

AI and Automation Impact on Job Quality and Skills in India's Platform Economy (2014-2024)

Dr. Kailash Patel^{1*} | Dr. Pawan Pushpad²

^{1,2}Assistant Professor, College of Commerce, IPS Academy, Indore.

*Corresponding Author: kailashpatel@ipsacademy.org

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Abstract

This paper looks at how artificial intelligence and automation affect the quality of jobs and the skills needed between 2014 and 2024 in the platform economy. It will try to understand how AI-based technologies and automation change the types of skills that are needed the ways of working that are created and how these affect the quality of jobs on platforms. The research looks at how these technology changes affect the labor market the productivity of workers their job satisfaction and their skill development. Important things to consider here are automation of tasks changes in job roles and new skills that are needed for those jobs. This research uses industry reports, interviews with experts and a survey of platform workers across industries to write the paper. The goal of this study is to provide a description of the changes that AI and automation are making in the workforce and to offer policy and training suggestions for making jobs better and helping workers get ready for new job opportunities, in Indias growing platform economy.

Keywords: AI, Artificial, Automation, Technologies, Job, Skills.

Introduction

Integration of artificial intelligence and automation has become a source of transformative changes in every job sector, redeveloping workforce dynamics and organizational processes globally. It is transforming the way of working in all domains, from IT and education to automobile, governance, commerce, and management. In India, since 2014, increasing use of AI and automation, though enhancing productivity, has equally raised concerns pertaining to job quality, skill demands, and the readiness of the workforce.

AI-driven technologies, including machine learning, robotics, and natural language processing, have been incorporated into many different industries. For example, IT sectors use AI in predictive analytics and cybersecurity; education uses AI-driven learning platforms; automobile industries use robotics in manufacturing; and governance benefits from automated administrative processes. These changes have increased operational efficiency but also raised questions about their implications for the workforce. Automation, while eliminating repetitive tasks, has led to job displacement, widened skill gaps, and posed significant challenges for workers in adapting to the changing demands of the job market.

This research investigates the impact of AI and automation on job quality and skills requirements across diverse sectors in the economy of India during the period from 2010 to 2024. The research explores how these technologies have changed work environments, wage structures, and career progression opportunities, including the role they play in fostering innovation and economic growth. Particular attention is given to the shift in required skills, as traditional roles are overtaken by technology-driven ones that require reskilling and up skilling .

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This study looks at areas like information technology, education, the car industry, the government, business and management to see how artificial intelligence and automation are changing the jobs people do in India. It talks about the things and the bad things that come with these new technologies and gives ideas to the people who make decisions for the country, companies and schools on how to make a plan, for a future where technology is a big part of everything and make sure everyone is included.

Literature Review

This section covers five studies that are worth mentioning in relation to the research topic, "AI and Automation Impact on Job Quality and Skills in India's Platform Economy (2014–2024)." The studies stress different aspects of how AI and automation transform skills, job quality, and the role of policymakers and platforms in workforce dynamics in the era of AI and automation.

- **Frey, C. B., & Osborne, M. A. (2017).**→ The Future of Work: How Susceptible Are Jobs to Computerization?

This important study looks at how easy it's for jobs to be automated. Frey and Osborne made a model to figure out which of 702 jobs could be done by computers. They found that jobs with a lot of work are the most likely to be automated. This means that jobs in places like factories, offices and service jobs are very likely to be automated. What they found out is that people need to learn skills that're not routine, like analyzing things and solving problems in a creative way so they can still get a job and keep working. The study is really, about automation and how it affects jobs and the people who work in them so automation is a part of this study and people should know about automation.

- **Acemoglu, D., & Restrepo, P. (2019).**→ Artificial Intelligence, Automation, and Work.

This paper looks at how Artificial Intelligence and automation're changing the way people work. Acemoglu and Restrepo talk about what they call the "effect". This is when machines take over the work that people used to do. They also talk about the "reinstatement effect". This is when new technologies create kinds of jobs that people can do. The research shows that while automation makes things more efficient it also causes problems because people do not have the skills for the new jobs. This affects people who do not have a lot of skills more than others. Artificial Intelligence and automation are changing the labor markets in ways. The people who did the research think that we should have programs to teach people new skills and that the government should get involved to make things better, for workers who are affected by Artificial Intelligence and automation.

- **World Economic Forum (2020).**→ The Future of Jobs Report:.

This report looks at how technology's changing the way people work all around the world. Technology like intelligence and automation is really changing things. The report talks about the skills that people will need to have in the future. These skills include being able to think solve tough problems and understand peoples feelings. These skills are very important now that machines are doing a lot of work. The report also says that it is crucial for companies and governments to work together to help workers learn skills. This way workers can get the training they need to do jobs. The report is, about how technological disruptions, including artificial intelligence and automation are changing the global labor markets.

- **Srivastava, S., & Shekhar, R. (2022).**→ AI-Driven Transformation in India's Platform Economy: A Sectoral Perspective.

This project will focus on how artificial intelligence and automation're affecting the platform economy in India. The areas covered include IT, commerce, education and transportation. Srivastava and Shekhar point out that more and more platform workers need literacy and the ability to understand data. Their research shows that AI makes work more efficient and easier to scale. However it also creates problems. These problems include feeling unsure about job security not having access to training and having less control, over work because it is managed by algorithms.

- **Brynjolfsson, E., & McAfee, A. (2014).**→ The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies.

Brynjolfsson and McAfee take a look at how AI and automation are changing the way people work and the economy. They say that the skills people need are changing. Now people need to be good at thinking and solving problems they need to know a lot about technology. They need to be able to work

well with others. The book also says that people need to keep learning things throughout their lives. This is because AI and automation are changing the way people work and the skills they need.

This review of what people have written about AI and automation helps us understand how it is affecting the quality of jobs and the skills people need. It also helps us figure out what questions to ask people when we are trying to learn more, about this topic.

Objectives of the Study

- To look at how AI and automation are changing job quality in different areas
We need to analyze how AI and automation are affecting peoples jobs in areas like IT, education and commerce in India. This includes things like job security, how much people earn, what their working conditions are like and how control they have over their work.
- To find out what skills people need in the age of AI and automation
We want to know what new skills are needed because of AI and automation. We also want to see if the training programs we have now are working and if workers are ready to adapt to these changes in India.
- To understand the problems workers are facing because of AI and automation
We are looking at the issues workers are dealing with such as losing their jobs not having the right skills and the emotional impact of working with AI systems in India's changing job market.
- To see what platforms and policymakers can do to help
We need to look at what digital platforms and decision-makersre doing to help workers get the skills they need to deal with AI and automation in a fair way.
- To give ideas on how to improve job quality and help people develop skills
We will suggest steps that platforms, policymakers and businesses can take to make jobs better help people adapt to change and make the transition to an economy driven by AI smoother, in India.

Research Methodology

This study uses a research design to find out how AI and automation affect job quality and skills in different sectors in India. The sectors include IT, education, automobile, governance, commerce and management. Data is gathered from both secondary sources.

Primary data comes from a survey of 50 people who are 18 years old or older. These people are chosen using stratified sampling. This method ensures that the sample represents sectors and regions. The survey includes both ended and open-ended questions. The questions cover job quality, the skills needed and the challenges that people face because of AI and automation.

Secondary data includes journals, government reports and industry publications. This data is analyzed using tools.

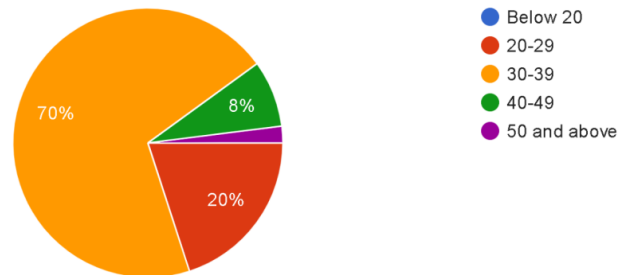
The study focuses on the time period from 2010 to 2024. Ethical standards are followed by getting informed consent and keeping data confidential. The method used in the study aims to provide insights, for policymakers, platforms and businesses.

Hypothesis of the Study

Automation and AI have transformed the quality of employment and skill requirements, necessitating new skills and altering work patterns in India's platform economy.

Analysis**Section 1: Demographics 1. Age**

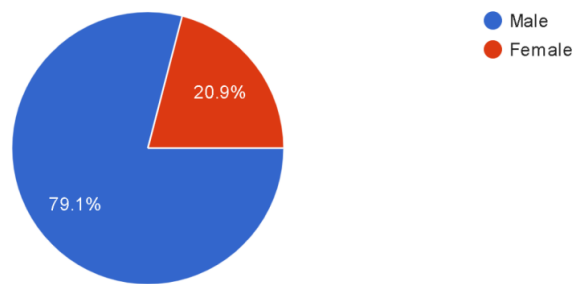
50 responses



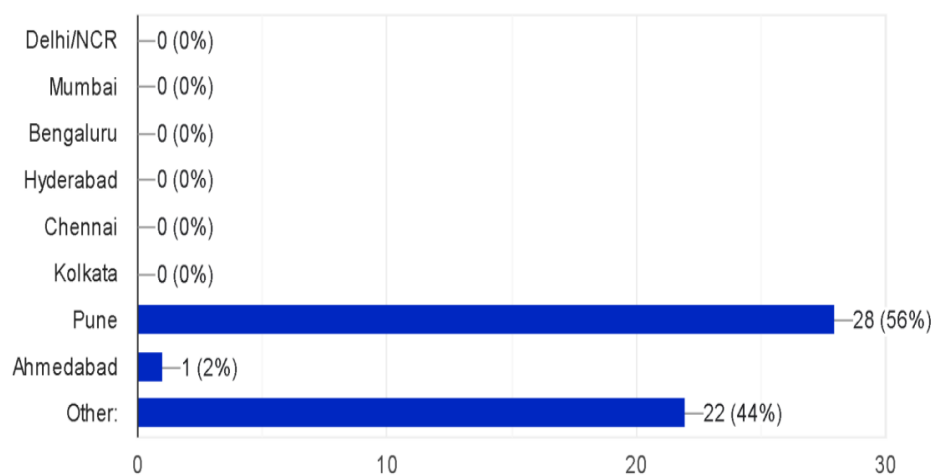
In above charts we see that we have total 50 people of different age group who participated in the survey from which 70% between 30-39 age group 8% between 40-49 age group 20% are between 20-29 age group 2% are 50 and above.

2. Gender

43 responses

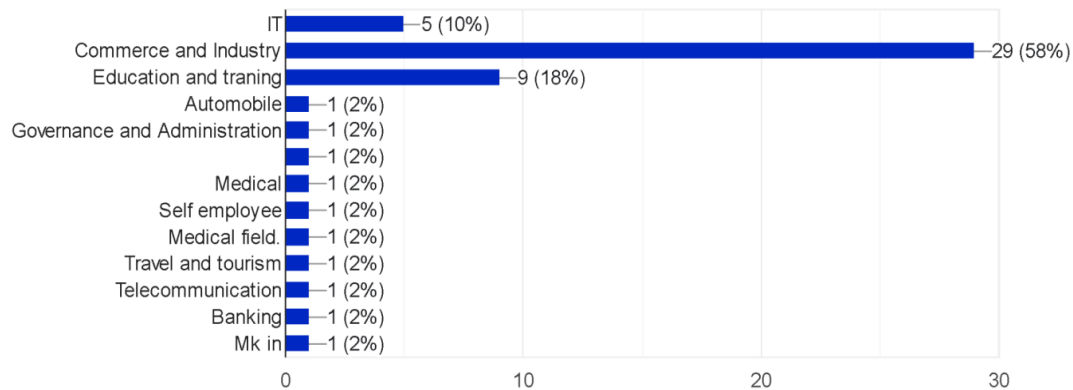
**3. City/Region of Work**

50 responses



4. Sector of Work:

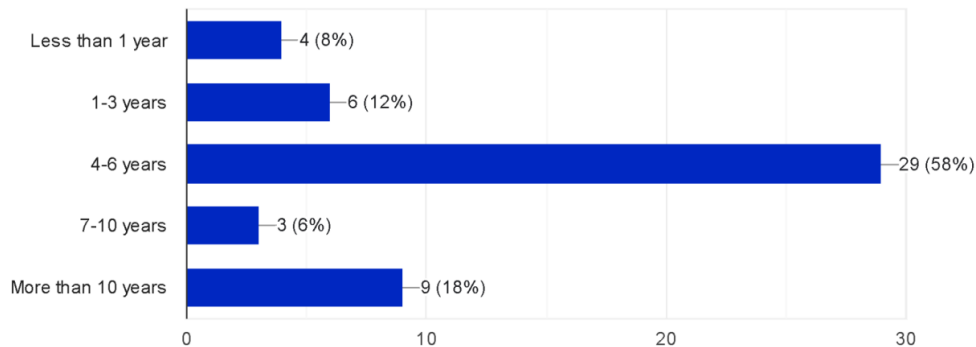
50 responses



In the above graph there are people who works in different sectors and majority works in commerce and Industry sector around 58%(29), 18%(9) from Educational and training, 10%(5) from IT sector, and other sectors like Automobile, Governance and administration, medical, self employed, medical field, travel and tourism, telecommunication, banking are 1% each.

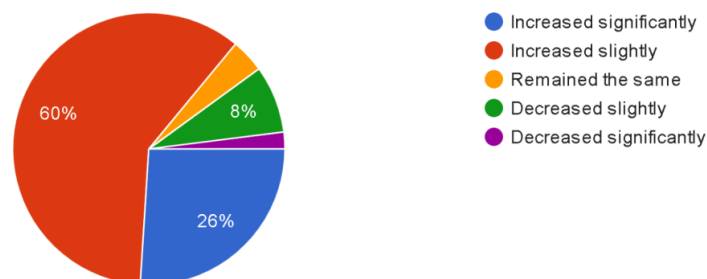
5. Years of Experience in the Sector:

50 responses



6. How has your workload changed with the adoption of AI and automation in your platform?

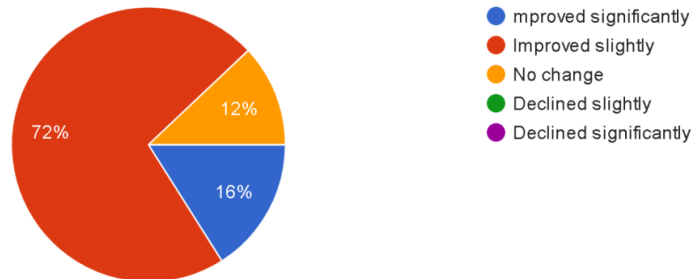
50 responses



In the above chart we analysis that does workload changed with the adoption of AI and automation in their respective platforms and 80% think it increased slightly 26% people think it increased slightly 8% people think it decreased slightly 4% think it remained same and 2% think it decreased significantly, hence the workload was slightly increased in majority case.

7.How do you perceive your current job quality compared to before the adoption of AI and automation?

50 responses

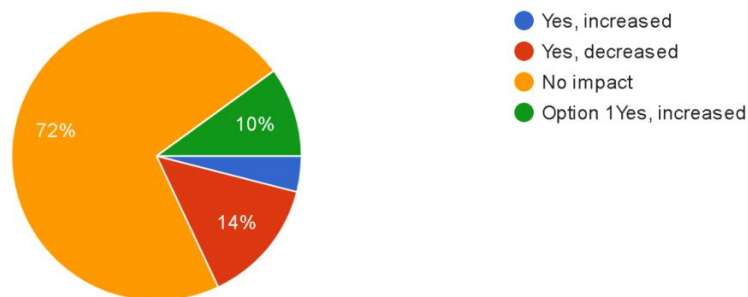


Change in Job Quality after the adoption of AI and automation

Improved slightly	72%-
Improved significantly	16%-
No change	12%

8.Have your working hours been affected by AI-based systems ?

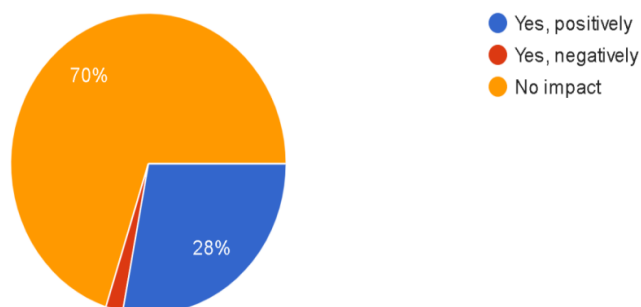
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In the above data it shows the impact on working hours due to AI based Systems and around 72% says there is no impacting their working hours, and 14 % says it is decreased. While only 14% says there is increase in their working hours.

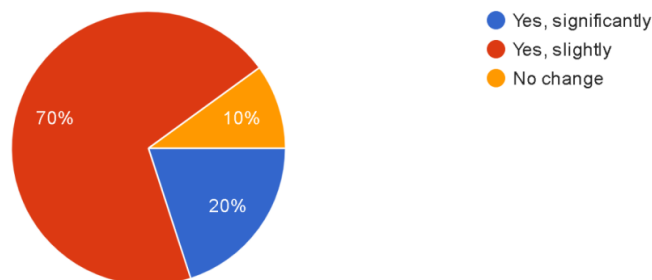
9.Do AI-driven systems (e.g., dynamic pricing, performance tracking) affect your earnings?

50 responses



10. Have AI and automation introduced new skill requirements for your job?

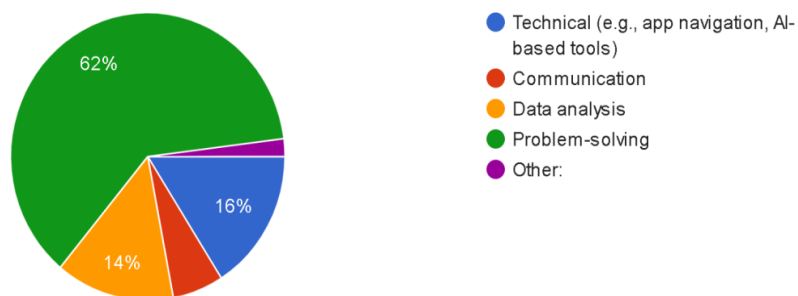
50 responses



In the above charts around 70% says that slightly AI and automation introduced new skills requirements for their jobs. And 20% says significantly introduction of new skill requirements and 10% says no change.

11. What type of skills have become increasingly important due to AI and automation? (Select all that apply)

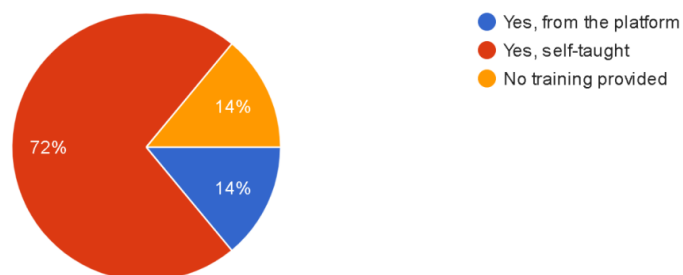
50 responses



Technical	16%	8
Communication	6%	3
Data analysis	14%	7
Problem- solving	62%	31
others	2%	1
Total	100%	50

12. Have you received any training to adapt to AI-based systems?

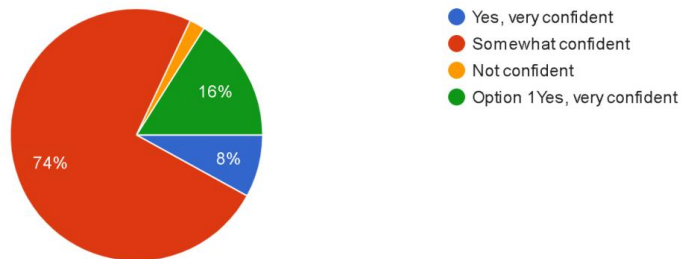
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In the above chart 72% people self taught to adopt to AI-based system, and around 14% people only received training from the platform to adopt to AI-based systems, and 14 % says no training provided.

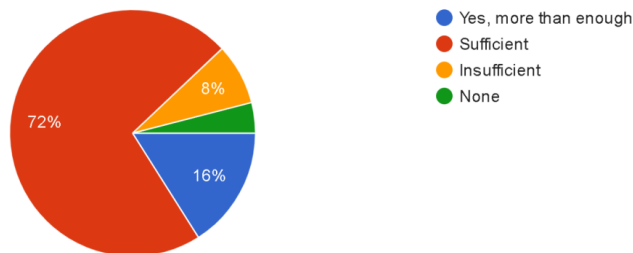
13. Do you feel confident using AI-enabled tools in your work?

50 responses



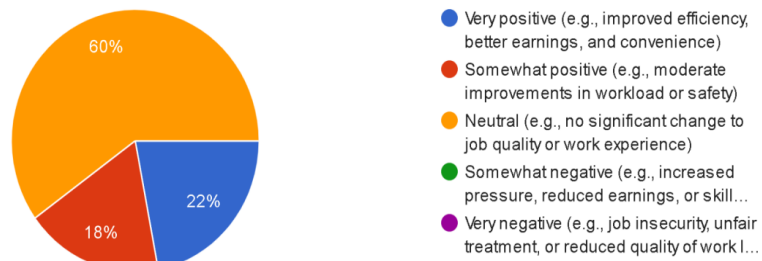
14. Has your platform provided enough resources to help you adapt to AI and automation?

50 responses



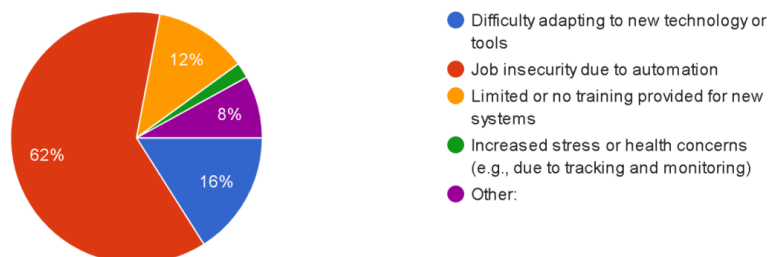
15. What is your overall opinion on the impact of AI and automation on your job?

50 responses



16. What is the biggest challenge you face with AI and automation in your work?

50 responses



Conclusion

Artificial intelligence and automation have changed how India's platform economy works. They have made things more productive but also changed the kind of jobs people do. The skills they need. Workers now have more to do. Need new skills. However the quality of jobs has only gotten a little better. To keep moving there needs to be proper training efforts to teach new skills and fair rules, for workers. These steps are important to build a workforce that can adapt and grow in the time of intelligence.

Suggestions

- We need to teach people who work with computers about intelligence. So that they can do their jobs Easily.
- We should have programs that help employees learn skills, especially the skills that are related to artificial intelligence.
- We also need to teach employees about computers and how to use them easily. This is called literacy training and it is very important for employees.
- We have to make rules that employees will have jobs and get paid fairly.
- These rules will help employees feel safe and happy at work.
- Artificial intelligence companies, governments and educational institute should work together.
- We need to use intelligence in a way that is fair to employees. We do not want artificial intelligence to take over all the jobs.
- Artificial intelligence and jobs should balance each other.

If we do all these things India will have a workforce. The workforce will be ready, for technology and it will be able to adapt to changes. India will be able to handle technological shifts because of this strong workforce and its ability to work with artificial intelligence.

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