

3. Will Artificial Intelligence Lead to Unemployment? Evidence from India

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Abstract

The rapid development of Artificial Intelligence (AI) has triggered global debates about the future of employment. While concerns about technological unemployment remain widespread, recent developments in India suggest a more complex transformation of the labour market. Rather than eliminating jobs, AI appears to be reshaping skill requirements, generating new opportunities, and improving productivity across sectors. Drawing upon government data, policy initiatives, and industry reports, this research report examines the emerging relationship between AI adoption and employment trends in India. The findings indicate that expanding AI capabilities are accompanied by growing demand for specialised skills, extensive reskilling initiatives, and new applications in governance, climate services, and the informal economy. These developments point to a model in which AI complements human labour and supports inclusive economic growth rather than causing widespread job loss.

Keywords: *Artificial Intelligence, Employment in India, AI, Unemployment*

Introduction

The rise of Artificial Intelligence has renewed concerns about technological displacement in labour markets worldwide. Scholars and policymakers often debate whether automation will significantly reduce employment opportunities, particularly in developing economies with large workforces. However, the Indian experience presents an alternative narrative.

India's expanding digital economy, policy-driven skilling initiatives, and growing AI ecosystem suggest that technological adoption may generate new forms of employment while transforming existing roles. Instead of replacing human labour, AI increasingly functions as an enabling technology that enhances productivity, supports decision-making, and opens avenues for innovation.

This report explores the emerging evidence from India to assess whether AI is leading to unemployment or facilitating labour market transformation. By examining workforce development,

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governance applications, and sectoral innovations, the study highlights how AI adoption interacts with employment patterns in one of the world's largest labour markets.

Growth of AI Talent and Employment Opportunities

India's technology sector has experienced a substantial increase in demand for AI-related skills. According to the industry report Advancing India's AI Skills published by the National Association of Software and Service Companies (NASSCOM) in 2024, the country's AI talent pool is expected to grow rapidly in the coming years.¹

The report estimates that India's AI workforce could expand from approximately 600,000–650,000 professionals to more than 1.25 million by 2027, representing an annual growth rate of nearly 15 percent. This expansion reflects rising demand in areas such as:

- Data science
- AI engineering
- Data curation
- Machine learning
- Advanced analytics

These fields represent newly emerging specialisations that have developed alongside advances in digital technologies. Rather than eliminating employment, AI-driven innovation has created entirely new occupational categories requiring specialised technical expertise.

Expanding Training and Skill Development Initiatives

Recognising the changing nature of work, the Government of India has prioritised reskilling and workforce preparation for emerging technologies. Government statistics indicate that by August 2025, nearly 865,000 candidates had enrolled or received training in emerging technology programmes, including over 320,000 participants in Artificial Intelligence and Big Data Analytics courses.²

A major initiative supporting this transition is FutureSkills PRIME, launched by the Ministry of Electronics and Information Technology (MeitY). The programme focuses on reskilling and upskilling professionals across ten emerging technology domains, including AI, cybersecurity, cloud computing, and the Internet of Things.

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By August 2025, more than 1.856 million individuals had registered on the platform, while over 337,000 participants successfully completed training modules.² These figures demonstrate an expanding ecosystem designed to prepare India's workforce for technology-intensive industries.

Such initiatives indicate a proactive policy approach that emphasises adaptation and skill development rather than resisting technological change.

AI Applications in Governance and Justice Delivery

Artificial Intelligence is increasingly integrated into public administration and governance systems in India. One notable example is the e-Courts Project Phase III, which aims to modernise the judicial system through advanced digital tools.

Under this initiative, technologies such as:

- Machine Learning
- Optical Character Recognition (OCR)
- Natural Language Processing (NLP)

are being used to improve case management, automate documentation, and enhance public access to judicial information.³

AI-driven systems are supporting several judicial processes, including:

- Intelligent scheduling of court cases
- Automated document filing
- Chatbot-based assistance for litigants
- Translation of legal documents into regional languages

High Courts have also established AI Translation Committees to facilitate the translation of Supreme Court and High Court judgments into multiple Indian languages. Digital platforms such as e-HCR and e-ILR allow citizens to access court decisions online in vernacular languages, improving transparency and accessibility in the justice system. These developments demonstrate how AI can enhance administrative efficiency while expanding access to public services.

AI in Weather Forecasting and Climate Services

Artificial Intelligence is also strengthening India's climate monitoring and disaster management capabilities. The India Meteorological Department (IMD) has incorporated AI-driven models to improve forecasting accuracy for rainfall, fog, lightning, and forest fires.

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One of the technologies used for cyclone monitoring is the Advanced Dvorak Technique, which helps estimate the intensity of tropical cyclones using satellite imagery.⁴ In addition, a forthcoming AI-based chatbot known as MausamGPT is expected to provide real-time weather advisories.

The platform aims to support:

- Farmers seeking climate guidance
- Disaster response agencies
- Local administrations preparing for extreme weather events

By delivering timely information and improving predictive capabilities, AI-based forecasting systems help protect livelihoods and strengthen disaster preparedness.

AI and the Informal Workforce

India's labour market is characterised by a vast informal sector, estimated at nearly 490 million workers. Recognising the importance of inclusive technological adoption, NITI Aayog released a report titled AI for Inclusive Societal Development in October 2025.⁵

The report highlights how frontier technologies—including AI, blockchain, robotics, and the Internet of Things—can empower workers rather than displace them. It proposes several strategies to enhance economic inclusion:

- Voice-based AI interfaces to overcome literacy barriers
- Smart contracts to ensure transparent and timely payments
- Micro-credential programmes enabling flexible skill development
- Digital tools for small enterprises and self-employed workers

The report draws upon real-world examples of workers such as home healthcare aides, carpenters, and farmers to illustrate how digital technologies can amplify human capabilities.

Digital ShramSetu Mission

A key proposal emerging from this policy framework is the Digital ShramSetu Mission, a national initiative designed to deploy frontier technologies across India's informal economy.

The mission emphasises several core principles:

- Sector-based prioritisation of technology adoption
- State-led implementation strategies
- Regulatory support for emerging technologies
- Partnerships with industry, academia, and civil society

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The initiative aims to ensure that technological innovations remain affordable and accessible, particularly for small enterprises and informal workers.

India's success with large-scale digital infrastructure—such as Aadhaar, Unified Payments Interface (UPI), and Jan Dhan financial inclusion programmes—demonstrates the country's capacity to implement inclusive technology platforms at national scale.

Discussion

The evidence examined in this report suggests that AI adoption in India is not leading to widespread unemployment. Instead, several trends indicate a transformation of the labour market:

- Expansion of new technology-driven occupations
- Large-scale reskilling and upskilling initiatives
- Integration of AI into governance and public services
- Technological empowerment of informal workers

These developments align with historical patterns in which technological progress initially disrupts certain roles but ultimately creates new industries and employment opportunities.

However, the transition also requires sustained policy support. Investments in research and development, education, digital infrastructure, and workforce training remain essential to ensure that the benefits of AI are widely distributed.

Conclusion

The relationship between Artificial Intelligence and employment is often portrayed as a zero-sum equation in which machines replace human labour. Evidence from India suggests a more balanced outcome. Rather than triggering large-scale job losses, AI is gradually reshaping the nature of work by creating new skill demands, improving productivity, and expanding access to digital services.

Government initiatives, industry investments, and policy frameworks indicate a strategic effort to ensure that AI complements human capabilities rather than displacing them. If accompanied by continued investments in education, innovation, and inclusive technology infrastructure, AI has the potential to become a powerful catalyst for economic growth and social development in India.

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