

Impact of Artificial Intelligence Adoption on Employee Performance and Job Redesign: A Cross-Industry Study

Dr. J.Sasirekha*

Assistant Professor, School of Management Studies, Nadar Saraswathi College of Arts and Science, Vadaputhupatti-Theni.

*Corresponding Author: sasirekha.dhina@gmail.com

Citation: Sasirekha, J. (2026). Impact of Artificial Intelligence Adoption on Employee Performance and Job Redesign: A Cross-Industry Study. International Journal of Education, Modern Management, Applied Science & Social Science, 08(03(I)), 11–23. [https://doi.org/10.62823/IJEMMASSS/8.3\(I\).9196](https://doi.org/10.62823/IJEMMASSS/8.3(I).9196)

ABSTRACT

Artificial Intelligence (AI) has become an important technological advancement that influences employee performance and job redesign across different industries. This study focuses on analysing the impact of AI adoption on employee performance and job redesign in Theni district through a cross-industry perspective. The study covers respondents from education, human resource management, architecture, photography, and other professional sectors. A descriptive research design was adopted, and data were collected from 100 respondents using convenience sampling. The collected data were analysed using Frequency Analysis, Friedman Test, Mean and Standard Deviation, and Factor Analysis. The findings reveal that AI adoption has improved productivity, work quality, efficiency, creativity, and decision-making processes in various industries. AI tools are widely used for recruitment, academic evaluation, photography editing, architectural designing, and automation of routine tasks. At the same time, respondents expressed concerns regarding stress in adapting to AI technologies, job insecurity, reduced human involvement, and overdependence on technology. The study also identified that AI has significantly transformed traditional work methods by shifting manual activities toward technology-oriented tasks and changing employee roles and responsibilities.

Keywords: Artificial Intelligence, Employee Performance, Job Redesign, AI Adoption, Cross-Industry Study, Automation, Workplace Transformation, Employee Productivity, Technology Adoption.

Introduction

Artificial Intelligence (AI) refers to the ability of machines and computer systems to perform tasks that normally require human intelligence, such as learning, problem-solving, decision-making, and pattern recognition. The development of AI began before 1956, a period considered the incubation stage of AI, when scientists attempted to replace certain human mental activities with machines.

One of the major foundations of AI was laid by Alan Turing in 1936 through the concept of an ideal computer model later, in 1943, Warren McCulloch and Walter Pitts developed the first artificial neural network model, which imitated the functioning of human neurons. In 1949, Hebb introduced the "Hebbian Learning Rule" which became the foundation for machine learning concepts.

The term "Artificial Intelligence" was officially introduced by John McCarthy at the Dartmouth Summer Research Project on Artificial Intelligence. Since then, AI research has expanded rapidly in areas such as machine learning, expert systems, natural language processing, robotics, Education, HR, Photography, Architecture and pattern recognition.

Further developments included the introduction of the "Perception" model by Frank Rosenblatt in 1957, which significantly influenced neural network research. Over the years, advancements in computer hardware, software and algorithms have transformed AI into an important technology widely used across industries today.

Artificial Intelligence (AI) has become an important technological advancement transforming modern workplaces across various industries. Organisations increasingly adopt AI technologies to improve efficiency, productivity, decision-making, and overall organizational performance. AI tools are widely used in sectors such as education, healthcare, human resources, photography, architecture, and other professional fields to automate tasks, support employees, and enhance work quality.

The adoption of AI has significantly influenced employee performance by enabling faster task completion, reducing errors, and improving productivity. At the same time, AI has also led to major changes in job structures and responsibilities, resulting in job redesign and role transformation. Employees are now required to develop new technical and analytical skills to adapt to technology-driven work environment.

This study focused on analysing the impact of AI adoption on employee performance and job redesign across different industries in Theni district. The study aims to understand both the positive and negative sides of AI adoption in professional workplaces.

Review of Literature

Review of literature provides an understanding of previous studies related to Artificial Intelligence, employee performance, automation, and job redesign. It helps to identify the major concepts, research gaps, and findings associated with AI adoption across different industries. The following studies explain the role of AI in improving productivity, decision-making, organizational efficiency, and workplace transformation, along with the challenges related to job insecurity, skill adaptation, and ethical concerns.

According to the study by "Akinola Oluwagbemiga, Artificial Intelligence has significantly contributed to various fields such as machine learning, neural networks, robotics, planning, and environmental management. The study highlights that AI technologies improve problem-solving, automation, decision-making, and operational efficiency across industries. The author also emphasized that continuous advancements in AI applications have transformed traditional systems into intelligent and technology-driven processes, thereby increasing productivity and innovation in organizations".

Sumit Das et al. (2015) reviewed "the applications of Artificial Intelligence and Machine Learning across various sectors such as healthcare, finance, education, security, and data management. The study highlighted that machine learning algorithms improve automation, decision-making, productivity, and problem-solving capabilities in organizations. The authors also emphasized that AI technologies help reduce manual effort and enhance efficiency through intelligent systems, making AI an important tool for organizational growth and technological advancement".

According to Jayanthi Radhakrishnan and Manojit Chattopadhyay, "AI adoption has been increasing across organizations due to its ability to improve productivity, decision-making, and operational efficiency. The study identified that factors such as top management support, digital maturity, trust, technical competency, and organizational readiness significantly influence AI adoption, while barriers such as privacy concerns, job insecurity, lack of trust, and adaptation challenges hinder the implementation of AI technologies".

Hina Riaz and Seema Ghanghas (2024) examined "the role of Artificial Intelligence in employee performance evaluation and its managerial implications. The study highlighted that AI-based performance measurement systems improve accuracy, fairness, real-time evaluation, and decision-making in organizations. The authors emphasized that AI tools such as neural networks, sentiment analysis, decision trees, and machine learning algorithms help organizations reduce human bias, enhance employee productivity, and support strategic HR decisions. However, the study also pointed out challenges such as job insecurity, overdependence on AI, and ethical concerns related to AI-driven performance management".

Madhuri Purohit, Mahesh Chopde, and Tushar Tale (2026) examined the impact of Artificial Intelligence and automation on employment and job redesign. The study found that AI not only automates routine tasks but also transforms job roles by improving productivity, decision-making, and

human-AI collaboration. The authors emphasized that AI-driven job redesign focuses on task transformation, continuous learning, reskilling, and the development of technical and analytical skills among employees. The study also highlighted challenges such as technological unemployment, skill gaps, and ethical concerns associated with AI adoption.

A Cross-Industry and Artificial Intelligence

Education

Among the 100 respondents, 25 were from the education sector, including both students and professors. Many respondents expressed that the increasing use of Artificial Intelligence is making students more dependent on technology and gradually reducing their independent thinking abilities. They felt that excessive reliance on AI tools may negatively affect creativity and critical thinking skills among students. At the same time, respondents acknowledged the positive role of AI applications such as ELSA Speak, Duolingo, Testbook, and Unacademy in improving spoken English, competitive exam preparation, learning efficiency, and academic performance. Educators also believed that AI can be effectively used to monitor academic activities, evaluate student performance, improve teaching methods, and encourage new approaches to thinking and problem-solving. Overall, the findings indicate that although AI creates concerns regarding dependency on technology, it also provides significant opportunities to enhance educational practices and learning experiences.

L. Chen et al. (2020) examined "The impact of Artificial Intelligence in the education sector through a comprehensive literature review. The study found that AI technologies improve administrative efficiency, instructional quality, and student learning experiences through intelligent tutoring systems, adaptive learning platforms, virtual reality, chatbots, and automated assessment tools. The authors highlighted that AI helps educators reduce workload, personalize learning content, improve decision-making, and enhance student engagement and performance. However, the study also noted concerns regarding overdependence on technology and academic integrity".

Human Resource Management(HR)

In the Human Resource Management field, AI has both positive and negative impacts. Positively, AI improves recruitment, resume screening, payroll, attendance management, and employee performance evaluation. Institutions such as SRM Institute of Science and Technology have adopted AI-supported recruitment practices to improve hiring efficiency and decision-making. Negatively, respondents felt that excessive use of AI may reduce human interaction, increase job insecurity, and create overdependence on technology. AI-based monitoring and automated systems may also affect employee creativity, privacy, and independent thinking.

Andy Charwood and Nicolas Guenole (2022) examined "The role of Artificial Intelligence in Human Resource Management and explained how AI technologies influence recruitment, employee monitoring, decision-making, and workplace management. The study highlighted that AI systems improve efficiency, automation, and data-driven HR practices, but also create challenges related to bias, ethical issues, employee surveillance, and job redesign. The authors emphasized that HR professionals must develop technical knowledge and ethical awareness to effectively manage AI-driven HR systems and ensure fairness in organizational practices".

Architecture

In the architecture field, AI technologies have significantly transformed traditional designing methods. Earlier, architectural work completely depended on hand-drawn sketches, manual measurements, and drafting techniques. Today, AI-based applications such as Planner 5D, RoomGPT, Interior AI, AutoCAD, Revit, and SketchUp help architects create layouts, interior designs, elevations, and 3D visualizations simply through user prompts or comments. These AI tools improve creativity, save time, increase accuracy, and reduce manual effort in planning and designing. However, respondents also felt that excessive dependence on AI may reduce manual drawing skills, practical architectural knowledge, and employment opportunities for traditional draftsmen and junior architects.

Y. E. Kalay discussed "How Artificial Intelligence is transforming the field of architecture by improving design processes, planning, visualization, and decision-making. The study explained that AI-supported architectural systems help architects generate accurate designs, reduce manual drafting work, and improve creativity through computer-aided design technologies. The author also highlighted that AI enhances productivity, supports complex problem-solving, and assists architects in developing innovative

and efficient building designs, thereby reshaping traditional architectural practices into more technology-oriented processes”.

Photography

In the photography field, the use of cameras has reduced compared to the 1980s due to the widespread use of mobile phones, and mostly professional photographers continue to use advanced cameras. Respondents felt that AI technologies are further transforming the industry, as people can now create and edit images according to their preferences using AI applications such as Adobe Photoshop, Canva, Remini, PixelluSmartAlbums, and WondershareFilmora. These tools help users automatically create wedding albums, enhance image quality, apply creative effects, and reduce manual editing effort. While AI improves creativity and productivity, respondents also believed that increasing automation may reduce employment opportunities for traditional photographers and editors.

Govind Bhattacharjee discussed “The growing influence of Artificial Intelligence on art and photography and explained how AI-powered tools are transforming creative industries. The study highlighted that AI technologies such as machine learning, deep learning, facial recognition, and neural networks have improved photo editing, image enhancement, automation, and creative production. The author also emphasized that AI increases efficiency and creative possibilities in photography, but at the same time raises concerns regarding originality, human creativity, emotional connection, and the future role of professional photographers in the AI-driven era”.

Objective

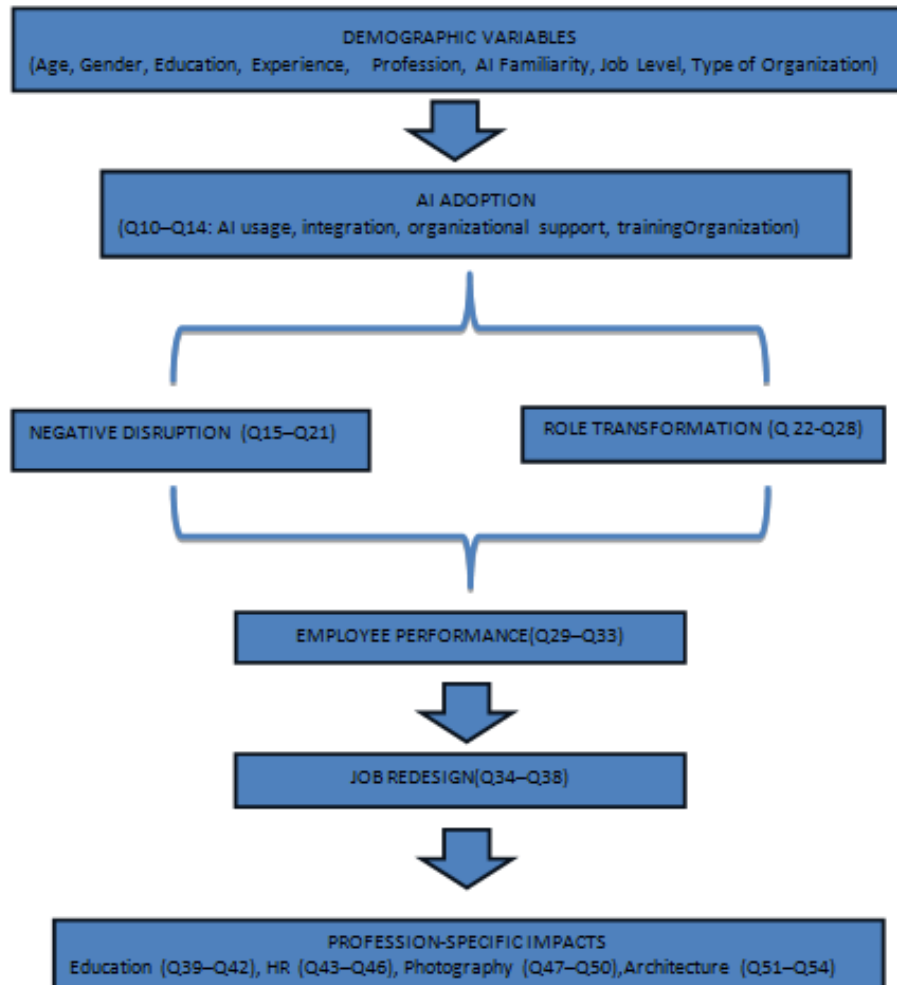
- To examine the level of Artificial intelligence adoption across different industries in Theni district.
- To analyse the impact of Artificial intelligence adoption on employee performance.
- To identify the influence of Artificial intelligence on job redesign and role transformation in organisations.
- To examine the negative disruptions caused by Artificial intelligence adoption, such as job insecurity, stress, and automation of tasks.
- To compare the impact of Artificial intelligence adoption among professionals from different sectors including education, HR, Photography, and architecture.

Research Methodology

The study adopted a descriptive research design to examine the impact of artificial intelligence adoption on employee performance and job redesign across different industries in Theni district. The study was conducted among professionals from various sectors including education human resource, medical, photography and architecture.

Convenience sampling technique was used for selecting the respondents, and a total sample size of 100 respondents was considered for the study. Primary data were collected through a structured questionnaire designed based on the objectives of the study and relevant variables related to AI adoption, employee performance, role transformation, and job redesign.

The collected data were analysed using statistical tools such as Frequency analysis, Friedman Test Mean and Standard Deviation, and Factor Analysis. These analyses were made to identify the demographic characteristics of respondents, measure the level of AI adoption, rank the important factors influencing respondents, analyse respondent perceptions and determine the underlying dimensions related to AI adoption, employee performance, and Job redesign across industries.

Frame Work

The questionnaire was framed based on the objectives of the study and the major variables in the topic, namely AI adoption, employee performance, and redesign. Questions related to AI usage, organisational support, and training were included to measure the level of AI adoption. Statements on productivity, efficiency, decision making, and task completion were framed to evaluate employee performance. Questions regarding automation, changing responsibilities, upskilling, and restricting were included to measure job redesign and role transformation.

Moreover, questions on stress, job insecurity, and reduced human involvement were included to understand the negative disruptions caused by AI. Profession-specific statements were added to identify how AI affects different industries differently. Therefore, each question is directly connected to the study topic and helps analyse the impact of AI adoption on employees and workplace transformation.

Analysis & Interpretation

- Frequency analysis
- Friedman test
- Mean and standard deviation
- Factor analysis

Frequency analysis for socio-demographic profile of artificial intelligence adoption on employee performance and job redesign: a cross-industry study

Frequency analysis is very fundamental one and it is always based on the simple percentage analysis. The following table shows the socio demographic variables of the selected employees and a cross-industry study analysis for AI adoption on employee performance and Job redesign in Theni district with relevant percentages.

Table 1: Frequency analysis for socio-demographic profile of artificial intelligence adoption on employee performance and job redesign

Socio-Demographic profile	Variables	Frequency	Percent
Age	Below 25	25	25
	25–35	25	25
	36–45	25	25
	46 and above	25	25
	Total	100	100
Gender	Male	50	50
	Female	50	50
	Total	100	100
Education Level	Undergraduate	25	25
	Postgraduate	25	25
	Professional qualification	25	25
	Others	25	25
	Total	100	100
Occupation	Education	25	25
	Human Resource	25	25
	Medical	25	25
	Photography	25	25
	Total	100	100
Experience	Less than 1 year	25	25
	1–5 years	25	25
	6–10 years	25	25
	More than 10 years	25	25
	Total	100	100
Familiarity about AI	No knowledge	4	4
	Basic understanding	4	4
	Moderate knowledge	38	38
	Advanced knowledge	54	54
	Total	100	100
Frequency of usage	Never	4	4
	Rarely	4	4
	Occasionally	38	38
	Frequently	54	54
	Total	100	100
Job Level	Entry Level	25	25
	Mid-Level	25	25
	Senior Level	25	25
	Managerial	25	25
	Total	100	100
Current Job	Government	34	34.0
	Private	33	33.0
	Self-employed / Freelance	33	33.0
	Total	100	100.0

Source: Output generated from SPSS 20

The above table shows a balanced representation across different categories. Respondents from different age groups, education levels, occupations experience levels, and job positions were equally represented, with each category contributing 25 percent of the total sample. Male and female respondents were also equally represented, accounting for 50 percent each. The Study covers participants from multiple sectors including education, human resources, medical, and photography, as well as individuals working in government, private and self-employees professions. This provides a broad cross-industry perspective on AI adoption.

Majority of respondents possess advanced knowledge of AI technologies(54) and frequently use AI tools in their work environment (54%). This highlights the increasing awareness and integration of AI across different industries. Overall, the respondent profile offers a diverse and comprehensive view of AI adoption influences employee performance and job redesign in Theni district.

Friedman test for significant difference between mean ranks of ai adoption on employee performance and job redesign in theni district

- **Null Hypothesis:** There is no significant difference between mean ranks towards the effect of AI adoption on employee performance and Job redesign in Theni district.
- **Alternative Hypothesis:** There is a significant difference between mean ranks towards the effect of AI adoption on employee performance and Job redesign in Theni district.

Table 2: Friedman test for significant difference between mean ranks towards effect of AI adoption on employee performance and Job redesign in Theni district

A cross-industry study analysis for AI adoption on employee performance and Job redesign in Theni district	Mean Rank	Chi-Square value	Degrees of freedom	Asymp. Significant
Widespread use of AI technologies in the organization.	10.81	924.723	28	.000
Regular use of AI tools in job-related tasks.	17.19			
AI integration as an essential component of job performance	5.69			
Organizational support for AI adoption	13.74			
Availability of training for AI tools	14.94			
Reduction in human involvement due to AI adoption	16.32			
Job insecurity arising from AI implementation	14.09			
Increase in work pressure due to AI systems	14.88			
Redundancy of certain job tasks due to automation	14.97			
Decline in employment opportunities in the profession	15.36			
Stress related to adaptation to AI technologies	23.11			
Reduced relevance of existing skill sets	15.92			
Change in job responsibilities due to AI	21.86			
Shift from manual tasks to technology-oriented tasks	22.58			
Improvement in productivity through AI usage	10.81			
Enhancement in quality of work output	17.19			
Acquisition of new skills due to AI adoption	5.69			
Increased requirement for analytical abilities	13.74			
Greater focus on creative aspects of work	14.94			
Improvement in overall job performance due to AI	16.32			
Faster completion of assigned tasks	14.09			
Reduction in errors during task execution	14.88			
Achievement of targets with greater efficiency	14.97			
Improvement in decision-making capability	15.36			
Significant modification of job roles due to AI	16.32			
Automation of previously manual tasks	14.09			
Addition of new responsibilities in job roles	14.88			
Requirement of continuous learning and upskilling	14.97			
Organizational restructuring influenced by AI adoption	15.36			

Source: Output generated from SPSS 20

From the above table, the Friedman test was conducted to analyses employee opinions regarding AI adoption, employee performance, and job redesign across industries in Theni district. The calculated Chi-square value is 924.723 with 28 degrees of freedom, and the significance value is 0.000, which is less than 0.05. Hence, there is a significant difference in employee opinions regarding the impact of AI adoption.

Among the factors, "Stress related to adaption to AI technologies" recorded the highest mean rank (23.11), indicating that employees experience high stress while adapting to AI system and technological changes. This may be due to lack of technical knowledge, fear of job loss, and difficulty in adjusting to new technologies. "Shifting from manual tasks to technology-oriented tasks" (22.58) and change in job responsibilities due to AI" (21.86) also received high mean ranks, showing that AI has significantly changed traditional work methods and job roles.

Factors such as "Regular use of AI tools in job-related tasks" and "Enhancement in quality of work output" recorded moderate to high mean rank, indicating that employee believe AI improves work efficiency and performance. However, lower mean ranks for "AI integration as an essential component of job performance" and Acquisition of new skills due to AI adoption" suggest that AI implementation and skill development opportunities are still limited in some organizations.

Overall, the findings reveal that AI adoption improves productivity and work quality but also creates stress, job insecurity, and major changes in employee roles and responsibilities.

Mean and standard deviation for a cross-industry study analysis for ai adoption on employee performance and job redesign in theni district

The following table shows the mean and standard deviations of the effects of AI adoption on employee performance and Job redesign in Theni district.

Table 3: Mean and standard deviation for AI adoption on employee performance and Job redesign in Theni district

A cross-industry study analysis for AI adoption on employee performance and Job redesign in Theni district	Mean	Std. Deviation
Widespread use of AI technologies in the organization.	2.54	1.452
Regular use of AI tools in job-related tasks.	3.30	1.883
AI integration as an essential component of job performance	1.64	1.194
Organizational support for AI adoption	3.05	.968
Availability of training for AI tools	3.12	1.671
Reduction in human involvement due to AI adoption	3.24	1.532
Job insecurity arising from AI implementation	3.06	1.530
Increase in work pressure due to AI systems	3.12	1.493
Redundancy of certain job tasks due to automation	3.13	1.637
Decline in employment opportunities in the profession	3.16	1.600
Stress related to adaptation to AI technologies	3.96	1.317
Reduced relevance of existing skill sets	3.21	1.647
Change in job responsibilities due to AI	3.78	1.330
Shift from manual tasks to technology-oriented tasks	3.83	1.407
Improvement in productivity through AI usage	2.54	1.452
Enhancement in quality of work output	3.30	1.883
Acquisition of new skills due to AI adoption	1.64	1.194
Increased requirement for analytical abilities	3.05	.968
Greater focus on creative aspects of work	3.16	1.600
Improvement in overall job performance due to AI	3.24	1.532
Faster completion of assigned tasks	3.06	1.530
Reduction in errors during task execution	3.12	1.493
Achievement of targets with greater efficiency	3.13	1.637
Improvement in decision-making capability	3.16	1.600
Significant modification of job roles due to AI	3.12	1.671
Automation of previously manual tasks	3.24	1.532
Addition of new responsibilities in job roles	3.06	1.530

Requirement of continuous learning and upskilling	3.12	1.493
Organizational restructuring influenced by AI adoption	3.13	1.637

Source: Output generated from SPSS 20

From the Above table, the mean and standard deviation analysis was conducted to examine employee perceptions regarding AI adoption, employee performance, and job redesign across industries in Theni district. The finding show that employees moderately agree that AI has significantly influenced their work environment and job responsibilities. "Stress related to adaption to AI technologies" recorded the highest mean value (3.96), indicating that employees experience stress due to technological changes, lack of technical confidence, and fear of changing job roles. Similarly, "shift from manual tasks to technology-oriented tasks" (3.83) and "Change in job responsibilities due to AI" (3.78) show that AI has transformed traditional work methods into technology-driven processes.

Factors such as "Regular use of AI tools in Job-related tasks" (3.30) and "Improvement in overall job performance due to AI" (3.24) indicate that employees also expressed concerns about reduced human involvement, job insecurity, and declining employment opportunities due to automation. Lower mean values for "AI integration as an essential component of job performance" (1.64) and "Acquisition of new skills due to AI adoption" (1.64) suggest that AI adoption and skill development opportunities are still limited in some industries. Overall, the findings reveal that AI adoption improves productivity and work quality but also creates stress, adaption challenges and changes in employee roles and responsibilities.

Factor analysis for a cross-industry study analysis for ai adoption on employee performance and job redesign in theni district

Bartlett's Test

The dimensionality of a cross-industry study analysis for AI adoption on employee performance and Job redesign in Theni district was examined using factor analysis based on sixteen individual statements and the reliability of the subsequent factor structures was tested for internal consistency for grouping the items. The sixteen factors of a cross-industry study analysis for AI adoption on employee performance and Job redesign in Theni district statements are related to the following:

- Reduced reliance on traditional teaching methods due to AI
- Increased dependence of students on AI tools
- Transition from teaching role to facilitation role
- Use of AI for content preparation and evaluation
- Automation of recruitment and selection processes
- Decline in administrative HR functions
- Shift from operational to strategic HR roles
- Use of AI in decision-making processes
- Reduced demand for traditional photography services
- Replacement of manual editing by AI tools
- Increased focus on creative and advanced photography
- Enhancement of output quality through AI tools
- Reduction in manual drafting activities
- Decline in entry-level technical roles
- Use of AI tools in design and planning
- Increased emphasis on creativity and innovation

Table 4: KMO and Bartlett's Test of a cross-industry study analysis for AI adoption on employee performance and Job redesign in Theni district

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.890
Bartlett's Test of Sphericity	Approx. Chi-Square	1812.093
	df	136
	Sig.	.000

Source: Output generated from SPSS

High value of KMO (0.890 > .05) indicates that factor analysis is useful for the present data. The significant value for Bartlett's test of Sphericity is 0.000 and it is less than 0.05 which indicates that exists significant relationships among the variables. The resultant value of KMO test and Bartlett's test indicates that the present data is useful for factor analysis.

Table 5: Total variance explained for a cross-industry study analysis for AI adoption on employee performance and Job redesign in Theni district

Component	Total Variance Explained								
	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	10.021	58.945	58.945	10.021	58.945	58.945	6.554	38.552	38.552
2	1.583	9.309	68.254	1.583	9.309	68.254	3.479	20.462	59.014
3	1.040	6.117	74.370	1.040	6.117	74.370	2.611	15.357	74.370
4	.883	5.193	79.564						
5	.827	4.863	84.426						
6	.557	3.279	87.706						
7	.485	2.851	90.556						
8	.422	2.481	93.038						
9	.249	1.463	94.500						
10	.220	1.295	95.795						
11	.183	1.076	96.871						
12	.162	.950	97.821						
13	.122	.720	98.541						
14	.095	.560	99.101						
15	.069	.405	99.506						
16	.046	.270	99.777						
17	.038	.223	100.000						

Extraction Method: Principal Component Analysis.

Source: Output generated from SPSS

All the statements of the a cross-industry study analysis for AI adoption on employee performance and Job redesign in Theni district are loaded on the sixteen factors. The total variance accounted for, all the two factors with Eigen value greater than 1 is 74.370percent and the remaining variance is explained by other variables. Between these two factors, the first factor accounts for around 38.552percent of variance, which is the prime criteria considered in a cross-industry study analysis for AI adoption on employee performance and Job redesign in Theni district.

Table 6: Rotated Component Matrix of a cross-industry study analysis for AI adoption on employee performance and Job redesign in Theni district

AI adoption on employee performance and Job redesign in Theni district	Component		
	1	2	3
Reduced reliance on traditional teaching methods due to AI	.626	-.550	.052
Increased dependence of students on AI tools	.668	-.039	-.341
Transition from teaching role to facilitation role	.777	-.311	.170
Use of AI for content preparation and evaluation	.868	-.299	.109
Automation of recruitment and selection processes	.590	.277	.238
Decline in administrative HR functions	.695	-.041	.168
Shift from operational to strategic HR roles	-.153	.655	.214
Use of AI in decision-making processes	.590	-.063	.618
Reduced demand for traditional photography services	.899	.211	.040
Replacement of manual editing by AI tools	.863	.297	.123

Increased focus on creative and advanced photography	.850	.332	.013
Enhancement of output quality through AI tools	.850	.321	-.003
Reduction in manual drafting activities	.840	.202	-.149
Decline in entry-level technical roles	.896	.113	-.243
Use of AI tools in design and planning	.826	-.404	.185
Increased emphasis on creativity and innovation	.868	.044	-.358
Extraction Method: Principal Component Analysis.			
a. 3 components extracted.			

Source: Output generated from SPSS

The statements are converted into 3 factors using factor analysis.

The following fourteen aspects related to a cross-industry study analysis for AI adoption on employee performance and Job redesign in Theni district are converted into a single factor.

- Reduced reliance on traditional teaching methods due to AI
- Increased dependence of students on AI tools
- Transition from teaching role to facilitation role
- Use of AI for content preparation and evaluation
- Automation of recruitment and selection processes
- Decline in administrative HR functions
- Reduced demand for traditional photography services
- Replacement of manual editing by AI tools
- Increased focus on creative and advanced photography
- Enhancement of output quality through AI tools
- Reduction in manual drafting activities
- Decline in entry-level technical roles
- Use of AI tools in design and planning
- Increased emphasis on creativity and innovation

The following one aspect related to a cross-industry study analysis for AI adoption on employee performance and Job redesign in Theni district are converted into a single factor.

- Shift from operational to strategic HR roles

The following one aspect related to a cross-industry study analysis for AI adoption on employee performance and Job redesign in Theni district are converted into a single factor.

- Use of AI in decision-making processes

Apart from that, the dimension "a cross-industry study analysis for AI adoption on employee performance and Job redesign in Theni district" comprises 16 statements. Out of these sixteen statements, three statements contribute more towards to a cross-industry study analysis for AI adoption on employee performance and Job redesign in Theni district. The statements are (1) Reduced reliance on traditional teaching methods due to AI(2) Shift from operational to strategic HR roles and (3) Use of AI in decision-making processes. This implies that these three statements are the most influential factors contributing to the effectiveness of AI adoption in improving employee performance and facilitating job redesign across various industries in Theni district. It indicates that AI tools not only reduce dependence on conventional work methods but also enhance the quality and efficiency of employee output. Moreover, AI in decision making processes indicates a potential decline in employees independence analytical and critical thinking abilities due to greater dependence on AI technologies.

Findings

- The study identified that AI adoption is increasing rapidly across different industries in Theni district, especially among respondents who possess advanced knowledge of AI tools.
- Employees widely use AI for improving productivity, reducing manual effort, and enhancing the quality of work output in sectors such as education, HR, architecture, and photography.
- The findings revealed that AI has significantly changed traditional work methods by shifting manual activities toward technology-oriented tasks and creating changes in job responsibilities.

- Respondents from the education sector felt that excessive dependence on AI may reduce creativity, independent thinking, and critical thinking abilities among students.
- In the HR sector, AI improved recruitment, payroll, and employee evaluation processes, but respondents expressed concerns regarding job insecurity, employee monitoring, and reduced human interaction.
- In architecture and photography, AI tools improved creativity, design quality, editing efficiency, and automation, while also creating fear regarding reduction in traditional job opportunities.
- The study also found that stress related to adapting to AI technologies was one of the major challenges faced by employees across industries.
- Factor analysis revealed that AI-driven changes in traditional working methods, strategic role transformation, and AI-based decision-making are major dimensions influencing employee performance and job redesign.

Suggestions

- Organizations should provide regular AI training and skill development programs to help employees adapt to technological changes confidently.
- Educational institutions should encourage balanced use of AI tools so that students can improve learning without losing creativity and independent thinking abilities.
- Companies should ensure ethical and transparent use of AI systems to reduce employee stress, privacy concerns, and job insecurity.
- Human involvement should be maintained in important organizational decisions even when AI tools are used for automation and analysis.
- Employees should continuously upgrade their technical and analytical skills to remain competitive in the AI-driven work environment.
- Organizations should use AI as a supportive tool rather than a complete replacement for human skills and creativity.
- Government and educational institutions may conduct awareness programs regarding responsible and productive use of AI technologies across industries.
- Future studies may include larger sample sizes and additional industries to obtain broader insights regarding AI adoption and workplace transformation.

Conclusion

“Artificial Intelligence is an Artificial until the Human Intelligence exits”

The study concludes that Artificial Intelligence has become an important part of modern workplaces and has significantly influenced employee performance and job redesign across different industries in Theni district. AI technologies have improved productivity, work quality, efficiency, creativity, and decision-making processes in sectors such as education, human resource management, architecture, and photography. At the same time, employees expressed concerns regarding stress, job insecurity, reduced human involvement, and overdependence on technology.

Historically, similar concerns existed when computers were introduced into workplaces. During the early stages of computer adoption, many people feared job loss as computers replaced traditional tools such as typewriters and several manual office activities. However, the introduction of computers also created new employment opportunities in fields such as software development, data entry, computer operations, networking, web designing, digital marketing, cybersecurity, and information technology services. Likewise, although AI may reduce certain traditional job roles through automation, it also has the potential to create new career opportunities such as AI specialists, prompt engineers, data analysts, machine learning experts, AI trainers, robotics engineers, and digital transformation consultants.

Therefore, AI should not be viewed only as a threat to employment but also as a technological advancement that can contribute to innovation, economic growth, industrial development, and national progress. With proper training, ethical implementation, and continuous skill development, AI can support both organizational success and the overall development of the country.

References

1. Jiang, Y., Li, X., Luo, H. *et al.* Quo vadis artificial intelligence?. *DiscovArtif Intell* **2**, 4 (2022). <https://doi.org/10.1007/s44163-022-00022-8>
2. Oluwagbemiga, A. (2008). *A literature review on artificial intelligence*. International Journal of Information and Management Sciences, 19(4), 535–570.
3. E. S. Brunette, R. C. Flemmer and C. L. Flemmer, "A review of artificial intelligence," *2009 4th International Conference on Autonomous Robots and Agents*, Wellington, New Zealand, 2009, pp. 385-392, doi: 10.1109/ICARA.2000.4804025.
4. Das, S., Dey, A., Pal, A., & Roy, N. (2015). *Applications of artificial intelligence in machine learning: Review and prospect*. International Journal of Computer Applications, 115(9), 31–41.
5. Radhakrishnan, J., & Chattopadhyay, M. (2020). *Determinants and barriers of artificial intelligence adoption – A literature review*. In International Working Conference on Transfer and Diffusion of IT (pp. 89–99). Springer. https://doi.org/10.1007/978-3-030-64849-7_9
6. Riaz, H., &Ghanghas, S. (2024). *Artificial intelligence in employee performance evaluation and its managerial implication*. Journal of Informatics Education and Research, 4(1), 299–307.
7. Purohit, M., Chopde, M., & Tale, T. (2026). *Transforming the future of work through AI, automation, and job redesign*. International Journal of Commerce and Management Studies (IJCAMS), 11(1), 91–94.
8. Bhattacharjee, G. (2023). *Art and photography in the age of artificial intelligence*. 1–9.
9. Chen, L., Chen, P., & Lin, Z. (2020). *Artificial intelligence in education: A review*. IEEE Access, 8, 75264–75278. <https://doi.org/10.1109/ACCESS.2020.2988510>
10. Kalay, Y. E. (2004). *Architecture's new media: Principles, theories, and methods of computer-aided design*. MIT Press.
11. Charlwood, A., &Guenole, N. (2022). *Can HR adapt to the paradoxes of artificial intelligence?* Human Resource Management Journal, 32(4), 729–742. <https://doi.org/10.1111/1748-8583.12433>.

