

Impact of AI on India's Employment Landscape

The advent of Artificial Intelligence (AI) and automation has transformed industries worldwide, and India is not an exception. Historically driven by a vast and youthful labour force, the country had to depend on labour intensive sectors to sustain its economic growth. However, this traditional model has gone a sea change. Indian economy is now in the process of undergoing a significant change due to the application and use of Artificial Intelligence (AI), which has concurrently revolutionised traditional management techniques including the management of global workforce and reshaping employment landscapes. It is expected that India, with its vast pool of science, technology, engineering, and mathematics (STEM) graduates and its youngest population in the world, will hold the potential to emerge as a global leader with application of AI. There is, however, a flip-flop.



India faces unique challenges and opportunities in navigating this transformation with its diverse and vibrant labour market. But then, why such a doubt? The data collected from

the India Employment Report 2024 and estimates from the International Labour Organisation (ILO) may lay bare the canonicity. In accordance with the India Employment Report 2024, the employment generation in the Indian production process would increasingly become more capital-intensive and labour-saving due to the adoption of modern technology. Most likely, tasks previously performed by unskilled workers would go to face automation, leading to shifts in the pattern of employment. An estimate from the International labour Organisation points out that nearly 75 million jobs are at risk of automation on account of AI (ILO, 2024).

Now, the question is whether AI will replace labour and technology or new opportunities will emerge from the use of AI? The following section will address this important issue.

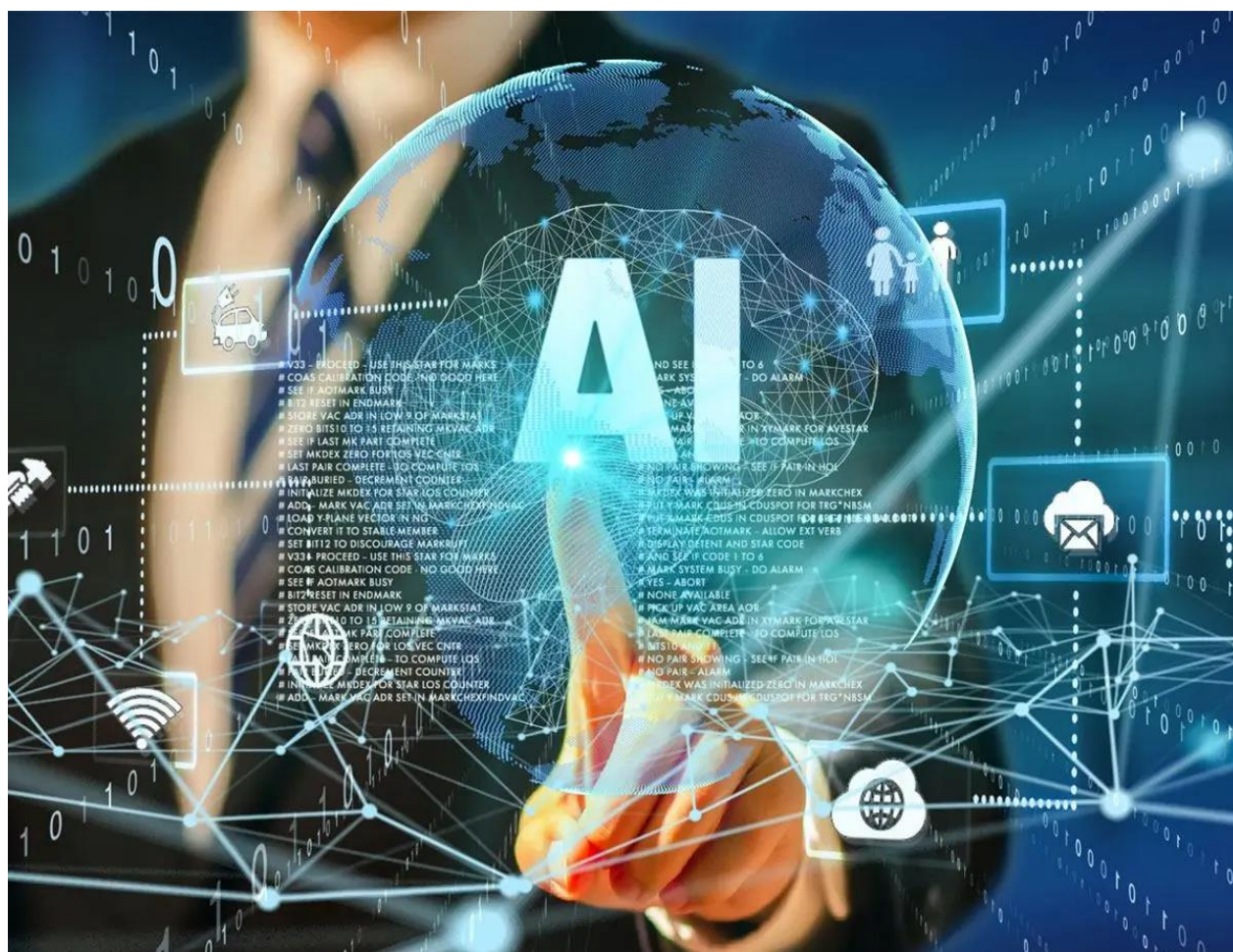
One of the biggest changes brought by AI is the automation of repetitive tasks. These include jobs like data entry, factory work, customer support etc. Machines can do these tasks faster, more cheaply, and without needing breaks. As a result, many middle-skill occupations are declining and employers in sectors like manufacturing, logistics and retail are under threat. Workers in professional jobs too find their work altered. With AI, the need for human intervention is minimised. AI can now interpret data, identify patterns, and make choices.

While some jobs are being replaced, new ones are also being created. AI is not only removing old roles but also opening up new opportunities. For example, it cannot fully replace jobs that require human creativity and emotional understanding, such as teachers, designers, and psychologists. At the same time, there is a growing demand for people who can build, manage, and improve AI systems. Roles like data scientists and digital marketers are becoming more important. According to Annual Survey of Industries (ASI) data for 2022–23 shows that total persons engaged in the registered factory sector stood at 18.49 million—a 7.5 per cent increase over the previous year. According to the International Federation of Robotics, industrial robot installations jumped from roughly 3,200 units in 2020 to 8,510 units in 2023 (a 59 per cent year-on-year increase). These two data sets suggest that AI in India may complement human labour rather than concurrently displacing workers. This means that some jobs will disappear under the vast possibilities that come with AI, while some may require so upgrading the skill of workers by training and setting

them with such a change. One may thus conclude that ‘AI should be viewed as a tool of assistance and not a threat to displacement’. The displacement of workers is particularly harmful to less-educated and vulnerable groups who will face more difficulties in finding alternative jobs and are more likely to be exposed to low-stability, low-wage, and high-turnover occupations. For example, recent reports indicate that Tata Consultancy Services (TCS) may plan to cut 12,000 jobs and freeze experienced hiring which has created anxiety in the Indian IT industry. While the company attributes the primary driver behind the layoffs is a skill mismatch and a strategic move to become "future-ready," many experts believe these decisions are a significant indicator of AI's growing adverse impact on the IT sector.

Now the question arises: who truly benefits from the rise of AI, and who stands to lose? As technology advances, it improves labour efficiency by speeding up many tasks that workers used to do. This leads to higher output and lower production costs. But the effect on jobs can go in two directions. On one hand, jobs may be lost due to automation— this is known as the ‘substitution effect’, where machines replace human workers. On the other hand, lower production costs can lead to more demand for goods and services. If that happens, companies may hire more workers —This is called the ‘productivity effect’. To benefit from this productivity effect, workers need to learn how to use new technologies and adapt to roles that focus on tasks AI cannot yet do. This shift may be hard, and the cost of adapting depends on each worker’s skills and attitude. The areas where AI is currently making the most progress is associated with non-routine, cognitive tasks often performed by medium- to high-skilled, white collar workers. However, these workers also rely more than other workers on abilities AI does not currently possess, such as inductive reasoning or social intelligence. Moreover, highly educated workers often find it easier to adapt new technologies because they are more likely to already work with digital technologies and participate more in training, which puts them in a better position than lower-skilled workers to reap the potential benefits of AI. So, aged workers may face a unique challenge, as they often struggle to adapt new technologies and may be left behind in the absence of targeted reskilling programs. On the other hand, AI also creates new employment opportunities in roles such as robotics technicians, AI specialists, cybersecurity

professionals, and data analysts. These roles predominantly benefit highly skilled, technologically proficient individuals who can adapt quickly to technological shifts. Recent estimates from Periodic Labour Force Survey (PLFS) highlight that the impact of artificial intelligence and mechanisation is reshaping India's labour market in uneven ways across sectors and regions. In rural areas, male employment in agriculture declined from 51.0 per cent in 2021-22 to 49.4 per cent in 2023-24, reflecting the gradual reduction of manual farm labour due to AI-driven mechanisation and modern practices. In contrast, urban male employment in services increased from about 59 per cent to nearly 61 per cent in the same period, which implies the rapid growth of AI-enabled activities in e-commerce, logistics, and IT services. Manufacturing also shows resilience: male employment rose slightly from 12.4 per cent to 12.7 per cent between 2021-22 and 2023-24, suggesting that AI and automation in factories are complementing workers rather than displacing them, with demand shifting toward higher-skill roles.



In conclusion, the global job market is going through a big shift because of the rapid growth of automation, robotics, and artificial intelligence. These technologies can boost productivity, spark innovation, and open up new economic opportunities but they also bring serious challenges. Many routine and mid-level jobs are at risk, and this can lead to job losses, a more divided job market, and rising income inequality. People doing routine tasks or with moderate skills are more likely to be affected, while those who own businesses or have advanced technical skills tend to benefit the most. In this changing landscape, upgrading the skill has become more important than ever. To survive and succeed in the future job market, workers must continuously improve their skills, adapt to new tools and lifelong learning.

Thank You
