THE IMPACT OF ARTIFICIAL INTELLIGENCE ON JOBS AND WORK EFFICIENCY

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Abstract: *The rise of artificial intelligence (AI) is reshaping the global workforce, presenting both opportunities and challenges. As automation technology streamlines manual tasks, job roles are undergoing significant transformations, leading to the creation of new specialized positions while making others obsolete. AI adoption has accelerated, with technologies such as Big Data playing a central role in transforming work. Survey shows demand for skilled professionals in data analytics, big data management, AI, machine learning and cybersecurity to increase by an average of 30% by 2027 to stay competitive, individuals must adapt by learning in-demand skills, such as data analysis and programming. Companies are prioritizing training their employees in AI and Big Data, recognizing the need for analytical and creative skills. The digital commerce sector is expected to grow significantly, creating approximately 2 million new digital positions. This article explores the changing employment landscape, highlighting the transformative power of AI and the imperative for individuals and businesses to adapt to remain relevant in an evolving job market. change quickly.*

Key words: *artificial intelligence, job transformations, automation, digital prospects, AI impact, workforce development.*

Introduction

The integration of artificial intelligence (AI) into various industries has sparked considerable debate regarding its impact on jobs and work efficiency. As AI technologies continue to advance, they bring forth both opportunities and challenges that reshape the landscape of employment and productivity.

Across sectors, AI technologies offer the promise of boosting productivity and creating new products and services. These technologies are already being applied in sectors such as retail, manufacturing, and entertainment, and there is significant potential for further uptake, for example in pharmaceuticals, education, and transport [1].The potential benefits of AI in the workplace include automation of routine tasks, improved decision-making through advanced analytics, and the ability to handle massive amounts of data for more informed strategies. However, as AI systems become more sophisticated, concerns arise about the potential displacement of human workers and the need for upskilling to adapt to evolving job requirements.

In this article, we will examine the multifaceted impact of artificial intelligence on employment and work performance. We will explore the transformative potential of AI across different sectors and consider the challenges and opportunities it brings to the workforce. Additionally, we will discuss how businesses and policymakers can navigate this evolving landscape to ensure a balance between technological advancement, job security and overall well-being of the workforce.

Effects of AI on employment positions

The widespread adoption of artificial intelligence is dramatically reshaping the workplace across a variety of industries. As automation technology becomes more widespread, some manual and repetitive tasks are streamlined, leading to increased efficiency and productivity. However, this transformative change in the workplace is not without its challenges. Job roles are undergoing significant changes, with some positions becoming obsolete as automation takes over routine functions. At the same time, AI integration is creating new specialized roles that require a combination of technical expertise and a deep understanding of evolving business processes.

As AI continues to transform the labor market and employment landscape, individuals must adapt to stay relevant and competitive in their careers. One way to adapt is to focus on developing in-demand skills, such as data analytics, machine learning and programming. This may involve taking courses, attending workshops, or earning certifications in these fields. Another way to adapt is to seize the opportunities offered by AI , such as by using it to enhance human capabilities and work more efficiently. This may involve learning to work with AI tools and technologies and collaborating with AI systems to achieve better results [2].

The use of artificial intelligence for everyday tasks has increased rapidly over the past decade, and ChatGPT (developed by OpenAI) is a prime example, with popular AI used by more than a billion people. Daily use. tasks like coding and writing. The speed and scale of AI adoption can be illustrated by a simple fact: ChatGPT took just 60 days to reach its 100 millionth user. In contrast, it took Instagram two years to reach the same milestone [3].

A recent report from Stanford University found that the number of AI patents increased 30-fold between 2015 and 2021 (HAI 2023), highlighting the rapid pace of progress in AI development. AI-based technologies can now perform a variety of tasks, including information retrieval, logistics coordination, financial service delivery, complex document translation, business report writing, document preparation legal and even disease diagnosis. Additionally, they have the ability to improve the efficiency and accuracy of these tasks through their ability to learn and improve through the use of machine learning (ML) [3]. In this case therefore in Figure 1 we can see the types of artificial intelligence.

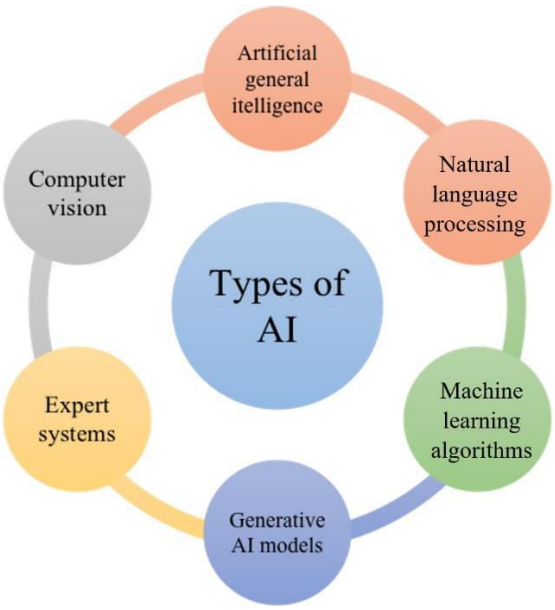

Figure 1. Types of AI

Source: nokia.com

Types of AI:

- ***Artificial general intelligence*** is a hypothetical form of AI that possesses the ability to learn, apply knowledge, and solve tasks across a wide range of domains.
- ***Computer vision*** uses and interprets visual inputs (video and images) to extract information.
- ***Expert systems*** are rules-based and designed to emulate the decision-making of humans by applying rules-based logic to input data to arrive at a decision.
- ***Generative AI models*** can create new multi-modal content based on the patterns of the data they are trained on.
- ***Machine learning algorithms*** learn from historical data to predict future outcomes and solve problems.
- ***Natural language processing*** recognizes and uses natural speech patterns to respond to commands and carry out tasks.

Jobs expected to change in next five years

Over the next five years, a significant transformation is anticipated in the job market, with approximately 23% of existing positions projected to undergo substantial changes by 2027. This dynamic shift is anticipated to result in the creation of 69 million new jobs, while 83 million jobs are expected to be eliminated. According to a recent report, two key factors are poised to drive net job growth during this period: the global shift towards sustainability, particularly in the form of the green transition, and the increasing trend of localizing supply chains. The adoption of advanced technologies and the widespread accessibility of digital resources are also expected to contribute to net job growth, albeit with significant offsets due to job losses. The fastest-growing occupations are predicted to be in the fields of artificial intelligence and machine learning, sustainability, business intelligence analysis, and information security. While these areas show promise, challenges such as slower economic growth, supply shortages, and inflation pose notable risks to overall job stability. The sectors expected to experience the largest absolute growth include education, agriculture, and digital commerce, reflecting the evolving landscape of the global workforce [5].

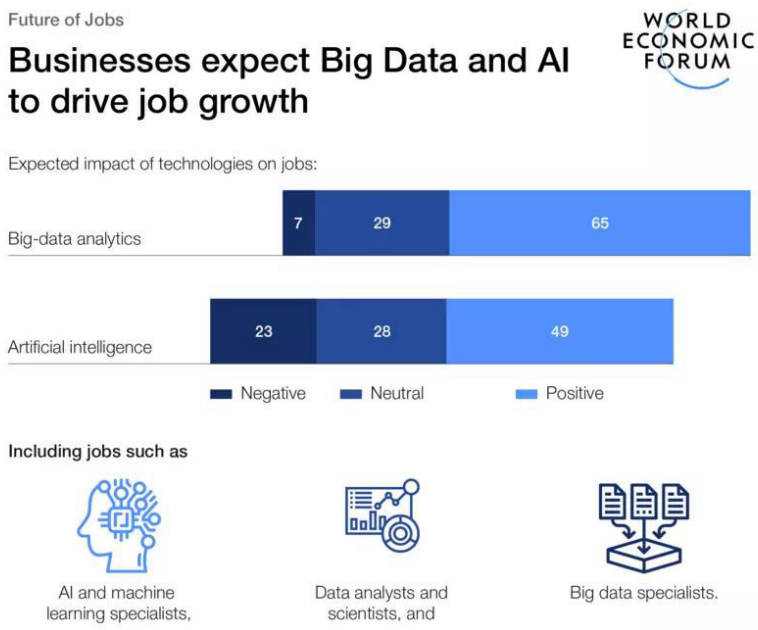

Figure 2. Big data and AI drive job changes

Source: weforum.com

The accelerating pace of technological advancement and the pervasive influence of digitalization are steering the job market towards unprecedented growth in certain roles. Among the various technologies driving this surge, big data stands out as a frontrunner, with a remarkable 65% of survey respondents anticipating job creation in related fields. The demand for skilled professionals in data analytics, big data management, artificial intelligence, machine learning, and cybersecurity is projected to surge, with an average growth rate of 30% expected by 2027. Recognizing the transformative potential of these technologies, 42% of surveyed companies are prioritizing the training of their workforce in AI and big data utilization over the next five years. Notably, analytical thinking (48%) and creative thinking (43%) are considered even more crucial skills by the majority of these companies. Furthermore, the digital commerce sector is poised to witness substantial growth, with an estimated creation of approximately 2 million new digitally enabled roles. These roles encompass specialties such as e-commerce management, digital transformation expertise, and digital marketing and strategy, reflecting the profound impact of technology on reshaping the employment landscape [6].

Conlusion

In conclusion, there is no denying the widespread integration of artificial intelligence (AI) and technological advancements that are reshaping the employment landscape globally. The transformative impact of AI is evident in increased efficiency and productivity by automating manual and repetitive tasks. However, this progress is not without challenges, as some job roles become obsolete while new specialist positions emerge. The rapid adoption of AI technologies, such as Big Data, is driving career change at an unprecedented rate, driving a significant demand for experts in the field of data analytics, AI, machine learning, and cybersecurity.

As the job market evolves, individuals must adapt to stay competitive in their careers. This adaptation involves learning in-demand skills such as data analysis, machine learning, and programming. Businesses recognize the importance of preparing the workforce for the AI era, with 42% prioritizing AI and big data training in the next five years. Analytical and creative thinking are also considered important skills in this ever-evolving landscape. In addition, the widespread use of AI in everyday tasks and the increase The exponential growth in AI patents reflects the rapid progress in AI development. Types of AI, from general artificial intelligence to natural language processing, show many different applications of this technology in many different fields.

Looking ahead, 5 years There will be significant changes in job roles, with a focus on sustainability, supply chain localization and the development of digital commerce. Challenges related to slowing economic growth, supply shortages and inflation pose risks to employment stability, but the overall trajectory shows that a dynamic and evolving employment landscape is taking shape. by the forces of technology and innovation. Individuals and organizations that embrace these changes, adapt their skills, and leverage AI capabilities are better able to navigate this evolving landscape.

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