

Research Article

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Labour legislation and artificial intelligence: Europe and Ukraine

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Abstract: The integration of artificial intelligence (AI) into various sectors is crucial for economic development and social progress. Even though AI brings many advantages, it still entails numerous challenges and concerns regarding its use and the consequences of such use. First and foremost, this concerns a fundamental change in the labour market, all labour relations, and the rights of employees and employers. This study aims to examine the implications of AI adoption in labour practices and the adaptability of European countries' legal systems to it. The study provides insights into effective approaches to regulating AI and protecting labour rights by analysing the experiences of Germany, Finland, and Poland. The findings indicate that Germany and Finland adopt proactive approaches to AI regulation, prioritising stakeholder engagement and balanced frameworks. Conversely, Poland's emphasis on upskilling workers and Ukraine's commitment to aligning with EU standards underscore the significance of addressing labour rights and economic competitiveness in the context of AI integration. The study highlights the significance of proactive legislation, stakeholder engagement, and skill development initiatives in addressing the challenges and maximising the benefits of AI in the labour sector.

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1 Introduction

Since technological advancements reshape the very nature of work, scholarly inquiry is gradually shifting to the research of the intersection of labour legislation and artificial intelligence (AI). Scholars try to address issues regarding AI implications on labour laws and employee rights that turned unprepared for the global integration of AI at workplaces. Thus, the impact of AI on employment dynamics, the role of laws in safeguarding employees, and the need for regulatory frameworks to address emerging challenges became the central issues in the scholarly works. Moreover, such rapid development of advanced technologies makes it imperative to regulate the use of digital technologies at the legal level so that the rights and freedoms of every person and citizen are respected [1].

Smith and Waldeau, exploring the impact of AI on labour legislation, highlight the need for an integrative regulatory framework to address emerging issues [2]. The authors emphasise that a balance should be struck between technological innovation and the protection of employee rights, particularly in the context of job displacement and algorithmic bias. Jones, Ryan, Thanaraj, and Wong determine the role of labour legislation in regulating AI-driven workplace surveillance tools [3]. Their research emphasises that employee privacy and autonomy should be safeguarded while ensuring the ethical use of AI technologies in monitoring and management practices. Lee delves into the legal implications of AI-driven decision-making within the context of employment. The author discusses potential discriminatory outcomes and the need for anti-discrimination laws to mitigate bias and promote fairness in AI-powered hiring and promotion processes [4].

Furthermore, those employees who master AI tools faster will be able to do their jobs much faster than those who fail to adapt to the realities of today. This may result in them losing their jobs and, on an even larger scale,

unemployment [5]. Building upon these insights, regulatory scholars advocate for proactive measures to address the challenges posed by AI in labour markets. Thus, Mseer, Abolelmagd, and Mobarak argue for the development of comprehensive legislative frameworks that encompass issues, such as data protection, algorithmic transparency, and worker retraining programs [6].

It is also important to note that the use of AI technologies leads to a revision of a number of moral and ethical issues regarding the reliability of labour relations, based on which legitimate social risk issues may challenge current legislation in the near future [7]. Therefore, the need for the legal regulation of the use of AI technologies at the state level is of primary importance. The current legislation needs to be thoroughly improved and adapted to the current reality. It is also important to note that such changes should be timely and sufficient, as the development of information technology is quite rapid, and therefore the reaction of legislative bodies should be the same. In this case, the issue of ensuring trust and responsibility should be put at the forefront. The changes to legislation should be based on European principles and fundamental rights, such as human dignity and protection of privacy [8].

Given the above, this article aims to analyse the challenges of AI and automation, as well as the peculiarities of adapting labour legislation to such challenges. Moreover, the study should, based on the experience of European countries in adapting labour legislation to the realities of information technology, determine the prospects for the use of AI for Ukraine and legal regulation of labour relations using the capabilities of AI.

2 Methodological framework

This study is based on a number of general and special methods of scientific knowledge, such as the method of system analysis, synthesis, comparative legal method, dialectical method, analysis of regulatory documents, etc. The method of systematic analysis was used to study the provisions on AI technologies and their impact on labour relations and to study various sources of information on the specifics of legal regulation of the use of AI and the consequences of such use in the EU and Ukraine. Synthesis method helped formulate specific conclusions about the challenges facing humanity as a result of the use of AI and automation. A position on the prospects for the use of the latest technologies in the labour sphere was formed.

The comparative legal method was used to analyse the legal regulation of the use of AI in the labour sphere by

European countries, their experience, problems and challenges they have faced and are facing. This method was used to formulate general recommendations for further improvement of the system of legal regulation of the use of information technologies, as well as to determine how European countries adapt labour legislation to the realities of today.

The dialectical method made it possible to identify and study the problematic issues of adapting labour legislation to the challenges of AI and automation, the negative impact of AI on human rights, privacy and confidentiality, and to develop recommendations for improving the legal regulation of labour relations with due regard for the development of information technology. The dialectical method was used to reveal the content of the challenges faced by society in connection with rapid automation and the ways to overcome them. The method of studying regulatory and legal documents contributed to the generalisation of information on the legal features of regulating the use of AI in the European labour market. In particular, a number of prospects for Ukraine in the regulation of labour relations related to AI were formed on the basis of regulatory documents.

A number of domestic and foreign scholars have paid attention to the use of AI and rapid automation, the impact of these phenomena on labour relations and the adaptation of labour legislation to new realities and changes [1,5,7,9–18].

3 Results and discussion

3.1 Automation and implementation of AI in labour relations: analysis of challenges and possible problems

The development of AI technologies is rapidly advancing, as seen in the automation of banking processes, chatbot implementation, improved marketing strategies, and employee monitoring systems. It is undeniable that AI has significantly impacted our way of life, including employment. AI encompasses a range of issues from optimising work processes to the potential replacement of human jobs. It is imperative to revise labour laws and regulations to keep pace with technological advancements. Goncharenko highlights the need for swift action in response to these changes [9].

Many businesses have recently incorporated the latest technologies, including AI, into their operations. This is primarily demonstrated through the implementation of

employee monitoring programs that record computer activity [19]. Furthermore, employees at industrial enterprises use various wearable tools, which have been enhanced with sensors due to recent technological advancements. These sensors can measure the pace of work and the time spent on such work, and record the movement and location of employees. The data collected are then analysed using AI, resulting in various indicators of efficiency and productivity [20].

It is important to note that technology is also manifested in GPS systems that allow tracking of the location and speed of truck and van drivers, as well as couriers and car-sharing drivers working on on-demand platforms. Employees who work remotely on different platforms with the help of innovative technologies and analysis of their previously completed tasks will receive the next priority with other employees. If an employee fails to perform their work satisfactorily, the customer may rate their work poorly. In such cases, the employee may be removed from the platform altogether [21].

The above demonstrates only one of the examples of using innovative technologies and AI. Its application is much broader and is used even before the start of the employment relationship when the recruiter uses auxiliary programmes and recruitment. It continues during the performance of certain tasks, monitoring, performance evaluation, and search for better solutions. Based on this, it is already possible to analyse the challenges and potential problems associated with the introduction of AI and automation in the field of labour.

Thus, active automation can lead to job losses and increase unemployment since the use of AI reduces the demand for human capital; the same tasks can be “delegated” to a computer with properly designed algorithms. However, it can also open up new opportunities and create new jobs requiring different skills and abilities in the service and improvement of innovative technologies [16]. Active automation also increases requirements for potential employees. Proficiency in AI is a valuable asset to include on a CV and can provide an advantage during the selection process. Failure to adapt to rapid technological changes and master them may render an employee uncompetitive and less in demand in the labour market. AI discrimination occurs when algorithms are programmed with biases or stereotypes. It is important to ensure that AI algorithms are free from bias and stereotypes to prevent discrimination. The responsibility for this lies with the person who sets the algorithms, as in the future, AI will develop its own algorithms, potentially exacerbating discrimination. The issue of transparency and fairness of the algorithms should be raised at a high level and regulated by law. Fundamental human rights must not be violated in any way [10]. Another concern in the use of AI is the

liability for erroneous actions of AI programmes. If signs of discrimination, violation of employees’ rights, or an accident at an enterprise caused by AI are detected, they should be regulated at the legislative level [11].

AI operates on the basis of a vast amount of data and information, which should generally be publicly available. However, modern information technologies and improperly installed algorithms often raise privacy concerns [12]. This, in turn, threatens privacy and the leakage of personal data (or the use of this data against the person). Therefore, the development of AI directly correlates with the adaptation of legislation to such changes and the protection of human and civil rights and freedoms at the highest state level. The analysis of the above provides grounds for a broad understanding of the challenges facing society and legislative bodies in the context of legal regulation of the use of AI systems.

3.2 Adaptation of labour legislation to the challenges of AI and automation: Germany

In order to achieve the purpose of our study and formulate meaningful conclusions, it is advisable to analyse the experience of a number of European countries in adapting their labour legislation to the challenges of AI. It is worth exploring their areas of activity in this regard, their methods of overcoming problems, and the main vectors of movement to improve labour relations and respect for the rights of employers and employees. For comparison, we have taken advanced European countries such as Germany, Finland, and Poland, which allocate significant resources to the development of AI and legal regulation of issues related to it. Moreover, the choice of these countries was also influenced by the fact that AI technologies have a widespread impact on the labour market. It is necessary to focus on these countries, as the analysis below shows that they are actively working on adapting their legislation to the challenges of AI, using different approaches and directions. Comparing different legal systems can provide insights into effective strategies and potential pitfalls.

For a comprehensive understanding, the current labour laws and regulations related to AI in the above countries were analysed. Such an analysis is important in identifying potential areas for further improvement and assessing the actual state of legislation, as well as identifying priority goals for adapting labour legislation to the challenges of AI. It is important to consider the impact of AI on the labour market in each of the selected countries and to get acquainted with

real cases where AI is already difficult to do without (e.g., recruitment, as described below). It is advisable to analyse the steps already taken to adapt legislation and implement further actions in policy documents and strategies.

Thus, Germany is one of the leading countries in the introduction of AI technologies into everyday life. Moreover, Germany is very effective in responding to rapid changes and improvements in innovative systems and adapts its legislation to new realities. The first step was to introduce the concept of AI into labour law. This concept was introduced into the law in 2021 along with the update of the German Enterprise Constitution Act (BetrVG) through the Works Council Modernisation Act (Betriebsrätemodernisierungsgesetz) [18].

It is worth noting that even before the legislation was amended, such works councils were required to participate in the introduction of AI into various processes at enterprises. That is, if a company wants to implement AI-based programmes in its operations, it must consult with the works council and enter into a relevant agreement. Following the amendments, works councils also began to engage external AI experts to make the introduction of the latest technologies at enterprises more profitable and productive. From the legislator's point of view, the involvement of works councils and their cooperation with enterprises helps to build trust in the government and in AI itself. It also promotes the trust of an ordinary employee in the latest technologies that will facilitate and improve their work, rather than take away from it. Such trust and high-quality implementation of AI can only be achieved by legislating labour rights of employees and adapting the state's legislation to the challenges of AI.

Works councils are also involved in the process of selecting potential job candidates. However, this is only acceptable if such selections are made with the help of AI tools that automate the selection process and systematise the available information about candidates. With the help of AI, HR managers can obtain the necessary information from open databases of candidates who match the profile they are looking for. Open databases are generally various social networks, such as LinkedIn, for example. If the data processing is limited to data from professional networks that have been made public by the candidates themselves, such data processing is generally permissible. Internationally, the role of AI in human resources is no longer a novelty, especially in recruitment and human analytics [22].

In Germany, AI is currently used in companies primarily as an auxiliary tool for performing tasks. If we look at this issue from the perspective of the labour sector, we face the problem of the legal admissibility of the use of

AI on an individual basis. This raises a number of difficult regulatory issues, such as the protection of employment data, violation of legislation on the prevention of discrimination in any form, protection of personal data, etc. [23,24]. These provisions are currently being considered and are planned to be supplemented by the current legislation. Although the term "AI" has already been introduced into legal "circulation," the above-mentioned nuances are only planned to be harmonised with the current legal norms. That is, it is planned to update the German Constitutional Law on Works Councils (BetrVG). This has not been done before due to rapid technological evolution and the legislator's inability to consider all possible nuances.

Based on the above, it is necessary to adapt labour legislation to the challenges of AI, taking into account all the risks associated with it and automation. The foundation should be laid at the level of hiring employees, improving employment contracts, and taking into account the nuances of transfers and dismissals. Moreover, successful business transformation using AI requires significant investment in digital skills and competencies. All of this is important on the way to a new labour market where AI plays an important role [17].

3.3 Adaptation of labour legislation to the challenges of AI and automation: Finland

Finland's success in becoming a leader in the use of new technologies and AI is hard to overestimate. Government agencies and the Government itself carry out their activities in this area on the basis of the following principles, which will have a positive effect on the transformation of the economic and labour sectors. Back in 2017, Finland launched the AI Programme, which aims to strengthen Finland's position in the world of AI and build partnerships with national, European and international stakeholders [13].

The priority goals set out in the above-mentioned AI Programme are to widely demonstrate the state's potential in the field of advanced technologies, business development and AI in their organic combination. Moreover, the competitiveness of the Finnish industrial and technology sectors is also an important priority. Finland's policy calls on citizens to be prepared for the rapid changes in the labour market due to the use of AI. Starting with education and continuing in the labour market, AI will show significant shifts and may even completely change the way of life that many people are used to. Finland places an important emphasis on the lifelong learning of its citizens, on the

development of AI tools and other advanced technologies. Primary education and vocational education must also be able to respond quickly to changes in technology, provide high-quality advanced knowledge and train highly skilled personnel. The AI programme aims to optimise education and modernise it to achieve better results [25].

In 2020, the Finnish Ministry of Economic Affairs and Employment appointed a steering group to prepare an action plan for Finland to accelerate the adoption of AI and contribute to the so-called “fourth industrial revolution.” The government also created the National AI Programme AuroraAI, which ended in 2022. AuroraAI was the main result of the above programme, as it was a real technological solution based on AI that enabled data exchange between different platforms and authorities.

As for the adaptation of legislation to the challenges of AI, the main legal act in Finland is the Proposal for Harmonised Rules on AI and Amendments to Certain EU Legislative Acts. The Proposal is based on the statements on the protection of fundamental rights and freedoms of man and citizen in the course of using AI, including labour rights; protection of public interest, etc. The Proposal presents a balanced and proportionate horizontal regulatory approach to AI, which is limited to the minimum necessary requirements to address the risks and challenges associated with AI, without unduly restricting or impeding technological development or otherwise disproportionately increasing the cost of bringing AI solutions to market [26].

Moreover, already in 2023, Finland made the first legislative amendments in the area of liability related to AI. The Regulation on Automated Decision-Making by Public Authorities imposes liability on public authorities that use automated decision-making tools. At the moment, these provisions do not apply to the civilian sphere, but even this is a progressive development that will eventually lead to the adaptation of labour legislation.

3.4 Adaptation of labour legislation to the challenges of AI and automation: Poland

The policy of the Polish government in the field of innovative technologies and AI is largely based on the goals set out in a number of European strategic documents. Moreover, this policy is an important element of the Polish Productivity Strategy and the Efficient and Modern State 2030 strategy. The Polish government is making significant efforts to develop employees in the so-called risk group. That is, those whose professions may disappear due to AI. Therefore, preparing such employees for the new realities is a priority, so

that the unemployment rate does not increase in the future and people can provide for themselves independently [15]. Polish scholars Lazaroiu and Rogalska believe that AI technologies play a crucial role in job displacement, employee reskilling, talent management, and customer service automation, thereby shaping the future of work and consumer behaviour [27].

The main priority of the Polish government’s policy on the use of AI in the labour market is to effectively prevent and mitigate the negative effects of AI on the labour market. It is also advisable to introduce so-called protective measures to make the transition to new realities less painful. Such measures include the following:

- Analysing the market of professions to identify those that may disappear in the coming years;
- Preparation of retraining programmes for employees;
- Assessment of potential opportunities and risks that may arise in the process of creating new jobs;
- Regular analysis of labour market risks associated with rapid automation;
- Conscious and well-considered choice of profession by school leavers – seminars and coaching sessions will be held to help them do so;
- Advanced training of employees in the development of AI tools;
- Cooperation with business in the implementation of AI;
- Developing analytical and digital skills, including programming skills, at all stages of education, establishing rules for organising classes and internships in accordance with the level of education;
- Adaptation and improvement of the current legislation to the challenges of AI, and automation in the context of hybrid and fully remote forms of work [28].

The Polish Government also attempts to regulate the AI-driven profiling of the unemployed. The research delves into a case initiated by the Commissioner for Human Rights challenging the constitutionality of legal provisions allowing labour offices to profile the unemployed using automated decision-making systems to determine the scope of state aid they could receive. Furthermore, the research underscores the legal implications and constitutional rights implicated by the profiling of the unemployed, highlighting issues such as lack of transparency, privacy concerns, and the need for effective redress mechanisms [29].

Taking into account the above conclusions and the analysis of data on the situation of labour legislation in relation to the challenges of AI in Germany, Finland and Poland, the following can be confidently stated:

- The analysed countries are taking measures to bring their current legislation in line with the realities of

today's AI by introducing the concept of AI into the legal field, establishing a mechanism of liability related to AI, defining the main directions and priority goals in state programme documents for the coming years, and actively engaging with employers and the general population.

- Germany pays considerable attention to the influence of regulatory bodies on the use of AI, including significant reporting and subordination processes, as well as the direct involvement of such bodies. Establishment and operation of the relevant authorities or reorganisation of the existing authorities will allow, subject to the involvement of relevant specialists, to exercise effective control over the development of AI and its further use.
- As for Finland, in addition to having a balanced and harmonised approach to the implementation of AI technologies in strategies and programme documents, the government is actively focusing on educating the population about the latest technologies and their readiness to use them in their own activities. Changes to the education system in this regard are also important. This is an excellent example of state activity at all levels, from the adaptation and improvement of legislation, the balanced introduction of AI into all aspects of society to public education.
- Poland activities are guided to a greater extent by the EU's policy documents, but its domestic policy is generally aimed at protecting against the adverse effects of AI and avoiding potential risks. Moreover, there is also a significant emphasis on employee training and mastering the latest technologies.

Thus, the above confirms not only attempts but also real actions to adapt both labour legislation and all areas of life, including the problematic aspects of personal data protection. Based on the conclusions drawn and the analysis of the actions of the authorities of the above-mentioned leading countries, it can be noted that in the coming years, a comprehensive and complete adaptation of legislative norms to the requirements of technological development will take place, as it requires time, analysis of risks, opportunities, and the ability of employees to use the latest technologies without harming themselves.

3.5 Current state and prospects for the adaptation of labour legislation in Ukraine

As part of its commitments, Ukraine has ratified less than half of the European conventions binding on EU member

states that regulate issues related to labour, labour standards and fundamental rights and freedoms [14]. The issue of using AI in the labour sphere also needs to be reflected in the labour legislation of Ukraine. After all, AI technologies are already being actively used by Ukrainian citizens and foreigners in Ukraine, so these aspects should be regulated. In the course of such use, the property rights of citizens are sometimes violated, their personal data is stolen, and their privacy is affected. That is why the issues of liability for such actions require significant attention.

However, an important step in preventing personal data theft was the adoption of the Law of Ukraine "On Protection of Personal Data," which implements the requirements of the GDPR and creates a framework for data protection in the context of AI technologies [30]. Back in 2020, the AI Research Committee was established, which includes many leading AI developers, academics and researchers. This Committee has several working groups, one of which is dedicated to the issue of legal regulation.

At the legislative level, it is proposed to define AI as a machine system that is designed to operate with varying levels of autonomy and can make predictions, recommendations or decisions that affect the physical or virtual environment for explicit or implicit purposes. This definition is in line with the EU AI Regulation, which is due to be adopted by the end of 2025. That is why, after the adoption of this Regulation, Ukraine will have to implement these provisions in the national law as part of its obligations [31].

Taking into account the experience of the above-analysed countries – Germany, Finland and Poland – the following logical steps and prospects for adapting Ukrainian labour legislation to the challenges of AI can be identified:

- Development of platforms and infrastructure for cooperation between different authorities, industry groups, and other stakeholders.
- Establishment of a responsible body with which companies will coordinate the introduction of AI technologies, providing such companies with benefits to actively use the latest benefits and further strengthen digital security.
- Enshrine in law the right of employees to personal data protection, privacy and protection from discrimination by AI.
- Establishing liability for violations of the law using AI;
- Retraining of personnel who may lose their jobs due to automation in the near future;
- Upskilling employees to use the benefits of AI to reduce the resource required to perform mechanical tasks.

Moreover, attracting investors may become an important promising step. Investors can become the driving force for the active use and improvement of AI in various

spheres of society, including the labour sector. After all, new platforms will be developed, such as recruitment platforms, which will simplify the time spent searching for candidates and analysing their experience and abilities.

In addition to the proposals for the harmonisation of Ukrainian legislation, there are several other important points to understand for their quality implementation. There are a number of preconceptions about the introduction of AI and its impact on legislation in general and the labour sphere in particular. One of these preconceptions is that legislation is universal to all new technologies. In fact, it is important to bear in mind that such a universal approach will not be able to comprehensively cover the regulation of all aspects and types of AI technologies due to the significant differences in the latest technologies themselves. It is the adaptation of labour laws to specific sectors or use cases that is crucial for effectiveness. Moreover, when implementing our proposals and reflecting them in the law, it is important to involve AI experts, specialists in the relevant labour sphere, as well as organisations that already actively use AI technologies in their work. Bridging the knowledge gap is important because it helps to make much more informed decisions.

It is important to note that updated legislation should encourage responsible AI practices that minimise bias and ensure fair outcomes. A dynamic regulatory framework should be able to easily adapt to the changing landscape of AI.

4 Conclusion

Comparing the leading European countries – Germany, Finland, and Poland – that devote significant resources to the development of AI and legal regulation of issues related to it, the following conclusions have been formulated:

In Germany, works councils are involved in the introduction of AI into various processes at enterprises. The involvement of works councils and their cooperation with enterprises helps build trust in the government and in AI itself. Such trust and high-quality implementation of AI can only be achieved by legislating the labour rights of employees and adapting the state's legislation to the challenges of AI.

Finland's priority goals in the use of AI are to widely demonstrate the state's potential in the field of advanced technologies, business development, and AI in their organic combination. Finland's main legal act in the field of AI is the Proposal for a harmonised framework for AI and for the amendment of certain EU legislative acts. The Proposal presents a balanced and proportionate horizontal regulatory

approach to AI, which is limited to the minimum necessary requirements to address the risks and challenges posed by AI.

Poland's policy in the field of innovative technologies and AI is largely based on the goals set out in a number of European strategic documents. The Polish government is putting considerable effort into developing workers in the so-called risk group. That is, those whose professions may disappear due to AI. Therefore, preparing such workers for the new realities is a priority, so that unemployment does not increase in the future and people can provide for themselves independently.

As for Ukraine, within the framework of its commitments, Ukraine has ratified less than half of the European conventions binding on EU member states that regulate issues related to labour, labour standards and respect for fundamental rights and freedoms. Another important step was the adoption of the Law of Ukraine "On Protection of Personal Data." One of the top priorities is to implement the provisions of the EU Regulation (to be adopted by the end of 2025) in the national law. Attracting investors is an important step towards the use of AI in the labour sector and the adaptation of current legislation.

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