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A STUDY ON THE IMPACT OF ARTIFICIAL INTELLIGENCE ON LABOUR MARKETS

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ABSTRACT

Artificial Intelligence (AI) has emerged as a transformative force reshaping global labour markets by altering the nature of work, employment patterns, and skill requirements. This study examines the multifaceted impact of AI on labour markets, focusing on job displacement, job creation, productivity enhancement, and wage inequality. While AI-driven automation has the potential to replace routine and repetitive tasks, it also creates new opportunities in emerging sectors that require advanced technical and cognitive skills. The study highlights both the opportunities and challenges posed by AI, emphasizing the need for policy interventions, reskilling initiatives, and inclusive growth strategies. The findings suggest that the long-term impact of AI will depend on how effectively economies adapt to technological changes and prepare their workforce for the future.

Keywords : AI, Labor Market, Technology, Job Creation

1.1 INTRODUCTION

The rapid advancement of Artificial Intelligence has significantly influenced economic structures and labour market dynamics across the world. AI technologies, including machine learning, robotics, and data analytics, are increasingly being adopted across industries to improve efficiency and reduce operational costs. This transformation has led to a shift in job roles, with traditional occupations being automated and new roles emerging that require specialized skills. The integration of AI into the workplace has also redefined the employer-employee relationship, work processes, and productivity levels. In developing economies, the impact is more complex due to varying levels of technological adoption and workforce preparedness.

Therefore, understanding the implications of AI on labour markets is crucial for policymakers, businesses, and workers alike.

1.2 OBJECTIVES OF THE STUDY

- ❖ To study the impact of AI on employment levels.
- ❖ To Analyze job displacement due to automation.
- ❖ To Understand new job opportunities created by AI.

1.3 STATEMENT OF THE PROBLEM

The growing adoption of Artificial Intelligence presents both opportunities and challenges

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for labour markets, raising concerns about job displacement, unemployment, and income inequality. Many workers, especially those engaged in low-skilled and routine jobs, face the risk of being replaced by automated systems. At the same time, there is a lack of adequate skills and training programs to help workers transition into new roles created by AI. This imbalance between technological advancement and workforce readiness creates uncertainty and potential economic disruption. The problem lies in identifying how AI affects employment patterns and determining strategies to minimize its negative consequences while maximizing its benefits for sustainable labour market development.

1.4 RESEARCH METHODOLOGY

- **Nature of the Data:** This study will be based on both primary data and secondary data
- **Data source:** Primary data will be collected through questionnaire. Secondary data will be collected through industry reports and digital platforms can also be analyzed for trends.
- **Tools of Analysis :** Simple percentage analysis
- **Sample Size of the Study:** Based on simple random sampling method, 120 samples were collected for the analysis.

1.5 REVIEW OF THE LITERATURE

1. **Acemoglu and Restrepo (2018)** in 'The Race Between Man and Machine' developed an influential framework distinguishing between the 'displacement effect' of automation which reduces labour demand and the 'productivity effect' and 'reinstatement effect' which may increase it. Their empirical findings suggest that the displacement effect has dominated in recent decades, contributing to declining labour share.
2. **Brynjolfsson and McAfee (2019)** in The Second Machine Age argued that AI and digital technologies are ushering in a period of unprecedented productivity growth but also increasing polarisation of wages and employment. They coined the concept of 'skill-biased technological change' to describe how AI disproportionately benefits highly educated workers.

1.1 ANALYSIS AND INTERPRETATION OF PERCENTAGE ANALYSIS

TABLE 1.1 SHOWING THE GENDER OF THE RESPONDENTS

Gender	Frequency	Percentage
Male	58	48
Female	62	52
Total	**120**	**100%**

Interpretation:

The above table presents the gender distribution of respondents in the study. It shows that female respondents constitute a slightly higher proportion, accounting for 52% (62 respondents), while male respondents make up 48% (58 respondents). This indicates that the sample is fairly balanced in terms of gender, with only a small difference between male and female participation. Such a balanced distribution enhances the reliability of the study, as it

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reflects perspectives from both genders almost equally. Overall, the data suggests that the findings of the study are not biased toward a single gender, and the opinions on Artificial Intelligence and its impact on the labour market represent both male and female viewpoints effectively.

TABLE 1.2 SHOWING THEAI MANILY IMPACTS WHICH SECTOR OF THE ECONOMY OF THE RESPONDENTS

Response	Frequency	Percentage
Agriculture only	5	4
Industrial sector only	10	8
All sectors	100	83
Other	5	5
Total	**120**	**100%**

Interpretation:

The above table shows respondents' opinions on which sector of the economy is most impacted by Artificial Intelligence. A significant majority, 83% (100 respondents), believe that AI impacts all sectors of the economy. This indicates a strong awareness that AI is not limited to a single field but is widely used across industries such as agriculture, manufacturing, healthcare, education, and services. A small proportion of respondents think that AI affects only specific sectors, with 8% (10 respondents) choosing the industrial sector and 4% (5 respondents) selecting agriculture. Additionally, 5% of respondents chose other options.

TABLE 1.3 SHOWING THE What is Artificial Intelligence (AI)OF THE RESPONDENTS

Response	Frequency	Percentage
Human intelligence	**8**	**7**
Machine-based intelligence	**95**	**79**
Natural intelligence	**10**	**8**
Emotional intelligence	**5**	**4**
Other	**2**	**2**
Total	**120**	**100%**

Interpretation:

The above table shows respondents' understanding of Artificial Intelligence. A clear majority, 79% (95 respondents), identified AI as machine-based intelligence, indicating a strong and accurate awareness of the concept among participants. A smaller portion of respondents selected incorrect or less relevant options, such as natural intelligence (8%), human intelligence (7%), and emotional intelligence (4%), suggesting some level of confusion or lack of clarity about the true meaning of AI. Additionally, 2% of respondents chose other responses. Overall, the data reveals that while most respondents have a correct understanding of AI, a small percentage still lacks proper knowledge. This highlights the need for greater awareness and education about Artificial Intelligence, especially among those who misunderstand its core concept.

1.2 FINDING

- The study reveals that most respondents belong to the 20–25 age group, indicating

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that young individuals are more aware of Artificial Intelligence and its impact on labour markets.

- The gender distribution is almost balanced, with a slightly higher number of female respondents, ensuring unbiased opinions.
- Most respondents have a clear understanding of AI, with a large majority identifying it as machine-based intelligence.

SUGGESTIONS

To effectively manage the impact of Artificial Intelligence on labour markets, several measures can be implemented. Governments should invest in education and continuous skill development programs to equip workers with relevant digital and analytical skills. Policymakers must promote inclusive growth by ensuring equal access to training opportunities and social security measures for displaced workers. Businesses should adopt a human-centric approach by integrating AI in ways that complement human labour rather than replace it entirely. Collaboration between educational institutions and industries can help bridge the skill gap and prepare the workforce for future demands. Additionally, regulatory frameworks should be established to address ethical concerns and ensure fair labour practices in an AI- driven economy.

CONCLUSION

Artificial Intelligence is redefining the structure and functioning of labour markets, bringing both opportunities for growth and challenges for workforce stability. While AI has the potential to enhance productivity, create new job opportunities, and drive economic development, it also poses risks such as job displacement and increased inequality. The overall impact of AI on labour markets depends largely on how societies respond to these changes through policy interventions, education, and innovation. A balanced and proactive approach that focuses on skill development, inclusivity, and ethical considerations will be essential to ensure that the benefits of AI are widely shared and contribute to sustainable economic progress.

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