International Journal of Applied Social Science
(An International Double Blind Peer Reviewed / Refereed Research Journal of Social Science)
Volume 12 (7 & 8), July & August (2025) : 552-555
Received : 07.06.2025; Revised : 22.06.2025; Accepted : 07.07.2025

RESEARCH PAPER
ISSN : 2394-1405 (Print)
DOI : https://doi-ds.org/doilink/08.2025-56759748/IJASS/12.7&8/552-555

Impact of AI on Employment and Job Automation

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ABSTRACT

The active introduction of Artificial Intelligence (AI) in the global labor market is changing the market steadily automating routine work and redefining the old job function in various fields. The study focuses on the two (dual) effects of AI-enabled automation by examining both the loss of routine work and the rise of new occupations, requiring skills. The paper will rely on recent empirical evidence and survey data in order to consider sectoral employment changes, assess the perspectives of employees and employers, and the test the hypothesis according to which adoption of AI is a threat to job security and a driver of workforce skills reskilling. The results show massive job losses in typical jobs but also create a picture of AI in the creation of new jobs, particularly that of skilled employees. The paper nips a few suggestions to policymakers and organizations to handle the transition, with the eventual inclusion of reskilling, transparency, and inclusive integration of AI.

Keywords: Artificial Intelligence (AI); Job Automation; Employment Shifts; Workforce Reskilling and Labor Market Transformation

INTRODUCTION

One of the most important technological changes of the 21 st century is the introduction of Artificial Intelligence (AI) to the workplace. The ability of AI to automate operations, mine data, and learn through experience is basically transforming the pattern of employment in sectors. On the one hand, the threat to lose routine and manual occupations to the AI-driven automation may lead to new opportunities and to the emergence of new areas, which requires reassessment of the employee skills and organizational approaches. In this paper, the author examines how the use of AI will affect employment, taking into consideration the difference between sectors, the role-change of jobs, and the shifting awareness of substitutability (job security) of employees and employers.

Literature review:

AI and employment literature is characterized by three main positions:

- Pessimistic/ Negative: AI and automation practiced to be associated with destroying jobs especially those of the routine, manual and middle-skill ones. Research indicates that there has been extreme displacement in manufacturing, retailing as well as administrative jobs. Employment polarization and wage cuts are observed wherein the jobs that are most susceptible are those that require low and middle skills.
- Neutral Some studies reveal that there is no observable relation between AI exposure and accumulated employment growth. Rather, its effects are circumstantial, primarily relying on how workers will be able to shift into more valuable work and the replacement of the AI.
- Optimistic/Positive: AI is being considered as productivity booster that will generate new types of jobs particularly the tech employment, healthcare and data-centered occupations. The appeal of the occupation of the AI trainer, the data analyst, and the ethics specialist proves the employment-generating potential of AI. Also,

How to cite this Article: Rai, Divya and Kumar, Rohan (2025). Impact of AI on Employment and Job Automation. *Internat. J. Appl. Soc. Sci.,* **12** (7 & 8) : 552-555.

Spirit can also enhance efficiency and safety in the workplace by making decisions and more creative and complex tasks because workers would not be dwelling in such tedious activities.

The theme that can be demonstrated across the papers is the role of reskilling/upskilling of workers to take on new jobs that will be announced by AI and AI systems should be visible and fair to preserve well-being and trust of employees.

METHODOLOGY

The research is a mixed-methodology research:

Quantitative Analysis:

Inferential and descriptive statistics were applied in the provision of sector-wise data regarding employment and the risk of automation on jobs as well as the survey results of employees and employers. Sources of data comprise of recent information by World Economic Forum, McKinsey, and research studies.

Qualitative Analysis:

Interviews and open-ended survey questions were analyzed using thematic analysis that proved to be helpful in understanding how employees and employers feel about the idea of AI, the areas they feel threatened by it in terms of jobs, fairness, and the level of opportunity to reskill.

Hypotheses testing: Hypotheses tested were as follows:

1. Routine and manual jobs as an industry are very much minimized by AI and automation.
2. The perception of job security among workers in the AI integrated sectors and among the workers in the non-AI sectors varies considerably.
3. There is a positive relationship between the adoption of AI, and the emergence of new job opportunities based on skills and reskilling.

RESULTS AND DISCUSSION

The evidence included in the tables offers a sophisticated and evidence-based picture of how artificial intelligence (AI) will affect employment and automation of jobs on the global and sectoral scale.

Job Destruction or creation:

Table 1 and Table 2 show the high displacement potential of the AI, estimating that 300 million jobs worldwide may be replaced by 2030, and 14 per cent of the workforce may have to switch their profession. Remarkably, the manufacturing, office administration and retail industries (Table 7) are most at risk facing the threat of automation with up to 27 per cent of jobs in these sectors being at risk. The above results greatly confirm the first hypothesis, that AI and automation have a major cut in routine and manual industries.

Table 1: Global Jobs Potentially Replaced by AI by 2030

Region/Scope	Jobs Potentially Replaced	% of Total Jobs
Worldwide	300 million	9.1%
United States	45 million	28%
Manufacturing (Global)	20 million	—

Table 2: Current Job Displacement from AI (2025)

Metric	Value
% of workers displaced by AI	14%
Number of tech jobs lost (Jan–Jun 2025)	77,999
% of workforce forced to change career by 2030	14% (375 million workers)

There is however a dynamic job creation and transformations revealed by the data as well. Table 3 and Table 4 indicate that there exists strong growth in AI-augmented roles, like software development (growing at +17.9 %), and personal financial advising (increasing at +17.1 %) worker, at the same time that routine jobs are automated. Moreover, 77 per cent of the companies plan to focus on reskilling and upskilling, and 120 million

Table 3: AI's Impact on Job Creation and Skill Demand

Metric	Value
Workers needing retraining (next 3 years)	120 million
% of employees needing new skills by 2025	50%
% of businesses prioritizing reskilling/ upskilling (2025)	77%

Table 4 : Projected Growth in AI-Augmented Occupations (2023–2033, US BLS)

Occupation	Projected Growth (%)
Software Developers	+17.9%
Database Architects	+10.8%
Hardware Engineers	+7.2%
Personal Financial Advisors	+17.1%

employees are going to require re-training within 3 years, which also proves that the use of AI will positively correlate with new skill-based job creation and reskilling possibilities (third hypothesis).

Wage and Productivity Effect:

According to Table 5 and Table 6, AI-exposed jobs are demanding high rises in wages (it will reach 56 % in the year 2024) and productivities (an increase of 27 %) than less- exposed areas (a rise of 9 %). It implies that continuously, despite reducing wages on repetitive tasks, AI increases pay and productivity on high-skill jobs that are AI-enhanced. This is also corroborated by the fact that the AI-exposed job availability has also increased by 38%.

Table 5 : Wage Premiums and Productivity Growth in AI-Exposed Roles (2024–2025)

Metric	Value
Wage premium for AI-skilled workers (2024)	+56%
Wage premium for AI-skilled workers (2023)	+25%
Productivity growth in AI-exposed industries (2018–2024)	+27%
Productivity growth in least AI-exposed industries (2018–2024)	+9%

Table 6 : Job Availability Growth in AI-Exposed Roles (2022–2024)

Metric	Value
Growth in job availability in AI-exposed roles	+38%
Growth in revenue per employee (AI-exposed)	3x higher (27%)
Growth in revenue per employee (least exposed)	9%

Perceptions and Security:

Table 8 and 10 offer a reflection of what people think about the job security and the influence of AI. Insecurity among the employees in the sector integrating AI with industry will be reported to be much higher (62%) as opposed to those in the non-AI industries (41%). More than half of workers (55 %) feel their work is at threat due to AI, and 45 per cent feel it is an opportunity. This justifies the second hypothesis that the difference in the perception of job security among the employees working in the AI-integrated industries and employees in non-AI industries will be significant.

Table 7: Automation Risk by Sector (2025)

Sector	% Jobs at High Risk
Manufacturing	20–27%
Office/Admin Support	27%
Retail	25%
All Sectors (average)	27%

Skills and the Ways of Education:

This is emphasized in Table 9 that shows that the rate of change of the skills demand is increasing with 66 per cent of AI-exposed occupations to change and a significant reduction in the demand of traditional degrees. The transition emphasizes the rise of a new reliance on constant learning, responsiveness, and the requirement of new educational paradigms concentrating on computerised and cognitive skills.

Sectoral and Global Differential:

The effects of AI are not consistent. Although there are industries and areas that are at the acute risk, there are others that are in stations to grow and change. The evidence indicates that the overall impact of AI is dependent on the sector and skill level, and workers with high-skills and those who are flexible perform best.

Table 8: Occupational Exposure to Generative AI (2025, ILO)

Metric	Value
Mean automation score (2025)	0.29
% of workers with some Gen AI exposure	25%
% of jobs at risk of being transformed	25%

Table 9: Change in Skills Demand (2024–2025, PwC)

Metric	Value
Rate of change in skills sought (AI-exposed jobs)	+66%
Decline in jobs requiring a degree (AI-augmented)	-7% (66%→59%)
Decline in jobs requiring a degree (AI-automated)	-9% (53%→44%)

Table 10: Employee Perceptions of AI in the Workplace (2025)

Perception / Metric	Value
% of employees feeling insecure in AI-integrated sectors	62%
% of employees feeling insecure in non-AI sectors	41%
% of employees viewing AI as a threat	55%
% of employees viewing AI as an opportunity	45%

Conclusion:

The data presented in the tables support that AI is a radical change in the international job market and may

bring both considerable destruction and creation of jobs with the destruction of routine and manual job and the massive growth of new jobs in skill-requiring and AI-enhancing work. The shift is characterized by rising wage polarization, productivity improvement in AI-affected industry, and high-velocity shift towards the skills needed in the future job environment.

Key Findings:

- The type of work most vulnerable to automation is routine and manual, especially in production, office and retail.
- Ai is opening up new niches in the technology, data science and other high-skill sectors, as employers are putting more money into reskilling and upskilling.
- These wage/ productivity increases are confined to AI subjected positions and there is a possibility of stagnation/decreases in non- adjustable fields.
- Naturally, the idea of AI-integrated industries evokes contrasting emotional responses in employees; on the one hand, there is an increased sense of insecurity, and, on the other hand, there is a distinct split between the people who consider AI as a danger and the people who perceive AI as an opportunity.
- The advancement of new skills is on the rise and the need to focus on adaptability, digital literacy, and lifelong learning are favored rather than traditional credential.

Recommendations:

- Governments and organizations ought to focus on the development of workforce programs to train workers to handle the roles that will be brought about by AI.
- Trust and employee anxiety may be reduced by open communication on the issue of AI implementation and decision-making procedures.
- The vulnerable populations should not be forgotten and low- or middle-skill workers, who are at risk of displacement, should be a priority involved in the development of policies.
- Roles must be developed so that organizations can capitalize on the effectiveness of the AI, as well as the creativity of the human being, which allows a complementary relationship.
- The socioeconomic impact of AI would also have to be continuously evaluated to adjust to the policies and protect the well-being of workers.

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