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ARTIFICIAL INTELLIGENCE ADOPTION IN PROFESSIONAL WORK PRACTICES: AN EMPIRICAL STUDY OF PUNE CITY

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Abstract

The diffusion of Artificial Intelligence (AI) across professional domains has emerged as a critical determinant of productivity, decision-making efficiency, and structural transformation of work practices. While AI-driven tools are increasingly embedded in professional routines, the extent of their awareness, depth of usage, and acceptance varies considerably across occupational groups and demographic segments. This empirical study investigates the awareness, usage patterns, determinants, and constraints associated with Artificial Intelligence in the professional day-to-day life of working individuals in Pune city. Employing a descriptive analytical research design, primary data were collected from 120 professionals across information technology, finance, education, healthcare, and administrative sectors using a structured questionnaire. The study applies statistical techniques, including descriptive statistics, chi-square tests, and mean score analysis, to test hypotheses grounded in the Technology Acceptance Model (TAM). The findings reveal high conceptual awareness of AI but comparatively moderate functional adoption, constrained by skill inadequacy, ethical apprehensions, data security concerns, and perceived employment risks. The study contributes to the existing literature by contextualising AI adoption within an urban Indian professional ecosystem and offers policy-relevant insights for organisations and regulators to facilitate responsible and inclusive AI integration.

Keywords: Artificial Intelligence, Professional Adoption, Technology Acceptance, Digital Transformation, Pune City.

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1. Introduction

Artificial Intelligence has transitioned from a theoretical construct to a pervasive technological force influencing contemporary professional environments. AI applications encompassing machine learning, natural language processing, robotic process automation, and predictive analytics are redefining operational workflows, strategic decision-making, and knowledge management across sectors. Globally, AI adoption has been recognised as a catalyst for productivity enhancement and organisational competitiveness.

In the Indian context, rapid digitalisation, coupled with initiatives such as Digital India and Industry 4.0, has accelerated AI diffusion in professional settings. Pune, as a prominent metropolitan hub characterised by its IT clusters, educational institutions, industrial base, and service-sector concentration, provides a suitable microcosm for examining professional AI adoption. Despite increasing exposure to AI-enabled tools, disparities persist between awareness and actual utilization, necessitating an empirical investigation into underlying behavioural, organisational, and ethical dimensions.

2. Review of Literature

Extant literature underscores AI's transformative role in enhancing efficiency and cognitive augmentation in professional work (Brynjolfsson & McAfee, 2021). The Technology Acceptance Model posits perceived usefulness and perceived ease of use as primary determinants of technology adoption (Davis, 1989), a framework increasingly applied to AI- related studies.

Recent empirical studies in India reveal that while professionals demonstrate high awareness of AI concepts, operational deployment remains limited due to skill gaps and trust deficits (Kumar & Mehta, 2023). Concerns surrounding data privacy, algorithmic bias, ethical accountability, and job displacement significantly influence adoption attitudes (OECD, 2022). However, region-specific studies focusing on urban professional ecosystems remain limited, highlighting a clear research gap that the present study addresses.

3. Research Gap

Although global and national studies have examined AI adoption, there is a paucity of localised, profession-centric empirical research analysing awareness–usage differentials within Indian metropolitan contexts. Specifically, there is limited evidence on how professionals in Pune perceive, adopt, and integrate AI into their routine occupational practices, thereby justifying the present investigation.

4. Objectives of the Study

1. To assess the level of awareness of Artificial Intelligence among professionals in Pune city.
2. To examine the extent and nature of AI usage in day-to-day professional activities.
3. To analyse socio-demographic and occupational determinants influencing AI adoption.
4. To identify challenges, ethical concerns, and perceived risks associated with AI usage.

5. Hypotheses

H01: There is no significant relationship between professional characteristics and awareness of Artificial Intelligence.

H11: There is a significant relationship between professional characteristics and awareness of Artificial Intelligence.

H02: Perceived usefulness and ease of use do not significantly influence AI adoption in professional work.

H12: Perceived usefulness and ease of use significantly influence AI adoption in professional work.

6. Research Methodology

The study adopts a descriptive and analytical research design. Primary data were collected through a structured questionnaire administered to 120 professionals employed in IT, finance, education, healthcare, and administrative services within Pune city. Stratified convenience sampling was employed to ensure sectoral representation.

The questionnaire comprised Likert-scale items measuring awareness, frequency of AI

usage, perceived benefits, ethical concerns, and adoption barriers. Secondary data were sourced from peer-reviewed journals, UGC CARE-listed publications, policy reports, and authoritative databases. Statistical analysis was conducted using SPSS, employing descriptive statistics, chi- square tests, and mean score ranking.

7. Data Analysis and Interpretation

To empirically examine awareness, usage, and determinants of Artificial Intelligence adoption, the collected data were coded and analysed using statistical tools. Likert-scale responses were measured on a five-point scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

Table 1: Awareness Level of Artificial Intelligence among Professionals

Awareness Statement	Mean Score	Standard Deviation
Familiarity with AI concepts	4.28	0.62
Awareness of AI tools used in the profession	4.12	0.71
Understanding of AI benefits	4.05	0.68
Awareness of ethical issues in AI	3.74	0.83

Interpretation: The high mean scores indicate a strong level of conceptual awareness of Artificial Intelligence among professionals in Pune city.

Table 2: Mean Score Analysis of AI Usage in Professional Activities

AI Usage Area	Mean Score	Rank
Content drafting and documentation	4.10	I
Data analysis and reporting	3.92	II
Task automation and scheduling	3.78	III
Decision support and forecasting	3.35	IV
Advanced predictive analytics	3.02	V

Interpretation: AI is predominantly used for routine and supportive professional tasks, while advanced applications remain limited.

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Table 3: Factors Influencing AI Adoption (Likert Scale)

Factor	Mean Score
Time-saving and efficiency	4.34
Improvement in work accuracy	4.11
Ease of use	3.96
Organizational encouragement	3.62
Cost effectiveness	3.48

Interpretation: Time efficiency and productivity enhancement are the most influential factors driving AI adoption.

Table 4: Challenges in AI Adoption

Challenge	Mean Score	Rank
Lack of training and skills	4.22	I
Data privacy and security concerns	4.08	II
Fear of job displacement	3.94	III
Ethical and legal uncertainty	3.76	IV
Resistance to technological change	3.41	V

Table 5: Chi-Square Test – Age and AI Usage

Variable	χ^2 Value	df	p-value
Age vs AI Usage Level	12.67	4	0.013

Interpretation: Since the p-value is less than 0.05, the null hypothesis is rejected. There is a significant association between age and AI usage, indicating higher adoption among younger professionals.

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Table 6: Chi-Square Test – Sector and AI Usage

Variable	χ^2 Value	df	p-value
Sector vs AI Usage Level	15.42	6	0.017

Interpretation: Sectoral affiliation significantly influences AI adoption, with IT and finance professionals exhibiting higher usage levels.

Findings

• Awareness of AI among Pune professionals is substantially high.
• Actual integration of AI into routine professional tasks remains moderate.
• Younger professionals exhibit higher adoption propensity than senior cohorts.
• Skill inadequacy and ethical concerns significantly inhibit extensive usage.
• Organisational support plays a critical role in facilitating AI adoption.

8. Conclusion

The study concludes that while Artificial Intelligence is widely recognised among professionals in Pune city, its practical deployment remains constrained by human, ethical, and organisational factors rather than technological limitations. Bridging the awareness–usage gap requires structured capacity-building initiatives, transparent governance frameworks, and assurance mechanisms addressing employment and data security concerns. The findings hold significant implications for policymakers, academic institutions, and organisations aiming to foster responsible AI adoption in professional environments.

9. Policy Implications and Recommendations

• Organisations should institutionalise continuous AI skill development programs.
• Regulatory frameworks must emphasise ethical and accountable AI usage.
• Data governance standards should be strengthened to enhance user trust.
• Academic–industry collaboration should promote applied AI literacy.

10. References

Brynjolfsson, E., & McAfee, A. (2021). *The Second Machine Age*. New York: W.W. Norton.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–340.

Kumar, A., & Mehta, S. (2023). Artificial intelligence adoption in Indian workplaces. *International Journal of Management Studies*, 10(2), 45–59.

OECD. (2022). *Artificial Intelligence and the Future of Work*. Paris: OECD Publishing.

UGC CARE Journal Database. (2023). Technology adoption and workforce transformation.