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**Research Article** 

# LEGAL CHALLENGES OF AI AND AUTOMATION IN THE WORKPLACE

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## ABSTRACT

**Background:** In recent years, the development of AI has increased, and employers have begun to rely on AI to deliver tasks such as recruiting, mentoring, and training. This reliance has raised concerns about the legal challenge AI may impose in the workplace. Several countries have established certain guidelines to minimise this implication and ensure benefits from such technologies. Other countries have not taken any action to address the issue. This creates ambiguity for employers, employees, and third parties on how to navigate AI technologies without violating relevant laws.

**Methods:** The paper contributes and aims to remove the ambiguity surrounding automation and the workplace by examining how artificial intelligence affects employment and exploring possible solutions to overcome these challenges. To achieve this, the study analyses each legal issue through legal opinions, court rulings, and a review of existing laws. The research primarily focuses on the US experience while incorporating insights from other jurisdictions, including the UK, Ukraine, Korea, Japan, Australia, and Saudi Arabia. Ultimately, the study aims to examine whether AI can be effectively integrated within current legal frameworks.

**Results and conclusions:** The study finds that AI imposes various challenges on the workplace that challenge laws and regulations. However, it concludes that it is possible to achieve the most beneficial outcome with the adoption of several legal alterations that ensure protection, justice, and values.



## 1 INTRODUCTION

AI technology has experienced notable developments in recent days, reaching a stage where it can produce innovative ideas and solutions comparable to those of humans. It operates with greater speed and efficiency than human beings. This was not the case in 1956 when the renowned mathematician John McCarthy laid the foundation for the field of Artificial Intelligence.<sup>1</sup> Since its inception, AI has gone through enormous development, culminating in groundbreaking developments such as the introduction of ChatGPT by OpenAI. Today, AI can produce innovative responses in seconds and perform a progressive range of activities, including passing the bar exam. Its capacities now extend to data processing, medical diagnostics, customer service, predictive maintenance, fraud detection, financial trading, and more. This has encouraged governments and corporations to adopt and increase their reliance on AI technologies in the workplace.

Automation in the labour market has been on the rise in recent years. It is anticipated that 40% of employment will be impacted by AI, while machine learning will affect 60%. Certain occupations are at higher risk of automation.<sup>2</sup> According to the Organization for Economic Cooperation and Development (OECD), automation has been most prevalent in the construction and extraction industries,<sup>3</sup> where 28% of employment across OECD countries is now automated.

In contrast, employment in community and service jobs, education, legal, and management are at the least risk of automation. This does not indicate the disappearance of humans in higher-risk occupations; rather, AI will be complemented by AI. Regardless of whether AI replaces or supports human workers, automation raises significant legal concerns. Legal scholars and experts around the globe have shed light on the possible legal challenges of this shift—not only for workers but also for the companies that create these technologies. As Danial Bron, Co-Founder of Deployo AI, states, "Companies investing in and developing these automated technologies also face daunting legal questions about liability, taxation, intellectual property protections, and ethical obligations to their workforce. This complex legal landscape demands nuanced solutions that enable ongoing innovation and productivity gains while also safeguarding broader

<sup>1</sup> Coursera Staff, 'The History of AI: A Timeline of Artificial Intelligence' (*Coursera*, 25 October 2024) <a href="https://www.coursera.org/articles/history-of-ai">https://www.coursera.org/articles/history-of-ai</a> accessed 17 December 2024.

<sup>2</sup> Henrik Ekelund, 'Why There Will Be Plenty of Jobs in the Future – Even with Al' (World Economic Forum, 26 February 2024) <a href="https://www.weforum.org/stories/2024/02/artificial-intelligence-ai-jobs-future/">https://www.weforum.org/stories/2024/02/artificial-intelligence-ai-jobs-future/</a>> accessed 17 December 2024.

<sup>3</sup> Julie Lassébie and Glenda Quintini, *What Skills and Abilities Can Automation Technologies Replicate and What Does It Mean for Workers?: New Evidence* (Social, Employment and Migration Working Papers 282, OECD 2022).

societal interests.<sup>24</sup> This underscores the importance of crafting fair regulations and policies that are balanced and provide adequate protection for workers and ethics. This regulation can harness automation and ensure an equitable future.

Some current laws and regulations governing labour and employment were enacted before the age of AI and automation, making them potentially ineffective in governing AI and automation. Additionally, these laws may struggle to keep up with these rapid advancements in AI and automation, <sup>5</sup> challenging their application to these technologies.

The adoption of automation in the workplace introduces complex legal issues that could disrupt the labour market. Failing to address these issues is likely to result in costly litigation. While automation has the potential to enhance accuracy and productivity in the workplace, this is only achievable if it is carefully implemented impeccably and continuously monitored.<sup>6</sup> Otherwise, it may give rise to significant legal concerns.

One significant concern that results from automation is discrimination and bias in the workplace. The White House, along with the National Institute of Standards and Technology (NIST) and the Equal Employment Opportunity Commission (EEOC), has established that critical dependence on AI can lead to biased and discriminatory decisions.<sup>7</sup> The workplace has benefited from AI in recruiting, training, monitoring, dismissal, and innovation. While the workplace can benefit from AI in producing innovative expression and creation, it can raise legal challenges, particularly concerning intellectual property and potential infringements.

Furthermore, the concept of integrating AI in the workplace presents legal concerns related to health and safety, data protection, emerging legal requirements, unjust dismissal, and intellectual property. This paper navigates the possible effects of integrating AI technologies in the workplace and examines the legal challenges it poses to labour law and intellectual property law.

<sup>4</sup> Daniel Bron, 'Automation's Legal Maze' (*LinkedIn*, 12 September 2023) <a href="https://www.linkedin.com/pulse/automations-legal-maze-daniel-bron/">https://www.linkedin.com/pulse/automations-legal-maze-daniel-bron/</a>> accessed 17 December 2024.

<sup>5</sup> Anish Kumar, 'Navigating Labor Law in the Age of Artificial Intelligence and Automation' (*The Legal Quorum*, 7 June 2024) <a href="https://thelegalquorum.com/navigating-labor-law-in-the-age-of-artificial-intelligence-and-automation/">https://thelegalquorum.com/navigating-labor-law-in-the-age-of-artificial-intelligence-and-automation/</a>> accessed 17 December 2024.

<sup>6</sup> Priyanshu Sahu, 'AI in Labour Relations: Legal Implications and Ethical Concerns' (*Academike*, 26 August 2024) <a href="https://www.lawctopus.com/academike/ai-in-labour-relations-legal-implicationsand-ethical-concerns/">https://www.lawctopus.com/academike/ai-in-labour-relations-legal-implicationsand-ethical-concerns/</a>> accessed 17 December 2024.

<sup>7</sup> Christopher Wilkinson and others, 'How AI and Automated Systems Use Can Lead to Discrimination in Hiring' (*Perkins Coie*, 17 February 2023) <a href="https://perkinscoie.com/insights/update/how-ai-and-automated-systems-use-can-lead-discrimination-hiring">https://perkinscoie.com/insights/update/how-ai-and-automated-systems-use-can-lead-discrimination-hiring</a>> accessed 17 December 2024.

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# 2 METHODOLOGY

The paper follows a doctrinal legal research method, examining relevant laws, regulations and court rulings to clarify the legal challenges AI imposes on the workplace. It studies relevant laws in the US and Saudi Arabia while referring to other jurisdictions. It analyses relevant court rulings and their reasoning to support the author's argument. The research also presents data from the UK, Ukraine, Korea, Japan, Australia, and Saudi Arabia, with particular emphasis on the American experience.

The study determines the possible challenges arising from AI and automation, analysing them through legal opinions, court rulings, and legal observation of current laws. The paper divides the study into several sections, including an introduction, an analysis of AI's legal challenges in the workplace—such as discrimination, privacy violations, liability determination, and intellectual property concerns—and a conclusion.

The study begins with an overview of automation and its impact on the workplace and intellectual property (IP) sector. Then, it analyses the possible challenges of AI in the workplace and illustrates how it may contradict labour laws. Each challenge is independently analysed using insights from leading jurisdictions, such as the US and the UK, before proposing resolutions to each challenge based on the experience of the international communities. Finally, the study explores the challenges of AI on intellectual property law, drawing from successful practices of different countries, including the US, UK, Ukraine, Korea, Japan, Australia, and Saudi Arabia, and offers solutions.

# 3 THE LEGAL CHALLENGES OF AUTOMATION IN THE WORKPLACE

Adopting an automated workplace environment can lead to various legal challenges, which include discrimination, privacy violation, ambiguity in liability determination and challenges with intellectual property ownership and infringements.

# 3.1. Automation and Discrimination in the Workplace

Discrimination resulting from automation is a growing concern because the training data for AI may contain biases, leading to prejudiced algorithms.<sup>8</sup> In 2021, a 40-year-old woman in Germany attempted to purchase clothing from an online retailer but could not complete the order because the website rejected it. She was surprised as she had no red flags with credit agencies. Later, she discovered that credit agencies use a system that considers women her age not to be creditworthy.<sup>9</sup>

<sup>8</sup> Sahu (n 6).

<sup>9</sup> Jessica Wulf, Automated Decision-Making Systems and Discrimination: Understanding Causes, Recognizing Cases, Supporting Those Affected : A Guidebook for Anti-Discrimination Counseling (AlgorithmWatch 2022).

This kind of discrimination is not limited to online retail—it also extends to the workplace, where AI plays a role in employment decisions. Job advertising algorithms, for instance, target users based on predicted engagement rather than fairness. A 2020 experiment examining job postings for truck drivers and educators demonstrates this bias. On Facebook, the truck driver job ads were shown to 4,864 men compared to 386 women, while childcare job postings targeted 6,456 women compared to just 258 men.<sup>10</sup> This indicates how AI-driven automation can contribute to gender discrimination in employment. The issue does not lie in the algorithms utilised by the AI themselves but in their potential to cover unequal and discriminatory practices.

A recent lawsuit was filed in the *US vs Workday*, alleging its AI recruitment screening tool is prejudiced.<sup>11</sup> The court denied the defendant's motion for dismissal. The plaintiff argued that since 2017, he had applied for over 100 jobs at entities using Workday's screening tools, yet his applications were rejected despite meeting all the required qualifications. He alleged that he provided information about the college he graduated from, a historically Black college and that he had completed some required tests disclosing his experiences with anxiety and depression.

Workday contended that, as a software vendor, it could not be held liable for employment discrimination. Nevertheless, the court rejected this claim, asserting that, under the law, Workday could be considered an agent of employers. At the same time, the court also found that the plaintiff had failed to submit sufficient evidence to prove intentional discrimination and ultimately decided not to proceed with the case.

Despite this ruling, the lawsuit highlights concerns about automation bias in AI-driven decision-making systems. It underscores the potential for AI-driven decision systems to be questioned and scrutinised for discrimination claims.

Countries and governments have enacted laws and regulations to eliminate workplace discrimination. The US, for instance, has a unique legal system that sheds light on discriminatory practices through civil rights laws that can govern AI-driven practices.<sup>12</sup>

Stephanie Grasser, 'Impact of Artificial Intelligence on Women's Human Rights: An International Legal Analysis' (Diploma thesis, Karl-Franzens University of Graz, Institute of Law 2024) <https://www.netidee.at/impact-artificial-intelligence-womens-human-rights> accessed 19 January 2025.

<sup>11</sup> Emilie Shumway, 'Lawsuit Alleging Workday's AI Tools Are Discriminatory Can Move Forward, Court Says' (*HR Dive*, 17 July 2024) <a href="https://www.hrdive.com/news/workday-ai-tools-discrimination-lawsuit-california/721482/>">https://www.hrdive.com/news/workday-ai-toolsdiscrimination-lawsuit-california/721482/></a> accessed 17 December 2024.

<sup>12</sup> Xukang Wang and others, 'Algorithmic Discrimination: Examining Its Types and Regulatory Measures with Emphasis on Us Legal Practices' (2024) 7 Frontiers in Artificial Intelligence 1320277, doi:10.3389/frai.2024.1320277.

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Title VII of the Civil Rights Act of 1964 prohibits discrimination against employees or applicants based on religion, sex, colour, and race.<sup>13</sup> This law applies to all processes related to employment, including screening, transfers, and evaluating recruitment decisions.<sup>14</sup> However, liability is reliant on whether an employer's procedures result in adverse impacts that violate Title VII.

In the process of hiring using AI-driven decision tools, two existing legal doctrines may serve as the basis for discrimination claims: disparate treatment and disparate impact.<sup>15</sup> Disparate treatment occurs when employees receive different treatment based on gender, sex, origin, etc.<sup>16</sup> This claim cannot be established solely by proving that the employer intentionally inputs discriminatory data that are biased against protected characteristics. Plaintiffs must meet certain conditions to establish this claim. According to the U.S Courts of Appeals for the Ninth Circuit, "to establish a prima facie case of disparate treatment under Title VII, a plaintiff must show: (1) he is a member of a protected class; (2) he was qualified for his position; and (3) he experienced an adverse employment action; and (4) similarly situated individuals outside his protected class were treated more favorably."<sup>17</sup>

Disparate impact, on the other hand, refers to unintentional discrimination arising from policies that appear neutral but disproportionately affect protected groups.<sup>18</sup> This type of disparate treatment becomes a concern when automated hiring systems require applicants to submit data that may correlate with protected characteristics. For example, software that tracks applicants based on their geographical location could unintentionally result in the exclusion of applicants of a particular race, as they are less likely to live in the required location.

In disparate impact claims, plaintiffs will often encounter some obstacles: determining a policy or a practice that specifically led to the conflicted decision, achieving the statistical requirement to prove that the policy results in disparate impact, and refuting the employer's argument that the policy or the practice is a business necessity.<sup>19</sup>

<sup>13 &#</sup>x27;Civil Rights Act @60: Title VII of the Civil Rights Act of 1964: Requiring Discrimination-Free Workplaces for 60 Years' (US Equal Employment Opportunity Commission, 2024) <a href="https://www.eeoc.gov/title-vii-civil-rights-act-1964-requiring-discrimination-free-workplaces-60-years">https://www.eeoc.gov/title-vii-civil-rights-act-1964-requiring-discrimination-free-workplaces-60-years> accessed 17 December 2024.</a>

<sup>14</sup> Ifeoma Ajunwa, 'The Paradox of Automation as Anti-Bias Intervention the Paradox of Automation as Anti-Bias Intervention' (2020) 41(5) Cardozo Law Review 1671, doi:10.2139/ssrn.2746078.

<sup>15</sup> ibid.

<sup>16 &#</sup>x27;What is Disparate Treatment Discrimination – and How is it Proven?' (*Thomson Reuters*, 10 May 2022) <a href="https://legal.thomsonreuters.com/en/insights/articles/the-basics-of-disparate-treatment-discrimination-under-title-vii">https://legal.thomsonreuters.com/en/insights/articles/the-basics-of-disparate-treatment-discrimination-under-title-vii</a>> accessed 17 December 2024.

<sup>17</sup> Ninth Circuit Jury Instructions Committee, Manual of Model Civil Jury Instructions for the District Courts of the Ninth Circuit: 10.1 Civil Rights-Title VII-Disparate Treatment-Without Affirmative Defense of "Same Decision" (US Court for the Ninth Circuit 2017, Last Updated November 2024) 276 <https://www.ce9.uscourts.gov/jury-instructions/node/167> accessed 17 December 2024.

<sup>18</sup> Wilkinson and others (n 7).

<sup>19</sup> Ajunwa (n 14).

To address these difficulties, Professor Ifeoma Ajunwa, a legal scholar at the University of North Carolina, suggested a new theory for liability, which is discrimination per se. According to Professor Ajunwa, "The discrimination per se would allow for a third cause of action under Title VII, and the purpose is to aid plaintiffs who cannot show proof of disparate treatment or who would have difficulty obtaining the means to show the statistical proof of disparate impact. Title VII requires intent for liability to attach, or in the absence of intent, a clear demonstration of disparate impact with no excuse of business necessity for the disparity."<sup>20</sup> This theory would shift the burden of proof from the plaintiff to the defendant. Under the discrimination per se doctrine, a plaintiff could declare that an employment procedure, combined with its potential impact on a protected group, is inherently unlawful.

To minimise the possibility of discrimination resulting from automation, the US has established guidelines for employers to follow. For instance, the **Equal Employment Opportunity Commission (EEOC)** has provided guidelines to minimise potential discrimination. These guidelines allow an employer to assess their automated decision-making system by evaluating whether a given practice results in a significantly lower selection rate for one group compared to another.<sup>21</sup> If an automated system disproportionately impacts a protected group, it violates the law.

The selection rate refers to the percentage of candidates who are hired. It is calculated by dividing the number of hired candidates from the group by the total number of individuals in that group. To illustrate, consider a scenario where 120 applicants—80 white and 40 black—take a test evaluated by an algorithm. Assuming the result shows that only 12 black applicants have succeeded to the next level compared to 48 white, this indicates that the selection rate is 60% for the white group and 30% for the black group. This discrepancy could indicate potential bias in the system.

Furthermore, the EEOC guidelines clarify that an employer may still be liable for bias caused by an automated system, even if the system was designed or operated by a third party, such as a software vendor. Employer liability is dependent on whether the employer administers the hiring practice or allows agents to act on their behalf. Thus, employers should take into consideration whether the selection rate for the protected group has been tested for potential bias before implementation. However, even if the vendor provides inaccurate results, the employer can still be liable.

<sup>20</sup> ibid 1727.

<sup>21</sup> US Equal Employment Opportunity Commission, 'Select Issues: Assessing Adverse Impact in Software, Algorithms, and Artificial Intelligence Used in Employment Selection Procedures under Title VII of the Civil Rights Act of 1964' (US EEOC, 18 May 2023) <a href="https://data.aclum.org/wpcontent/uploads/2025/01/EOCC\_www\_eeoc\_gov\_laws\_guidance\_select-issues-assessing-adverseimpact-software-algorithms-and-artificial.pdf">https://data.aclum.org/wpcontent/uploads/2025/01/EOCC\_www\_eeoc\_gov\_laws\_guidance\_select-issues-assessing-adverseimpact-software-algorithms-and-artificial.pdf</a>> accessed 17 December 2024.

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Moreover, the EEOC guidelines introduce the four-fifths rule, a measure to determine whether the selection rate significantly differs between groups.<sup>22</sup> If the ratio is less than four-fifths (80%), it indicates a substantial disparity. In the mentioned example above, the selection rate for white applicants is 60%, while for black applicants, it is 30%. Applying the four-fifths rule, the ratio is calculated as 30/60 (50%), below the four-fifths (80%) threshold. This rule can prove a potentially discriminatory practice against the black group by highlighting a significant difference in selection rates.

However, while the four-fifths rule can help identify possible discrimination, it may not always be sufficient. According to the EEOC, "Courts have agreed that use of the four-fifths rule is not always appropriate, especially where it is not a reasonable substitute for a test of statistical significance.<sup>[19]</sup> As a result, the EEOC might not consider compliance with the rule sufficient to show that a particular selection procedure is lawful under Title VII when the procedure is challenged in a charge of discrimination".<sup>23</sup> As a result, compliance with the rule alone may not be sufficient to establish the charges against discrimination since it may be challenged in court.

To mitigate the risk of discrimination, the EEOC encourages employers to perform frequent self-assessments to detect any unlawful practices. If the bias is identified, employers should alter their hiring practices by shifting to alternative algorithms developed during the tool's creation. This proactive approach will support the efforts in minimising bias practices and discrimination charges, allowing employers to address adverse impacts before they escalate into legal consequences.

The EEOC's efforts to combat discrimination are accompanied by other international efforts, such as the UN Guiding Principles on Business and Human Rights. These principles emphasise that "states must protect against human rights abuse within their territory and/or jurisdiction by third parties, including business enterprises. This requires taking appropriate steps to prevent, investigate, punish and redress such abuse through effective policies, legislation, regulations and adjudication."<sup>24</sup> These fundamental principles are compulsory for all states, requiring them to prevent human rights violations not only in public agencies but also in private operations. Importantly, the scope of these principles is not limited to human-driven actions; they also apply to human rights violations resulting from automated systems.

Furthermore, the guiding principles encourage member states to support businesses and enterprises, including those not directly involved in human rights violations, by helping

<sup>22</sup> ibid.

<sup>23</sup> ibid.

<sup>24</sup> United Nation, Guiding Principles on Business and Human Rights: Implementing the United Nations "Protect, Respect and Remedy" Framework (UN 2011) 3, para 1 <https://www.ohchr.org/ en/publications/reference-publications/guiding-principles-business-and-human-rights> accessed 17 December 2024.

them determine and avoid high-risk activities. This obligation can be instrumental in preventing discrimination arising from automated decision-making systems. Finally, the principles obligate business enterprises to determine any adverse impact on human rights caused by their practice and provide a fair remedy.

Another international effort is in Europe, particularly through the European Union's General Data Protection Regulation (GDPR), which was enacted in 2018. The GDPR directly addresses concerns related to discriminatory practices resulting from automated systems. According to Article 22 of the GDPR, "The data subject shall have the right not to be subject to a decision based solely on automated processing, including profiling, which produces legal effects concerning him or her or similarly significantly affects him or her."<sup>25</sup> This provision grants individuals the right to challenge an automated decision if it has an adverse impact on them. Additionally, companies are obligated to explain such decisions. In contrast, this obligation is not required in the US, meaning companies are generally not legally bound to justify automated decisions.<sup>26</sup>

Moreover, in Canada, automated decision-making tools are regulated through the federal government and private organisations under Bill C-27, which incorporates the Algorithmic Accountability Act. This law obligates private corporations to scrutinise possible adverse impacts that may result from their automated systems and take required steps to mitigate and address risks, including discriminatory biases in decision-making. In Australia, the AI Ethics Framework of 2019 reflects the country's minimising discrimination and bias practices resulting from automated decisions. Although these guidelines are not legally binding, they promote fair, non-biased, and accountability for adverse impacts. In Asia, states have also taken steps to address automated discrimination. For instance, China's 2017 AI Development Plan outlines legal and regulatory measures to ensure the safe and responsible use of AI, aiming to reduce adverse outcomes such as discrimination. Similarly, Japan introduced the AI Utilization Guidelines in 2019, shedding light on the importance of a transparent, accountable, and fair AI system.<sup>27</sup>

These international efforts indicate that discrimination in the workplace is a global mutual concern for the international community, with each country adopting a different approach based on its culture, policy, and regulation. Each approach offers unique experiences in the fight against discriminatory algorithms worldwide, and countries can benefit by learning from one another's experiences. This exchange of knowledge would be particularly beneficial for countries such as Saudi Arabia, which has yet to craft any laws that govern algorithmic discrimination. While Saudi Arabia's labour law prohibits discrimination in

27 ibid 9.

<sup>25</sup> Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation) [2016] OJ L 119/1.

Wang and others (n 12) 9.

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general, it does not address issues arising from automation. Article 3 of the labour law states: "Work is the right of every citizen. No one else may exercise such right unless the conditions provided for in this Law are fulfilled. All citizens are equal in the right to work without discrimination based on gender, disability, age, or any other form of discrimination, whether during their performance of work, at the time of employment, or at the time of advertising."<sup>28</sup> The article broadly prohibits discrimination during employment without explicitly limiting the scope to human workers, which could interpreted to include algorithmic discrimination. However, this may not be sufficient, given the rapid technological development in Saudi Arabia. The Kingdom has invested billions of dollars in developing technology, particularly AI, as part of its Vision 2030 initiative, which aims to establish Saudi Arabia as one of the leading global hubs for AI and technology.<sup>29</sup> In light of these advancements, Saudi Arabia should consider establishing a legal framework that addresses the potential legal implications of automation, including discrimination created by automated decisions.

## 3.2. Automation and Privacy Violation in the Workplace

In 2017, Uber's drivers' personal information was breached. The hackers downloaded sensitive information when they obtained access to the Amazon web service account, which Uber used.<sup>30</sup> This highlights another legal implication of automation. Infringement on data protection and privacy is a possible risk to automation. To improve algorithms, AI collects a significant amount of data, which can burden employers.<sup>31</sup> They are required to monitor the amount of data that is collected by the AI and how AI deals with it, as well as establish the applicable plan in case of a breach. This can be difficult because processing private data into AI increases the risk of public dissemination such data and information.<sup>32</sup>

Along with data breaches, monitoring employees can lead to punitive action and discrimination, providing undue benefits and leniency.<sup>33</sup> This relies on the fact that

<sup>28</sup> Royal Decree no M/51 on Labor Law of Saudi Arabia of 23 Sha'ban 1426 Hejra (27 September 2005) <a href="https://www.wipo.int/wipolex/en/legislation/details/14685">https://www.wipo.int/wipolex/en/legislation/details/14685</a>> accessed 17 December 2024.

<sup>29</sup> See, Saudi Data & AI Authority, 'National Strategy for Data & AI' (SDAIA, 2024) <a href="https://sdaia.gov.sa/">https://sdaia.gov.sa/</a> en/SDAIA/SdaiaStrategies/Pages/NationalStrategyForDataAndAI.aspx> accessed 17 December 2024.

<sup>30</sup> Andre Ripla PgCert, 'AI and the Future of Privacy in the Workplace' (*LinkedIn*, 11 May 2024) <a href="https://www.linkedin.com/pulse/ai-future-privacy-workplace-andre-ripla-pgcert-xmuae">https://www.linkedin.com/pulse/ai-future-privacy-workplace-andre-ripla-pgcert-xmuae</a> accessed 17 December 2024.

<sup>31 &#</sup>x27;AI in Employment Law: Navigating the Legal Implications of Automation in the Workplace' (*Retail Technology Innovation Hub*, 8 July 2024) <a href="https://retailtechinnovationhub.com/home/2024/7/8/ai-in-employment-law-navigating-the-legal-implications-of-automation-in-the-workplace">https://retailtechinnovationhub.com/home/2024/7/8/ai-in-employment-law-navigating-the-legal-implications-of-automation-in-the-workplace</a> accessed 17 December 2024.

<sup>32</sup> Sahu (n 6).

Jiwat Ram, 'Privacy and Security Challenges When Using AI in Project Management' (*IPMA*,
9 February 2024) <a href="https://ipma.world/privacy-and-security-challenges-when-using-ai-in-project-management/">https://ipma.world/privacy-and-security-challenges-when-using-ai-in-project-management/</a>> accessed 17 December 2024.

monitoring tools can be used to anticipate employee performance, behaviour, and work habits. Moreover, interpersonal dynamics can be disclosed based on the AI interpretation of collaboration patterns, the internal functioning of the project team, and the relationship that might be misused. Furthermore, some employers rely on AI tools to manage data and privacy, which may not be effective because automation can leak such data.<sup>34</sup> The imperfect management of users' rights, cybersecurity vulnerabilities, and inaccurate classification of data can prevent such automation from being successful. Employers can minimise such a breach of information when they comply with the applicable laws and regulations.<sup>35</sup>

There are several possible solutions to mitigate any risk to privacy in the workplace. Governments and the international community can work mutually to adopt a regulatory framework that regulates the use of AI in employment, ensuring employers implement AI systems responsibly while safeguarding data and privacy.<sup>36</sup> Furthermore, establishing ethical guidelines and principles that govern the integration of automation in the workplace can minimise risks as it would highlight ideals such as equality, accountability, transparency, and respect for human rights. By adopting this principle, employers can foster a work environment prioritising privacy and data protection, safeguarding employees' right to privacy.

Employers can also adopt a privacy-by-design approach to minimise privacy and data protection risks. In his article *AI and the Future of Privacy in the Workplace*, Andra PgCert advocates for this approach: "Employers should adopt a "privacy by design" approach when developing and deploying AI systems in the workplace. This means proactively considering privacy implications from the outset and building robust data protection measures, such as data minimisation, anonymisation, and secure storage and processing."<sup>37</sup> This means proactively considering privacy implications from the outset and building robust data protection measures.

Integrating transparency in the workplace and adopting automation can be highly effective in addressing privacy risks. AI systems that employers adopt should offer employees the opportunity to comprehend the decision-making process and the process to appeal these decisions.<sup>38</sup> Several methods can help accomplish this, such as datasheets, model cards, and interpretable machine-learning techniques. Also, educating employees about the AI system used in the workplace, their privacy rights,

 <sup>&#</sup>x27;Data Privacy Automation Tools: Pros, Cons, and Pitfalls of Streamlining Compliance' (*VeraSafe*, 18 October 2023) <a href="https://verasafe.com/blog/data-privacy-automation-pros-cons-and-pitfalls-of-streamlining-compliance/">https://verasafe.com/blog/data-privacy-automation-pros-cons-and-pitfalls-of-streamlining-compliance/</a>> accessed 17 December 2024.

<sup>35 &#</sup>x27;The Legal Implications of AI and Automation in Saudi Arabia' (*Hammad & Al-Mehdar Law Firm*, 30 April 2024) <a href="https://hmco.com.sa/the-legal-implications-of-ai-and-automation-in-saudi-arabia/">https://hmco.com.sa/the-legal-implications-of-ai-and-automation-in-saudi-arabia/</a> accessed 17 December 2024.

<sup>36</sup> PgCert (n 30).

<sup>37</sup> ibid.

<sup>38</sup> ibid.

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and the security measures established to protect their private data can significantly reduce the risks of privacy infringement and data breaches.

Moreover, limiting AI's role in making final, major decisions that directly impact employees' lives and instead limiting such responsibility to humans can highlight accountability and minimise risks to employees' privacy. Furthermore, to determine possible risks and diminish these risks to employees' privacy, employers should assess the potential impact of AI on privacy before implementation. This process would offer employers indications of possible risks to privacy resulting from adopting AI in the workplace.

Employers should also establish effective channels for receiving complaints about privacy violations and ensure remedies are available for affected employees. The future of privacy in workplaces that adopt automated systems will rely on maintaining a balance between ethics and benefits. This balance can be achieved by prioritising privacy protection and upholding values such as fairness.

# 3.3. Automation and Liability in the Workplace

The potential for damages resulting from automated systems is a considerable risk associated with automation. As AI technology becomes more integrated into the workplace, liability concerns also arise. These concerns can extend beyond civil damages to physical harm, particularly when automated systems are combined with physical robotics in the workplace.<sup>39</sup> For instance, if there is a malfunction in the system, it could harm human workers. The manufacturing company or entity operating the system may also be liable if they inadequately train the users or neglect necessary maintenance.

When an automated system is responsible for harm to employees, clients, or other stakeholders, the question of who should take liability becomes crucial. To answer such a question, it is important to acknowledge that laws and regulations worldwide have differently addressed such issues. In some cases, damage caused by an automated system may be covered by insurance or the manufacturer of the technology.<sup>40</sup> In other instances, the employee may be held liable, especially if such damage results from their inability to maintain the system properly. However, in some countries, the issue of AI liability remains ambiguous. Saudi Arabia, for instance, lacks laws and regulations that govern AI liability. This gap could intensify issues related to AI and liability and overwhelm the judicial system with costly litigation.

<sup>39</sup> Bron (n 4).

<sup>40</sup> Aon Direct, 'Liability for Accountants in the Age of Automation' (*Aon*, 2024) <a href="https://www.aondirect.com.au/sme-talk/professions/liability-in-automation">https://www.aondirect.com.au/sme-talk/professions/liability-in-automation</a>> accessed 17 December 2024.

To overcome this issue, legislators worldwide should remove legal ambiguity related to AI and liability by enacting laws and regulations that set a legal framework. Such a framework would protect the growth of AI-adopted technologies and ensure justice and safety. Without an appropriate legal framework, the ambiguity regarding AI liability could intensify and inhibit the growth of AI integration. Furthermore, regulation plays a significant role in ensuring workplace safety.<sup>41</sup> The regulatory framework can diminish possible risks as it would set standards for AI in the workplace. These standards would address issues such as AI malfunctions and ensure that AI systems positively and safely impact the workplace.

Moreover, companies that operate AI and robotic systems perform extensive fail-safe tests, guarantee design reviews, and perform frequent maintenance that scrutinises security weaknesses and reliability risks.<sup>42</sup> As Daniel Bron, founder of Stealth Startup, discusses in his article *Automation's Legal Maze*, these risks can be minimised. He explains: "Ongoing performance audits and making code updates where issues are identified further bolsters safety. Physical safeguards like protective barriers, emergency stops, sensor-triggered automatic system shutdowns, and demarcating robot zones can also minimise injury risks. Finally, maintaining ample insurance coverage for potential harms remains imperative."<sup>43</sup> This indicates that the issues related to risks of liabilities on employers, employees, manufacturers, and operating companies are more likely to be resolved when a proper liability and safety protocol is followed.

## 3.4. Automation and IP in the Workplace

The rapid development of artificial intelligence has evoked legal implications for intellectual property. AI can author and innovate various IP works, which raises some legal concerns about protecting these works under IP laws. Intellectual property laws protect innovative expression and offer the owner exclusive financial and moral rights. One legal obstacle of IP and AI is whether AI is eligible for IP authorship and ownership. The answer to this question varies depending on jurisdiction and legal frameworks. For instance, countries such as the US limit authorship and ownership solely to humans, meaning AI is excluded from holding such rights. However, the issue of AI's role in IP extends beyond that. This section extensively studies possible legal implications between AI and IP.

<sup>41 &#</sup>x27;Workplace Safety in the Age of Automation: Protecting Workers' Rights' (*Law Offices of Vincent J Ciecka*, 3 June 2024) <a href="https://ciecka.com/workplace-safety-in-the-age-of-automation-protecting-workers-rights/">https://ciecka.com/workplace-safety-in-the-age-of-automation-protecting-workers-rights/</a>> accessed 17 December 2024.

<sup>42</sup> Aon (n 40).

<sup>43</sup> Bron (n 4).

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## 3.4.1. Determination of Ownership

A significant challenge with innovative works created through AI and Automation is determining ownership,<sup>44</sup> particularly when employers and employees utilise AI to create and innovate. This evokes a major question about IP ownership. It is crucial to answer this question as owners are entitled to exercise their IP rights, which includes excluding others from using the protected work and pursuing legal action in the event of infringement. However, since automated systems themselves lack the capacity to practice these rights, the question of ownership becomes complex. Several possible candidates could presume ownership, including the system's developer, the automated system's owner, the system's user or operator, and the AI system's trainer. Another possible solution is to grant ownership based on the contractual provisions governing the system. For instance, OpenAI's service terms provide some clarity on this matter. It states that "As between you and OpenAI, and to the extent permitted by applicable law, you (a) retain your ownership rights in Input and (b) own the Output."<sup>45</sup> This may minimise ambiguity of ownership, but it does not resolve the issue in cases where these terms are absent.

In the US, courts have rejected the registration of innovative work created through AI when AI was listed AI as the author.<sup>46</sup> For instance, a picture titled "*A Recent Entrance to Paradise*," created by an AI system was not granted copyright registration by the US Copyright Office because the law limits authorship to humans. The plaintiff moved for litigation, arguing that the law should be adaptive to technological development. The court rejected the argument and concluded the requirement of human authorship.

This limitation extends beyond copyright to other IPs as well. In a related case, Steven Thaler, inventor of DABUS (a device for the autonomous bootstrapping of unified systems), filed patent applications in 2019 for two inventions created by his AI system, DABUS. According to Thaler, DABUS is a "collection of source code or programming and a software program."<sup>47</sup> He listed DABUS as the inventor but was notified by the US Patent and Trademark Office that his application was incomplete due to the lack of a proper inventor. He challenged this in court, seeking patentability for the inventors, as the law explicitly states inventors must be individuals.

<sup>44</sup> Jeremiah Chew and Justin Davidson, 'The Interaction between Intellectual Property Laws and AI: Opportunities and Challenges' (*Norton Rose Fulbright: Global law firm*, November 2024) <a href="https://www.nortonrosefulbright.com/en/knowledge/publications/c6d47e6f/the-interaction-between-intellectual-property-laws-and-ai-opportunities-and-challenges>">https://www.nortonrosefulbright.com/en/knowledge/publications/c6d47e6f/the-interaction-between-intellectual-property-laws-and-ai-opportunities-and-challenges>">https://www.nortonrosefulbright.com/en/knowledge/publications/c6d47e6f/the-interaction-between-intellectual-property-laws-and-ai-opportunities-and-challenges>">https://www.nortonrosefulbright.com/en/knowledge/publications/c6d47e6f/the-interaction-between-intellectual-property-laws-and-ai-opportunities-and-challenges>">https://www.nortonrosefulbright.com/en/knowledge/publications/c6d47e6f/the-interaction-between-intellectual-property-laws-and-ai-opportunities-and-challenges>">https://www.nortonrosefulbright.com/en/knowledge/publications/c6d47e6f/the-interaction-between-intellectual-property-laws-and-ai-opportunities-and-challenges>">https://www.nortonrosefulbright.com/en/knowledge/publications/c6d47e6f/the-interaction-between-intellectual-property-laws-and-ai-opportunities-and-challenges>">https://www.nortonrosefulbright.com/en/knowledge/publications/c6d47e6f/the-interaction-between-intellectual-property-laws-and-ai-opportunities-and-challenges>">https://www.nortonrosefulbright.com/en/knowledge/publications/c6d47e6f/the-interaction-between-intellectual-property-laws-and-ai-opportunities-and-challenges>">https://www.nortonrosefulbright.com/en/knowledge/publications/c6d47e6f/the-interaction-between-intellectual-property-laws-and-ai-opportunities-and-challenges>">https://www.nortonrosefulbright/the-interaction-between-intellectual-property-laws-and-ai-opportunities-and-challenges>">https://www.nortonrosefulbright/the-interaction-between-intellectual-property-laws-and-ai-opportunities-and-challenges>">https:

<sup>45</sup> ibid.

<sup>46</sup> Abdulaziz Alkhalifa, 'The Legitimacy of AI as a Copyright Author' (2025) 56 Journal of Law and International Affairs 974.

<sup>47</sup> Christine M Morgan and Allison M Haas, 'Sorry, DABUS. AI Cannot Be an Inventor on a US Patent' (*Reed Smith LLP*, 24 August 2022) <a href="https://www.reedsmith.com/en/perspectives/2022/08/sorry-dabus-ai-cannot-be-an-inventor-on-a-us-patent">https://www.reedsmith.com/en/perspectives/2022/08/sorry-dabus-ai-cannot-be-an-inventor-on-a-us-patent</a>> accessed 17 December 2024.

This issue is not limited to the US. Thaler attempted to file applications in other jurisdictions, such as Australia, Europe, the UK, and South Korea, but his applications were rejected. In Australia, Judge Beach J stated that "[A]n inventor as recognised under the Act can be an artificial intelligence system or device. But such a non-human inventor can neither be an applicant for a patent nor a grantee of a patent. So, to hold is consistent with the reality of the current technology. It is consistent with the Act. And it is consistent with promoting innovation."<sup>48</sup> However, the Full Court of the Federal Court disagreed unanimously, asserting that reg 3.2C(2)(a) does not authorise AI to be listed as the inventor.

The court's ruling raised some significant questions for legislators and policymakers to address in dealing with AI and patentability. One key issue is whether the definition of inventor should be redefined to include AI. If so, another question arises: who should hold the patent rights? According to the court, the possible answer to this question is the person who inputs the data used by the AI, the owner of the AI, the owner of the source code, or the developer of the software. Furthermore, the court considered whether the standard for determining the innovative steps involved in a patent should be adjusted. Specifically, if AI were to be recognised as an inventor, should the standard no longer be based on the skills of an ordinary worker in the field, and if so, how would that standard be defined? Finally, the court highlighted the importance of determining the potential implications for the grounds of revocation in circumstances where the inventor is an AI, particularly concerning false suggestion or misrepresentation.

The most effective method to address these issues is by taking a legislative step that addresses and defines the role of AI in intellectual property. Interestingly, some countries have decided to assign *sui generis* rights to AI-generated work. For example, the UK Copyright, Designs, and Patents Act of 1988 provides that "In the case of a literary, dramatic, musical or artistic work which is computer-generated, the author shall be taken to be the person by whom the arrangements necessary for the creation of the work are undertaken."<sup>49</sup>

On the other hand, other countries, like Ukraine, have taken legislative steps beyond that. In 2022, Ukraine promogulated its copyright act, which assigns special rights to AI-generated work.<sup>50</sup> These rights include the capability to use, allow, or prevent third parties from using the work. Under this law, the person who owns the software or maintains the software license on agreements is the eligible party to obtain this special right.<sup>51</sup> These rights are protected for 25 years, starting from the first day of the year after the year of creation.

<sup>48</sup> Kingsley Egbuonu, 'The Latest News on the DABUS Patent Case' (*IP STARS from Managing IP*, 20 December 2023) <a href="https://www.ipstars.com/NewsAndAnalysis/The-latest-news-on-the-DABUS-patent-case/Index/7366">https://www.ipstars.com/NewsAndAnalysis/The-latest-news-on-the-DABUS-patent-case/Index/7366</a>> accessed 17 December 2024.

<sup>49</sup> UK Copyright, Designs and Patents Act 1988, s 9(3) <a href="https://www.legislation.gov.uk/ukpga/1988/48/section/9> accessed 17 December 2024">https://www.legislation.gov.uk/ukpga/1988/48/section/9> accessed 17 December 2024</a>.

<sup>50</sup> Chew and Davidson (n 44).

<sup>51</sup> Peter Bilyk, 'Legal Regulation of Artificial Intelligence in Ukraine: Latest Trends and Developments' (*Ukrainian Law Firms*, 29 July 2024) <a href="https://ukrainianlawfirms.com/reviews/ai-regulation/">https://ukrainianlawfirms.com/reviews/ai-regulation/</a> accessed 17 December 2024.

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Meanwhile, countries like Saudi Arabia have taken a different stance, granting IP protection for AI-generated work if there is a significant human contribution. If a work is solely generated by AI, it falls into the public domain.<sup>52</sup>

While preventing AI from IP protection may seem effective at first, this approach may inhibit the development of AI technologies. AI systems can be expensive, and stripping them of IP rights may discourage investment in these technologies. However, granting AI the same IP rights as humans is not ideal, as AI lacks the human characteristics to exercise these rights—particularly the moral rights associated with authorship. Therefore, legislators should reform national legal frameworks to acknowledge AI's role in creativity and innovation. This means updating IP laws to treat AI as an author with limited rights that account for its lack of human nature. The experience of the Ukrainian copyright may be a perfect example to start with. Such a legal framework would help protect IP development while maximising its benefits for the community.

## 3.4.2. Al Infringement and Liability

One significant issue in the intersection of AI and IP is the infringement of protected IP content. When AI technology infringes on protected rights, who should be liable? Infringement may occur in the workplace due to the reliance on automation. Acknowledging infringement is a possible risk, especially with AI generative systems, is crucial. These systems may generate the requested content based on protected work, which may result in identical content to protected work. This may result in copyright violation. Therefore, it is crucial to identify the scope of liability. AI lacks human nature and legal personality; thus, it cannot be accountable for infringement. On the other hand, the stakeholders who participate in the training process of the AI system can be at risk. This may include a programmer, developer, system owner, company deploying the system, and users. However, this is dependent on each legal framework.

It is important to acknowledge that IP infringement by AI systems is increasing with the wide use of these technologies and the lack of regulation determining the scope of liability. Thus, legislators must move forward to address the issue and remove the ambiguity. Currently, steps can be taken to mitigate infringement risks.<sup>53</sup> Developers should adjust AI systems to reduce the risk of receiving identical output to protect work. Users can employ plagiarism-check software to determine any possible infringement. Additionally, employees should be trained to prevent actions that may result in IP violations, such as requesting AI to replicate the competitor's marketing or product descriptions. Finally, corporations adopting AI systems in their entity should ensure that contracts with the system's provider or owner include protection in case of infringement.

<sup>52</sup> Draft Saudi Intellectual Property Law (April 2023).

<sup>53</sup> Chew and Davidson (n 44).

## 4 CONCLUSION

The world has experienced significant development of AI technology in recent years, which has benefited employers and streamlined the employment process. However, its impact on the protected value of employment raises critical concerns. This paper emphasises these issues, such as discriminatory decisions, violation of privacy, and the implications for workplace safety and liability—issues that intersect with employment, privacy, and data protection laws. While countries like the US have established guidelines to mitigate these implications and maximise the benefits of AI technologies within the framework of their legal system, others, such as Saudi Arabia, have not yet taken significant steps. The paper proposes global cooperation, encouraging the international community to take mutual legislative steps to regulate the presence of AI in the workplace and benefit from existing legal frameworks.

Beyond employment, AI technologies threaten IP laws, as AI systems generate innovative works that raise questions about eligibility for IP protection. Current precedent shows that courts worldwide have rejected ownership and authorship of AI systems, as IP laws have traditionally been based on human creativity. These laws do not recognise the possibility of AI creativity. Therefore, this paper suggests that IP laws should be revised to both protect human creativity and foster the development of AI technologies by asserting limited rights for these technologies.

Finally, the paper acknowledges that AI's impact extends beyond its focus, and more indepth studies are needed to explore its effect in different aspects.

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## АНОТАЦІЯ УКРАЇНСЬКОЮ МОВОЮ

#### Дослідницька стаття

## ПРАВОВІ ПРОБЛЕМИ ШТУЧНОГО ІНТЕЛЕКТУ ТА АВТОМАТИЗАЦІЇ НА РОБОЧОМУ МІСЦІ

#### Абдулазіз Абдулрхман Мохаммед Альхаліфа

#### АНОТАЦІЯ

Вступ. Останніми роками розробка ШІ зросла, і роботодавці почали покладатися на ШІ для виконання таких завдань, як підбір персоналу, наставництво та навчання. Ця залежність викликала занепокоєння щодо правових проблем, які може спричинити використання штучного інтелекту на робочому місці. Кілька країн встановили певні вказівки, щоб мінімізувати цей вплив і забезпечити переваги таких технологій. Інші країни не вжили жодних заходів для вирішення проблеми. Це створює неоднозначність для роботодавців, працівників і третіх сторін щодо того, як орієнтуватися в технологіях ШІ, не порушуючи відповідні закони. **Методи.** Метою статті є усунення неоднозначності щодо автоматизації та робочого місця, за допомогою дослідження того, як штучний інтелект впливає на зайнятість, і які є можливі рішення для подолання цих проблем. Щоб досягти цього, у роботі було проаналізоване кожне правове питання через юридичні висновки, судові рішення та перегляд чинних законів. У статті увага, в першу чергу, зосереджена на досвіді США, одночасно враховуючи інформацію з інших юрисдикцій, включно з Великобританією, Україною, Кореєю, Японією, Австралією та Саудівською Аравією. Зрештою, у дослідженні поставлено мету перевірити, чи можна ефективно інтегрувати штучний інтелект у чинне законодавство.

**Результати та висновки.** У дослідженні показано, що штучний інтелект створює різні проблеми на робочому місці, які суперечать законам і нормам. Проте було зроблено висновок, що можна досягти більш сприятливого результату за умови прийняття низки законодавчих змін, які забезпечать захист, справедливість і дотримання цінностей.

**Ключові слова:** ШІ та ІВ, автоматизація та робоче місце, ШІ та дискримінація, ШІ та порушення конфіденційності, відповідальність за ШІ на робочому місці, право власності на ІВ, ШІ та порушення.