

# Adaptation and Resilience in the Era of Technological Breakthroughs

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**Abstract.** The following article aims to demonstrate that in modern time new technologies play a pivotal role in the job market. Their impact encompasses both negative and positive effects. Lately, due to the development of certain methods and technological progress, it has become challenging to discern for seekers, employees and other interested ones which jobs are preferable in the job market. This article will explore how various technological advancements and other factors influence and introduce uncertainties into the job sector for job seekers and employees alike. This work will also examine the opportunities that can be seized from these market shifts, as well as ways to navigate those who are lost in the dilemma of what to look out for to secure their future.

## 1 Introduction

New challenges can serve as tools to propel innovative ideas that can greatly benefit the Earth's populace. Undoubtedly, Earth is going through one of its most challenging phases in last centuries, which significantly affects humanity and other living forms as well. The ongoing technological progress, while improving many aspects of human life, can also be seen as a potential contributor to overpopulation and other challenges. The overpopulation of the planet brings forth a multitude of challenges that impact various aspects of our life, albeit indirectly.

To combat these challenges, new methods and technologies are being applied and invented almost daily. Some of these technologies are revolutionary in their ability to enhance and level up nearly every facet they are applied to. They automate various systems, reduce costs, waste, and, most importantly, increase production rate to meet the demands of overpopulation in a short span of period. Moreover, these technologies contribute to reducing the harmful impact on our planet, fostering more eco-friendly approaches. However, it's important to note that these technological advancements can also introduce negative effects in various cases.

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The impacts on humans vary from severe to moderate, with not all scenarios covered in this article. The focus here is on how these technologies introduce dramatic shifts in the labor sector and how individuals can cope with these changes. Traditional approaches are no longer favored in the job market, necessitating a comprehensive reevaluation of the entire system to remain afloat [1, 2].

## **2 Unstable Job Market**

A few decades ago, planning for the future with a particular skill was much simpler, with less concern that it might become obsolete. Living standards were predominantly determined by one's ability to work in their chosen profession. However, modern realities differ significantly, making it less easy to choose a profession that will last if not for ever, but at least for a long period of time. There is a greater likelihood that selected skills may become outdated and undesirable in the job market due to various circumstances. Thus, this section is devoted to elucidating these circumstances that create an unclear picture when selecting a profession as a primary source of income [3].

### **2.1 Technology's influence**

Technologies offer numerous benefits and greatly influence our society. However, it's important to remember that they can also have negative side effects. The automation of processes within the industrial sector can lead to job losses. Repetitive and predictable tasks are increasingly automated due to their ability to perform them faster, more precisely, and at a reduced cost, ultimately resulting in job displacement, which is if calculated beneficial for one side only.

Artificial intelligence is a key player in the market, eliminating non-traditional professions. The development and enhancement of artificial intelligence have led to the emergence of new methods and approaches that offer significant advantages and integration into various sectors, which are transforming. When combined with different technologies, its potential is vast and transformative. However, its downside is that it reduces the number of employees, not just replacing them but entirely eliminating their jobs. These jobs are often related to sectors that rely on human creativity, such as various forms of art (painting, architecture, sculpture, literature, music, cinema, etc.). Notable examples include ChatGPT technology, which is powered by AI to generate text based on provided requests, and similar tools capable of generating creative text and images. The proliferation of such AI-powered tools can have a dramatic impact on the job market [4, 5].

Digitalization and online platforms are also reshaping the job market. The internet itself has shifted most businesses into the virtual realm, with those failing to adapt suffering job losses and business impacts. While not detailing all the changes digitalization has brought, it's clear that digitalized information no longer requires the same level of care as before, rendering some professions irrelevant. Online platforms are also challenging jobs in higher education by offering self-guided learning, affecting teachers' workloads. Although numerous examples exist of these influences on the job market, repetitive cases will not be discussed.

Lastly, self-serving technologies are gradually reducing the number of jobs. For example, self-checkout systems are eliminating the need for human involvement. While they may have their drawbacks, such as a lack of assistance, these technologies are increasingly being adopted in various industries and fields. Of course, this list of events and novelties that affect one's ability to rely on job market can go endlessly, but due to specification of the work will not be mentioned.

## **2.2 New challenges and how they effect jobs in general**

While these challenges are not directly linked to technological progress, they are interconnected. Overpopulation is a significant challenge facing humanity, with the global population reaching 8 billion and continuing to rise daily. This not only introduces instability into the job market but creates broader instabilities. This article focuses on the labor sector, which is affected in multiple ways. First and foremost, it introduces increased competition among individuals. As the population grows and technological progress makes it harder to secure jobs, the job-seeking process becomes more challenging. Additionally, globalization enables companies to outsource tasks or processes to countries with lower labor costs, often resulting in job losses in higher-cost regions (which is wrong in both cases) [6, 7].

Climate change is another factor that may lead to the elimination of certain professions. While climate change itself does not directly affect the job market, it triggers a chain of events. The influence of farming on our climate leads to the introduction of new regulations and approaches. In an effort to comply with these changes, some businesses shut down, leading to job losses. New approaches are also replacing old methods, rendering unskilled workers obsolete.

It is evident that these challenges, methods, technologies, and technological progress will consistently introduce uncertainties into the job market. It's important to note that the same forces responsible for job losses can also create new opportunities. Therefore, the next paragraph will explore the opportunities they offer individuals.

## **3 Opportunities of Changing Job Market**

Amidst these challenges, methods, technologies, and technological progress, there are opportunities to be found in looked carefully. By examining the current state of affairs, it becomes clear that these changes also bring about new job prospects, and individuals must adapt to them if about to secure their place. Both humans and nature are inherently adaptable to change. Without change, our existence would not have evolved to its present state. Change will always be a constant, and as people adapt to the challenges mentioned earlier, new ones will inevitably arise. How humans react and approach these changes is crucial. Therefore, this section focuses on how to deal with and prepare for these changes [8]. The following section will consider only major points, which arises first to navigate one with dilemma.

### **3.1 Lifelong learning**

This approach ensures that one does not lose their job due to uncertainties. Lifelong learning anticipates and prepares for changes that may negatively impact one's profession. It recognizes that technological progress is an ongoing process, emphasizing continuous learning and upskilling. It also encourages openness to new knowledge and skills rather than fixating on a single skill. Furthermore, it suggests exploring fields that are less likely to be automated or changed, ensuring a solid foundation to withstand interruptions [9].

### **3.2 Skills that can be transferred**

Just as different assets can preserve value, transferable skills can protect one's employability even when their current role disappears. When selecting new skills, it's essential to consider their applicability in various fields. This safeguards against immediate job loss.

### 3.3 Emerging Fields

This section is akin to lifelong learning but takes it a step further. Many fields hold immense potential if developed in line with predictions. These fields are currently in discussion or development but have not yet fully entered the market. This allows individuals to understand and prepare for emerging fields before they become mainstream. While there is a chance that the chosen field may not gain traction or become irrelevant, being proactive offers an advantage [10, 11].

Of course, there are various methods and approaches to prepare for uncertainties in the job market. However, most of them ultimately lead to the outcomes mentioned above.

## 4 Conclusion

In conclusion, this work has illustrated how technological progress influences the job market and how it can present opportunities. It has briefly explored the issues with the most significant impact on the selection of professions. It is clear that these progressive changes may have negative effects on existing jobs, but they also offer the potential to enhance one's readiness for new challenges.

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