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The impact of AI on employment and jobs: A comprehensive analysis

Adam Sharif
adamshariftx1@gmail.com

Esad Gurbuz
esadosmangur@gmail.com

Senih Ay
Senihay24@gmail.com

Abstract

As AI is starting to gain popularity in the modern digital age, an interesting and crucial question is asked: what changes will artificial intelligence bring to the work industry? In this research, we will view AI from both a positive and negative perspective to consider what it can do for the future of society. Our research encompasses the trade-offs and the effects the implementation of AI in work industries will bring. Recognizing how AI will change our workforce will be an important question to answer in the upcoming years of technological innovation, so we decided to tackle it and find a possible answer. By examining the different impacts of AI on employment, we aim to contribute valuable insights that can inform discussions, policies, and strategies for a balanced integration of AI into the future workplace. Our study determines how AI can positively impact the workforce through supplementing productivity, streamlining processes, and creating new employment opportunities. At the same time, we also delve into potential challenges such as job displacement, ethical concerns surrounding AI, and the absence of comprehensive policies. By taking a comprehensive approach to assess the implications of AI on employment, we aim to contribute valuable insights. These insights can inform discussions, shape policies, and guide strategies for a balanced integration of AI into the changing landscape of the future workplace.

Keywords: AI revolution, Employment impact, Shifting skills, Job loss, Upskilling

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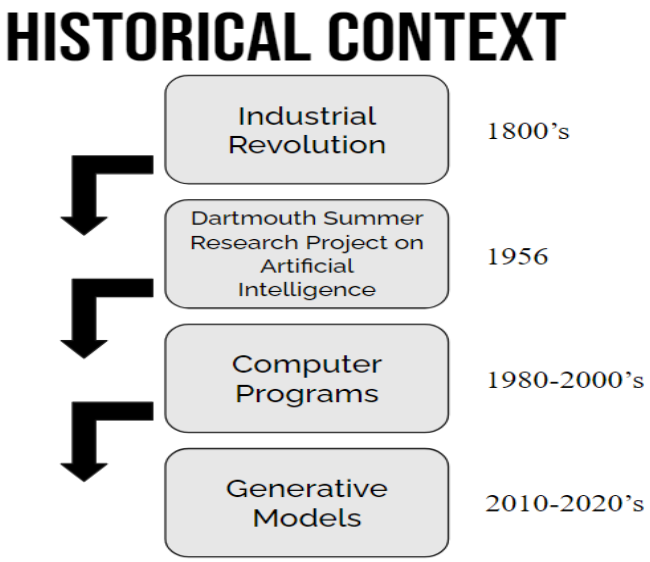
1. Introduction

The Main question we are trying to answer is: What changes will Artificial Intelligence bring to the work industry? AI can allow for new opportunities, and at the same time, bring an end to opportunities that existed before in jobs. Understanding the patterns of AI can help us determine the effect it will bring, and has brought, to the workforce, drastic or not. We can use this information to plan for the role artificial intelligence plays in the future.

2. Historical context

AI has existed since the Industrial Revolution, when factory systems and machinery became popularised and implemented. Decades after the initial boom of the revolution, in 1956, the term Artificial intelligence was first mentioned in the Dartmouth Summer Research Project on Artificial Intelligence, where it was discussed further. The event, lasting a few weeks, allowed the participants to brainstorm together and develop ideas on AI. Then came computer programs, through computers like the Macintosh, which relied on humans to type in code to make the computer complete a task. The Macintosh computer paved the way for the modern electronics we have today that also implement AI. The computer program, being able to run by itself after the person writes its code, indicates that modern AI started here. Today, we see AI models that generate information at a pace never seen before. Applications like Open AI implement reinforcement learning on their models to relay information to them, and eventually its users in reliable methods.



3. AI Integration across industries

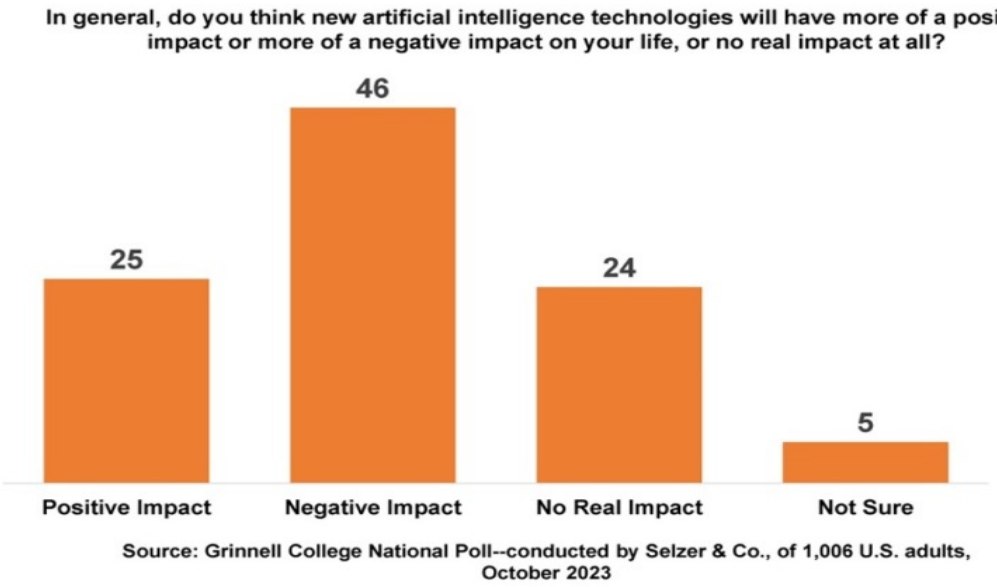
Artificial intelligence is still in its early stages in many companies when it comes to being implemented in jobs. AI is used and tested in spaces where failure does not have a high consequence. Most companies are still in the stages where AI is not fully implemented. This isn't to say that AI has never been independently used to complete tasks. Companies have implemented AI technologies, such as predictive analysis, which is popular in the e-commerce industry. Predictive analysis works when data is used to make future predictions about the likeliness of results. AI, in the application of predictive analysis, is used to collect data and make predictions from it. Other applications, like automation, security, and spam control allow for a more efficient industry as AI can complete these tasks at a faster rate than humans.

4. Changing job roles

AI can change job roles and even completely get rid of them when implemented in an environment. Artificial intelligence can bring about positive change, removing unnecessary labor that requires human attention and making the workplace more efficient. At the same time, AI can bring creativity into the workforce, allowing people to use the tools of the computer to create more intricate, original ideas with the help of brainstorming through the use of AI. This tool also needs to be constantly updated and maintained by people who know how to program it, which brings new jobs to the table. But, some negatives surround this idea. As AI grows more capable of completing difficult tasks, jobs held by people to complete those tasks may no longer exist.

5. Societal ramifications

As the capabilities of AI continue to grow day by day, an increase in skepticism may occur. In the graph below, a majority of Americans believe that negative results will occur from the use of artificial intelligence. This indicates that people have a growing sense of distrust in AI as it becomes more intelligent. They feel threatened by its abilities, and the fear that AI has a higher intellect than humans starts to exist. These ideas can lead to social instability. Job displacement is also a serious effect that can derive from AI. Even today, we see cashiers slowly disappear and automated checkout scanners appear. These jobs, although appearing small, make up 6.3% of the labor force, and if AI fully takes over, millions of jobs will be lost, bringing job instability.



6. Policy and governance

The UK, Canada, China, and the European Union have enacted several policies that restrict AI from reaching dangerous levels. An example is the Artificial Intelligence Act. This act, though not yet passed by the European Parliament, prevents high-risk application levels of AI. If passed, the testing of AI in work-related activities will most likely not be possible. This is a stepping stone in regulating artificial intelligence in jobs. However, there are currently no policies regarding AI and its effect on jobs. While the focus has been on high-risk applications, there is a growing recognition of the need for comprehensive policies that address the broader societal impact of AI on employment. Policymakers are faced with the challenge of balancing innovation and job protection, prompting discussions on the ethical and equitable use of AI across diverse industries and job sectors.

7. Future outlook

In time, AI will be implemented in every sector of the workforce. Soon and in the present day, jobs are not expected to be lost to artificial intelligence as AI still has many ways to go in terms of development and implementation. However, the idea of AI and human labor being used together is a very viable option in later times as AI is tested to be successful and made compatible with doing industry-related work. While current predictions suggest minimal job displacement, the evolving landscape of AI technologies creates considerations of the future job market. Collaborative efforts between industries, educational institutions, and policymakers are underway to ensure that the integration of AI into the workforce is done thoughtfully.

8. Conclusion

To conclude, AI's effects on jobs are both positive and negative. Drawbacks, such as job competition between robots and humans, scepticism, and a few policies regulating AI exist. However, there is also a positive end. More jobs that maintain the AI, increased ideas, and more efficient labor are emphasized. One thing for certain is that AI will increasingly be applied to work sectors as time goes on. As AI becomes more prevalent, there is a growing emphasis on fostering a supportive ecosystem that encourages responsible development of AI technologies. Creating fair rules and working together will help make sure AI benefits our work and lives in the long run.

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