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## Comprehensive View on the Effect of Artificial Intelligence and Employment

*Prakash Adhikari*

Faculty of Humanity and Social Science, Department of Conflict, Peace and Development Studies, Tribhuvan University, Kirtipur (Nepal)  
E-mail:<allprakashprakash@gmail.com>

### Abstract

*The effects of technological innovation and automation in general on employment and economic growth have long been the subject of economic research. Conventional economic models balance a positive complementarity effect on employment against a negative displacement or substitution effect. The perspective that there is a positive overall impact on employment and incomes is firmly supported by economic history since the industrial revolution, despite recent data suggesting that the labour portion of total income is dropping. The most advanced task-based model establishes a competitive environment between humans and machines to complete tasks. It highlights how Artificial intelligence (AI) has the impact of creating, replacing, and displacing labour. The development of science and technology has been at the level of AI. AI deprives labour power and converts it into an instrument of labour, which was started by making tools into machines and machines into auto-machines. AI has multiple features -learning, listening, and speaking -so it is used in different areas, allowing the creation, replacement, and displacement of employees in any sector of employment. In history, humans have had labour power in any form, but that has been snatched by AI, which raises the question of employees' existence.*

### Keywords

Artificial intelligence, Creation, Replacement, Displacement, Instrumentation of labour.

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Editorial Office : D-59, Shastri Nagar, Meerut - 250 004 (INDIA)

Ph. : 0121-2763765, +91-9997771669, +91-9219658788

## **Comprehensive View on the Effect of Artificial Intelligence and Employment**

### **1. Introduction**

This article is about the relation of AI and employment. In the years after the industrial revolution, technology has advanced significantly. Technology has replaced a lot of labour-intensive manual labour, which is very beneficial to humanity. AI is one of the technical advances that have emerged to replace human manual labour in a variety of industries. A field of study called AI uses science and technology to build intelligent computers and machines that can carry out a variety of jobs that need human intelligence. It's a system that simulates a number of tasks that people can perform. AI makes use of outside data, such as big data, to accomplish jobs with exceptional performance. AI was once limited to the realm of science fiction and discussions concerning the impact of technology on the contemporary world. However, it now becomes a part of who we are in our daily lives. It now serves as the primary purpose for many technical and other fields. AI has a big impact on supply chains, manufacturing, healthcare, and other industries. AI's capacity to accomplish tasks that humans are unable to accomplish opens up a wide range of applications that boost output and efficiency.

Subsequently, the notion of employment is extended to financially compensated activities that are deemed productive, either directly or indirectly. The question of policy that immediately arises is whether or not sufficient employment should be produced at any cost or solely in the event that certain requirements are met. The question is crucial in determining the proportion of labour-intensive projects in the public works sector, for example, and in highlighting the need to either employ the portion of the labour force that is currently considered surplus and may be largely unskilled, or prepare future workers for the new skills that will be needed of them as industry and technology change.

AI's quick development has the potential to drastically alter the job market. While AI might increase some workers' productivity, it

can also replace other people's labour and will probably change practically every job to some extent. increased economic inequality, increased concerns about widespread technological unemployment, and a renewed push for policy initiatives to address the effects of technology change are all coincidental with the rise of artificial intelligence.

## **2. AI Creation, Replacement and Displacement of Employment**

AI is an advanced form of developed tools. The Tools convert into machines through to investigation of science and technology. The machines are developed into auto machines and AI. The instrument of AI has become powerful equipment that was classified as reactive AI, limited memory AI, artificial general intelligence, and super artificial intelligence based on functioning. These AI are going to create, replace, and displace employees which is a concern of society in the 21<sup>st</sup> century.

Regularly, the labour power becomes into instrument of labour. As a result, the forms of instruments became Machines, auto machines, and AI. Each tools need a labour power but machines reduce some certain labour power which are converted into the instrument of labour. Continuously the auto machine reduces another labour power. AI is taking place to reduce labour power which is an issue of social research.

Additionally, the using of AI, playing the role of creation, replacement and displacement of the employment is regularly changing from the history. Tool, machine, and auto machine shift the labour power to instrument of labour. The process of instrument is started with the developing of tool. The tool is becoming to the form of machine that start hampering the employee direct or indirect. The process of creation, replacement, and displacement was starting from to the machine. Machine become advance auto-machine enlarging hamper of employee into the field. AI become highly capable tool to impact employees.

Moreover, scientists claim that AI is becoming cognitive level that raises the question of the necessity of skilled workers to run it. A large number of skilled workers are going to be displaced. In history, there is no cognitive level of any existence beyond the human. Hence, the cognitive level of the instrument puts humans in danger. In

addition, the process of creating, replacing, and displacing is more probable than the history of employment. It argues that the AI instrument of labour creates or replaces rather than the displaces labour power of employment. Here researcher analyzes the effect of AI on employment based on previous literature analysis.

Finally, the object of this is to find AI and employment conditions or raise the question, can AI displace employment? and explore the creation, replacement, and displacement of employment.

### **3. Research Methods**

The authors used JSTOR and Google scholar mostly to cover relevant papers in engineering, manufacturing, and management in both academic and business domains in order to conduct this comprehensive review. A review of additional online literature is conducted to assess its relevance to related subjects. The goal of this literature review is to draw attention to the essential components of artificial intelligence in order to produce a definition that is widely acknowledged by the employment sectors. The relation between AI and employment is initially searched for in order to do this review. For each relation, the top 15 headings, abstracts, and key phrases were examined separately to verify the thoroughness and dependability of the review procedure.

The researcher collected 5/5 articles on the creation, replacement, and displacement of employment, comprising 15 articles from 2020-23. The collected articles are reviewed and organized with a hermeneutic approach. The reviews are divided into the three section of creation, replacement, displacement of employment. Each section has dialog between the writer opinion.

## **4. Use of AI and Creation, Replacement, Displacement of Employment**

### **4.1 Creation**

The developing of science and technology is continuous event which encompasses the new probability. The AI generates new opportunity in the working field to busting the area of the employment enlarging the area of employees as new form of opportunities. The AI effect the labour force. The AI have capability to generate new area of opportunity creating new employees. The tradition patterns of the worker are changing into the skillful worker.

Skill workers are necessary to run the new AI technology. The skill workers as engineer, programmer, doctor, pilot etc. are necessary to run the AI.

The traditional workers are replaced by skilled workers. Skill workers depend on the mind, which means physical labour is not necessary rather than mental labour. AI plays a role in increasing labour in many skilled labour areas. The new areas of programming, designing, computing, and researching are generating new technology.

Furthermore, the historical development of the industrial revolution can show the situation of creating employment. Steam engine success first industrial revolution consequently displace the employment first and foremost the employment is increased in new form. Singh, Banga & Yingthawornsuk (2022) are trying to establish typically employed in field settings where technical assistance is needed to keep people safe while performing tasks. The first revolution minimizes the labour cost in the working field but the labour is necessary in the new form. Which is the first signification of the developed Science and technology.

Additionally, regular process of the development of the Science and technology is continuous which welcome to the second industrial revolution with the feature of electric engine. The merge of the electric in the engine which generate the new chance of the employment. Su, Togay & Cote (2021) argue that AI advancement boosts revenue and job prospects across all industries. Slowly reduce the physical labour but the mental and skill worker are enlarged the developing of the Science and technology. The society is going to the new feature which impact can be shown into the employment.

The developing of the AI requires the different types of employment in the employment sector. Khatri (2020) explores while disrupting established employment practices, AI is pushing the demand for new skills and work processes. Designing, computer coding, data analysis, research etc are the emerging area to the AI. These tasks are directly related to the skill worker. The new skill workers are need to running the AI and latest Science and technology.

Furthermore, the skill workers are necessary in the AI development. Designer, engineer, data creator are more necessary to run the latest technology. Rickardo & Meiriele (2023) the procedure

for planning, constructing, and overseeing data systems and infrastructure are run through to support of skill worker. The skillful areas are requiring the new worker. The mine workers have the quality life than the physical worker which rebuilt the life of human at quality.

Moreover, new sectors and opportunities are emerging to develop AI. The value of the labour market increases because of technology. Rushikesh (2022), in addition to competent individuals in charge of a variety of tasks related to data protection and enhancing cyber security. The working history has this form of the working field, but the new technology is emerging in different areas rather than the history of employment. Data security is a big area in this context that needs a lot of skilled labour. The privacy security of individuals is also dependent on the data that every person is contributing to the data processing, which requires a large number of employees. That is the creation of new labour.

#### **4.2 Replacement**

The regular workers are substitute as any issue that is the replacing. The process of replacing is started to develop technology. Technology requires new skill to function but old power have not to acquire capability of new knowledge. Nonetheless they are replacing the new skill manpower.

Likewise, the replacing is started as a low -skill worker. Example of using AI applications in mining, particularly with regard to excavators. The AI system offers operators real-time status updates, remote monitoring, and guidance. It can detect foreign items, measure the payload in the bucket, analyze the size distribution of the material inside, and keep an eye on tool wear and breakage using a number of sensors and an artificial neural network. Ramezani & Tafazoli (2021) in addition to increasing efficiency, productivity, and safety, this AI technology opens the door for fully autonomous excavator operation, which could eventually replace human operators.

Moreover, the replacing process is continuous in every sector. The health sector there are replacing the doctor, nurse, radiologist, lab technician. The skill worker will be replacing to AI system form hospital. Pawar & Mary (2020) explore Brain computer interfaces (BCIs) are among the automated tools and systems that are used to

reduce errors and manage the course of disease, possibly taking the place of some healthcare duties. Where the role of skill worker will be replacing form to the field.

Furthermore, the technology will go to the response of patient without help of human which can directly replacing the customer responder from desk. Tandon & Tandon (2021) justify AI chatbots that can manage complaints and enquiries from customers, saving the need for human agents. The accuracy and punctuality will be induced through to developing to chatbot and the respond of the costumer level is higher than the human which satisfying the both investor and consumer.

However, the replacing verity change in the modern context. The tradition pattern of replacing is change as a replacing of the skill worker. The official worker and skill worker are replaced by AI. Nguyen, Hong & Akerkar (2020) argue that algorithms are used to validate information, potentially replacing jobs that involve fact-checking or data verification. These types of job are no exist in the history of the worker. But the changing nature of technology change the hole nature of the replacing of worker.

Human efforts are elaborate the technology. Human have the limited memory power rather than the AI. This has the rapid quality of data processing than the human. Which enlarge the performance of activity of human. Matyyov, Bagoy & Amirova (2023) emphasize replacing traditional professions into the working field to establish new man power. The new power of technology emerging production to consumption of labour. Which replacing the tradition pattern of producter to consumer by AI and latest technology.

### **4-3 Displacement**

The development of AI is processing the displacing the employees. AI has a quality to understand the circumstance and getting decision without any human intervention. where we need the human manipulation that should be reduce to the AI. The role of the AI enlarged into the skill worker should be displaced. For example, without engineer engineering the construction, without programmer programming the program, without doctor dictating the disease, without professor teaching the class etc are processing of displacing skill worker.

First industrial revolution is stared to displace worker from the field. The tools convert into the machine whereas displacing started.

Automation reduces huge number of employees. The level of the technology increases the level of the employees are also displacing. Saha (2023) the potential effects of artificial intelligence and automation on the workforce. The working force will be automated by the developing of AI. The labour power is changing into the instrument that can induce the quality and service but the employee is directly displacing to the AI.

Besides, the risk of the low skill worker is higher than high-skilled. This is a historical trend. The development of the technology which directly impact the low-skill worker. Zhao (2023) explain Artificial intelligence is putting jobs at risk, and low-skilled jobs will be replaced more often than high-skilled jobs. Official task is saved rather than the low-skill work is displacing to AI. The experts are saving to AI but the low-skill workers are displacing to AI at high rate.

Furthermore, the labour power is necessary to function work. The development of the technology slowly reduces the power from the working field. As an AI developed the instrument of labour is in the human level of labour. In contrast first AI direct effect of low skill worker and second it hampers the other groups. Hoque et.al (2021) explains how automation is affecting different jobs in the retail, postal, textile, assembly line, warehouse, farming, and apparel industries. The reactive AI tool starts displacing the low skill worker. The regular task will be completing to the AI. For this reason, the huge number of the low-skill workers are displacing from the working field.

Additionally, the development of the AI can play the role of public affairs. The capability of AI to hold the administration as phone response, quire of customer, giving information and fascinating the customer of the problem. Chen (2021) explores primarily focused on telephone service, dealing with issues from a huge number of clients, expensive maintenance, sluggish knowledge update, short service window, and cheap training are possible with AI. Which displace phone reserve, customer dealing person, information distributor. The service from the AI is faster than the human. In the same way it gives trust of organization and increasing understanding.

However, in the history of technology there are low risk of low -skilled employees. The nature of changing technology with the AI the risk pattern of employee is change. The technological worker is high skill worker because they use mind rather than physical body but the low skill worker uses physical body. Faruqui et.al (2020)



explain AI-powered technologies improving data processing and accuracy and decreasing the need for bookkeeping and data input staff. The processing of the data is not lengthy and heavy due to the developing of AI. The number of engaging of worker securely reduce from the field.

## **5. Conclusion**

The developments in science and technology have different stages, and as a result, they play different roles in the workplace. It came first as a helpful tool for employees, but it goes on to replace employees, whereas science is growing an AI. The development of AI creates, replaces, and displaces employment; however, it is regularly developed to an advanced level. In history, there have been new employees to develop technology, whereas technology was a tool. Regularly, technology develops as machines, which replace the employee. The new technology requires skilled workers, which will start replacing workers. The AI started to work as a skilled worker. It starts displacing a large number of skilled workers. The displacing of the workers is the concern of the author.

The development of AI raises questions about the existence of humanity from the perspective of employment. However, AI is necessary for certain health treatments that help to protect humanity. So, the debate is continuous-using AI in an unlimited area in this decade-creating, replacing, and displacing the labour force from the working field. AI is necessary to prevent cancer, brain diseases, and HIV. On the other hand, the joblessness and uselessness of human effort can hit humans, which threatens humans. The use of AI is increasing regularly. The opportunity and challenge are creating AI, but the latest development of AI is a major threat to humans, which is not found in history. That is explained in this article.

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