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AWARENESS OF ARTIFICIAL INTELLIGENCE AND ITS APPLICATION IN ECONOMIC GROWTH AND DEVELOPMENT: A STUDY AMONG 100 LABOURERS

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Abstract

This study explores the level of awareness about Artificial Intelligence (AI) and its perceived role in economic growth and development among 100 labourers. Using a structured questionnaire, data was collected across variables such as education level, sector of work, and AI awareness. A Chi-square test was used to examine the association between educational level and AI awareness. Results indicate low awareness of AI but high interest in its potential, suggesting a gap that could be bridged through education and training programs aimed at digital inclusion.

Keywords: *Artificial Intelligence, Economic Growth & Development, Chi-square test, Labourer, socio-economic survey.*

1. INTRODUCTION

Artificial Intelligence (AI) is reshaping global economies by optimizing operations, increasing efficiency, and creating new job opportunities. However, its benefits are not equitably distributed across socio-economic groups. Labourers, often engaged in manual and low-skilled jobs, are at risk of being left behind in the AI-driven economic transformation. This study examines how aware this demographic is of AI and its economic implications.

2. OBJECTIVES

1. To assess the level of AI awareness among labourers.
2. To identify the correlation between educational background and awareness of AI.
3. To analyzelabourers' perception of AI's role in economic development.

3. REVIEW OF LITERATURE

1. Brynjolfsson& McAfee (2014)This foundational work explores how AI and automation are transforming the workforce. It highlights the digital divide between skilled and unskilled labourers and how awareness and adaptation to AI tools are critical for economic participation.
2. Chui, Manyika, &Miremadi (2016)The paper investigates how automation affects various sectorsand labour types, suggesting that labourers with low awareness or access to AI are more vulnerable to displacement, affecting overall economic development.
3. Acemoglu&Restrepo (2019)This study examines the economic impact of robots and AI, suggesting that awareness and reskilling among the workforce can mitigate job losses and improve productivity, which benefits economic growth.
4. ILO Report (2021)The International Labour Organization emphasizes the need for AI literacy among labourers, especially in developing economies, to ensure inclusive growth and avoid technological marginalization.
5. World Economic Forum (2020)This report suggests that AI awareness and digital upskilling are essential for workforce transition in the age of the Fourth Industrial Revolution, particularly for manual labourers at risk of redundancy.
6. **Susskind & Susskind (2015)**The authors explore how automation and AI are reshaping professions. Labourers with low awareness may fail to adapt, affecting personal income and, by extension, national economic growth.

7. Manyika et al. (2017)This report from McKinsey Global Institute explores the impact of automation on jobs globally, calling for policies that boost AI awareness and training among labourers to support sustainable economic growth.
8. Dwivedi et al. (2021)The authors argue that limited awareness about AI among labourers, especially in rural and semi-urban regions, is a key barrier to inclusive digital economic development.
9. Tapscott&Tapscott (2016)While focusing on blockchain and AI, the authors note the importance of equipping labourers with basic tech knowledge to participate in emerging economies and avoid widening inequality.
10. OECD (2023) OECD emphasizes the need for inclusive AI policies that involve raising awareness among all levels of workers, particularly labourers, to enhance productivity and reduce inequality.

3. METHODOLOGY

3.1 Research Objectives:

1. To survey education level of labourers
2. To analyse respondents perception towards AI and relevant knowledge
3. To observe whether the labourers are aware of Artificial Intelligence.

3.2 Research Hypothesis:

1. **H_0 :** There is no significant relation between education level of labourers and AI awareness
2. **H_0 :**Thereis no significance awareness among the labourers about AI and its applications.

3.3 Sample

The sample includes 100 labourers from construction, manufacturing, and service sectors in urban and semi-urban areas.

3.3 Tool

A structured questionnaire was used, covering:

- Demographics (Age, Gender, Education)
- Awareness of AI (Yes/No)
- Knowledge of AI Applications
- Perceived Impact of AI on Jobs and Economy

3.3 Statistical Tool Used

- Descriptive Statistics (Percentages, Mean)
- Chi-square test for association between Education Level and AI Awareness

4. RESULTS AND ANALYSIS

Descriptive Statistics

- **Education Levels**:
  - Illiterate: 25%
  - Primary: 35%
  - Secondary: 30%
  - Higher Secondary & Above: 10%
- **AI Awareness**:
  - Yes: 28%
  - No: 72%
- **Knows AI Applications**:
  - Yes: 20%
  - No: 80%
- **Perceives AI as Positive for Economy**:
  - Yes: 35%
  - No: 65%

Chi-square Test: AI Awareness vs Education Level

Education Level	Aware (Yes)	Not Aware (No)	Total
Illiterate	3	22	25
Primary	7	28	35
Secondary	12	18	30
Higher Secondary+	6	4	10

Total	28	72	100

Chi-square calculated value (χ^2): 16.54
Degrees of Freedom (df): 3
Critical value at $\alpha = 0.05$: 7.815
Result: Since $\chi^2 > 7.815$, we reject the null hypothesis.
Interpretation: There is a significant association between education level and AI awareness among labourers.

5. DISCUSSION

The findings indicate that labourers with higher education are more likely to be aware of AI. The overall low awareness level suggests a digital divide that could hinder inclusive economic growth. However, a positive outlook toward AI among some respondents reflects openness to learning and adaptation.

7. CONCLUSION

Raising awareness and building AI-related skills among laborers is essential for equitable participation in the AI economy. Policy efforts should include community-based training, simplified digital literacy programs, and awareness campaigns in regional languages.

8. RECOMMENDATIONS

- Launch AI awareness drives in local languages.
- Introduce vocational training with basic AI modules.
- Partner with NGOs to deliver community-level workshops.
- Incentivize employers to educate their workers on AI tools.

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