ARTIFICIAL INTELLIGENCE AND JOB SECURITY CHALLENGES

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Abstract: As artificial intelligence (AI) continues to advance, its impact on job security becomes a topic of significant concern and debate. While some argue that AI applications will lead to substantial job displacement and unemployment, others believe that it will create new jobs and employment opportunities. This article explores the impact of artificial intelligence on job security, the challenges it poses, and the strategies to maintain job security in the age of AI. We concluded that AI affects job security in diverse ways, acting in certain situations as a complement to human skills, and in other cases as a replacement for them. This complex impact necessitates a balanced approach that embraces AI's potential while taking into account the societal considerations to ensure a sustainable future for job security in the age of AI.

Keywords: artificial intelligence, job security, labor market, technology, challenges.

L'INTELLIGENCE ARTIFICIELLE ET LES DÉFIS DE LA SÉCURITÉ DE L'EMPLOI

Résumé : Alors que l'intelligence artificielle (IA) continue de progresser, son impact sur la sécurité de l'emploi devient un sujet de préoccupation et de débat important. Certains affirment que les applications de l'IA entraîneront d'importants déplacements d'emplois et du chômage, tandis que d'autres estiment qu'elles créeront de nouvelles opportunités d'emploi. Cet article explore l'impact de l'intelligence artificielle sur la sécurité de l'emploi, les défis qu'elle pose et les stratégies visant à maintenir la sécurité de l'emploi à l'ère de l'IA. Nous avons conclu que l'IA affecte la sécurité de l'emploi de diverses manières, agissant dans certaines situations comme un complément aux compétences humaines, et dans d'autres cas en remplacement de celles-ci. Cet impact complexe nécessite une approche équilibrée qui englobe le potentiel de l'IA tout en tenant compte des considérations sociétales pour assurer un avenir durable à la sécurité de l'emploi à l'ère de l'IA.

Mots-clés : l'intelligence artificielle, la sécurité de l'emploi, marché du travail, technologie, défis.

Introduction

The Fourth Industrial Revolution (4IR) or "Industry 4.0" represents a fundamental change in technological development, enabled by extraordinary technology advances commensurate with those of the first, second and third industrial revolutions. It has introduced smart technologies like Artificial Intelligence (AI) which has the potential to greatly influence different parts of society becoming one of the most relevant elements of all possible changes in various aspects of life in this era. Over the past few years, one branch of artificial intelligence, known as machine learning, has made spectacular progress due to the remarkable efficiency of multilayer deep neural networks in performing classification tasks, and this is what sparked off the recent AI revolution which is gaining a lot of attention particularly

on its potential impact on humanity. The evolution and widespread diffusion of artificial intelligence and automation have led to considerable inspiration and significant transformation in different industries, from medical diagnosis and autopilot transportation to advanced manufacturing. (Nguyen & Hong Vo, 2022).Artificial intelligence technologies offer novel, distinctive opportunities and pose new significant challenges to organizations that set them apart from other forms of digital technologies. As artificial intelligence continues to advance and automate tasks traditionally performed by humans, concerns that the increasing sophistication of artificial intelligence may negatively affect the labor force and lead to mass unemployment by jeopardizing skilled and semi-skilled workers and reduce the size of the middle class, have made AI one of the parts of the debate on the link between automation and jobs, which gives rise to concern about a massive and rapid disappearance of the latter. While it is commonly believed that new technologies will lead to job losses and threaten job security, Nonetheless the real situation is more nuanced. Therefore, it is of great significance to analyze the impact of AI on employees' job security. This article explores the intricate implications of artificial intelligence on job security, delving the displacement and creation of jobs due to automation, and exploring strategies and regulatory measures for ensuring job security in AI-driven organizations. To understand whether AI could replace human work and affect job security negatively or, on the contrary, will prove to be complementary to human work, the following questions are asked: How do the advancements in artificial intelligence affect job security? Will artificial intelligence completely replace human workers ?

To answer these questions, we assume that artificial intelligence can affects job security in diverse ways, it may complement humans in some jobs, while replacing them in others.

The purpose of this study is to analyze the impact of AI advancements on job security, as well as defining the appropriate strategies to balance between the benefits of AI applications and its challenges for job security. Thus, the importance of this study lies in the fact that it contributes to current debates on artificial intelligence and job security, by shedding light on whether AI is augmenting or replacing human labor. This study provides insights into how AI will shape the future of work and contributes to understanding the impact of artificial intelligence on job security and the dynamics that enable individuals, organizations and policy makers to navigate the evolving landscape of work, ensuring a sustainable and inclusive future amidst rapid technological advancements. To achieve the purpose of the study, we will rely on the descriptive analytical method as the most appropriate method for analyzing the subject at hand. We start by looking at the concept of artificial intelligence and its foundations. Then we look at the areas of its applications. Additionally, we discuss the considerations of job security associated with AI adoption. Finally, we conclude with an overview of some possible measures and strategies for balancing AI advancements and job security.

1. Artificial Intelligence: Definition and foundations

Artificial intelligence is a scientific discipline that is by no means new with its foundations, dating back to the beginnings of computer science in the 1940s and 1950s, with numerous different methods whose purpose is to reproduce cognitive functions by computers. The term “artificial intelligence” itself was coined in 1956 by John McCarthy, one of founding fathers of the field along with Allen Newell and Herbert Simon (Benhamou, 2020:60). AI came back to popularity in the 1980s as several research institutions and

universities developed a type of AI systems that used expert knowledge to create a set of rules that could be easily understood by non-experts in order to assist them in making specific decisions. These systems are "expert systems", examples are the XCON designed by Carnegie Mellon University and the MYCIN designed by Stanford University. The expert system derived logic rules from expert knowledge to solve problems in the real world for the first time.

> The core of AI research during this period is the knowledge that made machines smarter. However, the expert system gradually revealed several disadvantages, such as privacy technologies, lack of flexibility, poor versatility, expensive maintenance cost, and so on. At the same time, the Fifth Generation Computer Project (FGCP), heavily funded by the Japanese government, failed to meet most of its original goals. Once again, the funding for AI research ceased, and AI was at the second lowest point in its history.
>
> Yongjun & et al. (2021 :2)

In 2006, Geoffrey Hinton and his colleagues made a significant advancement in artificial intelligence by proposing the creation of deeper neural networks. This sparked a renewed interest in AI research and led to remarkable successes in various walks of life. "Thus, AI technologies have proven to be valuable assets in scientific research and real-world applications". (Yongjun & et al, 2021, p. 2). AI has advanced more rapidly in the past decade because of greater use of the scientific method in experimenting with and comparing approaches. Recent progress in understanding the theoretical basis for intelligence has gone hand in hand with improvements in the capabilities of real systems. The subfields of AI have become more integrated, and AI has found common ground with other disciplines. (Russell & Norvig, 2010:30). Despite the fact that AI has been a topic of interest for many years, there is still a lack of a universally agreed definition throughout the literature. As an ever-evolving field, artificial intelligence has been used with many different senses, both within the field and outside it. Many definitions are given, highlighting the functions it performs: John McCarthy who was one of the founders of the discipline of artificial intelligence described it as: "the science and engineering of making intelligent machines, especially intelligent computer programs. It is related to the similar task of using computers to understand human intelligence" (Vinod , 2021:2). Alan Mathison Turing, often referred to as "the father of computer science" defined artificial intelligence as: "systems that act like humans". (Russell, 2010:10). AI is defined by Ocana Fernandez as "an aspect of computer science that provides a variety of methods, techniques, and tools to create models and solutions to problems by simulating the behavior of individuals". (Aloqaily & Rawash, 2022, p. 3521). Another definition of artificial intelligence as it is expressed by Capgemini Consulting says that "AI encompasses a range of technologies that learn over time as they are exposed to more data". (Carayannis & Grigoroudis , 2023:4) According to the previous, we can define artificial intelligence as a broad field that involves the development of intelligent computer programs that can perform tasks that typically require human intelligence. The purpose of AI is to achieve improvisation in the functionality of computers by way of functions related to human knowledge, such as visual perception, speech recognition, decision-making, and language translation.

> AI systems are designed to learn and adapt based on their experiences and can be trained to perform specific tasks by analyzing large amounts of data. AI programming focuses on three cognitive skills: *Learning processes*: this aspect of AI programming focuses on acquiring data and creating rules for how to turn the data into actionable information. The rules which are called algorithms, provide computing devices with

> step-by-step instructions for how to complete a specific task. […] *Reasoning processes:* this aspect focuses on choosing the right algorithm to reach a desired outcome […] *Self-correction processes:* this aspect is designed to continually fine-tune algorithms and ensure they provide the most accurate results possible.
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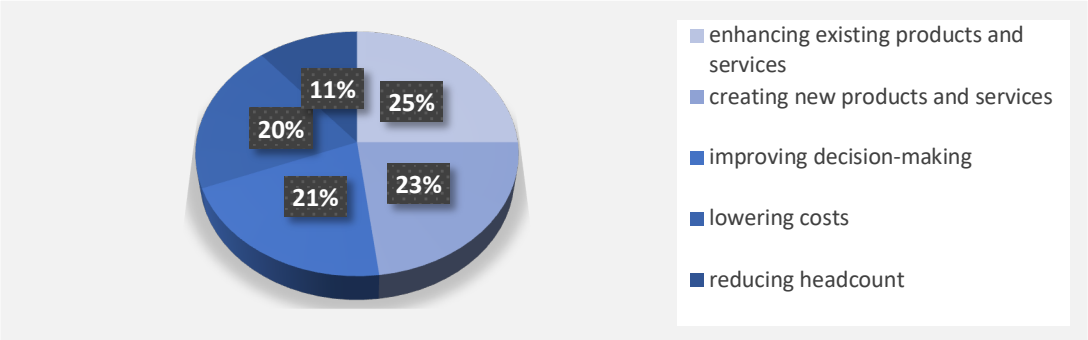
> Sneha & J.Beschi Raja (2019 :821)

Artificial intelligence has three branches, the first of which is Machine Learning, which is concerned with designing and developing algorithms and techniques that allow computers to have the property of learning, as software applications are more accurate in predicting results without programming them explicitly. The second branch is Deep Learning, which is based on several techniques such as artificial neural networks that simulate human neurons, the network becomes deeper as the number of neurons increases. The third branch appears in the so-called Distributed Artificial Learning -DAI- aimed at establishing decentralized systems capable of collaborating and coordinating to address and solve large and complex problems. (Guemmar, 2023:76).AI is an interdisciplinary field of study, it combines various disciplines, such as computer science, neuroscience, cognitive science, engineering, logic, mathematics, statistics, natural sciences, physiology, ethics, linguistics, psychology, economics, and philosophy. It draws knowledge and insights from these areas to develop AI technologies. (Belkacemi, 2022:273)

2. Areas of Application of Artificial Intelligence

Artificial intelligence is currently viewed as the most important new technology for large organizations. However, it is still at an early stage in these organizations, and largely absent from smaller ones, except for technology startups. Surveys indicate that less than half of large organizations have meaningful AI projects in process, although the percentage is gradually increasing . (Benbya & et al, 2020, p. 9). A recent report by Gartner (an American technological research and consulting company) indicated that the number of organizations implementing AI grew 270 % in the past seven years and has tripled in the last two years. (Mikalef & Gupta, 2021:1) AI technologies hold immense potential across various industries, according to experts, 30% of the organizations that are listed as 30 most successful organizations in the world are using some kind of AI. Furthermore, trends are showing that until the 2030 year almost 50% of the most successful organizations will be using some kind of machine learning to improve business processes within the organization. (Buntak & et al, 2021, p. 405) AI is being applied in organizations for diverse objectives: to enhance existing products and services (25%), to create new products and services (23%), to improve decision-making (21%), and to lower costs (20%). Although a common theme in the AI-oriented press is related to reducing headcount, this objective got the lowest number of mentions at 11%. (Benbya & et al, 2020, p. 1)

Figure 01 : Objectives of AI Applications



Source: designed by the researcher

Executives initially focused on using AI technologies to automate routine and repetitive tasks in a linear and sequential manner. They aimed to streamline workflow process and reduce manual efforts. (Benbya & et al, 2020, p. 9). But now, organizations are moving toward nonsystematic cognitive tasks that include decision-making, problem-solving and creativity, which until recently seemed beyond the scope of automation. AI technologies are also progressively enabling employees and machines to work collaboratively in novel ways. In manufacturing, for example, in order to fulfill customized orders and handle fluctuations in demand, employees are increasingly collaborating with robots to perform new tasks without having to manually overhaul any processes. AI technologies are also performing certain tasks autonomously.

In the table below are described the main areas of AI applications:

Table 1: Areas of Artificial Intelligence Applications

Area of the application	Short description
Manufacturing	AI is having a significant effect on the manufacturing industry. It is improving the manufacturing process in many ways (design and production, AI warehouse management, quality assurance and inspection, AI based product development, AI process automation, AI for predictive maintenance, AI for purchasing price variance...)
Management and business	AI can be used in different departments in the organization for different kinds of activities that are performing in such departments (for instance human resource management: Streamlining recruitment and selection, workforce planning, career path, Training and Development, Compensations, Performance analysis…)
Finance	AI and finance industries are the best matches for each other. The finance industry is implementing automation, chatbot, adaptive intelligence, algorithm trading, and machine learning into financial processes.
Healthcare	Healthcare industries are applying AI to make a better and faster diagnosis than humans. Healthcare organizations are relying on AI-based software for their day-to-day tasks. These tasks vary from patient diagnosis to hospital data management, and the training of medical stuff.

Education	AI is being used in various ways, from tools to support student learning to assessments. AI-powered tools are also being used to automate administrative tasks, such as grading assignments and providing feedback. Additionally, AI is being used to analyze large amounts of data to identify patterns and insights that can inform the development of new educational strategies and policies.
Logistics	AI is used for analyzing existing costs in the transportation and logistics system, and for finding optimization opportunities in the logistic process. Intelligent robots and automation systems can handle repetitive tasks, reducing production time and costs.
Agriculture	AI is used to detect various parameters such as the amount of water and moisture, amount of deficient nutrients, stock monitoring, supply chain, pest management, weather forecasting.
E-Commerce	AI is widely used in this field as it helps to establish a good engagement between the user and the organization. It helps to make appropriate suggestions and recommendations as per the user search history and view preferences. There are also AI chatbots that are used to provide customer support instantly and help to reduce complaints and queries to a great extent.
Transportation	AI is bringing revolutionary changes in the field of automobiles. From speedometers to self-driving cars, AI is used in traffic management, emission reduction, autonomous driving, etc.

Source: designed by the researcher

> Statistics show that the industrial manufacturing industry is the top adopter of artificial intelligence, with 93 % of leaders stating their organizations are at least moderately using AI. According to Capgemini's research, more than half of the European manufacturers (51%) are implementing AI solutions, with Japan (30%) and the US (28%) following in second and third.
>
> Dilmegani (2023)

In this context it is essential to state clearly that the adoption of AI differs dramatically among organizations. We can distinguish between three cases:

- The first case includes giant tech companies which are AI-leaders, having proceeded to investments of billions, like Google, Amazon, Microsoft, the Chinese multinational technology company Baidu, etc., and have developed a number of AI/ML tools and applications.
- The second case refers to high-tech performing companies that use AI to generate value at a business-wide level. According to a survey by McKinsey, 50% of the 2395 participants confirmed that their organizations have incorporated AI into a process or product in one function or business unit. These companies are those that have already implemented AI in at least one area of their operations, taking into account that the most high-performing companies have increased their investment in AI amid the COVID-19 pandemic.
- The third case is the majority of companies, which have not implemented any related technology. These companies are still facing difficulties in utilizing this technology, although they are very likely to start in the near future.

It should be noted that although the specific changes may vary across industries, the job roles in AI generally align with the three cases of AI adoption mentioned earlier. (Carayannis & Grigoroudis , 2023, p. 4)

3. Impact of Artificial Intelligence on Job Security

Technology is one of the major influential factors in organizations, now a days AI is entering into day to day working at workplace and which will lead transformation in organizations. Despite the many benefits that AI has brought to organizations, there are also concerns about its impact on employment and job security. Job security is typically defined as “an employee’s perception that their job, or an important feature of their job, is secure ". (Michalos, 2014). Job security is a high level of assurance or confidence for employees to believe they are able to maintain their existing jobs in the foreseeable future. It provides a sense of protection against possible inherent or external risks that might affect or change the employment status of employees. While job insecurity refers to feeling powerless to keep a job when individuals perceive a potential threat to their job continuity. (Bhargava & et al, 2021, p. 107). Studies show that employees across various organizations are extremely concerned about their job security due to the implementation of various forms of technologies. In 2017 Walker, Vice President of Pega systems, presenting the results of a survey of 6000 humans in six different countries, says that 70% of the surveyed participants are fearful of artificial intelligence and 25% believe it will take over the world and enslave humanity. While 31% also believe humans will be replaced by robots on the job, some contend that AI assistance on the job would help improve work/life balance, freeing them up to do more meaningful work and have more leisure time. (Carayannis & Grigoroudis , 2023, p. 6)

> Many researchers are concerned that AI will result in more inequality due to its threat of disrupting labor markets. It is argued that the continuous growth in automation, robots and computers will take the jobs of workers in many industries with the most worrying factor being the increased danger of the disappearance of low-skill/low-pay jobs which will cause a lot of challenges for the poor which will lead to a rise in social tension.
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> Mhlanga (2021:3)

Frey and Osborne argue that artificial intelligence will directly replace 13% of jobs, including those that are more brain-intensive and more financially rewarding, such as finance, accounting and senior management. AI intervention is seen by many scholars as an external factor for organizations that will threaten job security and stability of employees. If the organization does not take the corresponding adjustment measures in time, the employee's anxiety will have a negative impact on the organization. (Liu & Zhan, 2020, p. 2). According to Stephen Hawking, autonomous systems that do not require human involvement are becoming more prevalent. These systems are able of self-training and adapting to new data. For example, in the field of financial trading, automated systems relying solely on algorithms enable companies to complete transactions more quickly compared to systems involving human intervention. Likewise, robots are capable of independently carrying out specific tasks in manufacturing environments. (Davenport & Ronanki, 2018, pp. 109,110).As physical machines, software systems, and combinations of hardware and software get more capable as a result of AI-enablement (Kiderlin, 2023), it is more possible and economically viable to replace a larger portion of current human jobs

with machines. However, some jobs are more susceptible to being replaced by automation than others. (Kiderlin, 2023). Georgios Petropoulos argues that middle-level jobs that require routine manual and cognitive skilled are the ones that are most at risk, but jobs that emphasize interpersonal skills are much harder to be replaced by AI. (Neufeind, O'Reilly, & Ranft, 2018, p. 7).

Conversely, there are opposing views regarding the effects of artificial intelligence on employment and job security. For many researchers, "Technophobes" display irrational fear toward artificial intelligence, appear to be abnormally anxious, and manifest the fear of unemployment and job insecurity, they consider automation and unemployment synonymous. Thus, "non-technophobes" consider that technology generates more job opportunities. According to Bessen, the impact of technology on employment is not as straightforward as saying that automation leads to job losses. This is because the relationship between technology and employment is influenced by the elasticity of demand, which refers to how responsive the demand for a product or a service is to changes in price or technology. (Bessen, 2018, p. 2). The demand model accurately predicts the rise and fall of employment in three key industrial sectors in the Unites States (textile, steel and automotive industries). This model provides a useful framework for exploring how AI is likely to affect jobs over the next 10 or 20 years. In this vein, the World Economic Forum forecasts that by 2025, 85 million jobs may be displaced by a shift in the division of labor between humans and machines, while 97 million new roles may emerge that are more adapted to the new division of labor between humans, machines and algorithms. (Jaeger, 2021) The table below illustrates the displacement and creation of jobs generated by the introduction of artificial intelligence:

Table 2: Top 10 job roles in increasing and decreasing demand across industries

Increasing demand	Decreasing demand
Data analysts and scientists	Data entry clerks
AI and machine-learning specialists	Data entry clerks
Big data specialists	Accounting, bookkeeping, and payroll Clerks
Digital-marketing and -strategy specialists	Accountants and auditors
Process automation specialists	Assembly and factory workers
Business development professionals	Business services and administration Managers
Digital transformation specialists	Client information and customer service Workers
Information security analysts	General and operations managers
Software and applications developers	Mechanics and machinery repairers
Internet of things (IoT) specialists	Material-recording and stockkeeping clerks

Source: World Economic Forum, Future of Jobs Report 2020, WEF, October 2020, p 30

In the light of the foregoing, it seems clear that while the introduction of productivity-enhancing technology displaces activities conducted by humans and thereby causes technological unemployment, there are various countervailing forces actually creating new activities, functions, and jobs, and thus compensating for that unemployment. Moreover, the exploitation of the introduced technology may require complementary tasks (e.g., controlling, programming, and maintenance), which may form new occupations or new

activities for existing occupations. These complementary tasks may increase the demand for higher skilled employees with higher wages. (Vermeulen & et al, 2018, p. 13) for example, AI specialists, data scientists, and machine learning engineers are in high demand. As the technology advances, the need for individuals who can understand and develop AI systems will continue to grow. (Vermeulen & et al, 2018, p. 13). Hence, automation does not lead to job loss in the way we think, it may be the opposite. For instance, South Korea, which is the most automated country in the world, saw its unemployment rate hit a record low in August 2022. Singapore and Japan, the next two most automated countries, also have unemployment rates significantly lower than the global average, indicating that automation and unemployment are not directly correlated. (Zaied, 2023) The table below shows the average of unemployment for 2023, the highest value was in Italy (8.3%), the lowest values was in the most automated countries (Japan 2.3 % and Germany 3.27%).

Table 3: Unemployment rate forecast, 2023 - Country rankings:

Countries	Unemployment rate forecast 2023	Global rank
Italy	8.3	1
France	7.36	2
Canada	5.83	3
UK	4.15	4
USA	3.83	5
Germany	3.27	6
Japan	2.3	7

Measure: percent
Source: International Monetary Fund, Unemployment rate forecast-country rankings business and economic data for 200 countries: https://bit.ly/46FuI7i.

Consequently, recent developments in AI are already affecting the workplace in different ways. Firstly, by automating repetitive tasks, thus eliminating the need for certain human skills. This will result in significant transformations across various occupations. Secondly, by changing expertise, in various fields like law companies and sales, many applications have been created to automate tasks such as due diligence, contract review, and sales tasks that were traditionally done by junior lawyers or account managers. These new technologies, like conversational AI, help and simplify these tasks. This could lead to changes in the knowledge required for certain jobs, and could even result in the restructuration of these occupations. (Benbya & et al, 2020, p. 9). Thirdly, by augmenting professionals, because AI systems can assist and enhance their work by providing support for their judgment and decision-making although they are unable to fully replace human experts. For example, the debate has now moved away from the "end of radiologists" focus, and acknowledges that radiologists will not be replaced by AI tools any time soon, but they will be augmented by them. (Davenport & Dreyer, 2018)

To sum up, artificial intelligence innovations can affect employment and job security by directly displacing workers from tasks, they were previously performing (displacement effect). Additionally, by increasing the demand for labor in industries or jobs that arise or develop due to technological progress (productivity effect). (Petropoulos, 2018, p. 119)

4.Strategies for Maintaining Job Security in the Age of Artificial Intelligence

In an age where AI is constantly advancing, it is crucial to take active measures to strike a balance between embracing the opportunities AI presents and safeguarding job security. Employers and organizations must adapt and create supportive environments that foster innovation and upskilling. Additionally, policymakers play a vital role in formulating policies that protect workers and promote job retraining initiatives to achieve the harmonious and win-win situation of employment and job security and enterprise development. The most important of these strategies and measures are as follows:

a-Lifelong learning and upskilling: In the era of artificial intelligence, one of the key strategies for maintaining job security is to embrace lifelong learning and upskilling. According to Kalleberg, any form of artificial intelligent demands the redesigning of employees' job descriptions and changing focus to performing value-adding tasks. Hence, AI is seen as a possible facilitator for upskilling jobs leading to better job quality. (Bhargava & et al, 2021, p. 107). The demand for skilling, reskilling and upskilling will continue to evolve as individuals are required to undergo several job transitions throughout their working lives. For both workers and enterprises, this will mean recognizing the importance of contributing to and using the full range of lifelong learning options and continuous learning pathways. Governments should encourage policies that promote job retraining and upskilling programs. Providing incentives for employers to invest in employees training, offering financial support for individuals pursuing educational opportunities, and promoting lifelong learning can contribute to a more secure job market in the face of AI advancements. High-demand skills in the AI era are important for ensuring that the outcomes of economic and trade restructuring are not only economically efficient but also inclusive and socially just, including in terms of the quality of jobs, collective bargaining and social and labor protection. (International Labour Organization, 2021, p. 44). Skills related to AI appear to be in demand across almost all sectors of the economy, though to varying degrees. The group of sectors " Information and Communication", "Financial and Insurance Activities" and "Professional, Scientific and Technical Activities", ranked at the top in terms of AI-job intensive sectors. Moreover, between 2012 and 2016, there was a significant increase in the demand for skills related to data mining, classification, natural language processing (NLP), and computational linguistics, particularly in Canada, the UK, and the USA. (Squicciarini & Nachtigall, 2021, p. 10)

b-Adapting to new work environments and roles: Another strategy for ensuring job security is to be open to adapting to new work environments and roles. With the integration of AI, some job functions may become automated, leading to the need for employees to explore different roles or embrace hybrid positions. This involves identifying areas where AI can augment human skills and reassigning employees to more value-added tasks that require human judgment and creativity. Being flexible and willing to learn new tasks can make individuals valuable assets to organizations.

c-Artificial intelligence governance (regulation and transparency): Maintaining job security in the age of artificial intelligence calls for governance, this has increasingly been highlighted in regulatory development, companies' policies as well as ethical guidelines over the last few years. For example, the European Union adopted a strategy on artificial intelligence in April 2018, and appointed a High-Level Expert Group to give advice on both investment strategies

as well as ethical issues with regards to AI in Europe. The future strategic work of the European Commission on AI emphasizes seven important aspects that should be covered by future regulations to ensure worker protection:

- safeguarding worker privacy and data protection
- addressing surveillance, tracking and monitoring
- making the purpose of AI algorithms transparent
- ensuring the exercise of the 'right to explanation' regarding decisions made by algorithms or machine learning models.
- preserving the security and safety of workers in human–machine interactions
- boosting workers' autonomy in human–machine interactions
- enabling workers to become "AI literate. (Pasquinelli & Joler , 2021)
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d-Entrepreneurship and job creation: Entrepreneurial activity drives economic growth and job creation. Thus, Entrepreneurs can identify gaps in the market where human skills are still in demand or create innovative solutions that complement AI technologies. Consequently, policymakers are paying considerable attention to the specific role of startups and high investment in research and development as possible job creation strategies. (Badal, 2010, p. 1)

e-Emphasize ethical considerations: As AI becomes increasingly integrated into various domains, ethical considerations are paramount. To effectively tackle the consequences of job displacement, it is imperative to implement proactive measures, including retraining programs and policies that enable a fair transition for affected workers. Such actions are necessary to uphold the ethical responsibilities of policy makers. Additionally, the establishment of far-reaching social and economic support systems is crucial. By addressing these challenges, governments and organizations can mitigate the negative impacts of job displacement and foster a more resilient workforce. (Capitol Technology University, 2023)

f- Collaboration with artificial intelligence technologies: Rather than viewing AI as a threat, organizations and employees should embrace it as a collaborative partner. AI technologies can complement and enhance the work, making it more efficient and valuable. The technology has a symbiotic relationship with the humans working alongside it, although often invisible. (Del Castillo, 2020, p. 2) . Employees need to Learn how to work alongside AI tools and systems to streamline processes, analyze data, and make better decisions. They can benefit from artificial intelligence and drive innovation in their areas of specialization thereby enhancing their roles in organizations and thus their job security. The combination of human experience and artificial intelligence capabilities creates a powerful synergy that leads to better results for job security.

Conclusion

Artificial intelligence is increasingly permeating economies and organizations, affecting jobs in different ways. Understanding and assessing the impact of AI on job security is crucial for developing strategies that promote efficient labor markets for the benefit of workers, employers and societies as a whole. Therefore, this study sought to investigate the influence of artificial intelligence on job security. Based on what has been discussed, the findings revealed that:

-As with any technological advance, artificial intelligence brings both benefits and challenges. AI has the potential to impact job security in two main ways: AI can directly replace workers by automating tasks traditionally performed by them; AI can create new jobs by increasing the demand for labor in jobs that develop due to its advancements.

-Maintaining job security in the age of artificial intelligence, requires adaptability, resilience, and a proactive mindset, it is important for both employers and employees to develop strategies and measures for ensuring it. Employers should focus on developing a culture of lifelong learning, investing in skills development, and creating flexible working arrangements. Employees should focus on staying up-to-date on technology trends, developing a portfolio of skills, and networking with other professionals, so they can position themselves for long-term job security.

-Managing the artificial intelligence transition in a responsible and people-centered approach is a major challenge for governments. It calls for evidence informing the design of policies able to foster the development of AI and achieve the harmonious and win-win situation of employment and job security and enterprise development, while making sure that its deployment across economies and societies contributes to improve individual and societal well-being.

Finally, it should be noted that while some observers predict that the combination of human and machine intelligence will always be the winning one, there are other predictions about the future impact of machine-human integration. As advanced technologies take expansion to an entirely new level, artificial intelligence will raise more questions and bring further implications for the workplace, organizations, and societies.

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