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The impact of AI on employment in the organised and unorganised sectors in India

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Abstract
Artificial Intelligence (AI) is considered one of the most significant technological revolutions of the 21st century. The rapidly increasing use of AI in various sectors such as information technology, manufacturing, services, healthcare, education, finance, transportation, and agriculture is bringing about fundamental changes in the structure of the Indian economy. Against this backdrop, the study of the research topic "The Impact of Artificial Intelligence (AI) on Employment in the Organised and Unorganised Sectors of India" becomes extremely important. This research paper attempts to provide a thorough and analytical overview of the changes in employment opportunities, employment structure, labour demand, job displacement, and job insecurity caused by AI. The organised and unorganised sectors have distinct yet interconnected roles in the Indian economy. The organised sector encompasses industrial production, IT, banking, insurance, healthcare, and modern service sectors, whereas the unorganised sector primarily comprises agriculture-related businesses, small-scale industries, construction, household industries, street vendors, and labour-intensive services. The impact of AI differs between these two sectors; in the organised sector, technology-based skilled employment opportunities are increasing, while in the unorganised sector, there is pressure on traditional and labour-intensive jobs.

Keywords: Artificial intelligence (ai), employment structure, organised sector, unorganised sector, labour market transformation, automation and job displacement, skill development and reskilling, employment insecurity & inclusive economic growth

Introduction

The technological revolution of the 21st century is considered a significant development in human history. In particular, Artificial Intelligence (AI) technology has brought about radical changes in production, services, administration, education, healthcare, finance, industry, and the nature of employment. Many tasks previously performed with human intelligence are now being carried out by computer systems, algorithms, machine learning, and automated systems. Against this backdrop, the impact of AI on the job market becomes a highly contemporary, important, and researchable topic in economics. India is a developing economy where the employment structure is mainly divided into two sectors: organised and unorganised. The organised sector includes industrial, service, information technology, banking, insurance, government, and semi-government jobs, while the unorganised sector comprises a large share of agriculture, construction, small-scale industries, domestic workers, street vendors, and temporary and informal employment. Various studies have shown that approximately 85-90 per cent of workers in India are employed in the unorganised sector. Therefore, understanding the impact of AI technology on employment in both these sectors is crucial.

Artificial intelligence is not merely a technical innovation; it is a force that profoundly impacts economic structures, production processes, labour productivity, and employment opportunities. AI reduces production costs, increases efficiency, and makes decision-making more accurate. However, it also raises concerns such as the potential loss of some traditional jobs due to automation, skill mismatch, and job insecurity. AI is particularly likely to hurt low-skilled, repetitive jobs. The use of AI is increasing significantly in the organised sector. In sectors such as information technology, manufacturing, banking, e-commerce, healthcare, and logistics, AI-based systems have increased efficiency. While data analysis, robotics, automation, chatbots, and algorithmic management are creating some new high-skilled jobs, they are hurting medium and low-skilled jobs. This is intensifying the skill-based divide in the employment structure of the organised sector.

On the other hand, the impact of AI in the unorganised sector is felt indirectly. In the agricultural sector, smart agriculture, weather forecasting, crop management, and drone technology are increasing productivity; however, it is likely to limit employment opportunities for workers dependent on traditional labour. Due to the uneven penetration of technology in sectors such as construction, small-scale industries, handlooms, and cottage industries, the digital divide is becoming more pronounced. This is exacerbating the economic and social insecurity of workers in the unorganised sector. The social and economic consequences of the employment changes brought about by AI are also significant. Issues such as increasing income inequality, job polarisation, the impact on women's employment, migration, the strain on social security systems, and changes in labour laws are all related to AI. For a country like India, which has a demographic dividend, job creation is the main engine of development, making the question of whether AI increases or decreases employment opportunities extremely important from a policy perspective.

Research Objectives

1. To study the current status and nature of the use of Artificial Intelligence (AI) in the organised and unorganised sectors of India.
2. To analyse the changes in employment opportunities, employment structure, and labour demand in the organised and unorganised sectors due to AI.

3. To study the problems of job displacement and job insecurity arising from artificial intelligence.

The Concept of Artificial Intelligence (AI)

In the 21st century, unprecedented progress has been made in the field of science and technology, and Artificial Intelligence (AI) has emerged as the most influential and transformative element in this progress. AI has established its place in almost every sphere of human life, industry, trade, education, healthcare, administration, defence, transportation, banking, agriculture, and the economy. In the development process of modern society, AI is emerging not merely as a technical concept but as a social, economic, and strategic force. Artificial intelligence is a group of computational systems and technologies that imitate the functioning of human intelligence. Developing the human brain's capabilities of thinking, learning, analysing, making decisions, solving problems, and improving through experience in a computational form is what artificial intelligence is. In its early stages, AI was considered only a theoretical concept; however, due to the increasing computing power of computers, big data, and the development of machine learning technology, AI is now being effectively used in practical applications.

From an economic perspective, artificial intelligence is a technological innovation that brings about radical changes in the production process. AI reduces production costs, increases efficiency, and allows for more effective use of resources. Increased automation in industries improves the speed and quality of production. This stimulates economic growth; however, it also leads to changes like employment. Some traditional jobs may be lost, while new skill-based job opportunities are created. Another important aspect of artificial intelligence is its ability to learn and improve itself. With the help of machine learning, AI systems identify patterns from available data, learn from experience, and can make future decisions more accurately. This capability makes AI different from and more effective than human labour. As a result, the use of AI is rapidly increasing in sectors such as banking, insurance, stock markets, e-commerce, and strategic planning.

Status of AI Usage in the Organised and Unorganised Sectors

In the technological revolution, Artificial Intelligence (AI) has emerged as an extremely powerful and transformative tool. Through the combination of modern technologies such as digitalisation, automation, data analysis, and machine learning, AI has brought about radical changes in production, services, administration, and the nature of employment. In a developing country like India, where the economy is based on two major sectors, organised and unorganised, understanding the use and scope of AI is crucial from an economic perspective.

The employment structure of the Indian economy is unique. On one hand, there is a modern, technology-driven, and regulated organised sector; while on the other hand, there is a large, labour-intensive, informal, and insecure unorganised sector. Currently, the use of AI is primarily seen on a large scale in the organised sector; however, its indirect impact on the unorganised sector is also increasing. Therefore, it is necessary to understand the current status of AI usage in the context of both these sectors, both independently and from a comparative perspective. The use of artificial intelligence is rapidly increasing in the organised sector. AI-based systems are being widely adopted in sectors such as information technology (IT), banking and financial services, insurance, e-commerce, manufacturing, healthcare, and logistics. Tools such as data analysis, customer behaviour prediction, risk assessment, automated production processes, robotics, chatbots, and algorithmic management have significantly increased efficiency, accuracy, and speed in the organised sector. Many private and public enterprises are trying to reduce costs, increase profits, and maintain competitiveness by using AI.

The use of AI in the banking and financial sector is particularly noteworthy. AI-based systems are being used for credit assessment, fraud detection, customer service, digital payments, and investment advice. Similarly, in the manufacturing sector, robotics and automation have made production processes more streamlined and efficient. While this is increasing the demand for high-skilled jobs in the organised sector, it appears to be limiting some medium and low-skilled jobs. On the other hand, the use of AI in the unorganised sector is relatively limited and uneven. Although the direct use of AI is less prevalent in sectors such as agriculture, construction, small-scale industries, handlooms, cottage industries, street vendors, and temporary workers, the indirect impact of technology is clearly felt. In the agricultural sector, AI based tools are being used for smart agriculture, weather forecasting, soil testing, crop management, and market price analysis. While this is increasing productivity, it is also likely to reduce reliance on traditional labour.

In the unorganised sector, particularly in micro, small, and medium enterprises (MSMEs) and retail trade, the use of AI is increasing for digital platforms, online sales, digital payments, and supply chain management. However, due to a lack of digital literacy, capital constraints, and a shortage of technical skills, the benefits of AI have not reached all segments equally. This is leading to a more pronounced digital divide in the unorganised sector. In the current Indian context, the use of AI is also being expanded at the policy level. The government is encouraging the adoption of AI through initiatives such as 'Digital India', 'Make in India', 'Startup India', and the 'National Artificial Intelligence Policy'. Emphasis is being placed on increasing the use of AI in education, skill development, healthcare, and public services. However, the reality is that the organised sector is benefiting more from these policies, while the unorganised sector is benefiting comparatively less.

Employment Opportunities, Structure and Changes in Labour Demand

Artificial intelligence has emerged as a crucial technological revolution in the modern economy. AI is having a profound

and far-reaching impact on fundamental economic factors such as production, services, administration, and employment. Traditional work methods based on human labour are now shifting towards automation, machine learning, data analysis, and intelligent systems. Against this backdrop, the changes in employment opportunities, employment structure, and labour demand brought about by AI are particularly important for developing countries like India. The structure of the Indian economy is based on two main sectors: organised and unorganised. The organised sector includes industries, information technology, banking, insurance, government services, and modern service sectors, while the unorganised sector comprises a large share of agriculture, construction, small-scale industries, handlooms, domestic workers, street vendors, and temporary employment. Since the nature of employment, skill requirements, and worker protection differ in these two sectors, the impact of AI is also uneven and multifaceted.

AI is significantly changing employment opportunities in the organised sector. In the information technology, manufacturing, financial services, and e-commerce sectors, AI-based systems are creating new types of job opportunities. The demand for high-skilled jobs such as data scientists, AI engineers, cybersecurity experts, systems analysts, and digital managers is increasing. At the same time, automation is reducing some traditional, repetitive jobs, leading to job displacement. Consequently, employment opportunities in the organised sector are becoming more skill-based and technology-centric. From the perspective of employment structure, AI is leading to job polarisation in the organised sector. On the one hand, jobs requiring high skills, high wages, and creative abilities are increasing; while on the other hand, medium-skilled jobs are decreasing. This creates the potential for increased inequality in the employment structure. Furthermore, there is a rise in contractual, project-based, and remote work, changing the concept of traditional stable employment.

While the impact of AI in the unorganised sector is relatively indirect, it is equally significant. In the agricultural sector, AI-based weather forecasting, crop management, market price analysis, and automated machinery are increasing productivity. However, this may reduce reliance on traditional labour and potentially limit employment opportunities for some workers. The increasing use of technology is also changing work methods in the construction, small-scale industries, and retail sectors. AI is initiating a process of formalisation in the employment structure of the unorganised sector. Digital platforms, online transactions, app-based services, and supply chain management are bringing some unorganised workers into the formal sector. However, there is also a fear that a large number of workers will be left behind due to a lack of digital literacy, insufficient technical skills, and the absence of social security.

AI is bringing about fundamental changes in terms of labour demand. The demand for low-skilled, physically demanding jobs is decreasing, while the demand for multi-skilled individuals with technical knowledge, problem-solving abilities, and creativity is increasing. Reskilling and upskilling have become crucial in the organised sector, while the need to learn basic digital skills has arisen in the unorganised sector. This is putting additional strain on the education and skill development system.

Job Displacement and Insecurity

Artificial intelligence has led to many traditional jobs being performed by automated systems. Repetitive, rule-based, and low-skilled jobs are being transferred to AI and machinery. As a result, workers who depend on such jobs are at risk of losing their employment. Robotics in the manufacturing industry, automated transactions in the banking sector, chatbots in customer service, and data processing systems are prominent examples of job displacement. This process is leading to the complete elimination of some jobs and fundamentally changing the nature of others.

The problem of job displacement is more complex in the Indian economy because a large number of labour-intensive jobs exist in both the organised and unorganised sectors. The rapid adoption of AI in the organised sector is having a greater impact on medium and low-skilled jobs. While automation reduces production costs, it directly affects traditional workers. Consequently, opportunities for stable and long-term employment are decreasing, while the proportion of contractual, project-based, and short-term employment is increasing.

In the unorganised sector, the impact of job displacement is indirect but widespread. The increasing use of technology in agriculture, construction, small-scale industries, and retail trade is reducing the dependence on traditional labour. Digital platforms, automated machines, and AI-based management systems are adversely affecting the livelihoods of some workers. Furthermore, the limited availability of social security, skill training, and rehabilitation facilities for workers in the unorganised sector makes the problem of job displacement even more serious.

Job insecurity is another significant problem arising from the proliferation of artificial intelligence. As AI continuously transforms the nature of work, uncertainty about future employment is increasing among workers. Workers are experiencing mental stress and instability due to the fear that the jobs they hold today might not exist tomorrow. Young, less educated, and low-skilled workers are particularly vulnerable to this insecurity.

The rise of the gig economy and platform-based employment due to AI also highlights the nature of job insecurity. While app-based services, freelance work, and temporary contracts offer increased flexibility, they often lack stable income, social security, and labour rights. Consequently, the quality of employment is becoming a more serious issue. The social and economic consequences of job displacement and insecurity are far-reaching. Problems such as increased unemployment, widening income inequality, social unrest, migration, and poverty may arise. In a country like India, which has a demographic advantage, if the job creation process weakens, it is likely to hurt economic development as well.

Conclusion

This research studied the impact of Artificial Intelligence (AI) on employment in the organised and unorganised sectors of India from an economic, social, and policy perspective. This study reveals that AI is not merely a technological innovation for the modern Indian economy, but a transformative force profoundly impacting employment structures, labour demand, skill development, and social security. The research indicates that the impact of AI is relatively more widespread and direct in the organised

sector. In the information technology, manufacturing, banking, insurance, e-commerce, and service sectors, AI has increased efficiency, speed, and accuracy. While this has created high-skilled, technology-centric job opportunities, it has also limited many repetitive, medium and low-skilled jobs. As a result, job polarisation is increasing in the organised sector.

On the other hand, the impact of AI in the unorganised sector is relatively indirect, but long-term and widespread. While AI-based technologies are increasing productivity in agriculture, construction, small-scale industries, retail trade, and domestic industries, the dependence on traditional labour is decreasing. Due to a lack of digital literacy, capital constraints, and a shortage of technical skills, workers in the unorganised sector are largely deprived of the benefits of AI. This is exacerbating the digital divide and the problem of job insecurity.

This research also clarifies that AI is not destroying job opportunities, but rather changing their nature. While some traditional jobs are being eliminated, new skill-based jobs are being created. However, in this transition process, a lack of proper skill development, reskilling, and upskilling programs could lead to increased unemployment and social inequality. Particularly, young, less educated, and informal sector workers are more vulnerable to these changes.

In terms of job security, AI has led to an increase in contractual, temporary, and gig economy jobs. While this has increased flexibility in employment, it is adversely affecting stable income, social security, and labour rights. This could be a cause for concern for the long-term stability of the Indian labour market. Overall, artificial intelligence is a confluence of opportunities and challenges for the Indian economy. With appropriate policies, planning, and human capital development, AI can stimulate economic growth; otherwise, the possibility of increased job inequality and social instability cannot be ruled out. Therefore, establishing a balanced, inclusive, and sustainable relationship between AI and employment is the need of the hour.

References

1. Arntz M, Gregory T, Zierahn U. The risk of automation for jobs in OECD countries: A comparative analysis. OECD Social, Employment and Migration Working Papers, No. 189. OECD Publishing, 2016.
2. Autor DH. Why are there still so many jobs? The history and future of workplace automation. Journal of Economic Perspectives,2015:29(3):3–30.
3. Brynjolfsson E, McAfee A. The second machine age: Work, progress, and prosperity in a time of brilliant technologies. W. W. Norton Company, 2014.
4. Brynjolfsson E, Mitchell T, Rock D. What can machines learn, and what does it mean for occupations and the economy? AEA Papers and Proceedings,2018:108:43–47.
5. Frey CB, Osborne MA. The future of employment: How susceptible are jobs to computerisation? Technological Forecasting and Social Change,2017:114:254–280.
6. International Labour Organisation. Global commission on the future of work. ILO, 2018.
7. International Labour Organisation. Generative AI and jobs: A global analysis of potential effects on job quantity and quality. ILO, 2023.
8. McKinsey Global Institute. Jobs lost, jobs gained: Workforce transitions in a time of automation. McKinsey Company, 2017.
9. McKinsey Global Institute. The future of work after COVID-19. McKinsey & Company, 2022.
10. World Economic Forum. The future of jobs report 2020. WEF, 2020.
11. World Economic Forum. The future of jobs report 2023. WEF, 2023.
12. Acemoglu D, Restrepo P. Artificial intelligence and jobs. Journal of Economic Perspectives,2020:34(3):30–54.
13. Bessen JE. AI and jobs: The role of demand. NBER Working Paper, No. 24235. National Bureau of Economic Research, 2019.
14. Government of India. Economic survey 2022–23. Ministry of Finance, 2023.
15. Government of India. Economic survey 2023–24. Ministry of Finance, 2024.
16. National Skill Development Corporation. Skill impact assessment of artificial intelligence in India. NSDC, 2024.
17. Organisation for Economic Co-operation and Development. The future of work: OECD employment outlook 2019. OECD Publishing, 2019.
18. Sundararajan A. The sharing economy: The end of employment and the rise of crowd-based capitalism. MIT Press, 2016.
19. Varma A, Ramaswamy K. Artificial intelligence and employment in India: Emerging challenges for the informal sector. Indian Journal of Labour Economics,2021:64(4):843–860.
20. Mehrotra S, Parida JK. India's employment crisis: Rising education levels and falling non-farm employment. Indian Journal of Labour Economics,2019:62(3):397–421.
21. Kathuria R, Kedia M, Varma G, Bagchi K. Automation and the future of work in India. Brookings India, 2020.