

The Impact of Robots and Artificial Intelligence on Human Resources in the Future

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Abstract:

Technology is an inevitable part of human life. One of the technologies is artificial intelligence and robots, which are very effective in human life. The desire of organizations to use artificial intelligence in human resource management, considering its advantages and to survive in the competitive environment of the digital age, has doubled the importance of identifying the requirements and conditions for using artificial intelligence.

Many warnings have been raised about the potential of artificial intelligence to disrupt the structure of the human resource, especially in jobs that can be easily automated. In fact, it is widely believed that artificial intelligence will soon be able to perform administrative tasks that occupy most of the time of managers, better, faster and at lower cost.

Artificial intelligence plays an important role in increasing the productivity of human resources in the processes of searching, hiring and retaining employees, but this technology must be used with consideration for privacy as well as public policies. The presence of artificial intelligence only means changing the focus of managers' responsibilities on tasks that only humans can perform. The emergence of artificial intelligence is solely aimed at expanding office automation and not to replace human labor.

Research by the World Economic Forum showed that despite artificial intelligence and intelligent robots, 50 percent of some jobs will disappear in the coming years, while the rest of the jobs may not be affected.

Despite concerns about job elimination if artificial intelligence and robot technologies grow, it must be acknowledged that people had similar concerns during the Industrial Revolution or even the spread of the Internet. This is while the Internet has created jobs and increased countries' incomes over time.

Now, 63 percent of all top managers in the world believe that the impact of artificial intelligence technology will be much greater than the Internet and that the world will benefit from the existence of robots.

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1 Introduction

Today, emerging technologies are one of the main concerns of society. Governments and societies have well understood that their economy and survival in today's changing world are tied to new technologies (Safari and Ebrahimi, 2022).

Many human innovations, especially information technology, are transforming the world in all aspects, including the business sector. In line with the development of technology and information technology, the shape and appearance of many jobs have changed, so that with the emergence of jobs based on information technology, the need for new skills has also increased, and now many organizations with innovative ideas have emerged in the world that have been able to achieve significant growth and progress in a short period of time by using technology. (Jami and Sadeghi, 2018).

Technology is advancing rapidly and programs are becoming more complex day by day. Among them, artificial intelligence is a technological tool that provides outputs by combining technology and human intelligence. Artificial intelligence tools with self-regulating processes lead to time savings and energy for the exploitation of resources in societies and humans. (Azizpouran and Moradi, 2022).

Artificial intelligence is one of the new technologies that affects the economy, survival of governments and various societies. Artificial intelligence technology seeks to exploit human intelligence to analyze various problems, imitate the human brain, and make decisions like humans in different conditions and situations, which has attracted great attention from managers, practitioners, and policymakers. (Safari and Ebrahimi, 2022).

Artificial intelligence is one of the topics that has recently received attention in the field of human resources. Since the middle of the twentieth century, when technological progress experienced a rapid path ahead of it, the field of information management, and especially expert systems, has paid more attention to artificial intelligence.

Artificial intelligence systems were first used in the army and then in other industries and quickly gained a special place among various dimensions of science and knowledge, industry and business. Meanwhile, the field of management was not exempt from these advantages, and artificial intelligence systems made remarkable achievements in efficiency and effectiveness in this field.

Among the fields of management, human resource management was also heavily affected by these systems, and newer systems are becoming available to managers every day to optimize human resource management. Within the next few years, almost all devices and services will be equipped with artificial intelligence. (Aghamohammadi and Forouzandeh, 2022).

Research shows that companies Various are joining artificial intelligence to estimate the concept of supply and demand and automate human resource systems. Also, the public sector is developing various smart machines for security monitoring and fault detection of vital systems such as nuclear reactors. Artificial intelligence and robotics are without any risk in enforcing law and order. (Shaukat ,et al.2020).

The development of smart cars, smart drones, smart agriculture, development of defense security, smart logistics, industry, health and wellness, robotics, energy, digital education, transportation, space, environment, etc. are among the most important areas where artificial intelligence is currently being seriously implemented. (Roy,2018).

In a study, the factors affecting the application of artificial intelligence technology were identified in three areas, respectively, economy, transportation and governance. This prioritization clearly shows that, firstly,

the importance of the economy in the country is extremely high in the current situation, and secondly, artificial intelligence technology can transform the economy.

Structural anomalies in the country's economy, poverty and livelihood difficulties, domestic and foreign investment, unemployment and inflation are among the most important economic problems in the country, which have been plaguing society and the government, especially in the last few years.

Artificial intelligence will create an economic revolution in the country and save the country from lagging behind the global economy. Just as in the near future, the world economy will be affected by artificial intelligence through labor productivity, gross domestic product and investments. (Safari and Ebrahimi, 2022).

In the last few decades, automation has grown significantly in various sectors of industry and manufacturing. The emergence of fully mechanized factories, where all processes are automated and human labor has no executive role, is increasing.

Robots play a special role in the optimal use of human labor. Given the higher cost of human labor in the long term in the industrial sector compared to robots, the use of robots will be more efficient than human labor. (Rajaei et al., 2018).

Automation and artificial intelligence have numerous advantages such as high speed in completing tasks, lack of fatigue and protest, increased accuracy and reduction of errors, increased efficiency and productivity. However, like other transformative technologies, they can also bring risks and threats. Some of these threats and concerns are negative effects that may have on people's employment.

In contrast to this hypothesis, there are three general approaches or schools of thought that experts can be categorized based on; some believe that in the future machines will replace humans and jobs will be seriously threatened, others believe that mechanization does not mean replacing humans with machines and even new job opportunities will be created.

Among them, some experts do not like the two absolute approaches of the positive effect of automation and the development of artificial intelligence on jobs and its negative effect and believe that this question cannot be answered easily and although Artificial intelligence will affect jobs, but the way it affects them is not necessarily quantitative, and quantitative job changes are only one of these effects, and many other factors intervene in this matter.

In fact, the degree of impact that different jobs will receive from the development of automation and artificial intelligence depends on several factors, so it is not correct to issue a general verdict for all positions and jobs. (Kanani et al., 2021). A study conducted by Freio et al. indicates that almost half of jobs in the United States are at risk of being replaced by artificial intelligence. (Holgersen, et al.2023).

In 2023, artificial intelligence will cause a transformation in the labor market. 75% of organizations are expected to use artificial intelligence between 2023 and 2027. 50% of organizations state that artificial intelligence will create new jobs, and 25% of organizations see artificial intelligence as the reason for eliminating jobs. (Zahidi, 2023). Gartner says the number and types of jobs affected by AI vary.

For example, in 2019, demand for jobs in the medical, public service, and education sectors increased, but demand for manufacturing services decreased. It is also predicted that by 2050, AI-related jobs will create two million new jobs. In other words, although AI will eliminate millions of middle- and low-level jobs, it will create millions of new jobs in various fields, including management.

With the help of AI, productivity will increase in many jobs. (Aghamohammadi & Forouzandeh, 2022). For organizations, developing new business models and competitive advantages by integrating AI into business and IT strategies holds significant promise.

In 2017, Google CEO Sundar Pichai emphasized prioritizing AI to increase organizational efficiency. In the following years, Google and its business partners made significant investments in products that were perceived as “smarter,” such as Google Photos, Brain Rank, and Google Assistant (Kitsios & Perifanis, 2023).

As AI becomes a lever for societal transformation, many governments have adopted proactive policies to support AI. More than 30 countries have already developed national AI strategies to improve their prospects. Countries that use AI will significantly improve their economic competitiveness. So far, according to the Data Innovation Center ranking The United States has positioned itself as a leader in the field of artificial intelligence, but China continues to close the gap in some key areas. In fact, reducing overhead and overhead costs by applying artificial intelligence in various sectors can lead to significant changes such as greater investment in research and development, innovation in creating new businesses, and pursuing new business models. (Aghamohammadi and Forouzandeh, 2022).

Kalte and Sharifi (2022) conducted a study to examine the place of artificial intelligence in human resources. Given the rapid pace of artificial intelligence technology, the future of some jobs will be increasingly dependent on this technology, and millions of jobs will disappear in this process.

Using a researcher-made questionnaire, this study examined the level of awareness and discovered the views of 54 radio and television newscasters, experts, and pundits regarding the acceptance of news robot technology in the future of their jobs. By overcoming ambiguities about the future of media jobs, including the job of newscaster, it is trying to help managers and employees to deeply and seriously believe in the presence and progress of technology in their current profession and to prepare to face these conditions. The results showed that newscasters do not have the necessary preparation to accept new artificial intelligence technology (news robot) and the level of awareness of newscasters regarding the progress of artificial intelligence and the usefulness of this new technology is not acceptable. There is a positive and significant correlation between the subjective perception of the usefulness of information technology and the attitude towards its use.

Speaking experience also has an inverse relationship with attitude; Senior newscasters believe that Artificial intelligence does not have human mental and psychological characteristics such as consciousness, will, thinking, emotion, and feeling, and cannot be considered a threat to the future of humanity or even to the job of a newscaster. (Kanani et al. 2021). They analyzed and examined the effects of automation and artificial intelligence on future jobs. The findings of this article showed that the impact of automation and artificial intelligence on jobs and the labor market is a multifaceted issue and it is not easy to make a definitive statement about its impact. Many factors are effective in this field, and it is wrong to ignore them and generalize the results of research conducted in another region of the world and under different conditions to Iran.

Even with the simultaneous development of these technologies with weak employment growth over time, it cannot be concluded that there is necessarily a meaningful relationship between the two, as in the United States and many countries, the productivity index between 2010 and 2020 has been significantly There was a history of low growth rates, and the weak employment growth was due to weak economic growth, not job losses due to technology. Other factors mentioned in this article that are important to consider as confounding factors in analyzing the impact of AI and automation on jobs include the geographic location

of the country or region under study, the type of tasks and jobs, wage levels, gender of the workforce, skill and education levels, time horizon under study, aging trends, and the type of industry and sector.

Jamali Monfared and Al-Hamdi (2015) in a study entitled Application of Artificial Intelligence in Human Resource Management introduced and applied a number of artificial intelligence algorithms in human resource management, including the meta-heuristic optimization algorithm, which can be used with few changes for various optimization problems. Meta-heuristic algorithms significantly increase the ability to find high-quality solutions for difficult optimization problems.

Palos, et al. (2022) in a study acknowledged that the application of artificial intelligence in human resources is a very specific field of study, because most research focuses on its application in personnel recruitment and selection.

In fact, there is an increasing interest in talents and hiring highly skilled personnel, which is essential to face the changing environment. However, it should be noted that talents must not only be found, but also maintained and developed to become a competitive advantage.

For this reason, the use of artificial intelligence technologies in other functions and extracting maximum added value from Every process is essential. But there are still fears and negative feelings among employees and HR managers about AI.

These feelings can complicate the use of AI in this field. Although technology has helped create new jobs and expand existing ones, it has also eliminated many others, causing further concern. AI technology needs people to manage it properly.(Sakka, et al. 2022) discussed the impact of artificial intelligence on human resource management.

This article provides a three-pronged review of the introduction of artificial intelligence and the practice of human resource management. The first stage is decision-making with the help of artificial intelligence, which increasingly frees human resource staff from routine tasks and focuses on strategic tasks.

The second point is related to the changing position of human resources in companies. Human resource departments are required to become strategic decision-making centers, because artificial intelligence enables a shift from a reactive to a proactive state in solving organizational problems.

The third aspect concerns the financial implications of adopting AI (with a broader decision-making on cost-benefit principles) and raises legal questions related to anti-discrimination concerns and regulatory policies.

AI will have an impact on organizational performance when it is carefully pursued at the implementation level. This requires hiring the right people and staff skills (as intermediaries between machines and human stakeholders).

There is also a need for a clear internal policy to ensure that AI does not become a tool for control, but rather a facilitator of trust and commitment in the workplace. Geetha, & Bhanu, 2018) in her research acknowledged that AI is useful in the workplace and helps professional employees understand and identify problems and progress. AI is changing and supporting recruitment, training, talent management and retention of human resources. The use of AI tools and digital technologies in industries is recommended.

Because AI and machine language are used by many companies in the field of human resources Artificial intelligence plays an important role in recruitment, selection, performance analysis, data collection about employees, providing accurate information in real time.

2 Artificial Intelligence

Artificial intelligence is a general and applied method that has the ability to learn mathematical relationships between a set of input variables (predictor or independent) and corresponding output variables (owner or dependent).

The network, with the help of its hidden neurons (intermediate layers), models the complex relationships between input and output variables and, after learning, can make predictions for other data. (Chapman ,et al.2017).

Turing (1950) considered a machine intelligent that can communicate with a human without giving him the feeling of talking to the machine, and this is the basis of the science of artificial intelligence. That is, building a machine that thinks, makes decisions, and acts like a human. Artificial intelligence is a branch of computer science whose main goal is to produce intelligent machines to perform tasks that require human intelligence. (Rajabi and Atapour, 2022).

In comparing artificial intelligence with human intelligence, it can be said that humans are able to observe and analyze in order to make decisions. While artificial intelligence is based on predetermined rules and procedures on a computer. In general, the goal of artificial intelligence is to build a machine to imitate and simulate human intelligence. Artificial intelligence leads to maximum profit and ease of doing business, reducing costs, classifying raw data, increasing product quality, creating diversity and creating a strategic plan and identifying regular customers, reducing the amount of error in planning, and enabling prediction. If artificial intelligence meets the following goals: Reaching its peak will lead to a major leap in humanity's path to greater well-being and even greater wealth. (Aflatuni and Rahmani, 2021).

Artificial intelligence technology has impacted people's daily activities in various ways, from the use of smartphones to intelligent voice assistants on tablets and laptops. Artificial intelligence has led to the well-being of people in various sectors such as financial services, security and health services, education, etc. (Geetha, 2016).

2.1 Artificial Intelligence and Human Resources

Artificial intelligence helps organizations manage talent using intelligent machines. This technology, using simulations and having human intelligence, helps organization managers achieve their missions. Artificial intelligence works in a similar way to the human mind and can perform tasks such as problem solving and learning. Artificial intelligence is actually based on three pillars: learning, reasoning, and understanding.

Artificial intelligence is effective in attracting, discovering, developing, improving, and retaining talent. Artificial intelligence and its related technologies are able to increase the productivity of machine intelligence. In fact, these tools try to make everything move forward ideally by automatically examining work events. Therefore, artificial intelligence is expected to revolutionize talent acquisition when recruiting new employees, improving the talent acquisition process, screening candidates, maintaining databases and legal and business documents, scheduling interviews and answering frequently asked questions of selected employees.

In fact, all of these activities allow a business's human resource management to make better decisions and take better steps in terms of hiring their ideal employee. (Rajabi and Atapour, 2022).

Human resources are heavily dependent on data; the more employees there are, the more data there is. According to studies, managers at all levels spend more than half of their time on administrative coordination and task control. These are some of the responsibilities that managers expect to change with

the advent of artificial intelligence. This expectation is not far-fetched, as artificial intelligence will automate all of these tasks.

Rather than replacing humans, artificial intelligence allows us to go beyond what humans can define and see beyond what we can imagine by performing heavy and mundane tasks. Regulations should support human-centered artificial intelligence. On the other hand, artificial intelligence does not only replace people, but also enables them to do more.

Many discussions related to artificial intelligence emphasize the need for regulatory coordination between advancing innovation and ensuring security and trust, and human resource managers. They should pay special attention to these necessities in designing the software and artificial intelligence required.

According to predictions, jobs related to artificial intelligence will soon reach two million new job opportunities. In other words, although artificial intelligence will eliminate millions of medium and low-level job opportunities, on the other hand, it will create millions of new job opportunities in various fields, including management.

Some see artificial intelligence as a threat to global society. According to some, the advancement of artificial intelligence can cause it to become arbitrary and disobey humans, or due to its lack of emotional intelligence, it can treat human resources as tools. Since artificial intelligence can learn and make decisions, and on the other hand, it is tiresome, it may become an unbridled force in the future and no longer obey humans. But the correct use of such knowledge can open a bright future for human eyes and provide a much simpler and even more exciting future for humans. (Aghamohammadi and Forouzandeh, 2022).

2.2 The Future of Jobs with Robotics

The word robot literally means a dummy, a scarecrow, an artificial person, a humanoid, and a mechanical person. In the term computer-controlled device equipped with intelligent devices to detect inputs, signals, or environmental conditions (Kalte and Sharifi 2022,).

Since the late seventies, the demand for the use of robots in industries has begun to progress tremendously. The main reason for the significant growth of the robotics industry is mainly due to economic considerations. Another aspect of the use of robots is the increase in production speed and work accuracy.

Due to the accuracy of robots compared to employees, in this case, waste is reduced and the consumption of raw materials is reduced. The use of robots also reduces expenses such as clothing, gloves, food, and cleaning supplies for workers, which adds to its economic aspect.

In many production sectors where operations are dangerous or the work environment is noisy and polluted, the use of robots can protect employees from dangers.

Therefore, maintaining the health of the workforce, preventing errors during the production process, and increasing speed require robots, especially industrial robots, as the best a substitute for human power. (Eshghi, 2012).

The Chinese state news agency Xinhua has used artificial intelligence technology to create a news-telling robot that can report news in both English and Chinese. The robot is designed to reduce the cost of news production and increase the efficiency of the famous Chinese news anchor, Xinhua. The voice and appearance of this digital newscaster are based on Zhang Zhao, who can report news 24 hours a day, immediately after it happens.

The videos published of this news-telling robot show that it is not very advanced and its voice quality is artificial and it is a speech-to-text engine that works using a computer. While reporting the news, the robot's face and mouth also move. It can be said that China is seeking to completely eliminate human characters from the world of journalism with this move. (Kalte and Sharifi, 2022).

In a study, respondents were asked to share their views on their biggest fears for their careers by 2025. Respondents stated that unemployment will increase in the future due to robotics and that people should participate more in technological learning.

7WEF (World Economic Forum) released a new report that robots will take over more than 5.1 million office jobs in factories and hospitals in the next 5 years. According to a survey, about 80% of people said that learning advanced technical skills, outside of the school curriculum, is very necessary to keep up with advances in robotics (Shauka, et al.2020).

Conclusion

Artificial intelligence is a new technology that can act intelligently in different situations like the human brain. Currently, the recruitment industry is expanding by implementing a smart method for recruiting, namely recruiting through artificial intelligence.

Artificial intelligence technology has a tremendous impact on recruitment activities. In today's era, human resources believe that artificial intelligence technology is competing with them for recruitment activities. However, this software is made by humans to make the work easier during the process. (Geetha & Bhanu, 2018).

According to reports from various research centers, artificial intelligence is the biggest changer and changer in the global economy and according to many experts, one of the important and influential trends in future jobs is digitalization and the use of robots and artificial intelligence, which will automate processes and services that are highly paid by professionals. (Kanani et al., 2021).

Artificial intelligence, like any new technology, has its strengths and weaknesses. This makes human resources departments implement an effective artificial intelligence implementation strategy to safely integrate it into organizations and thus eliminate its potential harms. It is obvious that in the long run, the use of technology will no longer be optional, but rather necessary for competition among organizations. Otherwise, they will lose their position in the market or be eliminated. (Palos, et al. 2022).

Artificial intelligence has different effects on jobs and the expansion of the new paradigm based on these technologies has transformed the employment situation in the new digital world in the past two decades. There are several dualities due to the effects of automation and artificial intelligence on the labor market, and some

believe that the development of these technologies will eliminate or reduce some jobs and weaken the labor market, while others believe in the creation of new jobs. (Kanani et al. 2021). Many warnings have been raised about the potential of artificial intelligence to disrupt the structure of the workforce, especially in jobs that can be easily automated. But managers at all levels in organizations will have to adapt more and more to the world of intelligent machines. In fact, the general belief is that artificial intelligence will soon be able to perform the administrative tasks that occupy the majority of managers' time, better, faster and at a lower cost.

Artificial intelligence has an important role in making human resources more productive in the search, recruitment and retention processes, but this technology must be applied with privacy in mind as well as

public policy. Artificial intelligence will ultimately prove to be cheaper, more efficient and potentially more equitable than humans.

But such categories should not become concerns for managers. The presence of artificial intelligence only means a shift in the focus of managers' responsibilities to tasks that only humans can do. They are doing it. The emergence of artificial intelligence is solely aimed at expanding office automation and not at replacing human labor. (Aghamohammadi and Forouzandeh, 2022).

Despite concerns about job elimination in the event of the growth of artificial intelligence technologies and robots, it must be acknowledged that people had similar concerns during the Industrial Revolution and even the spread of the Internet. This is while the Internet has created jobs and increased the income of countries over time.

Now, 63% of all top CEOs in the world believe that the impact of artificial intelligence technology will be much greater than the Internet and that the world will make useful use of the existence of robots (Kalte and Sharifi, 2022).

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