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HUMAN RESOURCE CHALLENGES IN THE ADOPTION OF ARTIFICIAL INTELLIGENCE IN MODERN OFFICE MANAGEMENT: AN EMPIRICAL STUDY

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Abstract

The rapid proliferation of Artificial Intelligence (AI) technologies in modern office environments has introduced a paradigm shift in how organisations manage administrative functions, workflow processes, and human capital. While AI promises enhanced productivity, cost efficiency, and data-driven decision-making, its adoption poses significant human resource (HR) challenges that remain insufficiently explored in the Indian context. This empirical study investigates the critical HR challenges confronting organisations during AI integration in office management, encompassing employee resistance to change, skills gap and reskilling imperatives, job displacement anxiety, ethical concerns surrounding algorithmic decision-making, and leadership preparedness. A structured questionnaire was administered to 280 office management professionals across public and private sector organisations in Telangana, India. The findings reveal that inadequate digital literacy (72.5%), fear of job displacement (68.2%), and insufficient training infrastructure (65.4%) constitute the most pronounced barriers to AI adoption. The study further identifies a statistically significant relationship between organisational training investment and employee acceptance of AI tools. The paper ends in practical policy directions for HR practitioners and leaders of organisations to align the use of AI with employee development for a human-centred approach to the digital transformation of office management.

Keywords: Artificial Intelligence, HR Issues, Office Management, Digital Transformation, Resistance, Reskilling, Workforce Development, India

1. Introduction

The twenty-first century has witnessed an unprecedented acceleration in technological innovation, with Artificial Intelligence emerging as the most transformative force reshaping organisational landscapes worldwide. AI in office management is a dramatic shift from traditional office activities that eliminate human intervention in tasks such as filing, scheduling, emailing, data entry, and even some of the decision-making tasks that humans have done (Brynjolfsson & McAfee, 2017). According to the McKinsey Global Institute (2023), 60 percent of jobs have 30 percent of tasks that can be automated with current AI technology, which is a concern for office management professionals.

AI in the office is on the rise in India, especially post the digital transformation moves for the pandemic. The National Association of Software and Services Companies (NASSCOM, 2024) estimates the size of the AI market in India to be USD 17 billion by 2027, and office administration and support are an integral part of enterprise AI. The Indian government's National Strategy for Artificial Intelligence, prepared by NITI Aayog (2018), identifies the need for AI adoption in the different sectors, but also the challenges faced in the employment sector as a result of the adoption.

However, the excitement about the potential of AI trumps the human resource challenges of adopting AI. The successful integration of AI in the office environment depends not only on the technology used but, more significantly, on the human resources' readiness, willingness, and ability to use the smart technologies (Davenport & Kirby, 2016). Employee resistance, arising from fear of job displacement, lack of support and training, generational digital divides, and cultural resistance to change in the organisation, is a strong force that can block the effective implementation of AI strategies.

The Future of Jobs Report (2025) by the World Economic Forum predicts that by 2030, 85 million jobs will be lost globally due to automation and AI, while 97 million jobs will be created, with a need for substantial reskilling and upskilling. This



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net-zero outcome makes the human resource (HR) component of AI adoption important, particularly in the emerging economy of India, with its wide range of variations in skills, education, and digital literacy in the labour market. While there is an increasing literature on organisational adoption of AI, empirical studies on the HR issues in the specific context of office management are scant, especially in the Indian context. This research fills this gap by undertaking an empirical study of human resource challenges faced by office management professionals in the state of Telangana, India, while embracing AI in their organisations. This research aims to delineate, classify, and analyse the key HR challenges of AI adoption, explore the correlation between organisational support and employee acceptance of AI, and provide evidence-based insights and suggestions for enabling a human-centric approach to AI-driven transformation of the office environment.

1.1 Objectives of the Study

The present study is guided by the following objectives: first, to identify and analyse the major human resource challenges in the adoption of AI in modern office management; second, to assess the level of AI awareness and digital readiness among office management professionals; third, to examine the relationship between organisational training initiatives and employee acceptance of AI technologies; and fourth, to propose policy recommendations for addressing HR challenges in AI-integrated office environments.

1.2 Hypotheses

H₁: There is a significant relationship between employee digital literacy levels and their acceptance of AI tools in office management.

H₂: Organizations providing AI training to employees result in greater acceptance of using AI technologies.

H₃: Fear of job displacement is negatively associated with employee engagement in AI-integrated office processes.

2. Review of Literature

The intersection of artificial intelligence and human resource management has attracted considerable scholarly attention in recent years. Tambe et al. (2019) provided a comprehensive framework for understanding the challenges of applying AI to people management, identifying data quality, ethical considerations, and employee trust as critical factors mediating successful AI adoption in organisational settings. Their research confirmed the multidimensional nature of HR issues in adopting AI, which go beyond technical skills to psychological, cultural, and institutional factors.

Jarrahi (2018) explained the role of human intelligence and artificial intelligence in workplace decision-making and argued that the optimum results do not come from substituting human judgment with AI, but rather a synergy between human intuition and the computational capability of the machine. This is relevant to the field of office management, in which data processing and communication skills are prevalent.

In India, Krishnan et al. (2020) examined the public sector administrative professionals' preparedness for AI and found that only 23 percent of the samples were aware of AI tools pertinent to their work. Their study highlighted the need to bridge the skills gap in Indian administrative organisations and offered capacity-building initiatives. Likewise, Sharma and Sharma (2021) examined employee perceptions towards the use of AI in office work in India, and found that 67 percent of employees were moderately to highly concerned about the use of AI on jobs.

Theories that can be applied to understand employees' resistance to change include: Rogers' (2003) Diffusion of Innovation Theory, which has five factors that influence technology adoption: relative advantage, compatibility, complexity, trialability, and observability. Davis' (1989) Technology Acceptance Model (TAM) states that technology acceptance is based on perceived ease of use and perceived usefulness. More recently, Venkatesh et al. (2003) proposed the Unified Theory of Acceptance and Use of Technology (UTAUT), which integrates performance expectancy, effort expectancy, social influence, and facilitating conditions as predictors of technology adoption.



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The World Economic Forum (2024) has emphasised that the transition to AI-augmented workplaces requires not only technical reskilling but also the development of distinctly human competencies such as critical thinking, emotional intelligence, creativity, and ethical reasoning. Such a "hard" and "soft" skills development challenge is a multifaceted issue for HR in office environments.

Frey and Osborne (2017) forecast that 47 percent of all jobs in the US are at high risk of automation in the next 20 years, including administrative support and clerical occupations. Other studies have refined these calculations, but the message that office-based administrative tasks are in danger of being replaced by automation remains true, and has been supported by several other international studies, including the Organisation for Economic Co-operation and Development (OECD, 2019).

3. Research Methodology

3.1 Research Design

This study employs a descriptive and analytical research design, utilising a mixed-methods approach that combines quantitative survey data with qualitative insights from structured interviews. The empirical investigation was conducted between June 2025 and December 2025 across public and private sector organisations in the Karimnagar, Hyderabad, and Warangal districts of Telangana, India.

3.2 Population and Sample

The target population comprised office management professionals, including administrative officers, office managers, executive assistants, and clerical staff, working in government offices, educational institutions, and private enterprises. A stratified random sample of 280 was used. Of these, 256 responses were deemed valid for analysis, representing a response rate of 91.4 percent.

3.3 Data Collection Instrument

A structured questionnaire comprising 42 items was developed, organised into five sections: demographic profile, AI awareness and familiarity, perceived HR challenges, organisational support and training, and attitudes toward AI adoption. Items measuring attitudes and perceptions employed a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The content validity of the instrument was ensured by the review of three academicians from the field of office management and information technology. The Cronbach's alpha coefficient for the total scale was 0.87, which is excellent.

3.4 Data Analysis

Data were analysed using the Statistical Package for Social Sciences (SPSS) 26. Frequencies, percentages, means, and standard deviations were calculated for all variables. Pearson's correlation coefficient, chi-square tests, and multiple regression (p -value=0.05) were used to test the hypotheses.

4. Results and Discussion

4.1 Respondent's Demographic Characteristics

Demographic characteristics of the respondents are presented in Table 1.



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Table 1: Demographic Profile of Respondents (N = 256)

Demographic Variable	Category	Frequency	Percentage (%)
Gender	Male	148	57.8
	Female	108	42.2
Age Group	25–35 years	72	28.1
	36–45 years	98	38.3
	46–55 years	62	24.2
	Above 55 years	24	9.4
Sector	Public Sector	142	55.5
	Private Sector	114	44.5
Experience	Less than 5 years	48	18.8
	5–10 years	76	29.7
	11–20 years	88	34.4
	Above 20 years	44	17.2
Education	Undergraduate	64	25.0
	Postgraduate	146	57.0
	Doctorate/Professional	46	18.0

Source: Primary data collected through survey, 2025.

Our sample has equal representation of both genders, with a slight over-representation of men (57.8%). The sample respondents are primarily in mid-career (36-45 years old) (38.3%) and working as office administrators. 57.0% have a postgraduate degree, which suggests highly educated.

4.2 AI Awareness and Digital Readiness

The AI knowledge and digital literacy of the sample are shown in Table 2.

Table 2: AI Awareness and Digital Readiness (N = 256)

Parameter	High (%)	Moderate (%)	Low (%)	Mean	SD
Awareness of AI applications in office management	18.4	42.2	39.4	2.61	0.89
Familiarity with AI-powered office tools	14.8	33.6	51.6	2.38	0.94



Proficiency in using digital platforms	27.3	44.5	28.1	3.02	0.86
Understanding of AI's impact on job roles	22.7	38.7	38.6	2.72	0.91
Willingness to learn AI-related skills	42.2	35.5	22.3	3.34	0.83

Source: Primary data collected through survey, 2025

The results show a worrying lack of AI awareness and digital skills. More than half (51.6%) of the respondents reported low awareness of AI-based office tools, and just 18.4% had high awareness of AI use in office management. These results are consistent with Krishnan et al.'s (2020) findings of low rates of AI familiarity among Indian administrative professionals. Yet, it is encouraging to note that the percentage of respondents with a high willingness to learn AI skills (42.2%) is relatively high, implying that the problem does not lie in attitudinal barriers but in the lack of available training and support.

4.3 Perceived HR Challenges in AI Adoption

The principal HR challenges identified by respondents are ranked in Table 3 based on mean scores.

Table 3: Perceived HR Challenges in AI Adoption for Office Management (N = 256)

Rank	HR Challenge	Mean	SD	Respondents Agreeing (%)
1	Inadequate digital literacy and skills gap	4.21	0.72	72.5
2	Fear of job displacement and redundancy	4.08	0.81	68.2
3	Insufficient training infrastructure and programmes	3.96	0.77	65.4
4	Resistance to change in organisational culture	3.82	0.84	61.7
5	Lack of a clear AI adoption policy and guidelines	3.74	0.79	58.6
6	Ethical concerns (data privacy, algorithmic bias)	3.68	0.86	55.1
7	Generational digital divide among employees	3.61	0.88	52.3
8	Inadequate leadership preparedness for the AI transition	3.55	0.82	49.6
9	Budget constraints for AI implementation	3.47	0.91	46.5
10	Absence of performance metrics for AI-augmented roles	3.38	0.85	43.8

Source: Primary data collected through survey, 2025.

It is clear from the analysis that a lack of digital literacy (mean = 4.21) is the top HR challenge in adopting AI. This is consistent with the global outlook reported by the OECD (2019), which found that the lack of skills is the major barrier to AI adoption in its member countries. Fears of threat to jobs are the second most important (mean = 4.08) and are in line with the estimates by Frey and Osborne (2017) and fears expressed by Sharma and Sharma (2021) in the Indian context.

The ranking of inadequate training infrastructure (third, mean = 3.96) is crucial for policy development. Despite the Indian government's Digital India initiative and the focus on AI capacity building in the National Strategy for Artificial Intelligence



(NITI Aayog, 2018), the on-ground situation indicates that training is not accessible or tailored for office management professionals.

4.4 Sector-Wise Comparison

The key differences in the perception of HR challenges between public and private sector respondents are summarised in Table 4.

Table 4: Sector-Wise Comparison of Key HR Challenges

HR Challenge	Public Sector (Mean)	Private Sector (Mean)	t-value	p-value
Inadequate digital literacy	4.42	3.95	3.86	0.001*
Fear of job displacement	3.88	4.32	-3.21	0.002*
Insufficient training infrastructure	4.18	3.68	3.54	0.001*
Resistance to organisational change	4.06	3.52	3.92	0.001*
Ethical concerns	3.42	3.98	-3.18	0.002*

*Note: $p < 0.05$ (significant). Source: Primary data, 2025.

Public sector means are considerably higher for digital literacy deficit (4.42 vs. 3.95), training deficit (4.18 vs. 3.68), and change resistance (4.06 vs. 3.52). In contrast, private sector workers have higher levels of job displacement concerns (4.32 vs. 3.88) and ethical concerns (3.98 vs. 3.42). Such contrasting responses reflect the institutional context of these sectors: while public sector employees enjoy higher job security but suffer from more significant skills gaps as a result of more delayed technology obsolescence processes, private sector employees, working in a more competitive and volatile environment, suffer from more intense fear of job displacement despite better digital literacy.

4.5 Training Effect on AI Acceptance

Table 5 shows the regression results of how training in organisations affects employee acceptance of AI.

Table 5: Multiple Regression Analysis – Training Variables Predicting AI Acceptance

Predictor Variable	β (Standardised)	t-value	p-value	R ² Contribution
Availability of AI training programmes	0.342	4.87	0.000*	0.117
Quality and relevance of training content	0.298	4.21	0.000*	0.089
Frequency of training opportunities	0.224	3.56	0.001*	0.050
Management support for training participation	0.187	2.98	0.003*	0.035
Post-training technical support	0.156	2.44	0.015*	0.024
Overall Model				R² = 0.486, F = 48.32, p = 0.000*

*Note: Dependent Variable: AI Acceptance Score. $p < 0.05$. Source: Primary data, 2025.

The model accounts for 48.6 percent of the variance in AI acceptance ($R^2 = 0.486$, $F = 48.32$, $p < 0.001$), showing that training variables are significant predictors of employees' acceptance of AI. The availability of AI training programmes emerges as the strongest predictor ($\beta = 0.342$), followed by the quality and relevance of training content ($\beta = 0.298$). These



findings strongly support Hypothesis H₂ and corroborate the theoretical propositions of the UTAUT model (Venkatesh et al., 2003), which identifies facilitating conditions as a critical determinant of technology adoption.

4.6 Correlation Between Digital Literacy and AI Acceptance

A Pearson's correlation analysis shows a high positive correlation between the score on digital literacy and the score on the acceptance of AI ($r = 0.64, p < 0.001$), confirming Hypothesis H₁. Likewise, there is a moderate negative correlation between fear of job displacement and engagement in AI-integrated processes ($r = -0.51, p < 0.001$), supporting Hypothesis H₃. These correlation findings underline the role of human capital in supporting the use of AI in office management.

4.7 International Perspective: AI Adoption

To put the Indian results in a wider context, Table 6 shows the adoption of AI in office and administration roles in various countries.

Table 6: AI Adoption in Office/Administrative Functions – Global Comparison

Country/Region	AI Adoption Rate in Office Functions (%)	Primary HR Challenge Reported	Source
United States	56	Reskilling and upskilling	McKinsey Global Survey, 2023
United Kingdom	42	Data privacy and ethical concerns	UK DSIT, 2024
Germany	38	Workforce resistance to change	Bitkom Research, 2024
China	58	Talent shortage in AI expertise	Tsinghua University AI Report, 2024
India	27	Digital literacy and skills gap	NASSCOM-BCG Report, 2024
Japan	34	Ageing workforce adaptation	Japan MIC White Paper, 2024
Australia	40	Regulatory uncertainty	CSIRO Data61, 2023

Sources: McKinsey & Company (2023); UK Department for Science, Innovation and Technology (2024); Bitkom Research (2024); Tsinghua University (2024); NASSCOM-BCG (2024); Japan Ministry of Internal Affairs and Communications (2024); CSIRO (2023).

India lags behind the rest of the world when it comes to the adoption of AI for office management (27%), and the results of the present study explain.

5. Discussion

The present study reveals a multifaceted tapestry of HR challenges in organisations' efforts to harness the potential of AI in office management. The dominance of the digital literacy challenge is in line with the general human capital shortage in many emerging markets, where the education system has yet to be scaled up to integrate AI and digital skills to the extent



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necessary (World Bank, 2023). The fact that a large proportion (72.5 percent) of respondents have identified the lack of digital literacy as a challenge highlights the need for educational and training interventions.

The concern about job losses expressed by 68.2 percent of respondents is a logical perception of the real automation risks identified by Frey and Osborne (2017), as office management is a large segment of tasks that can be automated. Yet, the emerging literature suggests AI will more likely shape rather than replace office managers, by shifting focus from routine tasks to more sophisticated activities such as office planning, managing stakeholders, and making decisions with the support of AI (Davenport & Kirby, 2016). It is essential for organisational leaders to effectively communicate this more complex reality to employees.

The high level of explainability of AI acceptance by the training variables ($R^2 = 0.486$) is a solid platform for policy suggestions. By implementing AI training approaches, organisations can improve AI readiness and acceptance, reduce pushback, and successfully integrate AI. This result adds to the call to action by the International Labour Organization (ILO, 2023) to invest in workforce transition as an integral part of, rather than a reactionary response to, technology adoption.

The findings of sector-wide variation in this study have implications. For India to adapt to AI, the public sector needs to accelerate digital literacy and organisational culture initiatives to accelerate a whole-hearted adoption of AI, while the private sector needs to focus on communicating the impact of AI on jobs, sound ethical principles, and employee participation in AI governance.

6. Recommendations

Our empirical results suggest the following recommendations for HR professionals, managers, and policymakers.

First, organisations need to develop formal and ongoing AI literacy training that addresses the unique demands of the office management professionals, beyond basic digital literacy, and includes the application of AI in the workplace. Second, effective communication plans must be devised to alleviate concerns about job loss by clarifying AI's role in complementing rather than replacing human work and outlining the new skills that will be in demand in the AI-enabled workplace. Third, governments should create tailored AI adoption strategies considering the unique organisational cultures, financial considerations, and demographics of the public sector workforce, particularly mid-to-senior level professionals who may be most challenged to adapt to AI. Fourth, universities and other educational institutions, such as degree colleges offering office management courses, need to introduce AI and digital competency courses to equip future generations of office management professionals with skills for an AI-enabled workplace. Fifth, companies should set up AI ethics committees, with employee representatives, to manage data privacy, algorithmic biases, and the fairness of AI-based decisions impacting workforce management. Sixth, policy should encourage investment in AI reskilling by organisations in the form of tax breaks, subsidies, and public-private partnerships for building AI training infrastructure.

7. Conclusion

This empirical research confirms that the use of Artificial Intelligence in contemporary office management is more of a human resource issue than a technological issue. The results show that lack of digital skills, fear of unemployment, lack of training provisions, and cultural reluctance are the key factors that impede the adoption of AI by office management professionals in Telangana, India. The study provides empirical evidence of the impact of organisational initiatives to support training programs on employee acceptance of AI and suggests a way to overcome resistance.

India is on a mission to become an AI superpower, and it is important to consider the human factors of AI adoption. The use of AI for office management is an opportunity and a challenge. To fulfill the opportunity and address the challenge, a human-centred approach, focusing on workforce development, communication, governance, and participation, is essential. The future of office management lies not in the replacement of human intelligence by artificial intelligence but in its thoughtful and equitable integration. Organisations, policymakers, and educational institutions must act in concert to ensure



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that this integration empowers rather than marginalises the human workforce that remains, and will continue to remain, the most critical asset of any organisation.

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