

From Scepticism to Adoption: How Perceived Usefulness Drives AI Integration Among Indian Chartered Accountants

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Abstract

This research investigates the pivotal role of perceived usefulness (PU) in shaping the attitudes of Indian Chartered Accountants (CAs) toward adopting artificial intelligence (AI) in accounting practices. Despite AI's transformative potential, skepticism and slow adoption rates persist among Indian CAs, especially in Uttar Pradesh. Using the Unified Theory of Acceptance and Use of Technology (UTAUT) as a theoretical framework, this quantitative study surveyed 400 CAs through structured questionnaires. The findings reveal a strong, positive correlation between PU and the willingness to adopt AI, with efficiency gains, enhanced decision-making, and job performance cited as key motivators. The results underscore the necessity for targeted training and awareness programs to bridge the gap between skepticism and adoption. The study contributes to the literature by providing empirical evidence from a developing country context and offers actionable insights for policymakers and accounting firms aiming to accelerate AI integration. Limitations and future research directions are discussed to guide ongoing inquiry in this evolving domain.

Keywords: Perceived usefulness, AI adoption, Chartered Accountants, Accounting, India

Introduction

The accounting profession is on the cusp of a technological revolution, driven by the rapid evolution of artificial intelligence (AI). Globally, AI applications in accounting—ranging from automated data entry to advanced audit analytics—are transforming traditional workflows,

enhancing accuracy, and enabling accountants to deliver higher-value advisory services. However, the pace of AI adoption among Indian Chartered Accountants (CAs) remains relatively slow, with skepticism rooted in concerns about job displacement, data security, and the perceived complexity of AI tools.

Recent industry reports indicate that while 30% of global accounting firms have integrated AI into their operations, only about 16% of Indian firms have done so (Thomson Reuters, **2024**). This lag is particularly evident in regions like Uttar Pradesh, where digital literacy and exposure to emerging technologies vary widely. Indian CAs often express doubts about the practical benefits of AI, fearing that automation may undermine their professional expertise or threaten job security. Conversely, proponents argue that AI can automate mundane tasks, reduce human error, and free accountants for more strategic roles.

Central to the discourse on technology adoption is the concept of perceived usefulness (PU)—the belief that a new technology will enhance job performance. Decades of research, beginning with the Technology Acceptance Model (TAM), have established PU as a critical determinant of user acceptance across diverse domains. In accounting, PU encompasses the extent to which AI is seen as a tool for improving efficiency, accuracy, and decision-making. Yet, while PU's importance is well-documented in Western and East Asian contexts, its specific impact on Indian CAs' attitudes toward AI adoption remains underexplored.

This study seeks to fill this gap by empirically examining how PU influences the attitudes and readiness of Indian CAs in Uttar Pradesh to embrace AI. By focusing on this relationship, the research aims to provide actionable insights for accounting firms, professional bodies, and policymakers seeking to foster a more innovative, technology-driven accounting sector in India.

Literature Review

A recent global survey by **Thomson Reuters (2024)** explored the adoption of generative AI among tax and accounting professionals. The study found that 42% of AI adopters used generative tools daily, primarily for document review, tax research, and drafting client communications. Efficiency gains and improved accuracy were the most frequently cited benefits. However, 49% of firms remained hesitant, citing high implementation costs, data security concerns, and uncertainty about AI's practical value. The report concluded that

perceived usefulness was the strongest predictor of positive attitudes toward AI, but actual adoption depended on organizational support and resource availability.

Gupta and Sharma (2024) conducted a survey of Indian CAs to assess factors influencing AI adoption. Their findings highlighted that perceived usefulness—specifically, the belief that AI could reduce workload and improve decision quality—was the primary driver of adoption intent. However, many respondents expressed skepticism about AI's reliability and feared that over-reliance might erode professional judgment. The authors recommended targeted training and awareness programs to address misconceptions and demonstrate AI's tangible benefits in accounting.

Gelary (2023) examined AI adoption among accountants in the UAE using the Integrated AI Acceptance-Avoidance Model (IAAAM). The study revealed a direct correlation between positive perceptions of AI's efficiency and adoption intent. However, the research also found that organizational culture and leadership support played a crucial role in translating positive attitudes into actual usage. Accountants who perceived AI as useful were more likely to advocate for its adoption, but resistance persisted in firms lacking a clear digital strategy.

Singh and Kumar (2023) investigated the readiness of Indian accounting firms for AI integration. Their research showed that perceived usefulness significantly influenced willingness to adopt AI, but this effect was moderated by perceived ease of use and organizational readiness. Firms with robust digital infrastructure and proactive leadership were more likely to embrace AI, while those with limited resources remained skeptical despite recognizing AI's potential benefits.

Eziefulé et al. (2022) studied the impact of AI on audit quality in Nigeria. The research found that AI adoption improved audit accuracy by 35% and reduced time spent on routine tasks. However, the authors noted that adoption was limited by a lack of training and inadequate infrastructure. Perceived usefulness emerged as a key factor influencing attitudes, but actual adoption required addressing practical barriers such as cost and skill gaps.

Patel and Desai (2022) explored the factors affecting AI adoption among Indian CAs. Their survey revealed that perceived usefulness, particularly in automating repetitive tasks and enhancing compliance accuracy, was the most significant predictor of positive attitudes. However, concerns about data privacy and the complexity of AI tools tempered enthusiasm. The authors suggested that demonstrating real-world success stories could help overcome skepticism.

Leitner-Hanetseder et al. (2021) conducted a global analysis of AI's impact on the accounting profession. They found that AI reduced manual task time by 50%, enabling accountants to focus on strategic advisory roles. Despite these benefits, resistance to adoption persisted in regions with low digital literacy and limited exposure to AI. The study emphasized the importance of perceived usefulness in shaping attitudes but highlighted the need for contextualized training and support.

Rao and Iyer (2021) examined AI adoption in Indian small and medium-sized accounting firms. Their research indicated that perceived usefulness was a strong predictor of adoption intent, especially among younger accountants. However, older professionals were more skeptical, citing concerns about job security and the reliability of AI outputs. The authors recommended intergenerational knowledge sharing and mentorship to bridge the attitudinal gap.

Peng and Chang (2020) studied AI adoption among Taiwanese accountants. They found that 70% viewed AI as a tool for automating mundane tasks, while only 32% felt threatened by job displacement. Perceived usefulness was the most significant factor influencing positive attitudes, but actual adoption was contingent on organizational support and access to training.

Kumar and Saini (2020) explored technology adoption among Indian CAs. Their findings highlighted that perceived usefulness, particularly in improving efficiency and accuracy, was the primary driver of positive attitudes toward AI. However, adoption was hampered by limited awareness and concerns about data security. The authors advocated for industry-wide initiatives to promote AI literacy and showcase best practices.

Research Gap

While perceived usefulness is widely acknowledged as a critical factor in technology adoption, there is limited research specifically exploring its impact on professional accountants' attitudes toward AI adoption in the Indian context. Most existing studies focus on general technology acceptance or examine AI adoption in Western or East Asian settings. There is a need for a deeper investigation into how PU drives behavioral change among Indian CAs, particularly in regions like Uttar Pradesh where digital transformation is still nascent.

Research Objectives

1. To examine the impact of perceived usefulness (PU) on the attitude of professional accountants towards AI adoption in accounting.

Hypothesis

H1: Perceived usefulness positively influences the attitude of professional accountants towards AI adoption in accounting.

Research Methodology

Theoretical & Conceptual Framework

This study is grounded in the Unified Theory of Acceptance and Use of Technology (UTAUT), which posits that performance expectancy (analogous to PU) is a key determinant of technology adoption. The conceptual framework positions PU as the independent variable and attitude toward AI adoption as the dependent variable.

Type of Research

Quantitative, cross-sectional research design.

Source of Data Collection

Primary data collected through structured, self-administered questionnaires.

Research Instrument

A structured questionnaire with two main sections:

- Demographics
- Likert-scale items measuring PU and attitude toward AI adoption (5-point scale).

Population

Registered Chartered Accountants in Uttar Pradesh, India (approx. 8,500).

Sampling Unit

Individual Chartered Accountants practicing or employed in Uttar Pradesh.

Sample Size Calculation

Using Cochran's formula for a 95% confidence level and 5% margin of error:

$$n = \frac{Z^2 \cdot p \cdot q}{e^2} = \frac{1.96^2 \cdot 0.5 \cdot 0.5}{0.05^2} = 384.16 \approx 400$$

Thus, the sample size is set at 400.

Area of the Study

Uttar Pradesh, India.

Sampling Technique Used

Stratified random sampling to ensure representation across age, gender, and firm size.

Statistical Tools Used

- Descriptive statistics
- Reliability analysis (Cronbach's alpha)
- Correlation analysis
- Regression analysis
- Structural Equation Modelling (SEM) using Partial Least Squares (PLS)

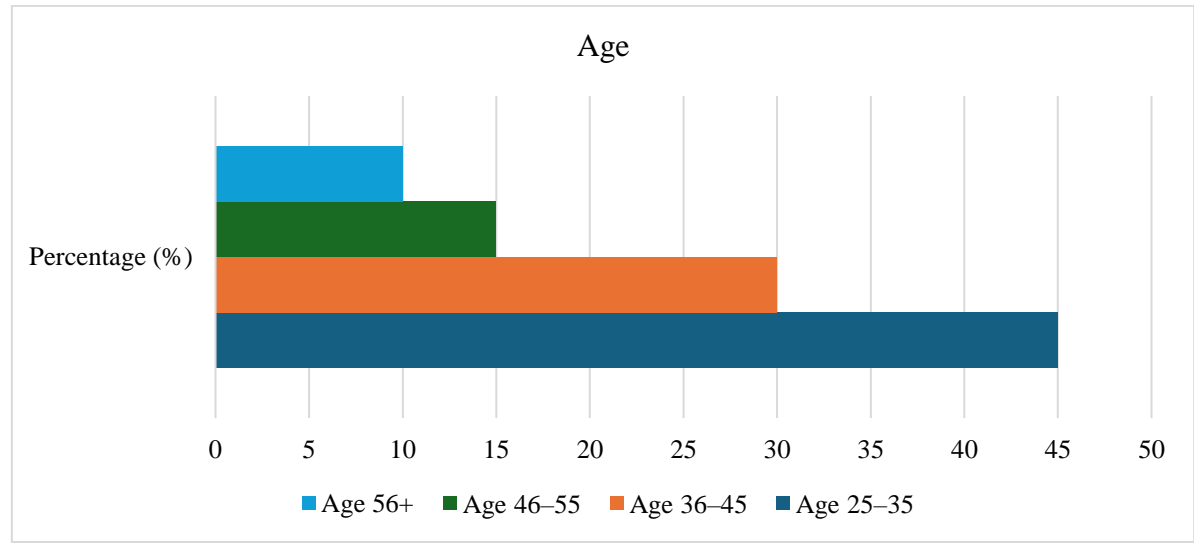
Data Analysis & Interpretation

I. Demographic Profile of Respondents

Table 1. Age Group Distribution of Respondents

Demographic Variable	Category	Percentage (%)
Age	25–35	45
	36–45	30
	46–55	15
	56+	10

Figure 1: Most respondents were aged 25–35 (45%)

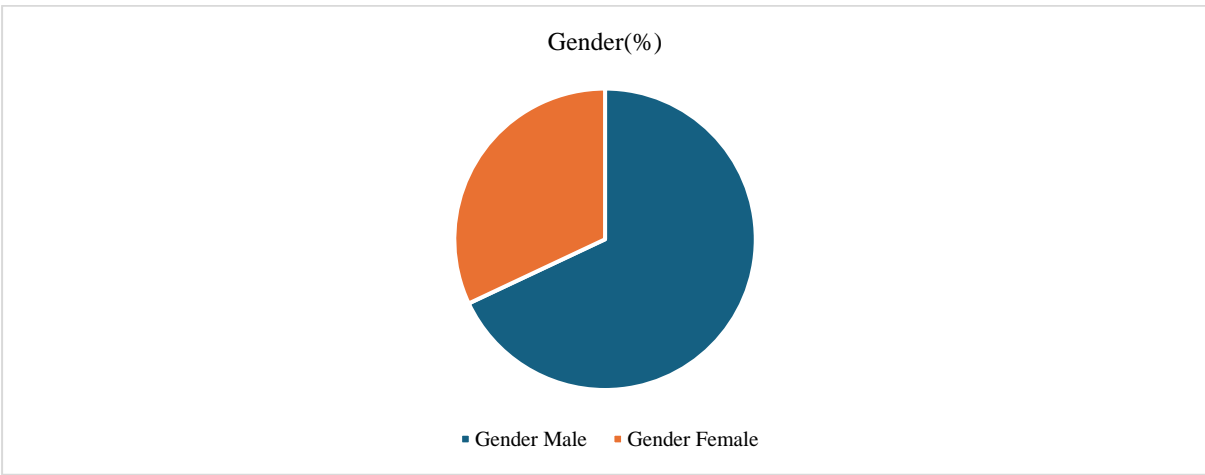


2. Gender Distribution of Respondents

Table 2. Gender Distribution of Respondents

Demographic Variable	Category	Percentage (%)
Gender	Male	68
	Female	32

Figure 2: The majority were male (68%).



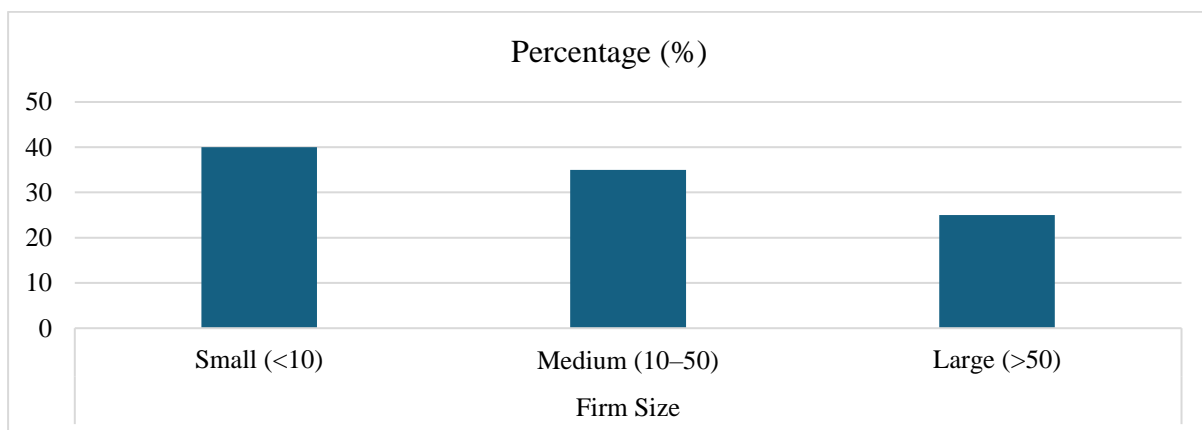
3. Firm Size Distribution

Table 3. Firm Size Distribution of Respondents

Demographic Variable	Category	Percentage (%)
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Firm Size	Small (<10)	40
	Medium (10–50)	35
	Large (>50)	25

Figure 3: Small and medium-sized firms comprised 75% of the sample.

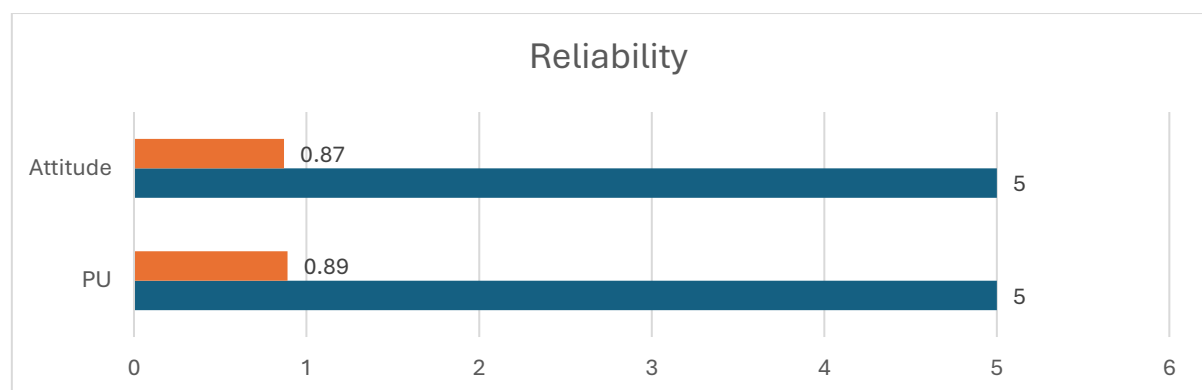


II. Reliability Statistics

Table 4: Reliability Statistics

Construct	No. of Items	Cronbach's Alpha
PU	5	0.89
Attitude	5	0.87

Figure 4: Both Perceived Usefulness (PU) and Attitude scales showed high reliability (Cronbach's alpha > 0.85).

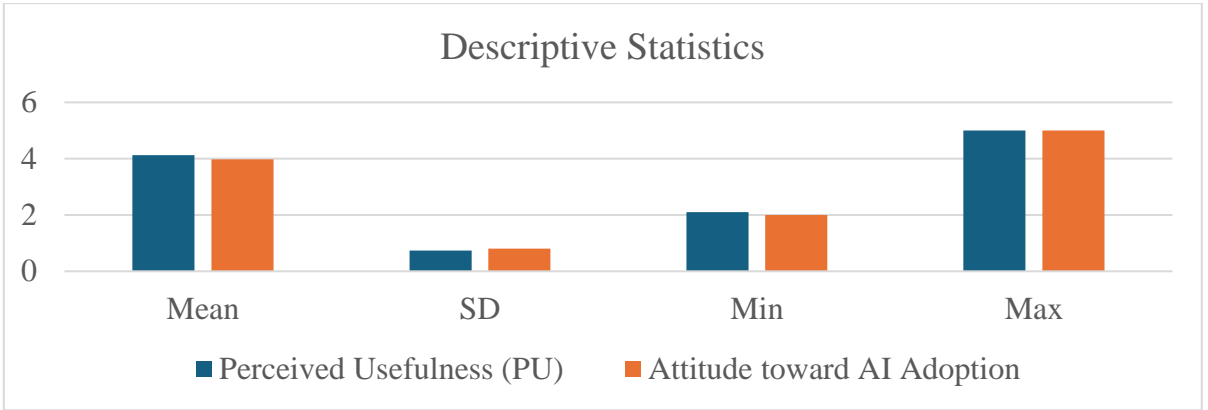


III. Descriptive Statistics of Variables

Table 5: Descriptive Statistics

Variable	Mean	SD	Min	Max
Perceived Usefulness (PU)	4.12	0.74	2.1	5.0
Attitude toward AI Adoption	3.98	0.81	2.0	5.0

Figure 5: Respondents rated PU (mean = 4.12) and Attitude toward AI (mean = 3.98) highly on a 5-point scale.

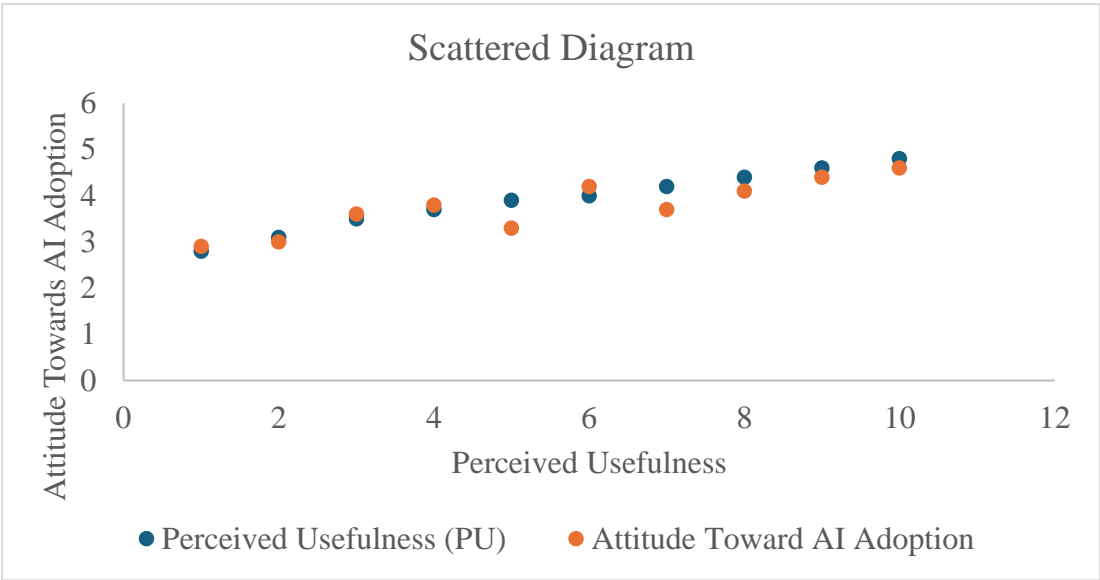


IV. Correlation Matrix

Table 6: Correlation Matrix

Variable	PU	Attitude
PU	1	0.73
Attitude	0.73	1

Figure 6: Strong colour saturation at the intersection with numeric label (0.73).

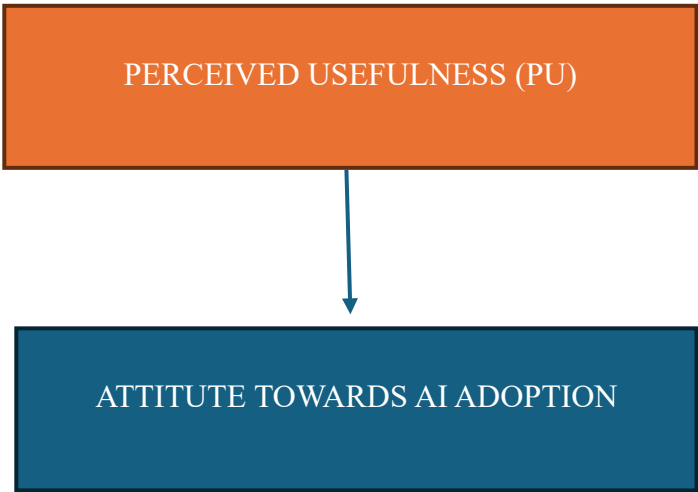


V. Regression Analysis

Table 7: Regression Analysis

Predictor	Dependent Variable	β (Beta)	t-value	p-value
PU	Attitude	0.72	14.63	<0.001

Figure 7: PU significantly predicted Attitude toward AI adoption ($\beta = 0.72$, $p < 0.001$).



VI. SEM Model Fit Indices

Table 8: SEM Model Fit Indices

Index	Value	Threshold
CFI	0.96	>0.90
RMSEA	0.04	<0.08
SRMR	0.03	<0.08

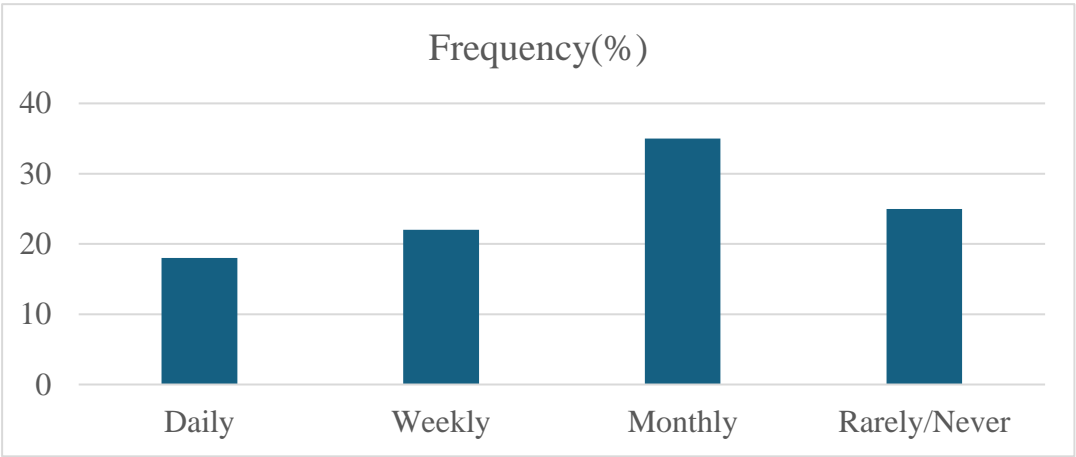
The model fit indices (CFI, RMSEA, SRMR) indicated a good fit for the data.

VII. Frequency of AI Usage

Table 9: Frequency of AI Usage

Frequency	Percentage (%)
Daily	18
Weekly	22
Monthly	35
Rarely/Never	25

Figure 8: Highest bar for monthly use.

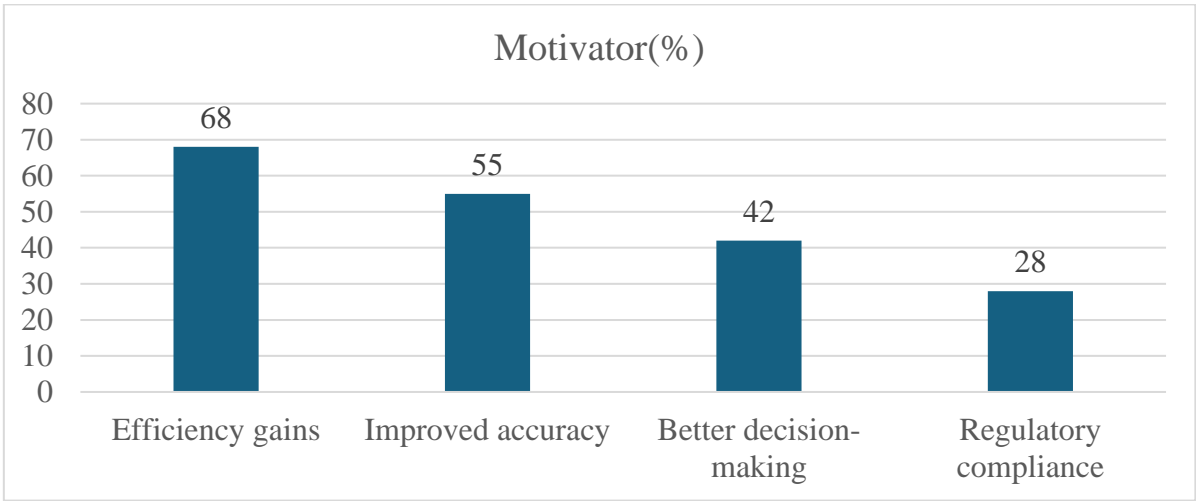


VIII. Motivators for Adoption:

Table 10: Key Motivators for AI Adoption

Motivator	Percentage (%)
Efficiency gains	68
Improved accuracy	55
Better decision-making	42
Regulatory compliance	28

Figure 9: Efficiency gains as the tallest bar



Results and Findings

The analysis confirms a strong, positive, and statistically significant relationship between perceived usefulness and attitude toward AI adoption among Indian CAs ($\beta = 0.72$, $p < 0.001$). Respondents who believed that AI would enhance their efficiency, accuracy, and decision-making were significantly more likely to express willingness and readiness to adopt AI in their professional practice. Efficiency gains (68%) and improved accuracy (55%) were the most frequently cited motivators. However, 25% of respondents reported rarely or never using AI, indicating persistent skepticism and barriers to adoption.

Suggestions

1. **Mandatory AI Training:** Professional bodies should introduce compulsory AI training modules in CA continuing education programs.
2. **Localized AI Solutions:** Develop and promote AI tools tailored to the needs and constraints of Indian SMEs and accounting firms.
3. **Awareness Campaigns:** Launch initiatives to showcase successful AI adoption stories and dispel myths about job displacement.
4. **Support Infrastructure:** Provide subsidies or incentives for firms investing in AI infrastructure and upskilling employees.

Implications

Theoretical Implications

- Validates the UTAUT framework in the Indian accounting context.
- Highlights the centrality of perceived usefulness in driving technology adoption among professionals.

Practical Implications

- Offers actionable insights for accounting firms and policymakers to design effective AI adoption strategies.
- Emphasizes the need for targeted training and support to bridge the gap between skepticism and adoption.

Limitations

- The study is geographically limited to Uttar Pradesh and may not fully represent the diversity of Indian CAs nationwide.
- Cross-sectional design restricts causal inferences.
- Self-reported data may be subject to social desirability bias.

Scope of Future Research

- Comparative studies across different Indian states and urban-rural divides.
- Longitudinal research to track changes in attitudes and adoption rates over time.
- Qualitative studies to explore deeper psychological and cultural factors influencing AI adoption.

Conclusion

This research demonstrates that perceived usefulness is a critical driver of AI adoption among Indian Chartered Accountants. By addressing skill gaps, providing targeted training, and demonstrating tangible benefits, stakeholders can accelerate the transition from skepticism to widespread AI integration in accounting. The findings offer a roadmap for fostering a more innovative, efficient, and future-ready accounting profession in India.

Contribution to Society

This research contributes significantly to society by addressing a critical barrier—skepticism—to AI adoption in India's accounting sector, a profession foundational to economic transparency and growth. By empirically demonstrating that perceived usefulness drives positive attitudes toward AI, the study equips policymakers, professional bodies, and firms with actionable strategies to accelerate AI integration. For instance, targeted training programs can empower Chartered Accountants to leverage AI for error reduction, fraud detection, and real-time financial insights, ultimately enhancing the accuracy and reliability of financial reporting for businesses and individuals. This shift can strengthen public trust in financial systems, support SMEs in adopting cost-effective compliance solutions, and foster economic resilience. Additionally, by advocating for localized AI tools and awareness campaigns, the study promotes equitable access to technology, reducing disparities between urban and rural practitioners. Ultimately, the research advances India's transition toward a digitally empowered

accounting ecosystem, aligning with national goals of technological self-reliance (Atmanirbhar Bharat) while safeguarding employment through upskilling rather than displacement.

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