

# Risks of Unemployment in the Future for Workers as India's Labour Sectors Embrace Automation, Robots, and Artificial Intelligence

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## **Abstract**

This article examines the immediate concerns of unemployment that workers in India face due to implementation of automation, robotics, and artificial intelligence (AI) become more prevalent in the labour sectors. The swift progress of technology poses a danger to conventional manual labour positions, resulting in a large scale loss of jobs and unstable economic conditions. The impacts of automation are most likely to affect marginalized communities, aggravating already existing disparities. To lessen (minimalize/reduce) the negative impacts of mass unemployment, industry stakeholders, governments, and civil society must adopt proactive steps. These are necessary because of the social and political implications of this issue. India's workforce may move towards a more sustainable and fair future by supporting inclusive economic development, encouraging entrepreneurship, and investing in vocational training.

**Keywords:** Unemployment, Labour industries, robots, Artificial intelligence (Ai).

## **1. Introduction**

It is a well-known fact that robotics and artificial intelligence (AI) have been working together extensively and globally for a variety of reasons/convenient/needs and demands. The increasing popularity and need for robotics has made life quite simple. But when robots take over every work in the industrial sector, an animosity develops between the humans at the same time. Robots are effective workers and increase the production, but they are also reducing job prospects for humans. All blue-collar employment have already been replaced by robots. Thus, employment in every sector will be in jeopardy.

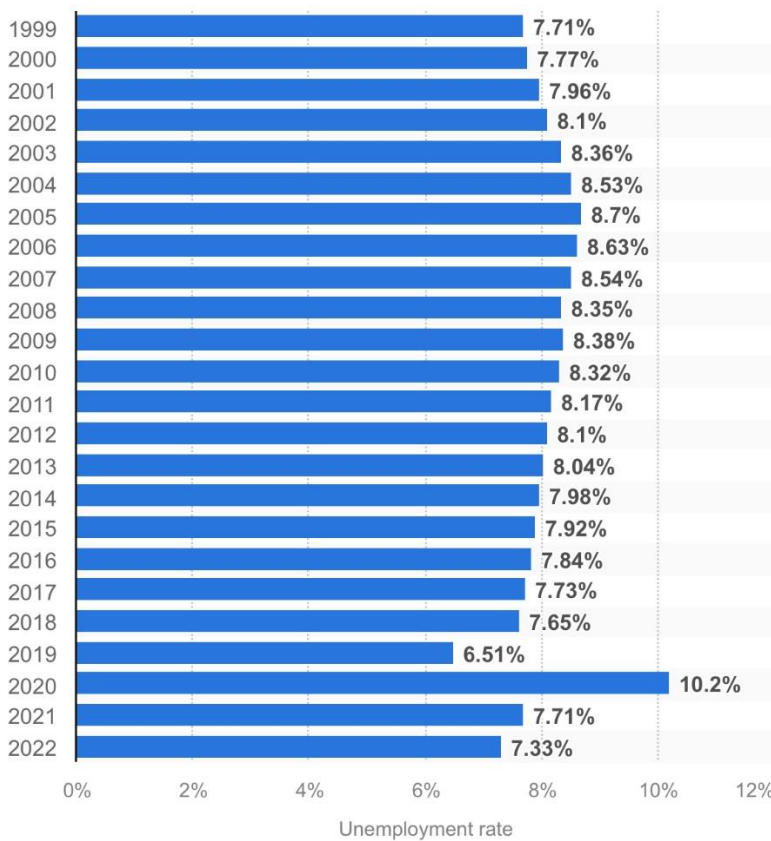
Artificial intelligence or robots can work long, hard hours for little pay during unsociable hours providing a great deal of comfort to the globe. Future generations are likely to view robots as instructors, caregivers and coexisting humans once they are proficient in learning complicated reaction detection and emotions like compassion. Robots work more quickly than humans do because, according to research, one robot can do the work of 70 full time human workers. Employment opportunities diminish as a result of the growing adoption of robotics. But the basic advancements in robotics will only be attained by future generations after years of investment in this field.

The future connection between humans and robots has also been pondered. India has long been plagued by poverty, growing unemployment, informal and self-employment rates, and structural inequality. It also possesses specialized knowledge in information technology.

It looks like the AI revolution will be beneficial to recent grads and mid-level workers. The main issue is inequality, which is made worse by worries that technology advancements will reduce job security and opportunity. An analysis of how automation is affecting labour in India does not provide evidence for a significant departure from current employment issues/unattended scope of Government policy makers. Instead, emerging technologies are being adopted in a patchwork and unequal manner. Without a transfer of wealth and income, it is unlikely to benefit the majority of workers even though it might improve working conditions for individuals. A new era of automation has begun with recent advancements in robotics, artificial intelligence (AI), and the Internet of Things. Industry 4.0 is the term used to describe a state of affairs where computers, robotics, and AI-led technology can execute jobs that were previously thought to be performed exclusively by humans, such as making decisions. Thus, there are three ways in which AI may affect jobs. In some tasks, technology can serve as a supplement to humans; in others, it can take the place of humans completely.

In this context, it is critical to comprehend the extent to which this technological advancement has affected employment and occupations in India.

## 2. India's unemployment rate from the year 1999 to 2022



The above figure displays India's unemployment rate from 1999 until 2022. India's unemployment rate was projected to reach 7.33 percent in 2022.<sup>1</sup>

India is considered one of the G-20 major economies and a member of the BRIC countries, an organization of quickly rising economies, due to its one of the fastest growing economies in the world. BRIC members include China, Russia, Brazil, and India. India's manufacturing sector contributes significantly to the

<sup>1</sup> India: Unemployment rate from 1999 to 2022, Aaron O'Neill, Jan 31<sup>st</sup> 2024

country's economic growth, but the service sector is by far the most important one. From a national development perspective, India has come a long way over the years. Nonetheless, India's development was rather meager when compared to the other developing nations in the BRIC bloc. Over the period of three or four years, India's productivity and efficiency stayed relatively unchanged, whereas China appeared to experience the highest increase. Over the last ten years, India has also reported a substantial trade deficit, which suggests that the country's total imports have exceeded its entire exports, basically necessitating the country to borrow money to finance the country. The majority of economists believe that trade deficits are bad, particularly over the long term and for developing or emerging nations. And India is adopting to the automation and AI in the manufacturing industries to increase the efficiency and productivity. Apparently industrial robots do negatively affect workers, according to a recently released research titled "**Robots and Jobs: Evidence from U.S. Labour Markets**," written by professors Daron Acemoglu of MIT and Pascual Restrepo, PhD '16, of Boston University.

The employment-to-population ratio decreases by 0.2 percentage points and earnings fall by 0.42% for each robot introduced for every 1,000 workers in the United States, according to the researchers' findings. As of now, this translates into the loss of almost 400,000 jobs. The effects are particularly pronounced in the places where robots are placed: every additional robot placed in a commuting zone, six jobs are lost there.<sup>2</sup>

### 3. Drawbacks of robots and AI's

Use of robots and Artificial intelligence (AI) have a number of drawbacks, including detrimental effects on employment:

1. **Job displacement:** In industries where AI technologies are used, automation and AI may replace some repetitive and routine work, resulting in the loss of jobs. Employees whose jobs are easily automated may find this to be challenging.
2. **Skills Mismatch:** As AI technology develops, there might be an increasing discrepancy in the abilities of people who are replaced and those needed for new, AI-related occupations. It may be challenging for impacted workers to obtain new employment due to this skill mismatch.
3. **Inequality:** Adoption of AI has mixed results, and there's a chance it could make income disparities worse. While low skilled people may risk underemployment or unemployment, where comparatively highly skilled workers can easily adapt to AI-related jobs may make profits effortlessly.
4. **Job Quality:** AI may have an impact on the standard of remaining jobs. Less job satisfaction may result from some employment changing to involve more monotonous and routine responsibilities linked to AI oversight or maintenance.
5. **Industry Specific Vulnerability:** A number of areas, including data entry, manufacturing, and customer service, are especially vulnerable to AI-related job losses. Workers in these industries may face social and economic hardships as a result of their displacement.
6. **Transition Costs:** Making the switch from traditional to AI-related employment or other industries can be an expensive and time-consuming procedure. Employers may need to make investments in new infrastructure and technologies, and workers may need retraining and upskilling.

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<sup>2</sup> A new study measures the actual impact of robots on jobs. It's significant, Sara brown, Jul 29, 2020

7. **Ethical Issues:** Using AI to make hiring and firing decisions in the workplace may give rise to ethical issues. Algorithmic prejudice and discrimination carry a danger of affecting vulnerable and underprivileged people.
8. **Psychological Impact:** Workers may experience stress, anxiety, and future uncertainty as a result of job insecurity brought on by the deployment of AI.
9. **Social Unrest:** Political tensions and social unrest may be exacerbated by the widespread job dislocation and economic disparity brought on by the deployment of AI.
10. **Technological Dependency:** Societies that rely too much on automation and artificial intelligence may be more susceptible to cyberattacks, system breakdowns, and other technological disruptions.

It's crucial to remember that the effects of AI on employment are varied and nuanced, depending on the sector, location, and occupations in question. Although AI has the potential to eliminate jobs in some sectors of the economy, it can also boost productivity and spur economic expansion. To handle the potential and difficulties posed by automation and artificial intelligence in the labour market, firms, individuals, and policymakers should collaborate. This might entail funding programs for education and retraining, encouraging ethical AI development, and encouraging creativity in sectors of the economy that stand to gain from AI innovations.

#### 4. Possible dangers in robotic work cells:

1. **Human Mistakes:** Human mistake happens in everyday activities, and using a robotic work cell is no exception. When programming, doing preventative maintenance, or teaching pendant control, operators run the risk of over-acquainting themselves with the robot or failing to understand its motion path, which could put them in dangerous situations.
2. **Management Mistakes:** Within a robotic work cell, errors in the hardware and software controlling the system can result in dangers. If human interaction is intimately associated with a control system that malfunctions, the system response could result in a hazardous working environment.
3. **Unauthorized Entry:** Unauthorized operator access to a protected robotic work cell. An operator may find themselves in a hazardous and maybe lethal situation if they are not conversant with the safety devices connected to the robotic work cell.
4. **Mechanical Errors:** It is not always considered that mechanical part failure will occur throughout the design and programming phases. An unanticipated failure may put the operator in a dangerous situation.
5. **Environmental Origins:** Interference from external sources and poor communication might have a negative impact on a robotic work cell. If they are not taken into consideration in the early phases of the project, unplanned power surges or power outages may result in harm.
6. **Electrical Systems :** Disrupting power sources that are connected to the robotic cell may result in unintended consequences. An operator may be put in danger if this results in an energy release.<sup>3</sup>

#### 5. Conclusion

In conclusion, the use of automation, robots, and artificial intelligence in the labour industries poses a considerable and diverse risk of unemployment for labourers in India in the future. Although these

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<sup>3</sup> 7 Industrial Robotics Hazards and How to Avoid Them, Steven Hogg, 5 January, 2011

technology developments offer more productivity and efficiency in the industry, they also threaten traditional labour roles, which could result in job displacement and financial instability for many people and even lead to deaths due to debts.

It is crucial that companies, governments, and society at large take proactive measures to address the issues raised by automation in order to reduce these risks. Furthermore, encouraging entrepreneurship and innovation can open up new job opportunities in developing sectors of the economy. In addition, it is crucial to guarantee that the advantages of automation are dispersed fairly and that policies are in place to assist individuals impacted by job loss. This would entail putting in place social safety nets like retraining programs and unemployment benefits in addition to laws that support economic diversification and job growth.

In the end, it will need cooperation and foresight from all stakeholders to manage the shift to a more automated labour force. India can effectively navigate this shift by adopting technology while simultaneously putting workers' well-being first, thereby optimizing prospects for everybody.

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