive interpretive methodologies is pivotal in bridging the EU AI Act with the dynamic contours of the labour market. Mitigating the risk of legal voids and upholding the tenets of the rule of law necessitates decisive action to confront legal quandaries in contexts where societal regulations remain incipient or absent altogether.

The Need of Comprehensive AI Act in Indonesia

Indonesia must prioritise the implementation of an AI Act due to the swift progress and widespread adoption of artificial intelligence technologies. Enacting such laws will establish a vital structure for overseeing the advancement, implementation, and utilisation of AI systems within the nation.⁵⁰ Currently, Indonesia does not have comprehensive legislation expressly designed for AI, creating a regulatory void that increases the danger of potential misuse or ethical failures in AI applications. An AI Act would address this absence by defining explicit principles and criteria for the conscientious and ethical use of AI, while simultaneously promoting innovation and competitiveness in Indonesia's digital economy and labour market.⁵¹ Indonesia has the capacity to develop AI laws similar to those established in the European Union (EU). By aligning legislation with global standards and best practices in the governance of AI, Indonesia can strengthen its regulatory framework to address the ethical, legal and socio-economic effects of AI technology. Such a law on artificial intelligence could be an integrated mechanism for safeguarding fundamental rights, reducing risks and promoting responsible innovation in the deployment of artificial intelligence in various sectors of Indonesian society. Furthermore, Indonesia can build a regulatory environment that promotes the equitable and sustainable development of AI technology within its borders, using the insights of EU regulatory experience and adapting them to local contexts.

An essential issue that an AI Act in Indonesia should focus on is the ethical norms that govern AI technologies. The Act would guarantee that AI systems adhere to societal norms and uphold individuals' rights and freedoms by

⁵⁰ Marco Almada, and Anca Radu. "The Brussels Side-Effect: How the AI Act Can Reduce the Global Reach of EU Policy." *German Law Journal* (2024): 1-18.

⁵¹ Rofi Aulia Rahman, Akhmad Al-Farouqi, and Shu Mei Tang. "Should Indonesian Copyright Law be Amended Due to Artificial Intelligence Development?: Lesson Learned from Japan." *NTUT Journal of Intellectual Property Law and Management* 9, no. 1 (2020): 34-57.

explicitly stating core ethical concepts such as justice, transparency, accountability, and human dignity. Implementing this approach will not only bolster public confidence in AI technology but also alleviate potential hazards and adverse effects linked to its implementation, such as prejudice, discrimination, and infringement of privacy.⁵²

The integration of AI technologies has yielded profound ramifications for the Indonesian labour landscape.⁵³ Foremost among these is the automation of repetitive tasks, notably within the manufacturing and customer service sectors, engendering a potential diminution of available job opportunities. Concurrently, AI's progressive evolution necessitates the acquisition of novel qualifications and proficiencies, thereby accentuating the schism in skill levels amongst the workforce.⁵⁴ Heightened concerns pertaining to data privacy and security are palpable due to the pervasive deployment of AI technologies, which entail the aggregation and scrutiny of voluminous troves of personal data. Moreover, there exists a palpable peril of overreliance on technology, precipitating economic perturbations in the event of AI system failures or malfeasance. The digital schism between urban and rural domains stands to exacerbate with disparate AI technology adoption rates. Hence, collaborative endeavours among governmental bodies, private enterprises, and civil society are imperative to adeptly manage the manifold impacts and risks of AI technologies, thereby ensuring their equitable societal benefits dissemination throughout Indonesia.⁵⁵

Therefore, an AI Act should use a risk-based strategy to govern AI applications, classifying them according to their potential societal impact and the related legal obligations. AI systems with a high potential for negative consequences, such as those employed in essential infrastructure, healthcare, or law enforcement, would be subjected to more rigorous examination and supervision to guarantee their dependability, safety, and adherence to ethical standards. Simultaneously, the Act should promote innovation in AI

⁵² Jillian Carmody, Samir Shringarpure, and Gerhard Van de Venter. "AI and privacy concerns: a smart meter case study." *Journal of Information, Communication and Ethics in Society* 19, no. 4 (2021): 492-505.

⁵³ Gati Gayatri, I. Gede Nyoman Mindra Jaya, and Vience Mutiara Rumata. "The Indonesian digital workforce gaps in 2021–2025." *Sustainability* 15, no. 1 (2022): 754.

⁵⁴ Ferry Silitonga, and M. Falikul Isbah. "Artificial Intelligence and the Future of Work in the Indonesian Public Sector." *Jurnal Ilmu Sosial dan Humaniora* 12, no. 2 (2023): 296-308.

⁵⁵ Anneke Zuiderwijk, Yu-Che Chen, and Fadi Salem. "Implications of the use of artificial intelligence in public governance: A systematic literature review and a research agenda." *Government Information Quarterly* 38, no. 3 (2021): 101577.

technology by establishing a legislative framework that supports low-risk applications, encourages experimentation and research, and mitigates any hazards.⁵⁶

Aside from ethical and risk-based factors, an AI Act in Indonesia must specifically tackle the challenges of data governance and privacy that are inherent in AI systems. This encompasses the responsibility of guaranteeing the excellence, impartiality, and safety of the data utilised to educate AI algorithms, while also safeguarding the privacy rights and personal data of individuals in AI applications. The Act would enhance trust and confidence in AI technology by implementing explicit criteria for data collecting, processing, and sharing. This would promote responsible data practices and reduce the dangers of data misuse or unauthorised access.⁵⁷

In addition, an AI Act should give priority to education, awareness, and capacity-building programmes aimed at improving the comprehension of AI technology among policymakers, industry stakeholders, and the general public. These activities would enhance stakeholders' ability to effectively manage the complexity of AI governance and contribute to the responsible development and deployment of AI technologies in Indonesia by increasing digital literacy and informed decision-making on AI adoption and regulation.⁵⁸

There would be numerous advantages to enacting an AI Act in Indonesia. To begin with, it would institute a well-defined regulatory structure, thereby instilling confidence in enterprises and investors and stimulating domestic innovation. Implementing such regulations would effectively safeguard against ethical dilemmas by promoting the responsible development and application of AI technologies, taking into account principles of equity, openness, and responsibility. Moreover, the AI Act has the potential to enhance consumer protection measures by providing safeguards against potential harms such as discrimination and privacy violations. Furthermore, through the inclusion of provisions pertaining to workforce development, the Act may assist in furnishing Indonesians with the essential competencies required to prosper in an economy propelled by artificial intelligence. This would effectively tackle apprehensions regarding the displacement of jobs and foster inclusive economic expansion. Nonetheless, prospective drawbacks should be considered.

⁵⁶ Maciej Kuziemski, and Gianluca Misuraca. "AI governance in the public sector: Three tales from the frontiers of automated decision-making in democratic settings." *Telecommunications policy* 44, no. 6 (2020): 101976.

⁵⁷ Kuziemski and Misuraca.

⁵⁸ Natalia I. Shumakova, Jordan J. Lloyd, and Elena V. Titova. "Towards Legal Regulations of Generative AI in the Creative Industry." *Journal of Digital Technologies and Law* 1, no. 4 (2023): 880-908.

Adherence to the regulations could potentially impede the innovation and competitiveness of smaller businesses by imposing substantial financial obligations. Excessively stringent regulations have the potential to impede innovation by imposing administrative obstacles on businesses and hindering the fluid development of the AI ecosystem. Moreover, due to the worldwide scope of the AI sector and the exponential rate of technological advancement, enforcement obstacles may emerge. Moreover, the potential for excessive regulation may impede the development of the domestic artificial intelligence industry and erode Indonesia's global competitiveness. Policymakers will face the critical task of reconciling the necessity for regulation with the imperative to promote innovation as they confront these challenges.

Conclusion

The European Union's recent implementation of the AI Act establishes a robust framework for overseeing and controlling artificial intelligence. The new EU AI Act has the potential to serve as the legal foundation and future regulatory framework, especially for labour market. This legislation provides clear directives for guaranteeing equitable and morally sound utilisation of AI technologies, while also addressing and minimising any hazards. The new EU AI Act has the potential to safeguard workers' rights in situations when there is a lack of specific legislation by allowing for broad interpretation. Indonesia stands to gain significant advantages by examining and extracting knowledge from the European Union's strategy. This might enable Indonesia to develop its own labour market policies that effectively tackle the obstacles and possibilities arising from the implementation of artificial intelligence. Studying the EU's AI Act can enable Indonesia to formulate impactful policies that encourage innovation while protecting the well-being of its workers in the age of AI-driven automation. The emerging challenges of AI in the labour market need to be addressed in Indonesia as EU has been done. Therefore, the Indonesian government must begin to seriously discuss to overcome the AI challenges by enacting AI Act within Indonesian legal system and amending job creation act 2023 on labour law part.

References

- Almada, Marco, and Anca Radu. "The Brussels Side-Effect: How the AI Act Can Reduce the Global Reach of EU Policy." *German Law Journal* (2024): 1-18.
- Bas, Guillem, et al. "The EU AI Act: A pioneering effort to regulate frontier AI?." *Inteligencia Artificial* 27, no. 73 (2024): 55-64.
- Carmody, Jillian, Samir Shringarpure, and Gerhard Van de Venter. "AI and privacy concerns: a smart meter case study." *Journal of Information, Communication and Ethics in Society* 19, no. 4 (2021): 492-505.
- Cefaliello, Aude, and Miriam Kullmann. "Offering false security: How the draft artificial intelligence act undermines fundamental workers rights." *European Labour Law Journal* 13, no. 4 (2022): 542-562.
- De Cooman, Jérôme. "Humpty Dumpty and High-Risk AI Systems: The Ratione Materiae Dimension of the Proposal for an EU Artificial Intelligence Act." *Market and Competition Law Review* 6, no. 1 (2022): 49-88.
- Elliott, Karen, et al. "Towards an equitable digital society: artificial intelligence (AI) and corporate digital responsibility (CDR)." *Society* 58, no. 3 (2021): 179-188.
- European Commission, "Europe's Digital Decade: Digital Targets for 2030", *Online*, available at https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/europe-fit-digital-age/europes-digital-decade-digital-targets-2030_en accessed on March 28th, 2024.
- European Commission, *White Paper on Artificial Intelligence - A European approach to excellence and trust*, (Brussels: European Commission, 2020).
- Fazlioglu, Müge. "Contentious areas in the EU AI Act trilogies", *IAPP News*, August 30, 2023. Online at <https://iapp.org/news/a/contentious-areas-in-the-eu-ai-act-trilogues>
- Fernando, Zico Junius, et al. "Robot Lawyer in Indonesian Criminal Justice System: Problems and Challenges for Future Law Enforcement." *Lex Scientia Law Review* 7, no. 2 (2023): 489-528.
- Fritz-Morgenthal, Sebastian, Bernhard Hein, and Jochen Papenbrock. "Financial risk management and explainable, trustworthy, responsible AI." *Frontiers in Artificial Intelligence* 5 (2022): 779799.
- Gasser, Urs. "An EU landmark for AI governance." *Science* 380, no. 6651 (2023): 1203-1203.

- Gayatri, Gati, I. Gede Nyoman Mindra Jaya, and Vience Mutiara Rumata. "The Indonesian digital workforce gaps in 2021–2025." *Sustainability* 15, no. 1 (2022): 754.
- González, Ariel López, et al. "Ethics in Artificial Intelligence: An Approach to Cybersecurity." *Inteligencia Artificial* 27, no. 73 (2024): 38-54.
- Hacker, Philipp. "What's Missing from the EU AI Act", *Verfassungsblog*, December 13, 2023. Online at <https://verfassungsblog.de/whats-missing-from-the-eu-ai-act/>
- Hajdú, József. "Gradual Transformation of the Right to Work in Digital Environment: A Perception of Increasing Digi-technological Unemployment", *Acta Universitatis Szegediensis Forum: Acta Juridica et Politica* 13, no. 1 (2023): 79-94.
- Hajdú, József. "Technological Disruption and the Evolution of Labour Law in Hungary", in *Technological Disruption in Labour and Employment Law*, eds. Marc De Vos et al., (Cambridge: Cambridge University Press, 2024), pp. 197-202.
- Holm, Jacob Rubæk, and Edward Lorenz. "The impact of artificial intelligence on skills at work in Denmark." *New Technology, Work and Employment* 37, no. 1 (2022): 79-101.
- Howard, John. "Artificial intelligence: Implications for the future of work." *American Journal of Industrial Medicine* 62, no. 11 (2019): 917-926.
- Joan Stewart et al., "EU Adopts World's First Comprehensive AI Regulation", *WILEY Law*, March 15, 2024. Online at [https://www.wiley.law/alert-EU-Adopts-the-AI-Act-The-Worlds-First-Comprehensive-AI-Regulation#:~:text=EU%20Adopts%20World's%20First%20Comprehensive%20AI%20Regulation&text=On%20March%2013%2C%202024%2C%20the,artificial%20intelligence%20\(AI\)%20globally.](https://www.wiley.law/alert-EU-Adopts-the-AI-Act-The-Worlds-First-Comprehensive-AI-Regulation#:~:text=EU%20Adopts%20World's%20First%20Comprehensive%20AI%20Regulation&text=On%20March%2013%2C%202024%2C%20the,artificial%20intelligence%20(AI)%20globally.)
- Junaidi, Junaidi, Pujiono Pujiono, and Rozlinda Mohamed Fadzil. "Legal Reform of Artificial Intelligence's Liability to Personal Data Perspectives of Progressive Legal Theory." *Journal of Law and Legal Reform* 5, no. 2 (2024): 587-612.
- Kavanagh, Amanda. "What impact could the EU's AI Act have on jobs?", *EURO News*, January 11, 2024. Online at <https://www.euronews.com/next/2024/01/11/what-impact-could-the-eus-ai-act-have-on-jobs>
- Kroet, Cynthia. "Lawmakers approve AI Act with overwhelming majority", *EURO News*, March 13, 2024. Available online at <https://www.euronews.com/my-europe/2024/03/13/lawmakers-approve-ai-act-with-overwhelming-majority>

- Kuziemski, Maciej, and Gianluca Misuraca. "AI governance in the public sector: Three tales from the frontiers of automated decision-making in democratic settings." *Telecommunications policy* 44, no. 6 (2020): 101976.
- Kwan, Martin. "Automation and the international human right to work." *Emory International Law Review Recent Developments* 35 (2021): 37-57.
- Larsson, Stefan. "On the governance of artificial intelligence through ethics guidelines." *Asian Journal of Law and Society* 7, no. 3 (2020): 437-451.
- Mantelero, Alessandro. "AI and Big Data: A blueprint for a human rights, social and ethical impact assessment." *Computer Law & Security Review* 34, no. 4 (2018): 754-772.
- Nahra, Kirk J. et al., "The European Parliament Adopts the AI Act", *WILHMAREHALE*, March 14, 2024. Online at <https://www.wilmerhale.com/en/insights/blogs/wilmerhale-privacy-and-cybersecurity-law/20240314-the-european-parliament-adopts-the-ai-act>
- Pagallo, Ugo, Jacopo Ciani Sciolla, and Massimo Durante. "The environmental challenges of AI in EU law: lessons learned from the Artificial Intelligence Act (AIA) with its drawbacks." *Transforming Government: People, Process and Policy* 16, no. 3 (2022): 359-376.
- Piachaud-Moustakis, Bianca. "The EU AI Act." *Pharmaceutical Technology* 47, no. 11 (2023): 8-9.
- Portela, Manuel, et al. "A comparative user study of human predictions in algorithm-supported recidivism risk assessment." *Artificial Intelligence and Law* (2024): 1-47.
- Rahman, Rofi Aulia, Akhmad Al-Farouqi, and Shu Mei Tang. "Should Indonesian Copyright Law be Amended Due to Artificial Intelligence Development?: Lesson Learned from Japan." *NTUT Journal of Intellectual Property Law and Management* 9, no. 1 (2020): 34-57.
- Rahman, Rofi Aulia, et al. "Constructing Responsible Artificial Intelligence Principles as Norms: Efforts to Strengthen Democratic Norms in Indonesia and European Union." *Padjadjaran Jurnal Ilmu Hukum (Journal of Law)* 9, no. 2 (2022): 231-252.
- Ramos, Simona, and Joshua Ellul. "Blockchain for Artificial Intelligence (AI): enhancing compliance with the EU AI Act through distributed ledger technology. A cybersecurity perspective." *International Cybersecurity Law Review* 5, no. 1 (2024): 1-20.
- Ricciardi Celsi, Lorenzo. "The Dilemma of Rapid AI Advancements: Striking a Balance between Innovation and Regulation by Pursuing Risk-Aware Value Creation." *Information* 14, no. 12 (2023): 645.

- Shah, Immad A., and SukhDev Mishra. "Artificial intelligence in advancing occupational health and safety: an encapsulation of developments." *Journal of Occupational Health* 66, no. 1 (2024): uiad017.
- Shumakova, Natalia I., Jordan J. Lloyd, and Elena V. Titova. "Towards Legal Regulations of Generative AI in the Creative Industry." *Journal of Digital Technologies and Law* 1, no. 4 (2023): 880-908.
- Silitonga, Ferry, and M. Falikul Isbah. "Artificial Intelligence and the Future of Work in the Indonesian Public Sector." *Jurnal Ilmu Sosial dan Humaniora* 12, no. 2 (2023): 296-308.
- Sloane, Mona. "To make AI fair, here's what we must learn to do." *Nature* 605, no. 7908 (2022): 9-9.
- Spindler, Gerald. "Algorithms, credit scoring, and the new proposals of the EU for an AI Act and on a Consumer Credit Directive." *Law and Financial Markets Review* 15.3-4 (2021): 239-261.
- White, Alexandra. "How stakeholders are welcoming EU AI Act", *IAPP News*, March 14, 2024. Online at <https://iapp.org/news/a/reactions-to-the-newly-passed-eu-ai-act/>
- Wu, Zhonghua, and Le Cheng. "The EU Artificial Intelligence Act: Regulating Subliminal AI Systems: by Rostam J. Neuwirth, London, Routledge, 2023, xiii+ 129 pp., £ 48.99 (cloth)." *The European Legacy* 29, no. 3-4 (2024): 431-
- Zarifhonarvar, Ali. "Economics of ChatGPT: A labor market view on the occupational impact of artificial intelligence." *Journal of Electronic Business & Digital Economics* 3, no. 2 (2024): 100-116.
- Zuiderwijk, Anneke, Yu-Che Chen, and Fadi Salem. "Implications of the use of artificial intelligence in public governance: A systematic literature review and a research agenda." *Government Information Quarterly* 38, no. 3 (2021): 101577.

*As computational technology and
artificial intelligence matures,
more people will be able to have
better access to justice.*

Monica Bay
Fellow, Stanford Law School CodeX

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