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Research Article

Artificial Intelligence Adoption and Its Influence on Workforce Dynamics in the IT Sector

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ABSTRACT

Introduction: As a response to evolving job roles and workforce dynamics-related issues, IT firms are turning to more advanced technologies, of which Artificial Intelligence (AI) is a force for change. AI has emerged as one of the most influential and quickest-to-be-adopted innovations, with far-reaching implications in terms of influencing the manner in which companies' operate and the manner in which employees engage with their work. By streamlining mundane and repetitive work, AI not only maximizes operations but also releases human labor to focus on higher-value, innovative, and strategic tasks. This technological revolution is changing the existing jobs along with creating new opportunities, more so in technologically oriented domains such as data science, machine learning, and AI system management. As AI penetrates more workforce processes, it also calls for a parallel evolution in workforce capacities. The workers will have to continuously upskill and gain hard skills like programming and data science, in addition to soft skills such as critical thinking, flexibility, and emotional quotient. Furthermore, the advent of AI encourages a more adaptive and dynamic work culture. It enables agile teams and more flexible work cultures, such as remote or hybrid work arrangements. Not only do these innovations drive greater organizational effectiveness but also a greater employee experience in terms of satisfaction and personalization. In essence, AI is not just an optimization tool—it is an accelerator of a broader cultural and structural shift in the modern workplace.

Objectives: The primary goal of this research is to realize comprehensively the impact of using Artificial Intelligence (AI) on manpower dynamics within the Information Technology (IT) sector, with specific reference to the Coimbatore District of Tamil Nadu, India.

Methods: convenience sampling was used to select 201 IT employees in Coimbatore District of Tamil Nadu, India. Questionnaire was prepared to obtain data from the samples. Mean and Chi-square test was conducted in this study.

Results: Chi-Square test statistic is statistically significant at indicating association among age, gender, marital status, income, adoption, job positions and AI impact, and hence suggests that views about AI impact vary remarkably across IT firm job positions and employees' age, gender, marital status, income, AI adoption and job positions.

Conclusions: Design and implement training that is age- and career-stage-differentiated based on the varying impact of AI across different groups of demographics. Offer mentorship, up-skilling, and inclusion initiatives focused on women working in tech for their equitable transformation to AI-enabled transformations. Develop support structures accounting for the specific needs of high- and low-income employees who might feel even more vulnerable or stressed by AI innovation. Identify how individual factors such as marital status and life stage impact AI planning for adoption—most notably in determining support for work-life balance and

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career progression. This emphasizes the need for organizations to embrace inclusive, human-focused AI policies that prioritize upskilling, emotional intelligence, flexible working patterns, and ethical AI leadership.

Keywords: Artificial Intelligence, Learning, Environments, Advancements, Efficiency.

INTRODUCTION

Artificial Intelligence (AI) has become a transformation-agent in all sorts of sectors with the Information Technology (IT) sector topping the list for adopting its fierce. While businesses implement AI technology to become more efficient in their operations, process their business functions, and increase innovation, debate on the manner in which the transformation is shaping the shape, roles, and skills of the IT personnel grows (Brynjolfsson & McAfee, 2017; Davenport & Ronanki, 2018). Growing use of AI technologies—from smart automation and natural language processing to predictive analytics—has substantially changed the traditional roles of work, with a need for a rethinking of skill sets and job definitions in the industry (Bessen, 2019). IT professionals, as the both the architect and the beneficiary of AI-fostered change, have their own set of challenges and opportunities. On the one hand, AI systems are doing repetitive coding, testing, and maintenance work, causing job displacement and role duplication fears (Acemoglu & Restrepo, 2018). On the other hand, the same technologies are driving the need for new jobs like AI ethics specialists, machine learning engineers, and data science experts, necessitating reskilling and ongoing learning (Chui et al., 2016). Accordingly, organizations are placing greater emphasis on workforce agility, digital competence, and innovation capability to keep up with the AI-powered world (Bughin et al., 2018). In addition to changing the nature of jobs and skills, AI deployment also affects the psychology and culture of work, as well as workforce dynamics. The adoption of AI-empowered workflows can lead to technostress, resistance to change, and stress in employees (Tarafdar et al., 2015; Makarius et al., 2020), particularly if organizational support and reskilling programs are absent. These human-related elements demand a strategic approach to undertake both transformation where companies embrace A.I. while meeting the well-being of employees where integration within the organization. Although there has been growing attention on the application of AI for IT operations, there are relatively limited empirical studies based on how AI adoption can transform dynamics at work — including the transformation of jobs, the perception of the employees, the evolution of skills (both hard and soft), and managerial strategies. The aim of this study is to address this gap by examining the multidimensional nature of AI's impact on the Information Technology workforce, laying out recommendations for policymakers, industry leaders and human resource professionals in managing the ongoing transformation.

SIGNIFICANCE OF THE STUDY

The recent proliferation of Artificial Intelligence (AI) across many industries has radically altered the functioning of businesses, and the Information Technology (IT) sector is leading the change. AI not only mechanizes routine tasks but also reengineers job roles, skill sets, and organizational structures. The changing landscape demands greater insight into how AI is influencing workforce dynamics within the IT sector. While adoption of AI solutions has gone up, empirical studies on the nuances of the impact of AI on employment patterns, job replacement rather than job creation, and redefinition of IT jobs in industry are missing. This knowledge is critical to enable organizations to manage workforce change successfully, design appropriate reskilling and upskilling programs, and steer a future-ready workforce. The Information Technology (IT) sector is being fundamentally transformed by the rapid adoption of Artificial Intelligence (AI) technologies.

AI is being increasingly leveraged to automate mundane tasks, enhance decision-making, and enhance productivity across IT functions. Consequently, the classic dynamics of the workforce—like job functions, needed skills, and employment structures—are being greatly reconfigured (Brynjolfsson & McAfee, 2014; Chui, Manyika, & Miremadi, 2016). In spite of the evident growth in AI implementation within business processes, there is a lack of concrete knowledge on the actual real-time effect of AI on patterns within the workforce—i.e., whether AI causes more displacement of jobs or job creation in IT settings. The absence of this knowledge requires serious research to analyze how the implementation of AI is reshaping the roles of human beings, shaping employment prospects, and propelling the demand for reskilling and upskilling of workers (Pradhan & Saxena, 2023; Deloitte, 2018). Additionally,

organizations should be prepared to cope with the socio-technical issues resulting from AI deployment, such as resistance from employees, skills mismatch, and ethical dilemmas. Policymakers and schools also require evidence-based insights to calibrate training and staff development plans with the changing demands of the digital economy (Bessen, 2019; Arntz, Gregory, & Zierahn, 2016). Comprehending these changing dynamics is not only essential to sustaining organizational competitiveness, but also in stimulating inclusive workforce development in the AI age. This research is therefore crucial in informing strategic decision-making among IT firms, human resource managers, policymakers, and educators. Further, results from this research will be of value to policymakers in developing enabling education and labor policies aimed at the digital transformation agenda. To IT experts, it serves as a roadmap for remaining competitive and relevant in a rapidly evolving industry. Therefore, the present research is required to portray real-time transformation in the IT workforce because of AI adoption and to present data-driven approaches for sustainable human resource development during the era of automation.

STATEMENT OF THE PROBLEM

Increasing deployment of Artificial Intelligence (AI) by the Information Technology (IT) sector is remodelling old labor models and restructuring the work paradigm. AI-driven technologies such as machine learning, natural language processing, and intelligent automation are being deployed to greater extents to enhance productivity, remove human errors, and boost operational efficiency across a number of IT functions (Chui, Manyika, & Miremadi, 2016; Deloitte, 2018). But this technological advancement is accompanied by growing concerns regarding its impact on the labor market. On the one hand, AI is mechanizing dull work and streamlining complex processes, which in turn could lead to job loss, especially for mid- and low-skilled workers (Arntz, Gregory, & Zierahn, 2016). On the other hand, it also creates new jobs that demand advanced digital and intellectual skills (Brynjolfsson & McAfee, 2014). This dualism results in a complex scenario where the workforce must continually change via upskilling and reskilling in attempts to remain relevant in an AI-driven world (Pradhan & Saxena, 2023; Bessen, 2019). The integration of Artificial Intelligence (AI) into the Information Technology (IT) sector has opened opportunities alongside challenges for managing the workforce. As AI technologies advance and automate an ever-wider scope of IT processes—from software testing and system monitoring to cybersecurity and data analytics—organizations are radically transforming workforce structure, job roles, and the work performed by employees. While AI holds out the promise of boosting productivity, reducing costs, and improving service quality, it also raises significant issues about job loss, changing skill requirements, and the future employability of IT workers. Many occupations are being remapped, with employees required to upskill or reskill to adapt to shifting needs, but some occupations are at risk of becoming obsolete. But the extent to which AI adoption is transforming work patterns—by displacing jobs, creating new ones, or redefining them—has been inadequately understood and studied. There is a lack of in-depth, empirical information that explores how AI is influencing job trends, career advancement and organizational practices within the IT sector. Furthermore, business executives and policy-makers are not clear as to how to design workforce planning and training processes that can match the velocity of technology transition. Despite growing interest in this subject, there is still a significant lack of empirical research that adequately investigates how the adoption of AI is reshaping workforce dynamics in the IT sector. Specifically, little is known about how the work functions are being altered, which skill sets are becoming essential, and how organizations are coping with the transition. Further, most IT professionals and companies lack the capability to react strategically to the speed and magnitude of AI-led transformation.

OBJECTIVES

The primary objective of this study is to comprehend extensively how the employment of Artificial Intelligence (AI) is influencing manpower dynamics in the Information Technology (IT) sector, specifically within the Coimbatore District of Tamil Nadu, India. The research seeks to explore to what extent IT companies in the area have used AI technologies and examine the resultant impacts on the pattern of employment and job specifications. By focusing on this rapidly developing industrial hub, the study will provide valuable insights to guide workforce development programs, policy formulation, and organizational planning at local and broader levels.

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MATERIALS AND METHODS

Artificial Intelligence (AI) has developed incredibly quickly from an idea to an application that's revolutionizing industries, particularly the IT industry. Its adoption spans from backend automation to improving decision-making systems. Brynjolfsson and McAfee (2014) have characterized this transformation as part of the "Second Machine Age," in which smart systems are performing cognitive functions conventionally left for humans. Likewise, Deloitte (2018) discovered that more than 80% of top IT firms had adopted some type of AI to enhance operational effectiveness and decision-making. AI adoption is fundamentally transforming the nature of work. While certain jobs are being replaced by automation, others are changing to necessitate hybrid human-AI collaboration. Chui, Manyika, and Miremadi (2016) also indicated that nearly 60% of jobs involve at least 30% of activities that can be automated, and there was extensive job transformation, not complete elimination. Pradhan and Saxena (2023) reinforced the necessity to redefine job positions and adjust organizational formats to match AI-driven change. While concerns about job displacement are widespread, research suggests that AI can actually generate more jobs than it displaces, especially in the field of IT where AI development and maintenance require human intervention. Bessen (2019) posits that AI raises demand for some jobs by increasing productivity, resulting in growth rather than contraction. McKinsey Global Institute (2017) projected that AI would replace as many as 800 million jobs worldwide by 2030, but also potentially create more than 900 million new positions, particularly in fields requiring advanced technical expertise and human-AI collaboration. The transition to AI-driven processes has uncovered enormous skills gaps. Workers must acquire skills in AI, machine learning, data analysis, and digital communication. As per Pradhan and Saxena (2023), reskilling is necessary for employability in an AI-driven world. Accenture has invested over $1 billion to upskill its workforce globally to respond to these emerging gaps (Accenture, 2020). HR practices are also changing with AI adoption. Arntz, Gregory, and Zierahn (2016) state that organizations need to transition from conventional models of recruitment and training to more fluid and responsive ones supporting continuous learning. HR's AI-powered tools—e.g., AI resume screening, as well as staff sentiment monitoring—enhance work planning and productivity but concurrently heighten unfairness and opacity. AI ushers in tricky ethics dilemmas on openness, bias, as well as accounting in robotic determination. According to Brynjolfsson and McAfee (2017), regulating AI fairly, alongside bringing in AI competently, are equal concerns. In addition, unequal access to training and education in AI can exacerbate the digital divide, particularly along gender and regional divides (Investopedia, 2024). Bodea et al. (2024) stated that an ethnographic methodology was used to study the phenomenon directly in workplaces where AI systems and tools had already been rolled out. The study entailed intensive data gathering through observations and interviews with the authors, as well as reflective reports from 12 participants drawn from a group of 46. This ethnographic approach uncovered multiple work practices in three major industries—Information Technology, research, and education—affected by the adoption of AI. In addition, the research uncovered differences in levels of organizational participation in incorporating AI. Although organizational choice tends to dictate the use of AI systems, the application of AI tools is occasionally undertaken by individual experts, who may or may not inform their actions to peers or superiors. The study also enabled differentiation of the shifts in knowledge and skill demands caused by AI adoption from other determinants. Such differentiation is essential for the formulation of effective professional training and retraining programs.

Research methodology acts as a backbone in shaping academic and professional research by offering a systematic approach towards the gathering of data, its analysis, and interpretation. It makes the research process systematic, clear, and replicable, and thus results in correct, dependable, valid, and meaningful conclusions. In a nation as heterogeneous and ever-changing as India—represented by diverse industries, regional differences, and complex workforce configurations—choice of research methodology becomes even more essential to mirror real-world complexity. The objective of this study was to examine the effect of the adoption of Artificial Intelligence (AI) on employee dynamics within the Information Technology (IT) sector, with specific reference to the Coimbatore district of Tamil Nadu. In light of the type and magnitude of study, a descriptive and analytical research design was employed. The descriptive aspect of the study helped to understand the current uptake of AI and trends concerning the workforce, whereas the analytic component allowed the researcher to analyze the relationships between variables and make deeper insights from the data. 201 samples were collected from IT personnel employed in Coimbatore District with the help of a structured questionnaire that was designed to capture various dimensions such as the extent of AI adoption, changes in job roles, skill requirements, employee sentiments, and organizational strategies.

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The questionnaire contained close-ended as well as Likert-scale questions to provide a combination of quantitative and qualitative responses. To get the sample, the technique of convenience sampling was used. This non-probability technique was used based on practical limitations and the diversity of the population to be targeted. 201 employees were chosen as sample. Convenience sampling enabled the researcher to reach out to a heterogeneous population of IT professionals from various companies and departments in Coimbatore and provide a representative picture of the impact of AI at the ground level. For statistical analysis, descriptive statistics means, percentages, frequencies and chi-square test were utilized. Overall, this methodological approach ensured that the research remained both contextually grounded and analytically robust, offering valuable insights for IT organizations, policymakers, and academic stakeholders interested in the implications of AI on the modern workforce.

RESULTS AND DISCUSSION

Table 1 – Age and influence of artificial intelligence

Age	N	%	Mean	Min.	Max.	Chi-Square
Below 30	42	20.9%	37.29	16	58	14.158 (DF-4, Sig. 0.007)
30-45	98	48.8%	34.86	12	59	
Above 45	61	30.3%	37.85	13	58	
Total	201					

The above table shows that the impact of AI is viewed differently by different age groups. The 30–45 year age group, while being the largest, showed the lowest mean influence score of 34.86. Both the below 30 and the above 45 groups had a higher mean influence score of 37.29 and 37.85, respectively, signifying that they feel more affected by AI. Younger and older workers say they feel more impacted, whereas those in the middle age group (30–45) feel comparatively less impacted. The statistically significant Chi-Square value supports the fact that age is a factor in determining employees' perceptions or experiences with AI in the IT industry.

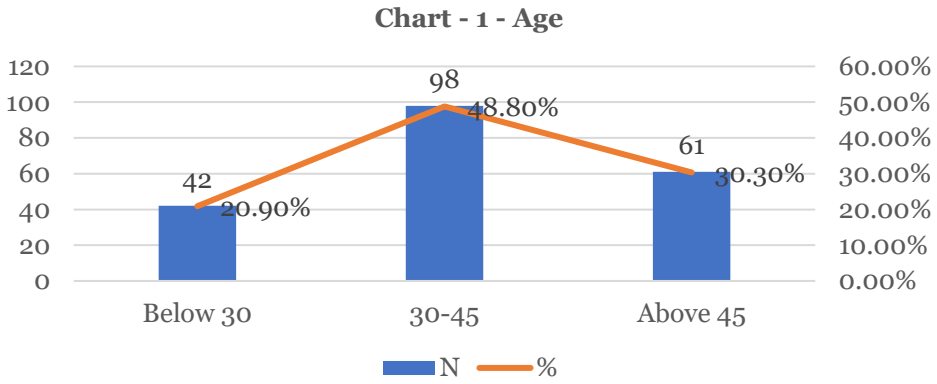

Table 2 – Gender and influence of artificial intelligence

Gender	N	%	Mean	Min.	Max.	Chi-Square
Male	102	50.7%	34.25	12	57	12.693 (DF-2, Sig. 0.002)
Female	99	49.3%	38.36	13	59	
Total	201					

Male respondents indicated a mean influence score of 34.25. Female respondents indicated a mean score of 38.36. As the p-value is below 0.05, the result is statistically significant. This indicates that gender significantly affects how AI is viewed in terms of its influence at the workplace. A potential reason for this may be those women workers,

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especially in fields of technology where they are less represented, are likely to be more affected by technology changes like AI, which have the ability to change role expectations, skill demands, or career development directions.

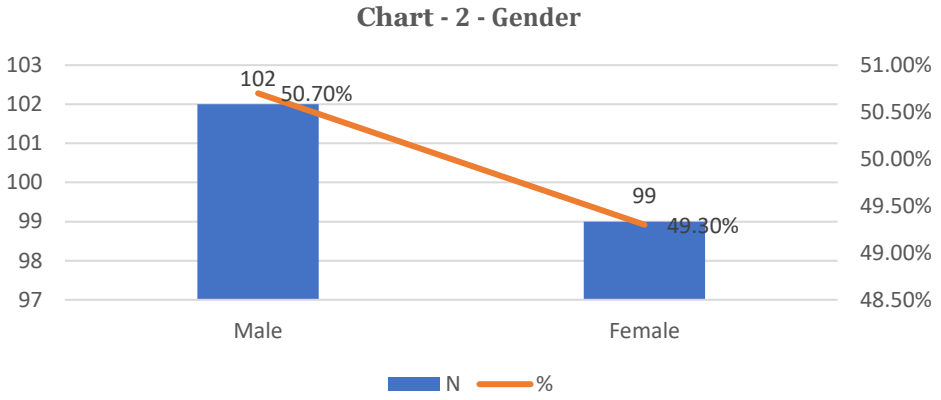

Table 3 – Marital status and influence of artificial intelligence

Marital status	N	%	Mean	Min.	Max.	Chi-Square
Married	118	58.7%	35.03	12	58	12.453 (DF-2, Sig. 0.002)
Unmarried	83	41.3%	38.05	15	59	
Total	201					

Married respondents indicated a mean influence score of 35.03. Unmarried respondents indicated a mean score of 38.05. As the p-value is below 0.05, the result is statistically significant. This indicates that marital status significantly affects how AI is viewed in terms of its influence at the workplace. A potential reason for this may be those unmarried workers, especially in fields of technology where they are less represented, are likely to be more affected by technology changes like AI, which have the ability to change role expectations, skill demands, or career development directions.

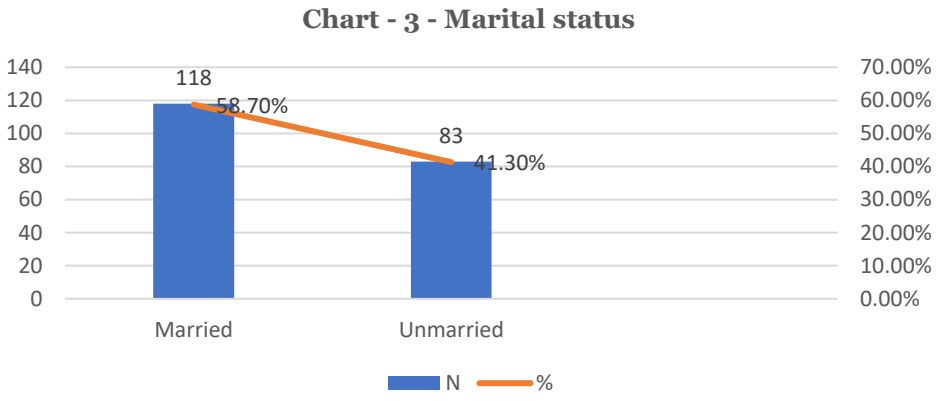

Table 4 – Annual income and influence of artificial intelligence

Annual income	N	%	Mean	Min.	Max.	Chi-Square
Below 5 lakhs	55	27.4%	38.04	15	59	16.409 (DF-4, Sig. 0.003)
5-10 lakhs	66	32.8%	34.00	12	55	
Above 10 lakhs	80	39.8%	36.94	15	58	
Total	201					

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The above table shows that the impact of AI is viewed differently by different income groups. The below 5 lakhs income group, while being the lowest, showed the highest mean influence score of 38.04. Both the 5-10 lakhs and the above 10 lakhs groups had a lower mean influence score of 34.00 and 36.94, respectively, signifying that they feel less affected by AI. High- and low-income earners say they feel more impacted, whereas those in the middle-income group (5-10 lakhs) feel comparatively less impacted. The statistically significant Chi-Square value supports the fact that income is a factor in determining employees' perceptions or experiences with AI in the IT industry.

Chart - 4 - Annual income

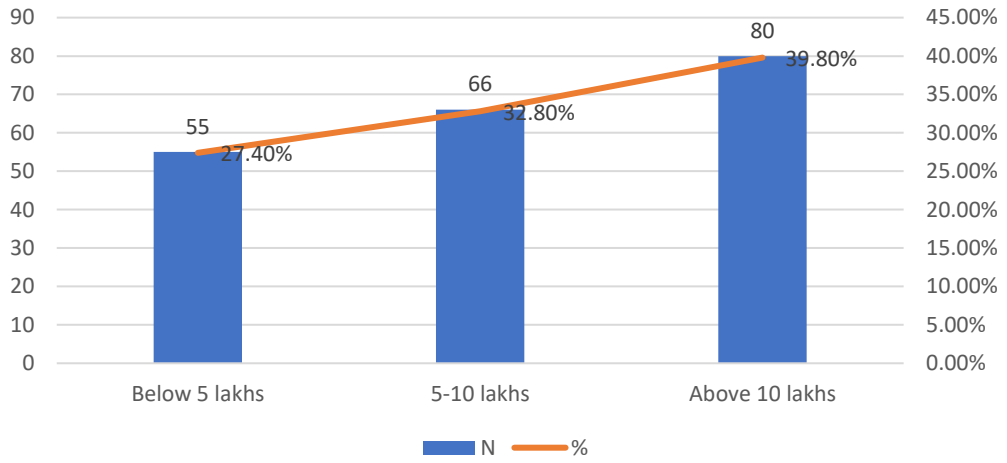

Table 5 – Adoption of Artificial Intelligence impacted employment patterns

Patterns	N	%	Mean	Min.	Max.	Chi-Square
Reduction in traditional job roles	24	11.9%	38.79	15	57	13.450 (DF-4, Sig. 0.009)
Increased demand for AI-related roles	96	47.8%	35.99	12	59	
Shift towards more contract/freelance work	81	40.3%	35.86	13	58	
Total	201					

The information in Table 5 shows that Artificial Intelligence (AI) adoption has impacted the pattern of jobs in the IT industry, with differences by income levels on a yearly basis. Of the respondents, 47.8% cited an increased need for AI jobs, showing an expanded movement towards AI-based job opportunities, and 40.3% mentioned a transformation towards even more freelance or contract work, showing an inclination towards flexible forms of employment. Just 11.9% reported a decline in conventional employment roles, although this segment displayed the highest mean score (38.79) as an expression of a perceived greater impact by AI. A Chi-Square test ($\chi^2 = 13.450$, DF = 4, Sig. = 0.009) further supports a statistically significant relationship between income level per annum and perceptions of changes in employment patterns, suggesting that salary levels can influence how workers sense AI's influence on employment configurations and prospects.

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Chart - 5 - Patterns

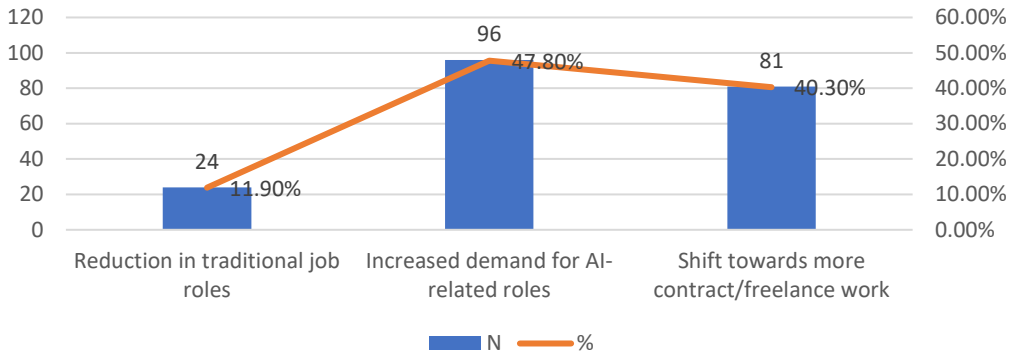

Table 6 – Job describtion and influence of artificial intelligence

Job description	N	%	Mean	Min.	Max.	Chi-Square
Manager	42	20.9%	38.10	15	55	
Team leader	90	44.8%	35.17	12	59	13.283
Software developers	69	34.3%	36.61	13	58	(DF-4, Sig. 0.010)
Total	201					

Table 6 shows the correlation between the job description and the perceived influence of Artificial Intelligence (AI) in the IT industry. Out of the respondents, team leaders constitute the majority (44.8%) with a mean score of influence at 35.17, followed by software developers (34.3%) at a mean of 36.61, and managers (20.9%) who had the highest mean at 38.10. This indicates that managers feel more of an effect of AI on their function, most probably because it has an effect on strategic decision-making, workflow automation, and organizational management. Software developers also indicated a strong influence, which corresponds to incorporating AI into development workflows and coding activities. The Chi-Square test statistic ($\chi^2 = 13.283$, DF = 4, Sig. = 0.010) shows a statistically significant association between job positions and the impact of AI, which implies that opinions regarding the impact of AI differ significantly across IT firm positions.

Chart - 6 - Job description

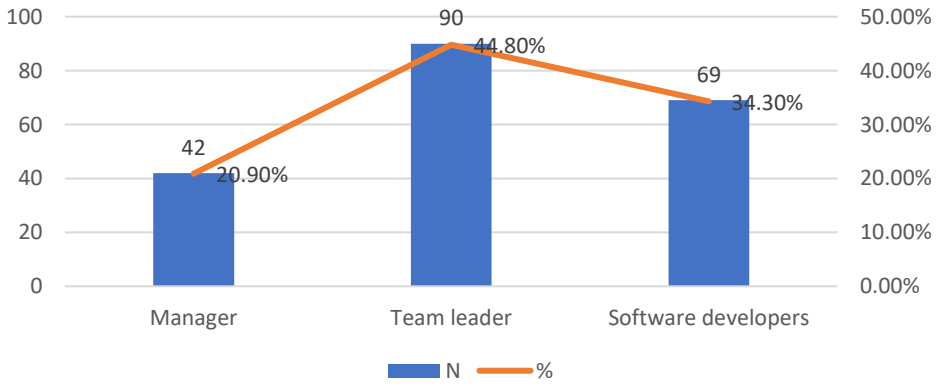

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Table 7 - Correlations

		Age	Gender	marital status	educational qualification	Job description	Annual income
Age	Pearson Correlation	1	.079	-.055	.038	.014	.066
	Sig. (2-tailed)		.264	.440	.591	.845	.351
	N	201	201	201	201	201	201
Gender	Pearson Correlation	.079	1	.043	-.091	-.099	-.114
	Sig. (2-tailed)	.264		.546	.199	.160	.106
	N	201	201	201	201	201	201
Marital status	Pearson Correlation	-.055	.043	1	-.023	-.279**	-.029
	Sig. (2-tailed)	.440	.546		.742	.000	.683
	N	201	201	201	201	201	201
Adoption of AI	Pearson Correlation	.038	-.091	-.023	1	.434**	.378**
	Sig. (2-tailed)	.591	.199	.742		.000	.000
	N	201	201	201	201	201	201
Job description	Pearson Correlation	.014	-.099	-.279**	.434**	1	.493**
	Sig. (2-tailed)	.845	.160	.000	.000		.000
	N	201	201	201	201	201	201
Annual income	Pearson Correlation	.066	-.114	-.029	.378**	.493**	1
	Sig. (2-tailed)	.351	.106	.683	.000	.000	
	N	201	201	201	201	201	201
**. Correlation is significant at the 0.01 level (2-tailed).							

The correlation between Adoption of AI and the respective variables shows Adoption of AI being significantly and positively correlated with both Job Description ($r = 0.434$, $p < 0.01$) and Annual Income ($r = 0.378$, $p < 0.01$), demonstrating that those people in some particular job descriptions and those who are higher-paid individuals are more probable to adopt AI technologies. Moreover, Job Description has a strong positive correlation with Annual Income ($r = 0.493$, $p < 0.01$), which indicates that higher or specialized positions are more remunerative. There is a significant negative correlation between Marital Status and Job Description ($r = -0.279$, $p < 0.01$), which means that marital status can differ from one type of job to another. But Age and Gender don't have any statistically significant correlation with other variables in this data set.

SUGGESTIONS AND CONCLUSION

The use of Artificial Intelligence (AI) in the IT industry is basically revolutionizing workforce dynamics, impacting not just job configurations but also employees' skills, attitudes, and experiences across demographic segments. The results note that the influence of AI is viewed differently depending on age, gender, marital status, income, and occupation with younger and older workers, women in technical professions, and people at ends of incomes indicating more of a sense of dislocation (World Economic Forum, 2020; West, Whittaker, & Crawford, 2019). On the other hand, a conscious integration of AI—founded on workforce learning and ongoing growth—can create productivity, employee satisfaction, and future readiness on all fronts within the IT labor force (Brynjolfsson & McAfee, 2014; Deloitte, 2023). The results strongly indicate that attitudes towards AI impacts are not homogeneous within the workplace. Rather, they are influenced by a multifaceted mix of demographic and job-level factors. For companies to successfully tackle AI implementation, there is a need for a subtle, inclusive, and demographic-aware

approach. By knowing who is most impacted and why, businesses can serve their employees more effectively, promote resilience, and lead a fairer and more successful shift to AI-augmented workplaces. Implement role-specific AI literacy initiatives, divided by age and work role. For younger workers, prioritize long-term career development in AI-augmented roles; for older workers, prioritize upskilling and cross-functional flexibility. The uptake of Artificial Intelligence in the workplace is not only a technological shift—it is a structural and cultural change that's being felt differently by different groups of workers. The report underlines that age, gender, whether they are married, income, and occupation play a major role in how employees feel the effects of AI. Youth and older workers report a greater sense of disruption, and middle-career workers feel less secure. Gender gaps, especially among technology workers, reflect more profound structure problems likely to be worsened by AI adoption if not addressed. Likewise, polarized income-based perceptions demonstrate the necessity of more balanced workforce development initiatives. To create a genuinely future-proof organization, businesses need to implement a diversity-sensitive, inclusive, and data-driven AI adoption strategy. This involves not just technological capability but also proactively managing the human aspect of digital transformation. By linking AI initiatives with inclusive workforce policies, ongoing learning, and compassionate leadership, organizations can make sure that AI is a tool for empowerment, not displacement. In addition, additional studies might look into the impact of organizational interventions—like upskilling initiatives, AI ethics guidelines, and change management practices—on reducing adverse effects and improving the adaptability of employees. Finally, potential exists to study the leadership and management styles' influence on the framing of AI transitions and their experience among the employees at different levels. By filling these gaps, future research can lead to a richer and more useful understanding of how to deploy AI that is not just technologically effective but also socially fair and psychologically sustainable.

REFERENCES

[1] Accenture. (2020). *Accenture's Commitment to Training and AI Readiness*.
[2] Acemoglu, D., & Restrepo, P. (2018). Artificial Intelligence, Automation and Work. *NBER Working Paper No. 24196*.
[3] Arntz, M., Gregory, T., & Zierahn, U. (2016). *The risk of automation for jobs in OECD countries* (OECD Social, Employment and Migration Working Papers No. 189). OECD Publishing. https://doi.org/10.1787/5jlz9h56dvq7-en
[4] Bessen, J.E. (2019). *AI and Jobs: The Role of Demand*. NBER Working Paper No. 24235.
[5] Bodea, C.N, Paparic, M., Mogoș, R.I. & Dascălu, M.I. (2024). Artificial intelligence adoption in the workplace and its impact on the upskilling and reskilling strategies. *Amfiteatru Economic*, 26(65), 126-144.
[6] Brynjolfsson, E., & McAfee, A. (2014). *The second machine age: Work, progress, and prosperity in a time of brilliant technologies*. W. W. Norton & Company.
[7] Bughin, J., Hazan, E., Ramaswamy, S., et al. (2018). *Skill shift: Automation and the future of the workforce*. McKinsey Global Institute.
[8] Chui, M., Manyika, J., & Miremadi, M. (2016). Where machines could replace humans—and where they can't (yet). *McKinsey Quarterly*.
[9] Davenport, T. H., & Ronanki, R. (2018). Artificial intelligence for the real world. *Harvard Business Review*, 96(1), 108–116.
[10] Deloitte. (2018). *AI Adoption in the Workforce*. Deloitte Insights.
[11] Deloitte. (2023). *2023 global human capital trends*. Deloitte Insights. https://www2.deloitte.com/insights/us/en/focus/human-capital-trends.html
[12] Makarius, E. E., Mukherjee, D., Fox, J., & Fox, A. K. (2020). Rising to the challenge: Virtual team effectiveness in the face of COVID-19. *Journal of Business Research*, 129, 250–257.
[13] McKinsey & Company. (2021). *The future of work after COVID-19*. https://www.mckinsey.com/featured-insights/future-of-work/the-future-of-work-after-covid-19
[14] Pradhan, I. P., & Saxena, P. (2023). Reskilling Workforce for the Artificial Intelligence Age: Challenges and the Way Forward. In *The Adoption and Effect of Artificial Intelligence on Human Resources Management, Part B* (pp. 181–197). Emerald Publishing.
[15] Tarafdar, M., Cooper, C. L., & Stich, J. F. (2015). The technostress trifecta–Techno eustress, techno distress and design: Theoretical directions and an agenda for research. *Information Systems Journal*, 29(1), 6–42.

Journal of Information Systems Engineering and Management
2025, 10(43s)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

Research Article

[16] West, S. M., Whittaker, M., & Crawford, K. (2019). *Discriminating systems: Gender, race and power in AI*. AI Now Institute. https://ainowinstitute.org/discriminatingsystems.pdf
[17] World Economic Forum. (2020). *The future of jobs report 2020*. https://www.weforum.org/reports/the-future-of-jobs-report-2020.