



CHALLENGES IN ADAPTING TO ARTIFICIAL INTELLIGENCE AND AUTOMATION PERSPECTIVES OF IT EMPLOYEES IN COIMBATORE

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Abstract

Artificial intelligence, a digital technology capable of creating its own content, making data-driven judgments, and emulating human conversation, has the potential to change people's lives. As AI-generated material gets increasingly difficult to identify, the risk of disinformation rises because modified or incorrect information appears more convincing and spreads more easily. This is especially true on the Internet and through social media. AI can help with and potentially replace a variety of management and professional activities in the workplace. This creates hopes for increased efficiency, but also concerns about job losses, reduced job autonomy, deskilling, and new workplace pressures. Artificial intelligence (AI) has emerged as a realistic tool for transforming workplace roles, increasing efficiency, and establishing high-performing teams. Staying up to date on AI advances is critical for organizations and people who want to grasp how this creative technology is transforming sectors and reinventing business models. In this blog article, we look at the most recent breakthroughs in AI and how organizations can utilize it to supercharge their teams and incorporate it into their day-to-day operations. This technological period has produced AI technologies that can be used in a variety of businesses for communication, data analysis, marketing, content development, and other purposes. Automating repetitive operations can significantly reduce human error, improve consistency, and save time. Many organizations hope that AI will complement, rather than replace, human capabilities. Many people are concerned about how ethical AI is, as well as the issues it poses to job displacement in a variety of industries, notably creative and administrative professions.

Keywords: *Artificial Intelligence, Automation, IT Employees, Technology Adaptation, Skill Development.*

Introduction

Artificial intelligence is at the forefront of this technological transformation, altering the workforce and entering new industries. Individuals and companies must adapt to the AI revolution and comprehend how it will integrate into the workforce. AI's integration into the workplace can also have an impact on organizational performance, particularly productivity, with potential spill over effects on economic performance. As a result, unequal access to technology caused by infrastructural bottlenecks, talent limitations, or simply the cost of technology can exacerbate existing productivity disparities between countries, as well as between large and small or micro businesses.

Artificial Intelligence systems are changing the nature of work. Even as it continues to bring positive changes to workplaces, the key challenge is ensuring trustworthy use of AI. Ethical risks associated with AI need to be addressed first. This paper reviews these risks as they impact human rights, privacy, fairness, agency, and dignity. It also reviews these risks in the context of transparency and explainability; robustness, safety, and security; and accountability. This paper also reviews the sector-specific policies to promote the trustworthy use of AI in the workplace. Ethical workplaces legislation must be



enforced and become the building blocks for creating new policies. Initiatives aimed at the economy and society regarding artificial intelligence, such as the EU AI Act and the establishment of standards, can also contribute significantly. New measures tailored to specific workplaces and collective agreements may assist in addressing any remaining deficiencies. Most of these models are available for free in exchange for user data. A prevalent application of this technology is the adaptation and translation of text. In the CRONOS-3 survey, participants were inquired about the frequency with which they utilize AI for these tasks.

In the information technology (IT) industry, artificial intelligence (AI) has emerged as a game-changing technology that affects personnel roles, corporate operations, decision-making, and service delivery. IT companies are being urged to include AI into software development, data analytics, Cyber security, customer service, testing, and IT operations due to the quick growth of machine learning, generative AI, natural language processing, automation, and intelligent systems. Organizations can increase productivity, efficiency, accuracy, innovation, and service quality thanks to this technology revolution. But adapting AI requires more than just investing in technology. It demands individuals to develop new technical, analytical, digital, and problem-solving abilities to work effectively with AI-based systems. Organizations therefore need to focus on continuous training, deskilling, up skilling, and staff development. At the same time, worries like job displacement, shifting job duties, skill gaps, data privacy, Cyber security, and ethical issues may influence employees' desire to adopt AI technologies.

Review of Literature

Bhargava, Bester & Bolton (2021) performed a thematic analysis that identified five main themes along with several sub-themes. The findings indicate that (a) the "human touch" and "soft skills" are essential and cannot be replicated by RAIA, (b) employees should perceive RAIA as a chance rather than a threat, (c) there may be a conflict regarding job satisfaction among employees, and (d) organizations need to be well-prepared for both pre- and post-industrial transformations. These insights can prove valuable for industrial and organizational psychologists, human resource experts, and strategic IT decision-makers as they manage technological shifts related to RAIA within their organizations.

Tschang&Almirall (2021) raise concerns regarding the potential for artificial intelligence to cause substantial job losses; however, proponents contend that AI actually enhances job functions. Malik and his team did a study in 2022 to figure out what good and bad things happen to workers when companies start using artificial intelligence and how it causes tech stress. Jaiswal et al (2022) suggest that those who champion artificial intelligence imagine a world where intelligent machines take on everyday responsibilities that people normally handle, freeing individuals to focus on more imaginative and fulfilling work.

Thilagavathy&Venkatasamy (2023) they stress the use of predictive analytics as a tool for trend forecasting, risk mitigation, and proactive planning. AI has the potential to disrupt a variety of sectors, giving organizations important insights into how to use AI to achieve a competitive advantage, improve consumer experiences, and increase operational efficiency. According to Morandini et al. (2023), in order to comprehend the wide-ranging consequences and uses of AI, researchers should use a trans-disciplinary approach to integrate insights from different domains. Further research on how AI impacts human talents and the importance of soft skills in integrating AI in businesses is desperately needed. Future studies should also tackle the challenges presented by Industry 5.0, which is anticipated to introduce automation and new technology on a larger scale.



Popescu and his colleagues published a very significant study in 2024 that was unique in that it made use of genuine research. Their study's primary objective was to examine how people's origins and experiences influenced their perceptions of learning new abilities, particularly with regard to the application of AI in the workplace. This study is important because it highlights the necessity for businesses to comprehend how the abilities of their employees are evolving as more and more companies embrace AI.

Bankins(2024) this article explores how state-of-the-art advancements in artificial intelligence are carrying on this change, showing that AI can do repetitive tasks while simultaneously enhancing human abilities and generating new employment opportunities. However, depending on how businesses implement the technology and provide employees with assistance during the transition to digital tools, AI's effects on workers can have both positive and negative effects. Finally, we emphasize the importance of AI literacy and other people-focused skills for the workplace of the future.

Kabus's (2025) research analyzed the problems encountered, the spectrum of business operations supported by AI solutions, and the extent to which they are used. The findings show that AI is mostly employed for data analysis, task automation, and decision assistance, all of which significantly increase organizational flexibility. Ali and Khan (2025) the analysis also shows a significant failure rate, emphasizing the need of AI-ready features designed to promote AI adoption in enterprises while reducing failure rates. These characteristics will help management create an effective strategy for incorporating AI into enterprises.

Muehleemann (2025) contends that as artificial intelligence (AI) affects corporate operations, firms must reconsider their approach to workforce development and training. This study uses German firm-level panel data from 2019 to 2023 to investigate how firms change their training techniques in response to AI adoption. According to a staggered difference-in-differences technique, continued AI use is related with a 14% increase in new apprenticeships at organizations that are actively training, but it has no effect on whether enterprises choose to train at all. Arutgeeviha&Indhira (2026) the findings show that, while people are progressively adopting AI technology, the majority don't know much about them, and just a few utilize them actively. People believe that the major benefits are saving money, getting better results, and working faster. The main difficulties are technological challenges and concerns about data security. To properly leverage AI documentation tools, firms must spend in teaching staff about AI tools, delivering training seminars, and implementing strong security systems, according to the research.

Karthika and Subhashini's (2026) study looks into how intelligent automation adoption rates and perceived shifts in job assignments influence job security perceptions among IT workers in the Coimbatore area. The findings of a regression analysis suggest that both traits have a significant impact on employee job security perspectives; particularly, the perceived impact of automation is more essential than perceived adaption skills.

Objectives of the Study

1. To identify and study the main problems that IT workers in Coimbatore face when they adapt to Artificial Intelligence and automation tools.
2. To understand how technology, organization, skills, and mindset affect how IT workers adjust to AI and automation.



Research Methodology

The intended audience comprises of those working in IT and IT-enabled service organizations in Coimbatore. A sample of 380 IT professionals will be selected to offer sufficient and accurate data for sophisticated statistical analysis. Employees will be categorized using stratified random sampling based on their job title, experience level, and type of IT organization. A standardized questionnaire will be issued to IT professionals in order to collect primary data. Secondary data will include research journals, books, papers, corporate publications, government documents, and credible academic sources. A systematic questionnaire with a five-point Likert scale will be used.

Primary Data

The research is based on main data. This information was gathered using a properly designed structured questionnaire specific for this study. The assistant opted for personal visits to document the responses in the questionnaire, given that the respondents.

Secondary Data

The student has also charity secondary data from various sources available in the published form. This includes:

1. News Papers & Periodicals.
2. Research Journals.
3. Published Reports of various FMCG Companies.
4. Internet sources.

Statistical Methods

Numerical methods are crucial tools for analysis. The crucial data that was collected has been analyzed and organized in an appropriate format. The investigator employed Reliability Statistics, Chi-square, and Tree Model Analysis for interpretation.

Selection of Sample Present Study

The study focuses on Coimbatore City.

Sample Size

Figure of items to be particular from the world to establish a taster here the sample size is 380 defendants.

Analysis

Table 1: Reliability Statistics

Reliability Statistics	
Cronbach's Alpha	N of Items
.790	39

Cronbach's Alpha was used to evaluate the reliability of the questionnaire. 39 items were included in the analysis, and the Cronbach's Alpha score was 0.790. The questionnaire's items have strong internal consistency, as indicated by the Cronbach's Alpha result of 0.790. For subsequent statistical analysis, the questionnaire can therefore be regarded as reasonably reliable.



Table 2: Frequency of Using AI Tools at Work and Gender of the Respondents

Crosstab				
		Gender		Total
		Male	Female	
Frequency of Using AI Tools at Work	Never	5	0	5
	Rarely	111	81	192
	Occasionally	89	38	127
	Frequently	26	22	48
	Very Frequently	7	1	8
Total		238	142	380
Chi-Square Tests				
	Value	df	Asymptotic Significance (2-sided)	
Pearson Chi-Square	11.481 ^a	4	.022	
Likelihood Ratio	13.586	4	.009	
Linear-by-Linear Association	.520	1	.471	
N of Valid Cases	380			
a. 3 cells (30.0%) have expected count less than 5. The minimum expected count is 1.87.				

The Chi-Square test was performed to evaluate the link between gender and frequency of AI tool use at work among 380 IT professionals. The p-value is less than 0.05, indicating a statistically significant relationship between gender and the frequency with which AI technologies are used at work. As a result, the null hypothesis is rejected, allowing us to conclude that the frequency with which IT people use AI tools at work differs dramatically by gender.

Table 3: Tree Model

Model Summary		
Specifications	Growing Method	CHAID
	Dependent Variable	Level of AI Knowledge
	Independent Variables	TC, STC, OC,JSC,PPC, WIC
	Validation	None
	Maximum Tree Depth	3
	Minimum Cases in Parent Node	100
	Minimum Cases in Child Node	50
Results	Independent Variables Included	Technical errors and system failures affect my confidence in AI tools etc.
	Number of Nodes	7
	Number of Terminal Nodes	4
	Depth	2

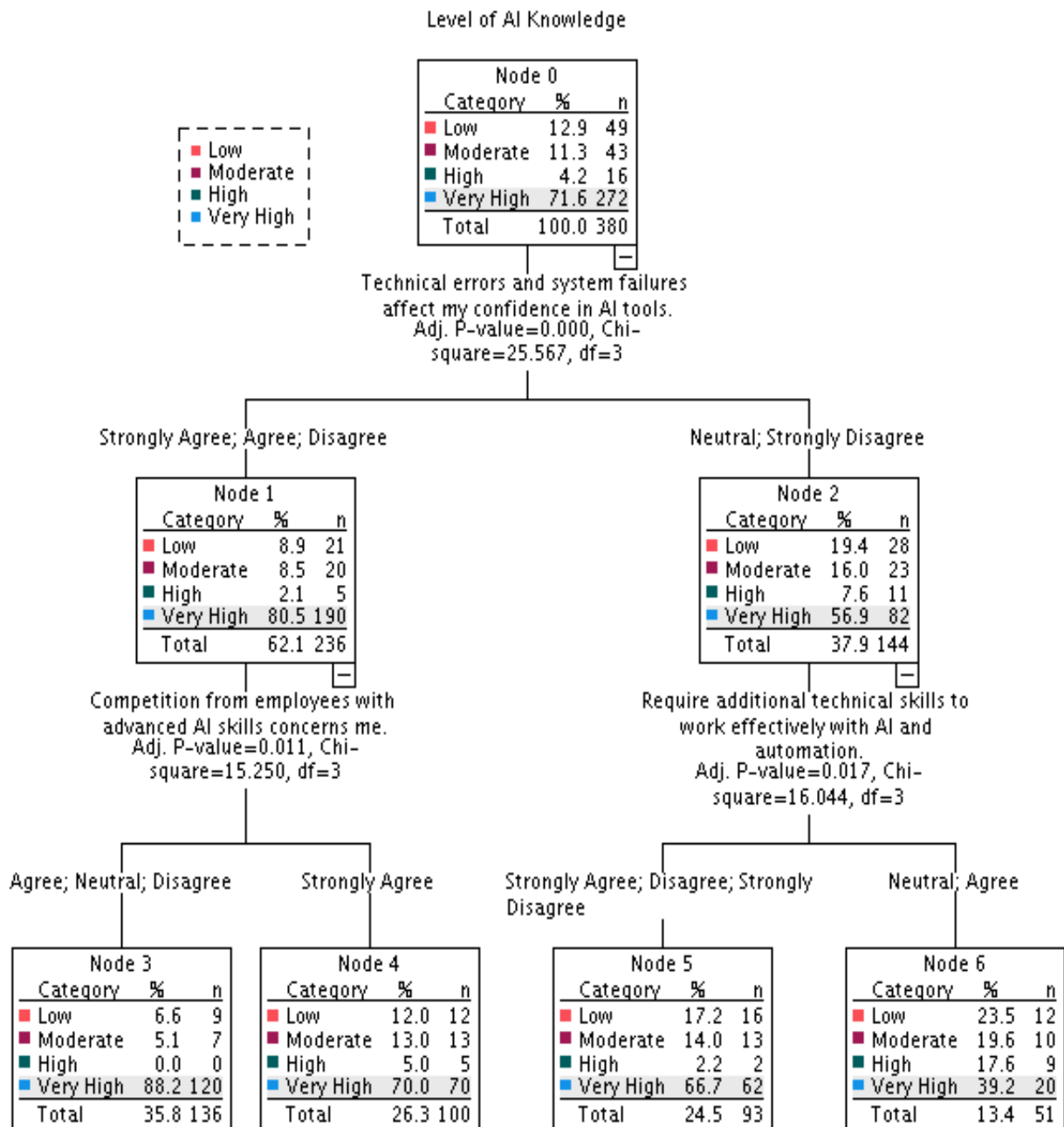


Figure 1: Challenges adopting in IT Employees

The inaugural split achieved statistical significance ($\chi^2 = 25.567$, $df = 3$, $p < 0.001$). The decision tree shows how technological errors and system malfunctions are responsible for the greatest variance amongst persons with differing levels of AI skill. By taking a look at different groups of workers, you can see that some are anxious about competing with colleagues who are really informed about AI, while others think they need to learn more technical skills. These inequalities are relevant since the data



suggests they are connected to people's level of AI understanding (the numbers show this is true, not by coincidence). At the conclusion of the tree, you can see how employees are classified into different groups based on how they reply to questions concerning these topics.

Suggestions

Coimbatore's thriving technology enterprises must architect vibrant, all-encompassing artificial intelligence and automation learning ecosystems that ignite their teams' technological prowess and real-world problem-solving abilities. Strategic capability development and career advancement initiatives should be meticulously tailored to each employee's specific role, existing expertise, and the evolving technological landscape ahead. Beyond this, organizations should deliver immersive hands-on training experiences, dynamic specialized development workshops, industry-validated certifications, and meaningful engagement with cutting-edge AI systems. Establishing a collaborative organizational atmosphere that fosters innovation, ongoing professional development, and thoughtful exploration of emerging technologies represents an essential foundation. Organizations should concurrently ensure robust technological infrastructure, dependable information systems, comprehensive data protection measures, and readily available AI tools. To discourse potential concerns and facilitate understanding, staff members should be invited to participate in learning programs and AI governance initiatives. Additionally, organizations would benefit from implementing responsible artificial intelligence strategies that emphasize accountability, transparency, data protection, privacy safeguards, and ethical principles.

Conclusion

Artificial intelligence and automation has become increasingly significant within the IT sector. Administrations are pursuing accelerated operational efficiency, streamlined processes, enhanced innovation, and competitive differentiation. For IT professionals to achieve career advancement and sustained success, they require more than technological infrastructure and tools. They need organizational support, professional development opportunities, comprehensive training programs, and the psychological resilience to navigate transformational change. Addressing common implementation barriers—including resource constraints, technological complexity, organizational resistance, and workforce anxiety—substantially facilitates successful AI integration. This necessitates a comprehensive approach: strategic investment in appropriate technologies, sustained commitment to workforce capability development, visionary leadership, transparent organizational communication, and purposeful AI implementation. For IT organizations operating in Coimbatore, competitive advantage emerges through enhancing employee capabilities and establishing a workplace culture centered on AI and automation. This integrated strategy significantly strengthens organizational adaptability and market competitiveness.

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