THE FUTURE OF IT JOBS: IMPACT OF AI ON THE WORKFORCE

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Abstract: The study sheds light on the role of AI in reducing the need for IT jobs in future. AI is one of the most efficient modern technologies that is changing the way of working and living. It is capable of identifying and solving problems, making efficient decisions and completing almost all the operation of activities within less time. Examining the future of IT jobs with reference to the impact of AI on the specific workforce is the main purpose of the study. Articles and journals have been observed for gathering relevant information about the context in order to gather some relevant information. Along with that several newspaper journals are also reviewed for collecting relevant data. The results of this paper signify that there are higher chances of reducing human kind within the IT sector and that might impact the financial condition of a specific group of people. The adoption of AI tools will be beneficial for IT companies but not the job seekers. The rapid growth of AI technology in the IT sector will reduce the value of creativity, talent and skills among humans. It is important to remember that AI is not capable of managing emotional intelligence which is one of the most important factors that influences the efficiency of a healthy workplace.

Keywords: artificial intelligence, IT jobs, elimination, replacement, automation, workforce

1. INTRODUCTION

IT or Information Technology is the broad industry that basically produces software, semiconductor-based equipment, and internet-based services for its users and consumers. The IT sector started making space in the common domain of people's life after the launch of JAVA in the year 1995 (Krajewski, 2020). Today the IT sector has been providing its services in providing consultation to clients, software development, integrating the system, and providing online education support. The Job roles of the IT professionals working in IT firms have also changed, like today they have to work writing the programs, maintaining the networks, analysis of systems, and providing technician support. App development, web development, software development, data analysis, and preparing spreadsheets for managing finances are the popular job roles of IT professionals.

The introduction of Artificial Intelligence (AI) in the job market, especially the IT jobs market, has changed the scenario to a large extent. As per the World Economic Forum's new report, around 25% of IT jobs will be affected in the next five years (Forbes, 2023). Goldman Sachs, a New York-based investment bank, had predicted that the swift growth of AI in the workspace will impact around 300 million jobs (Forbes, 2023). Overall, it can be said that in the near future, AI will replace humans in grabbing the jobs of computer coders, programmers, software engineers, and data analysts due to its preciseness and accuracy. In this research paper, the future of IT jobs and the impact of AI on the IT workforce will be explained. It will explain whether the inclusion of AI in the workplace will result in heavy job losses or whether IT professionals have to adapt to work with AI.

2. METHODS

This section would cover the method that will be followed for the preparation of this research, the approach that has been followed, the way data has been collected, and the way data has been analysed. Primary and secondary are the two categories of sources that are used for assembling data for a research paper. Observation of articles and journals referred as the secondary sources whereas conducting surveys and interviews referred as the primary sources. The data collected for this research is secondary data which includes the peer journals review after the year 2019, authentic websites like Forbes, World Economic Forums, UN reports, and global newspaper articles (Jakka *et al.* 2022). The collected data had been analysed by thematic analysis with decisive themes meeting the objectives of this research.

3. FINDINGS AND RESULTS

3.1 Current situation of IT jobs and the role of AI in smart working

AI is the new technology that is changing the way of working and enhancing efficiency of the workplaces as well. Different types of AI technologies such as machine learning, big data analytics, cloud computing and others are used in industries. Application of these technologies reduces human errors as well as the requirement of human participation. In simple words, it can be stated that the use of AI technologies is enhancing smart working faculty across the world. Smart working refers to executing all activities efficiently and faster than the traditional way of working. The effectiveness of AI on the efficiency of workplaces is significant which improves productivity as well as reduces employment. According to the perspective of Sanders and Karmowska (2020), flexibility and productivity increase are the two significant benefits of smart working or E-working enabled by the application of AI technologies. It helps employees to keep all the data safe and complete all the activities timely which also enhances job satisfaction.

On the other hand, automation is a vital AI technology used in the IT sector which enables automatic completion of the activities by the machines without any participation of humans. Providing IT solutions, big data analysis, manufacturing technological aspects and others are the services provided by the IT sector and these services can be automated provided by the adoption of automation technology. The growth of AI and smart working in the IT sector is changing the way of operating all the operations. Apart from that, cloud computing, big data analytics and others are the AI-based technologies that are used in the IT sector (Sharma *et al.* 2021). Cloud computing helps the sector to store a lot of data securely and get access whenever needed. It eventually leads to the growth of workplace efficiency and smart working. In Simple words, adoption of cloud computing in the IT sector helps to complete tasks faster and reduces the need for human participation.

In contrast, big data analytics is another AI tool that is used for analysing big scale data. It becomes easier for businesses to analyse big data sets without any error within a short time through the use of big data analytics technology. Therefore, it can be stated that the use of this particular AI tool within the IT sector leads to the enhancement of smart working with less human participation. The effectiveness of AI and smart working within the IT industry can be understood which is one of the major reasons for cutting down IT jobs. In other words, it can be stated that the use of AI technology is improving the efficiency of the IT workforce but it is reducing the requirement of employees and jobs.

3.2 Artificial Intelligence' impact on the Workforce on the Global IT sector jobs

Artificial Intelligence has created a serious disruption in the job market and top IT products and services are now admitting this fact. Chegg is an online American educational technology company that provides its services providing homework, digital textbooks, online tutoring, and other student services (MacIsaac, 2023). I admitted that I had disrupted their business model, especially the successful launch of ChatGPT, an AI tool developed by OpenAI. As per WEF (World Economic Forum), globally more than 800 companies are employing 11.3 million jobs. As of the year 2027, the total new job creation has reached the market of 69 million jobs which is less than 14 million jobs roles as per the estimation (Forbes, 2023). The clerical jobs role in any of the IT of the company will have to bear the brunt as they will suffer the most due to AI.

IBM CEO Arvind Krishna recently announced that IBM is going to halt the job roles that can easily be replaced by AI technology. The CEO added that there are 26000 workers at IBM who are non-client facing and that can easily be repealed by AI in the next five years. While IBM had boasted that around 260,000 workers will be hired for the software development jobs role and client-facing job roles (Forbes, 2023). The United States which is the IT hub of the world has shown that the layoffs in the IT companies had researched to the mark of 80,000 just in the month of May 2023. Among those job cuts in the US, AI directly was responsible for the loss of 3,900 jobs which accounts for 5% of the losses (Napolitano, 2023). Online entertainment and information content writing job roles are also coming under the cloud of AI tools with

writers demanding better pay and announcing a total ban on AI for producing content. Hence, from the above analysis, it can be said that I had negatively affected the IT-based jobs across the world which had resulted in a series of layoffs and changed the jobs roles for humans in the IT industry.

3.3 Threats posed by AI toward the IT job market

The common threats which are posed by AI to the IT job market are the elimination of the workforce, up skilling of the existing employee to work with the AI tools, software programmers, and the coders will have to learn new skills to work with AI (Su *et al.* 2022). Competition in the IT job market will steeply rise due to the limited job roles in the company and the higher number of job applicants. Online advertisements, content creation companies, online media houses, and technical writing companies are all distinct parts of the IT sector and there will be job losses in all these sectors (MOK and ZINKULA, 2023). IT professionals will also have to face job losses in the market research analysts which was earlier prepared with the help of software applications but now it will be done with the help of AI tools. Graphic designers will also have to bear the brunt of the threats posed by AI which is job losses as their roles could easily be replaced. As per the Harvard Business Review report, three professors pointed out that the images generated by the AI tools could act as a complete disruptor for the Graphic design industry (MOK and ZINKULA, 2023). Customer services and consultancy are the other IT jobs roles that would surely be replaced in the companion years, especially after the launching of ChatGPT-related technology and it had been predicted that in the next five years, AI-based chat bots will completely replace humans.

The rapid increase of using artificial intelligence at the workplaces raises several threats for the IT job market. The use of AI tools is significant for improving efficiency and because of that it is rapidly growing in recent times. It has been identified that different kinds of AI tools are specifically capable of completing tasks without any human participation and within a less time. Therefore, it can be stated that jobs that require accuracy, data reliability and less involvement of emotional intelligence are under threat of AI (Alzoubi and Aziz, 2021). Emotional intelligence is the factor that AI based tools cannot manage within a workplace. In the IT sector data accuracy, reliable analytics and technical intelligence are the required resources rather than emotional intelligence which poses a threat of less job opportunity in the particular sector due to the adoption of AI.

3.4 Influence of AI towards future of IT sector jobs

In recent times the rapid growth of adopting AI technology in different industries is changing the future. These technologies are highly capable of replacing humans and completing all the business operations with more efficiency and less errors. Although the implementation of AI based technology is highly expensive, it is a onetime investment for business companies. The AI tools not only enhance efficiency of business companies but also boost productivity and financial performance (Wamba-Taguimdje *et al.* 2020). Considering all of these beneficial sides of AI base tools the use of this technology is increasing in the IT sector and other sectors as well. It is expected that the requirement of human participation in the IT sector will be reduced in future and the efficient AI tools will be replacing employees in companies. AI based technology will be capable of completing all the tasks at lower cost and time. It seems that AI has a great influence towards the future of IT sector jobs.

Thus, the use of AI models within the IT sector can be considered as threats for job seekers in future. As an example, it can be stated that Arvind Krishna, CEO of IBM which is one of the largest IT companies in the global market, has recently stated in an interview that about 30% of their jobs will be replaced by AI and automation within 5 years (Indiatimes, 2023). The company has about 26000 employees amongst which about 7800 jobs will be replaced by AI tools in future (Indiatimes, 2023). The use of AI and chatGPT is threatening the jobs of many programmers and will reduce employment in future. Sridhar Vembu, CEO and co-founder of Zoho which is another technology company in the global market, has opinionated that AI is a vital threat to various programming jobs. It seems that the technology companies are identifying the risks of the IT job market in future.
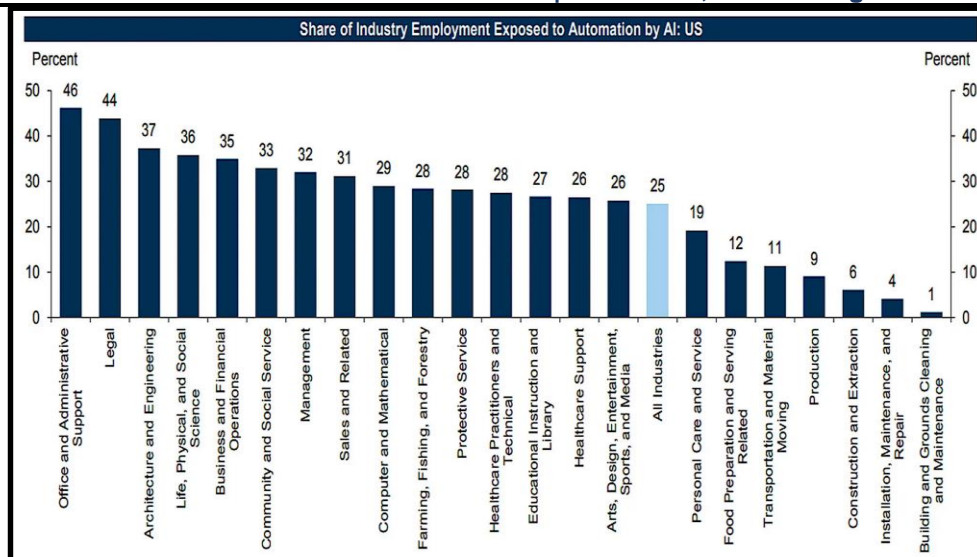
Figure 1: Impact of AI on employment within different industries

(Source: Mearian, 2023)

AI based tools and technology is more efficient than humans and capable of automatically completing several manual tasks which is influencing rapid growth of implementing AI tools within different IT companies. The figure above shows the share of different industry employment threatened by the use of AI as per the report of investment bank Goldman Sachs. It seems that about 29% of computer related jobs will be replaced by AI as well as 28% of technical tasks and healthcare practitioners can also be replaced in future (Mearian, 2023). The report signifies that nearly 300 million jobs of different industries are in threat of being replaced by AI in future. Thus, it can be stated that AI poses significant threats for the IT jobs as there are higher chances of replacing most of the employment by automation and AI technology.

According to the perspective of Lloyd and Payne (2019), AI is changing the way of living and working and that is shaping the future employment. The rapid development of AI and its capability to replace humans in different industries will reduce humankind and enhance unemployment within the IT sector. Elon Musk, the CEO of Tesla which is one of the biggest electronic car manufacturing companies, stated that the major use of AI will enhance the crisis for humankind and risk for human civilization. Industries which require more emotional intelligence such as healthcare, agriculture and others are at least a threat while IT sector jobs are at great threat as it is more about accuracy and data analytics. Hence, it can be understood that AI is largely influencing the future of IT sector jobs and there will be more AI tools than humans in the sector in future.

4. DISCUSSION

A brief discussion of all the findings has been presented in this portion of the study. The particular research paper specifically shades light on the future of IT jobs in the context of the impact of AI on the workforce. It has been identified that the use of automation and AI technology is rapidly increasing in different industries including the IT sector. Artificial intelligence or capable of completing all the tasks without any human participation. The need for employees is reducing in the IT sector as AI is replacing humans which poses the most significant threat, cutting down IT jobs (Tschang and Almirall, 2021). Current situation of IT sector jobs has been evaluated in this study which signifies that the use of AI tools such as cloud computing, automation, Big data analytics and others are significantly increasing. Companies are replacing employees with AI machines which are more efficient and complete all the tasks within a short time. It not only saves time but also expenses and, in this way, companies are getting financial benefits as well.

On the other hand, the findings of the paper suggest that artificial intelligence has a great impact on the waters of the global IT sector. Several IT companies in the global market are adopting AI technology and reducing the number of employees. It has also been identified that different IT companies in the global sector are expecting to cut down the number of employees they have and replace them with AI tools (Pan *et al.* 2022). It is a threat for IT job seekers which might reduce the number of people interested in learning IT. Apart from that, it has been identified that AI increases different threats for software programmers, coders and other IT jobs. IBM, Zoho and others are some of the largest companies from the global IT sector are also thinking of replacing humans with AI within the next 5 years. It indicates the future of IT jobs will be significantly influenced by AI technologies.

5. CONCLUSION

It can be concluded that artificial intelligence is significantly important for improving workplace efficiency in the IT sector. The use of cloud computing is highly beneficial to store a lot of data as well as the adoption of Big data analytics helps the sector 2 analyse big data sets easily. In simple words it can be stated that the application of AI tools makes it easier and simpler for the IT sector to complete all the operations with more efficiency without any errors. It enhances productivity and efficiency of the workforce as well as poses several threats to IT jobs. It has been identified in this study that AI technology and automation is capable of completing tasks without humans and that is eliminating IT jobs such as software developers, programmers and others. The study of the current situation of IT jobs which is replacing smart working through the use of AI technologies. The CEOs of different IT companies are expecting the replacement of AI with humans within the sector in the next 5 years. It signifies that there will be a great influence of AI technology towards IT sector jobs in future.

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