

A STUDY ON AI- DRIVEN WORKFORCE TRANSFORMATION IN IT AND COMMERCE DOMAINS

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Abstract:

Artificial Intelligence (AI) is rapidly changing the way organizations work and how employees perform their jobs, especially in the IT and commerce sectors. This study aims to understand the impact of AI on workforce transformation by examining changes in job roles, skills, and work processes in these two domains. In the IT sector, AI is widely used in areas such as software development, data analysis, cyber security, and system automation, which has improved efficiency and reduced manual workload. At the same time, new roles requiring technical expertise and problem-solving skills are emerging.

In the commerce domain, AI has transformed traditional business functions like accounting, customer service, inventory management, and digital payments through automation and smart decision-making tools. While AI helps organizations save time and improve accuracy, it also creates challenges such as fear of job loss, lack of technical skills, and resistance to change among employees.

The study is based on secondary data collected from research articles, industry reports, and case studies. The findings show that AI does not completely replace human workers but changes the nature of work by shifting focus from routine tasks to more analytical and strategic roles. The study concludes that successful workforce transformation depends on continuous skill development, employee training, and supportive organizational policies to ensure smooth adaptation to AI technologies.

Keywords: Artificial Intelligence, Workforce Transformation, IT Sector, Commerce Sector, Automation, Skill Development

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Introduction:

Artificial Intelligence (AI) is changing the way people work in today's world. Many organizations, especially in the IT and Commerce sectors, are using AI tools to make work faster, easier, and more accurate. AI helps in tasks like data analysis, software development, accounting, customer service, inventory management, and digital payments. Because of this, many routine and manual tasks are now automated.

In the IT sector, AI is helping professionals improve productivity and reduce workload. In the Commerce sector, AI is making business operations smoother and more efficient. However, along with these benefits, AI also creates some concerns. Many employees feel worried about job security, lack of technical skills, and adapting to new technology.

At the same time, AI is also creating new job opportunities that require advanced technical and analytical skills. So, instead of completely replacing jobs, AI is changing the nature of work.

This study focuses on understanding how AI is transforming the workforce in IT and Commerce domains. It examines whether AI is creating opportunities or challenges and how employees are responding to these changes.

Statement of the Problem:

Artificial Intelligence (AI) is rapidly transforming work processes in IT and Commerce sectors, leading to significant changes in job roles, skill requirements, and organizational structures. While AI improves efficiency and reduces manual workload, it also creates concerns such as fear of job loss, lack of technical

skills, and resistance to change among employees. Many organizations are adopting AI without fully understanding its impact on workforce readiness and employee perception. There is a need to examine whether AI is replacing jobs or reshaping them into new opportunities. Therefore, this study aims to analyze the overall impact of AI on workforce transformation in IT and Commerce domains and assess employee acceptance, challenges, and future expectations.

Review of Literature:

1. Brynjolfsson, E, & McAfee, A. (2014). *The Second Machine Age* Publication: W>W. Norton & Company Year: 2014. The authors examine how digital technologies, including Artificial Intelligence, are transforming industries and labor markets. The study explains how automation increases productivity but also changes skill requirements. It highlights that technology reshapes job roles and creates demand for higher cognitive skills rather than eliminating work entirely.
2. Autor, D. H. (2015) Why Are There Still So Many Jobs? The History and Future of Workplace Automation **Journal:** Journal of Economic Perspectives **Volume:** 29 **Issue:** 3 David Autor discusses the long-term effects of automation on employment. The study argues that while automation replaces routine tasks, it also complements human labor in non-routine jobs. The research concludes that technology transforms job structures instead of causing complete unemployment.
3. Davenport, T. H., & Ronanki, R. (2018) Artificial Intelligence for the Real World **Journal:** Harvard Business review volume: 96 Issue: 1 Thomas H. Davenport and Ronanki analyze how organizations implement AI in real business settings. The article focuses on AI's role in automating processes, improving decision-making, and enhancing

efficiency. It concludes that AI works best when integrated with human expertise rather than replacing employees.

4. Mikalef, P., Gupta, M., Pappas, I. O., & Krogstie, J. (2020) Investigating the Effects of Artificial Intelligence Capabilities on Firm Performance: The Mediating Role of Digital Transformation, Information & Management **Volume:** 57 **Issue:** **Year:** 2020. This study examines how AI capabilities improve firm performance through digital transformation. It emphasizes the importance of employee skill development and organizational readiness. The findings suggest that AI adoption requires reskilling and strategic workforce planning to achieve competitive advantage.

Research Gap:

1. Most existing studies such as Erik Brynjolfsson & Andrew McAfee (2014) and David H. Autor (2015) focus on global automation trends but do not specifically compare IT and Commerce sectors together.
2. Prior research mainly emphasizes technological advancement and productivity but gives limited attention to **employee perception, fear of job loss, and acceptance levels**, especially among young professionals.
3. Many studies discuss AI adoption at an organizational level but lack **statistical testing (like Chi-square analysis)** to measure overall workforce impact.
4. Limited research has been conducted using **primary survey-based data** to understand real employee responses toward AI-driven transformation.
5. There is insufficient comparative analysis of **manual work reduction vs. job creation expectations** in IT and Commerce domains.

Objectives of the Study:

1. To examine the level of AI usage among professionals in IT and Commerce sectors.
2. To analyze the impact of AI on manual work reduction.
3. To study employee perceptions regarding job loss due to AI adoption.
4. To identify whether AI has created new job opportunities in different domains.
5. To understand employee support and acceptance of AI technologies.
6. To analyze future expectations regarding AI's role in job automation and transformation.
7. To identify major challenges faced in AI adoption such as cost, skills, and data security.

Importance of the Study:

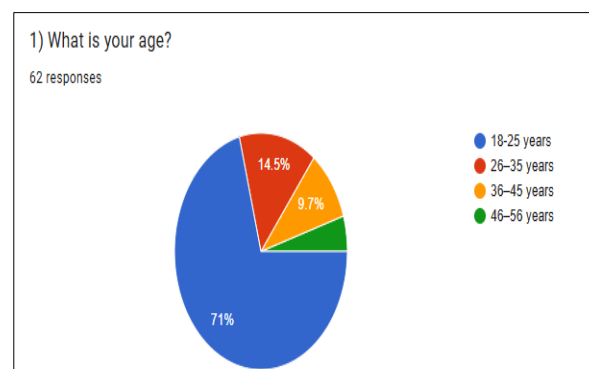
1. AI is rapidly transforming workplaces in IT and Commerce industries.
2. Organizations need to understand employee perception before implementing AI systems.
3. The study helps management design proper training and reskilling programs.
4. It supports decision-making related to workforce planning and HR strategies.
5. It helps reduce fear and resistance among employees by understanding their concerns.

Significance of the Study:

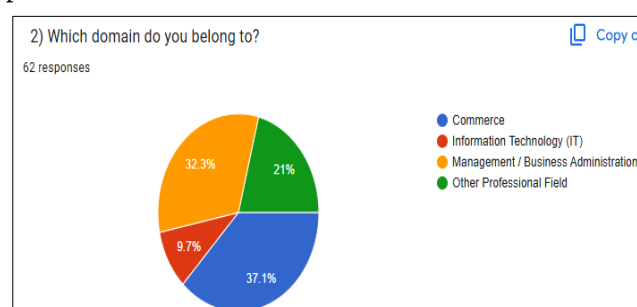
1. Provides insights into how AI is changing job roles and responsibilities.
2. Helps identify skill gaps in the workforce.
3. Assists organizations in developing AI-friendly policies.
4. Contributes to academic research on digital transformation and workforce management.
5. Helps predict future trends in employment and job structure.
6. Encourages balanced integration of technology and human resources.

Limitations of the Study:

1. The study may be limited to a small sample size.
2. Responses are based on personal opinions, which may be biased.
3. The research focuses only on IT and Commerce domains.
4. Rapid changes in AI technology may make findings time-sensitive.
5. Limited awareness about AI among some respondents may affect accuracy.



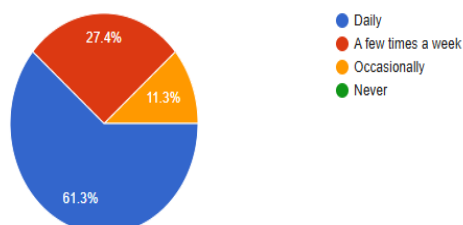
Out of 62 respondents, 71% belong to the 18–25 age group, followed by 14.5% in the 26–35 category. This shows that the majority of respondents are young professionals.



Among 62 respondents, 37.1% are from Commerce, 32.3% from Management/Business Administration, 21% from other professional fields, and 9.7% from IT. This indicates a higher participation from Commerce-related backgrounds.

3) How often do you use AI-based tools at work?

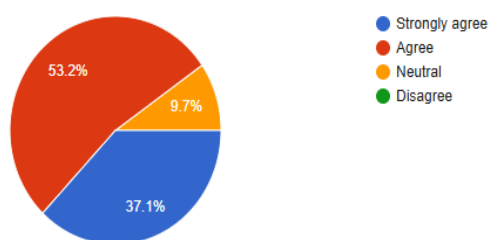
62 responses



61.3% of respondents use AI tools daily, while 27.4% use them a few times a week. This shows that AI usage is frequent and well integrated into daily work.

4) AI has reduced manual work in your job.

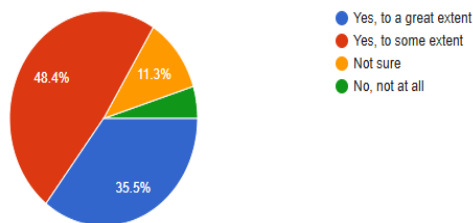
62 responses



Out of 62 respondents, 53.2% agree and 37.1% strongly agree that AI has reduced manual work. This indicates a strong positive impact of AI on work efficiency.

5) AI create fear of job loss among employees?

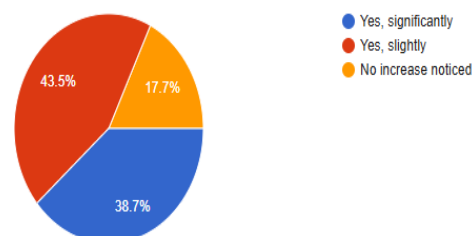
62 responses



48.4% believe AI creates fear of job loss to some extent, and 35.5% believe it does to a great extent. This suggests that job insecurity remains a major concern among employees.

6) AI has increased job opportunities in your field.

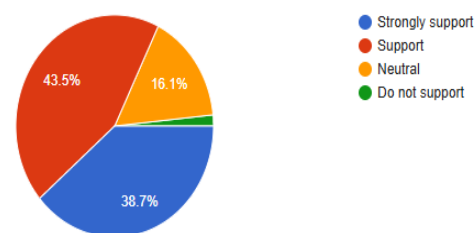
62 responses



43.5% feel AI has slightly increased job opportunities, and 38.7% believe it has significantly increased opportunities. This reflects a generally positive outlook toward AI-driven employment growth.

7) Do you support the use of AI in the IT and Commerce sectors?

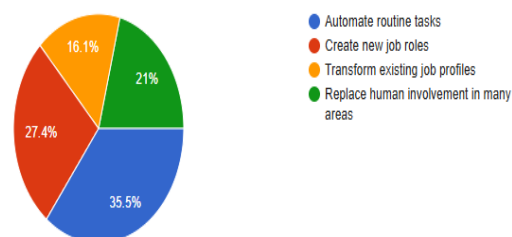
62 responses



43.5% support and 38.7% strongly support AI use in IT and Commerce sectors. This shows strong overall acceptance of AI adoption.

8) In the next five years, AI will mostly:

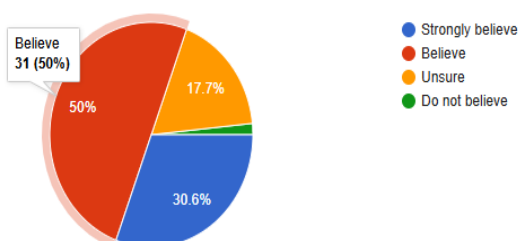
62 responses



35.5% believe AI will automate routine tasks, while 27.4% think it will create new job roles. This indicates that respondents expect both transformation and innovation in the job market.

9) Do you believe AI will create more jobs in the future?

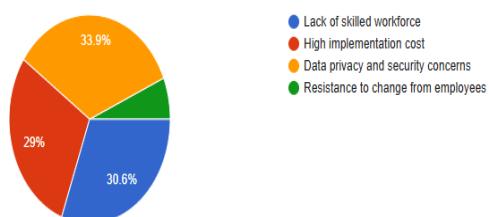
62 responses



50% believe and 30.6% strongly believe that AI will create more jobs in the future. This shows optimism about long-term employment opportunities.

10) What is the biggest challenge of AI adoption?

62 responses



33.9% identify data privacy and security as the biggest challenge, followed by lack of skilled workforce (30.6%) and high implementation cost (29%). This highlights skill gaps and security concerns as key barriers to AI adoption.

Hypothesis Testing Chi-Square Test for overall testing, major positive vs negative responses were grouped. Observed Frequencies (Approximate from 62 respondents)

Category	Observed (O)
Positive Perception	44
Negative/Neutral	18
Total	62

Expected Frequency (E)

Expected	Positive	31
Expected	Negative	31

If no impact (H_0 true), responses would be equally distributed:

Table Value

Level of Significance (α) = 0.05

Degree of Freedom (df) = 1

Chi-Square Table Value = 3.84

If Calculated $\chi^2 >$ Table Value $\rightarrow$ Reject H_0

Decision Value

Since: $10.90 > 3.84$

H_0 is Rejected

H_1 is Accepted

Decision:

Reject H_0 , Accept H_1

Conclusion Statement:

Based on percentage analysis and Chi-square testing ($\chi^2 = 10.90$), the study proves that AI significantly influences job roles, productivity, skill requirements, and employment perception in IT and Commerce sectors. Although fear of job loss and security concerns exist, overall employee acceptance and positive workforce transformation are statistically significant.

Findings:

1. Majority of respondents use AI tools regularly, showing that AI is widely integrated into IT and Commerce workplaces.
2. AI has significantly reduced manual and repetitive tasks, improving efficiency and productivity.
3. Although employees appreciate AI benefits, many still fear job loss and feel uncertain about future job security.
4. Most respondents believe AI is creating new job opportunities and transforming roles rather than completely replacing workers.
5. Overall perception towards AI adoption is positive, but skill development and training are essential for smooth workforce transformation.

Suggestions:

- Organizations should provide regular AI training and reskilling programs.
- Conduct workshops to reduce fear of job loss and improve AI understanding.
- Implement strong cyber security systems to address privacy concerns.
- HR departments should redesign job roles to integrate AI with human skills.
- Colleges and universities should introduce AI-related curriculum in Commerce and IT courses. Focus on AI as a supportive tool rather than a replacement for employee

Conclusion:

The study concludes that Artificial Intelligence is significantly transforming workforce structures in IT and Commerce domains. AI has reduced manual workload, improved efficiency, and created new employment opportunities. Although employees experience fear of job loss and skill-related challenges, overall perception towards AI adoption is positive. Statistical analysis confirms that AI does not completely replace jobs but reshapes them into analytical and strategic roles. Successful workforce

transformation depends on continuous skill development, organizational readiness, and supportive policies. Therefore, AI should be viewed as an opportunity for growth rather than a threat to employment.

References:

1. Erik Brynjolfsson, E., & Andrew McAfee, A. (2014). *The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies*. New York: W.W. Norton & Company.
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