

Impact of Artificial Intelligence on Employment: A Study of Job Transformation and Workforce Adaptation”

Gauri Sawant , Gauri Gaikwad

Gauri Sawant , PVG's College of Science & Commerce

Gauri Gaikwad , PVG's College of Science & Commerce

Abstract

This research paper primarily examines the impact of AI on human work and employment. With the rapid advancement of technology, the demand for human labor is decreasing, leading to job losses for many individuals. Although new jobs are emerging as a result of AI, they often require advanced skills and knowledge. This study aims to assess AI's actual impact on employment, exploring both the future of workers and the positive and negative consequences of AI on jobs. Furthermore, this study highlights how AI can create new possibilities for innovation, entrepreneurship, and economic growth. Instead of focusing only on job loss, the research discusses how AI can support workers by reducing repetitive tasks and improving workplace safety. It also explores how governments, companies, and educational institutions can work together to ensure that people are prepared for changing job requirements.

Keywords – Impacts, Jobs, Artificial Intelligence, Automation, Employment

1.Introduction-

In today's world, AI is a popular and expansive concept, with numerous definitions and extensive research dedicated to it. In essence, artificial intelligence refers to computer programs that mimic human cognitive functions. Built on the principles of human intelligence, AI performs tasks more efficiently and in less time. Due to its numerous features and advantages, many people are increasingly reliant on AI across various fields, including robotics, healthcare, business, and education.

As AI continues to evolve, new technologies related to it are also emerging, significantly affecting many aspects of life. AI presents both positive and negative impacts. On the positive side, complex tasks and problems can be solved more quickly, providing immediate responses and completing processes in just a few minutes. However, the growth of AI has negative consequences as well, notably the replacement of many jobs, leading to employment losses. With AI reducing the need for human workers, reliance on machines is increasing, which is adversely affecting employees.

In "Where's the AI?" Roger C. Schank states that there is a growing emphasis on research over development, resulting in a higher number of researchers than builders. As people gravitate toward research and application use, there is a decline in the number of developers, further illustrating how AI reduces the need for human involvement, impacting jobs in the process.

Despite the rapid adoption of AI, there is still uncertainty about whether it will replace jobs or create new opportunities. This study aims to examine this balance.

In India, AI adoption is rapidly increasing, particularly in the IT and service sectors, where organizations are integrating AI technologies to improve efficiency, decision-making, and customer experience. This trend highlights the growing relevance of studying AI's impact on employment in the Indian context

2. Literature Review-

In this paper, we conducted research based on various articles and reports. One notable article, “Artificial Intelligence and Work: A Critical Review of Recent Research from the Social Sciences,” discusses how AI is affecting the labor market and transforming jobs. It highlights both the negative and positive impacts of AI. Although job losses are occurring, new roles in AI are emerging, creating opportunities for workers. According to an IMF report, 40% of jobs are being replaced, with the potential for this figure to rise to 60% in the future. The report emphasizes the need for individuals to acquire AI-related skills in areas such as data analysis and AI training to adapt to these new roles.

While low-skill and repetitive jobs are being replaced by AI, high-skill positions—such as those involving big data, robotics, and AI training—will still require human expertise. Workers must obtain the necessary skills and training to succeed in these emerging

roles. The AI-Enabled ICT Workforce Consortium, led by Cisco, also released a report indicating that 92% of jobs are expected to undergo changes, resulting in either positive or negative transformations. Routine tasks, such as data entry, bookkeeping, and patient tracking in healthcare, can easily be automated by AI. Additionally, transportation jobs are at risk of being replaced by autonomous vehicles and robotics.

Many fields will be affected by AI. While the reduction in costs is a positive outcome, as machines and AI replace human labor in the retail market, it also leads to job losses. A report released by the World Economic Forum in 2023 indicates that jobs and skills are expected to evolve over the next five years. Although the future remains uncertain, past analyses and reports suggest that while AI will take over many jobs, it will also create new opportunities and increase dependence on technology.

Some studies also show that the effect of AI is different in each country and industry. A report in the *Harvard Business Review* explains that places with better technology grow faster and see more changes in jobs. Industries like banking, healthcare, and manufacturing are using AI to do tasks such as predicting outcomes, organizing information, and helping in decision-making. Instead of removing whole jobs, AI often replaces only certain tasks. This means workers who learn new skills and understand technology can benefit, while those who do not get training may struggle to keep up.

Another report from the *OECD* says that about 14% of jobs could be fully replaced by AI, and around 32% of jobs will change a lot because of AI. The study suggests that governments and companies should help workers learn new skills so they don't lose their jobs. It also says that AI can help increase economic growth and create new types of work, but this will only happen if people are trained properly and if AI is used responsibly.

3. Methodology –

This study employs a quantitative approach, utilizing a survey conducted through a Google Form distributed to employees. The survey aims to gather their opinions on the impact of AI on their jobs and analyze their responses. The data is presented in percentage format, indicating the level of agreement with specific questions.

We asked basic questions, such as whether AI impacts their job responsibilities, if AI assists or replaces their jobs, and whether their organization is investing in AI programs. Most respondents work in the IT sector, where AI is predominantly utilized.

A total of 100 respondents participated in this survey.

To understand AI's impact, we employed descriptive analysis techniques and visualized the data using pie charts, column charts, and other graphical representations. The data collected from participants is confidential and gathered with their consent. Since the data is collected in digital format, we prioritize the consent and confidentiality of each individual, ensuring their information is not disclosed. Only the responses are analyzed.

This research paper primarily focuses on the impact of AI on jobs, specifically surveying employees who use AI on a daily basis and possess a basic understanding of the technology.

We also used a non-probability sampling method, meaning we selected participants based on their availability and willingness to respond. This approach was chosen because it is quick, cost-effective, and suitable for studies where participants already have some knowledge of the topic. Although the sample size is limited, it provides useful insights into how employees currently feel about AI in their workplace.

Overall, this methodology allowed us to study real experiences of employees who interact with AI regularly. By using digital surveys, visual data tools, and descriptive analysis, we were able to understand how AI is changing work patterns, job roles, and employee opinions. This approach helps provide a practical view of AI's influence in the modern workplace.

4. Implementation

For this study, a Google Form survey was designed to collect responses from employees regarding the impact of AI on their jobs. The survey was shared with participants through WhatsApp and email, targeting individuals who use AI tools in their daily work. The responses were collected digitally and stored in Google Sheets and Excel for organization and analysis. Incomplete or duplicate responses were removed to ensure data accuracy.

The collected data was analyzed using descriptive techniques. Responses were converted into percentages to show the level of agreement or perception for each aspect of AI's impact. Visual representations, such as pie charts and bar graphs, were created using Google Forms and Excel to clearly show trends and patterns in the data. These visuals helped in understanding employee opinions about AI's effect on job responsibilities, skill requirements, and future opportunities.

This methodology allowed for practical insights from employees with varying levels of experience with AI. By combining digital surveys, organized data sheets, and visual charts, the study was able to effectively measure and present the influence of AI on modern work environments, while maintaining confidentiality and consent of all participants.

5. Results-

The main purpose of this research is to understand employees' perspectives on AI and its impact on their jobs. Specifically, we aim to identify which skills are most commonly replaced by AI. Most respondents believe that AI has a positive impact on their work, viewing it as a tool that assists rather than replaces their roles.

We asked participants to rate, on a scale of 1 to 5, whether they perceive AI as having a positive or negative impact. The data suggests that people remain divided, acknowledging both the positive and negative effects of AI on job creation. Additionally, many organizations are investing in AI-related programs, providing training for employees to prepare for future responsibilities. A key question we explored was whether AI influences hiring trends. Remarkably, 77.8% of respondents answered "yes," indicating that the rapid growth of AI is indeed affecting hiring practices.

Regarding critical skills impacted by AI, 88.9% of participants identified technical skills as essential. Skills in data analysis and interpretation are also becoming increasingly important due to AI advancements. While technical skills are necessary for building AI and other software, many individuals are now relying on chatbots like ChatGPT and Gemini for assistance.

Q.1 Has AI impacted your current job responsibilities?

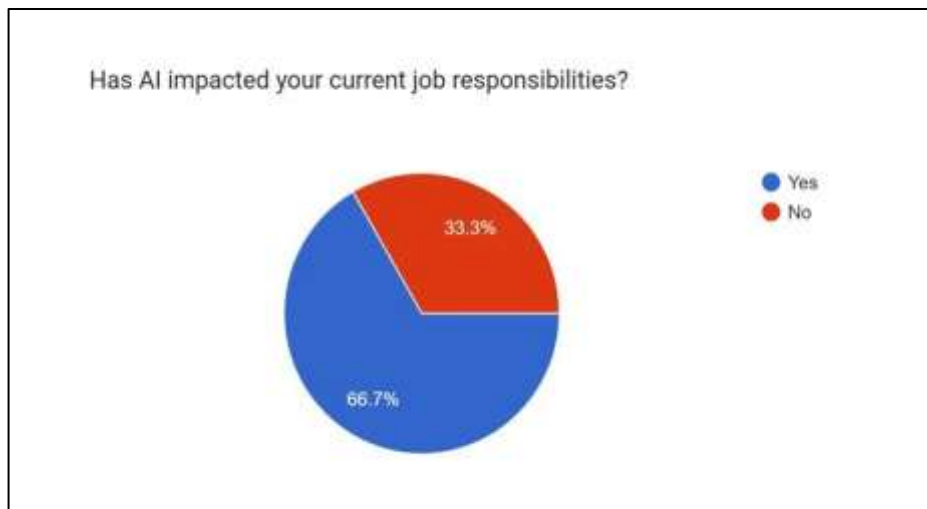


Fig. 4.1 – 66.7% respondents believe AI impacts job responsibilities, indicating a strong presence of AI in daily work.

Q. 2 Do you feel AI is more likely to replace or assist your job role?

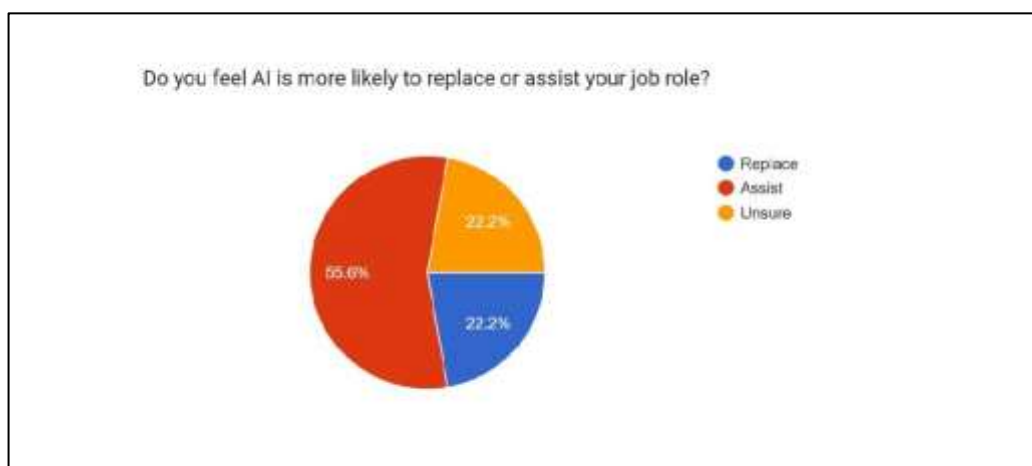


Fig. 4.2 indicates that 55.6% of respondents believe AI is more likely to assist their job roles, while 22.2% feel that it may replace their roles, and a smaller proportion remain uncertain..

Q.3 To what extent do you see AI as a positive influence on job creation? (Rating 1–5)

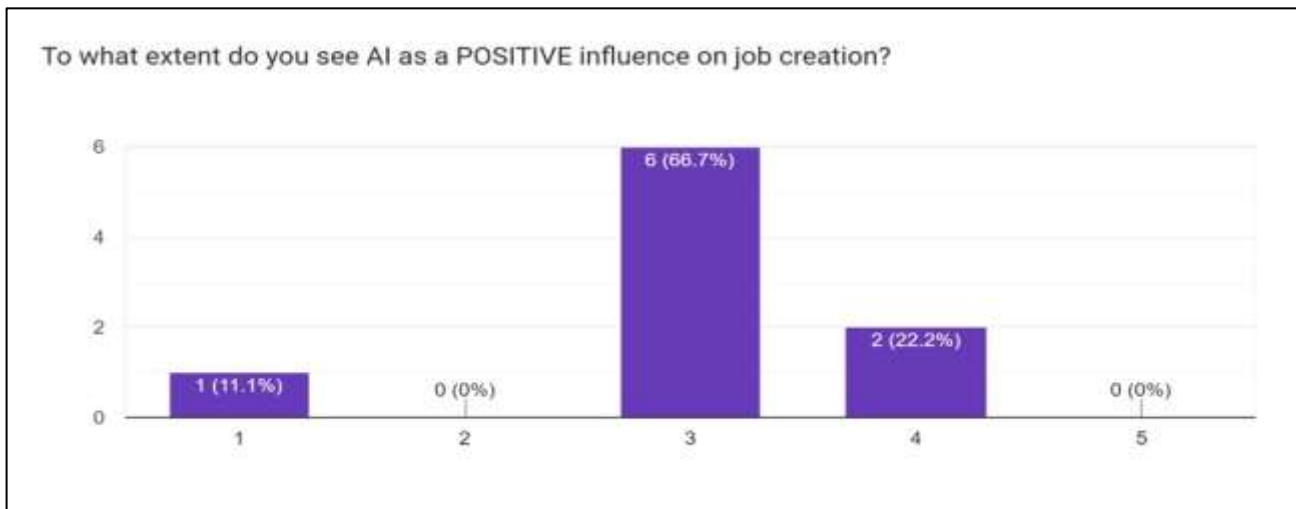


Fig. 4.3 shows that respondents generally perceive AI as a positive influence on job creation, with most ratings falling in the mid to higher range (1–5 scale).

Q.4 To what extent do you see AI as a negative influence on job creation? (Rating 1–5)

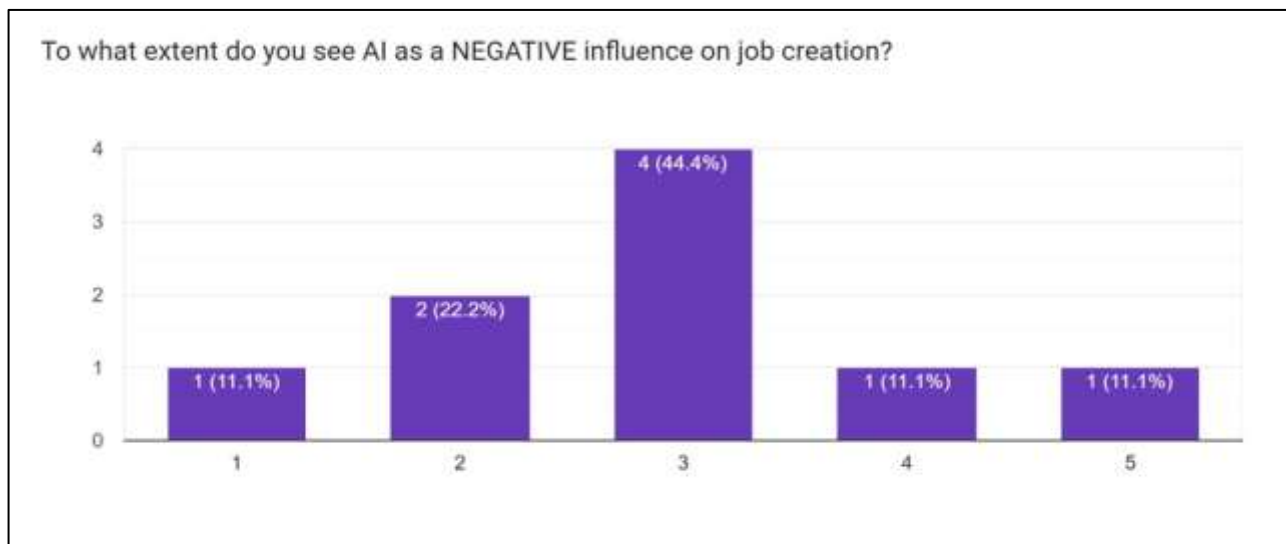


Fig. 4.4 indicates that respondents also recognize the negative impact of AI on job creation, reflecting concerns about job displacement and automation.

Q.5 Are AI technologies influencing hiring trends in your industry?

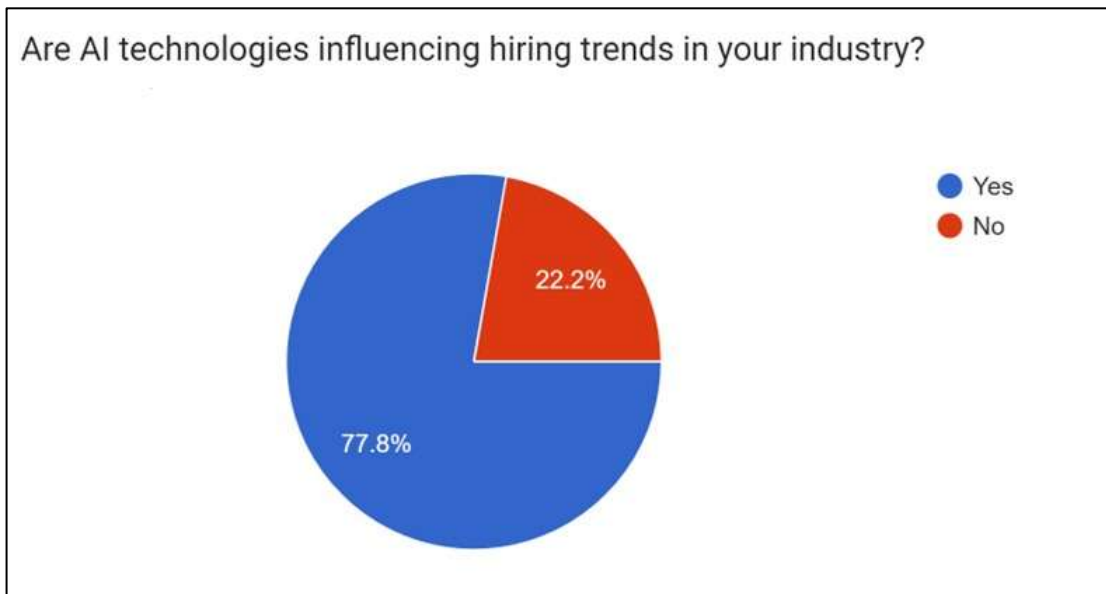


Fig. 4.5 illustrates that a significant number of respondents believe that AI technologies are influencing hiring trends in their industry.

Q. 6 What skills do you think will become critical for employees due to AI?

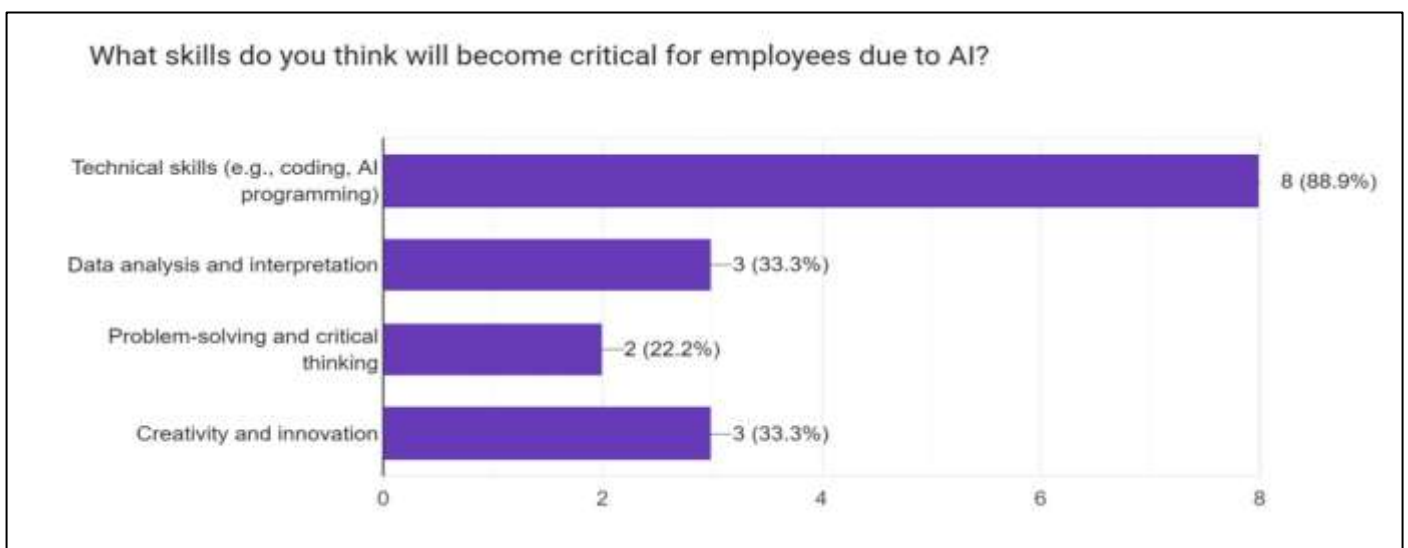


Fig. 4.6 highlights that technical and analytical skills are considered the most critical for employees in an AI-driven work environment.

Q. 7 Is your organization investing in AI -related employee training?

Fig. 4.7 shows that most organizations are actively investing in AI-related training programs for employees.

6. Analysis-

The collected data provides a comprehensive view of employees' perceptions regarding the impact of Artificial Intelligence (AI) on job responsibilities. Overall, the responses indicate a balanced and nuanced perception of AI, where its benefits and challenges coexist.

Across all questions, AI is more frequently perceived as a supportive or assistive technology rather than a complete replacement for human roles. However, the presence of respondents who believe AI may replace jobs highlights ongoing concerns related to job security and workforce displacement. The variation in responses reflects differing levels of exposure to AI technologies and organizational readiness.

The positive influence ratings show a gradual increase when AI is viewed as assisting job roles, suggesting that respondents recognize AI's potential to improve efficiency, productivity, and decision-making. Conversely, negative influence ratings tend to rise when AI is associated with job replacement, indicating fears related to unemployment, deskilling, and reduced human involvement. This contrast demonstrates that attitudes toward AI are strongly shaped by how its role is framed within organizations. AI's influence on hiring trends appears moderate but significant. While not all respondents observe immediate changes, those who do report a growing demand for technical, analytical, and problem-solving skills. This indicates a shift in hiring priorities toward roles that complement AI systems rather than compete with them.

The analysis of critical skills reveals a clear emphasis on a hybrid skill set. Technical and data-related skills are essential for working alongside AI, while creativity and problem-solving remain crucial human strengths that AI cannot fully replicate. This balance underscores the importance of continuous learning and adaptability in the AI-driven workplace.

Finally, organizational investment in AI training suggests a forward-looking approach among many employers. Organizations that invest in training are more likely to view AI as an enabling tool, reinforcing the idea that workforce upskilling plays a key role in reducing resistance and negative perceptions toward AI adoption.

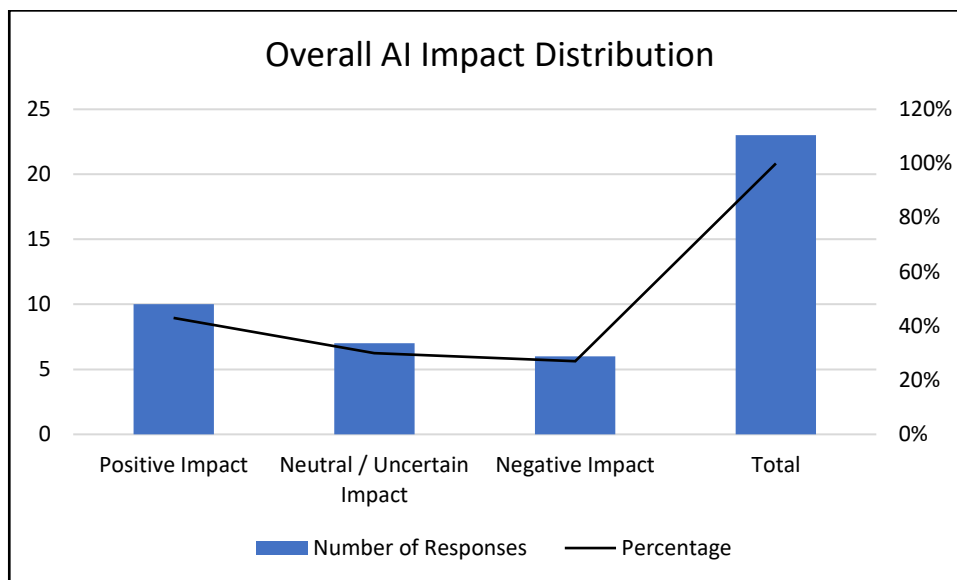


Fig. 5.1: Distribution of respondents' perceptions regarding the overall impact of Artificial Intelligence on job roles

7. Conclusion –

The study highlights the need for continuous skill development and policy support to ensure a balanced integration of AI in the workforce.

This study concludes that AI has both positive and negative impacts. The survey results indicate that most respondents believe AI has influenced their job responsibilities by assisting them in their work rather than replacing their roles. On one hand, AI has shown its potential to significantly enhance productivity and efficiency, while on the other hand, it poses challenges and concerns regarding its influence on job security and skill requirements.

The survey results reveal that most responders believe AI has reshaped their job responsibilities, predominantly by assisting them in their tasks than outright replacing their roles. Many employees find that AI has become a valuable tool, automating routine and repetitive tasks, thus allowing them to devote more time to high-level, creative, and strategic aspects of their work. For instance, respondents noted that AI tools help with data analysis, simplifying complex calculations, managing schedules, and providing insights that aid in decision-making, ultimately enabling them to perform their jobs more effectively.

However, this assistance comes with its own set of challenges. While AI is perceived as a supportive partner in the workplace, there is an underlying concern regarding the constant evolution of technology and the necessity for workers to continuously adapt.

Overall findings indicate that AI has had a nuanced effect on the workforce, it has primarily served as an enabler of productivity, enhancing the capabilities of worker.

At the same time, it introduces new challenges related to adaptability, training, and concerns about job security. It is crucial for organizations to provide adequate support, such as training programs and professional development opportunities, to help employees leverage the benefits of AI while preparing them for the evolving demands of the workplace. This balanced approach can help mitigate the negative impacts and fully harness the potential that AI has to offer.

References-

1. Roger C. Schank - WHERE'S THE AI? – We have taken the statement of research from this study
2. the AI-Enabled ICT Workforce Consortium–led by Cisco released its inaugural report, “The Transformational Opportunity of AI on ICT Jobs
3. <https://link.springer.com/article/10.1007/s00146-022-01496-x>
4. <https://www.weforum.org/agenda/2023/05/future-of-jobs-in-the-age-of-ai-sustainability-and-deglobalization/>
5. Arntz, M., Gregory, T., & Zierahn, U. (2016). The Risk of Automation for Jobs in OECD Countries: A Comparative Analysis. OECD Social, Employment and Migration Working Papers.
6. World Economic Forum. (2020). The Future of Jobs Report 2020
7. PwC — 2025 Global AI Jobs Barometer
8. Goldman Sachs Research — How Will AI Affect the Global Workforce?
9. International Journal of Social Science and Economic Research (2024) — Impact of Artificial Intelligence on the Job Landscape in the Indian IT Sector
10. IJRIS (2025) — The Impact of Artificial Intelligence Application on Job Displacement and Creation: A Systematic Review
11. Complement or Substitute? How AI Increases the Demand for Human Skills (2024).