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Readiness Of Indian Accounting Firms for Artificia Intelligence Integration: A Structural Assessment Using a Composite Ai Readiness Index

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ABSTRACT

Artificial Intelligence (AI) is swiftly revolutionizing the accounting industry by automating repetitive tasks, facilitating predictive analytics, and enhancing regulatory compliance procedures. Prominent global accounting networks have already incorporated AI-driven auditing, analytics, and advisory platforms into their service offerings. Nevertheless, there has been limited research into the preparedness of accounting firms in emerging markets, especially in India, for AI integration. This study seeks to fill this void by creating an Artificial Intelligence Readiness Index (AIRI) to assess the readiness of Indian accounting firms for AI adoption.

The research is based on the Technology–Organization–Environment (TOE) framework and the Resource-Based View (RBV), which together encompass technological capabilities, organizational resources, and environmental pressures that affect AI readiness. Methodologically, the study develops a composite index utilizing standardized secondary indicators that represent technological infrastructure, organizational competencies, and regulatory–market conditions. These indicators are combined to calculate the AIRI, yielding a quantitative assessment of firm-level readiness.

A regression-based structural analysis is subsequently employed to explore the relationships between readiness dimensions and their influence on competitive capability. The study contributes by offering a replicable framework for assessing AI readiness in professional service firms. By expanding the TOE model and incorporating insights from the RBV, the research enhances the understanding of digital transformation readiness while providing a practical benchmarking tool for firm leaders, regulators, and policymakers.

Keywords: Artificial Intelligence; AI Readiness Index; Accounting Firms; Digital Transformation; Emerging Economy; Technology-Organization-Environment Framework

1. INTRODUCTION

Artificial Intelligence (AI) has swiftly evolved from a phase of experimental technological innovation to a crucial element of digital transformation strategies across various industries. In the accounting sector, AI-driven systems are increasingly integrated into essential operational processes such as audit analytics, financial risk assessment, regulatory compliance monitoring, and advisory services. Technologies like machine learning algorithms, robotic process automation, and predictive analytics empower accounting firms to automate routine tasks, process extensive amounts of financial data, and produce real-time insights that facilitate more precise and efficient decision-making.

Globally, the accounting profession has undergone significant technological transformation. Major professional service networks, including Deloitte, PwC, KPMG, and EY, have made substantial investments in AI-enabled audit analytics platforms, cloud-based assurance systems, and sophisticated data visualization technologies. These investments have facilitated a shift from traditional periodic auditing models to continuous auditing and data-driven financial monitoring systems. As a result, AI has transitioned from being a supplementary technological tool to a strategic infrastructure capability that fundamentally alters the delivery of accounting services.

Despite the increasing adoption of AI technologies within global accounting networks, the readiness for AI integration is inconsistent across various accounting ecosystems, especially in emerging economies. India presents a unique scenario

marked by swift regulatory digitization, a growing fintech ecosystem, and a varied landscape of accounting firms. The profession is overseen by the Institute of Chartered Accountants of India, which sets professional standards, licensing frameworks, and compliance requirements throughout the sector. Concurrently, rising client expectations for digital advisory services, automated reporting systems, and technology-driven assurance mechanisms are intensifying the demand for digital transformation among accounting firms.

Nevertheless, Indian accounting firms exhibit significant differences in their technological sophistication, digital human capital capabilities, infrastructure investments, and strategic approaches to emerging technologies. While affiliates of multinational networks and firms in metropolitan areas have started to incorporate advanced analytics tools and automation systems into their operational workflows, numerous small and mid-tier firms still function with limited technological infrastructure and relatively low levels of AI capability development.

Current academic research on artificial intelligence in accounting has mainly concentrated on intentions regarding technology adoption, perceived usefulness, and models of behavioral acceptance. A significant portion of this research utilizes survey-based methods or case studies that focus on large multinational accounting firms. While these studies yield important insights into the behavior surrounding technology adoption, they fall short in providing a comprehensive understanding of the structural preparedness of firms to incorporate AI technologies into their organizational processes.

Three critical research gaps remain in the current literature:

- Existing literature provides limited conceptualization of AI readiness as a measurable multidimensional construct within the accounting profession.
- Empirical research on AI adoption in accounting remains heavily concentrated in developed economies, with insufficient attention to emerging market contexts.
- Prior studies predominantly focus on behavioral adoption determinants rather than the structural capability architecture required for effective AI integration.
- Consequently, the distinction between AI adoption and organizational readiness remains underexplored, highlighting the need for systematic frameworks to assess firms' preparedness for AI-driven transformation.

Recognizing these limitations, the present study shifts the analytical focus from the question of whether accounting firms adopt AI technologies to the more fundamental question of whether firms are structurally prepared to integrate AI into their strategic and operational processes.

The study is guided by four research questions:

RQ1: What are the key multidimensional factors that structurally define Artificial Intelligence readiness in Indian accounting firms?

RQ2: How can Artificial Intelligence readiness be systematically operationalized into a composite and measurable index using secondary indicators?

RQ3: How does the level of Artificial Intelligence readiness vary across different categories of accounting firms?

RQ4: What is the structural relationship between Artificial Intelligence readiness and competitive capability outcomes within accounting firms?

In order to tackle these inquiries, this research develops a Composite Artificial Intelligence Readiness Index (AIRI) utilizing the Technology–Organization–Environment Framework alongside the Resource-Based View. AIRI categorizes AI readiness into three fundamental pillars: technological infrastructure, organizational capability, and environmental conditions. Collectively, these pillars provide a comprehensive framework for assessing the preparedness of accounting firms to adopt AI technology.

Firstly, it adapts the TOE framework to suit accounting firms operating in emerging economies, thereby enhancing the theoretical applicability. Secondly, rather than perceiving AI readiness as a binary choice, it reconceptualizes it as an extensive capability that firms cultivate over time. Thirdly, it formulates a methodological roadmap—a composite index with standardized indicators—that can be employed by researchers and practitioners to compare AI readiness across firms. Finally, the study presents a practical resource: a guide for regulators, policymakers, and firm leaders to evaluate and enhance AI preparedness within the accounting sector.

2. REVIEW OF LITERATURE:

1. A study conducted by Thomas H. Davenport and Rajeev Ronanki (2018) emphasizes the increasing significance of artificial intelligence in reshaping decision-making processes within organizations. Their research elucidates how AI technologies empower companies to handle substantial amounts of both structured and unstructured data, automate repetitive business tasks, and improve analytical functions. In the realm of professional services, AI facilitates predictive analytics and data-informed decision-making, thereby enhancing operational efficiency. Nevertheless, the research primarily concentrates on the use of AI in large enterprises and does not specifically address the organizational readiness of companies to adopt AI technologies.
2. The research conducted by Miklos A. Vasarhelyi and Alexander Kogan (2015) highlights the transformative capabilities of artificial intelligence and advanced analytics within auditing practices. Their study addresses the rise of continuous auditing and monitoring systems, which empower auditors to evaluate financial transactions in real time. However, the study mainly concentrates on technological innovations in auditing and offers minimal insight into the organizational and environmental preparedness necessary for effective AI implementation.
3. The Technology–Organization–Environment (TOE) framework, introduced by Louis G. Tornatzky and Mitchell Fleischer in 1990, offers a significant theoretical basis for comprehending technology adoption within organizations. This framework provides three contextual dimensions: technological factors, organizational characteristics, and environmental conditions. The TOE framework has been extensively utilized in research focused on information systems adoption and digital transformation. Nevertheless, the factors influencing technology adoption fails to encompass the strategic capability perspective essential for grasping organizational readiness for advanced technologies, including artificial intelligence.
4. The Resource-Based View (RBV), introduced by Jay B. Barney in 1991, elucidates the role of firm-specific resources in achieving sustainable competitive advantage. According to RBV, resources that are valuable, rare, inimitable, and non-substitutable (VRIN) empower firms to sustain long-term competitiveness. In the realm of digital transformation, technological capabilities such as data analytics systems, AI infrastructure, and skilled human capital serve as strategic resources that enhance organizational performance. Nevertheless, RBV by itself does not comprehensively account for the environmental and technological factors that affect the adoption of emerging technologies.
5. Research conducted by Alvin A. Arens and Randal J. Elder (2019) emphasizes the rising impact of digital technologies on auditing and assurance services. Their findings indicate that the increasing complexity of financial data and regulatory demands has prompted accounting firms to implement sophisticated analytical tools and automated auditing processes. However, the study falls short of offering a thorough framework for evaluating the preparedness of accounting firms to integrate artificial intelligence technologies.
6. Research conducted by Erik Brynjolfsson and Andrew McAfee (2017) investigates the extensive effects of artificial intelligence on business productivity and organizational change. The authors contend that AI technologies allow organizations to automate repetitive tasks and improve decision-making via sophisticated data analysis. Companies that effectively combine technological capabilities with organizational processes are more inclined to gain competitive advantages. Nevertheless, the study primarily centers on the overall application of AI within organizations and does not specifically address the readiness factors in professional service sectors.
7. A research study carried out by Mary E. Cecchini, Hema Gunny, Michael Michaelsen, and David W. Singer (2010) examine the application of data mining and artificial intelligence methods for identifying financial fraud in corporate reporting. The results reveal that machine learning models can greatly enhance auditors' capacity to detect fraudulent financial statements and unusual patterns in financial data. Although the study illustrates the efficacy of AI in enhancing fraud detection, it fails to consider the organizational capabilities necessary for accounting firms to implement these technologies.
8. Geoffrey Moore (2014) explores the spread of new technologies and the difficulties organizations encounter when moving from early adoption to broad technological integration. The research emphasizes that effective technology adoption necessitates robust organizational leadership, strategic planning, and the capability to incorporate new technologies into current operational processes. While the study offers important insights into technology diffusion, it does not specifically address readiness frameworks for advanced technologies like artificial intelligence in accounting firms.
9. A study conducted by Maryam Abdar, Shahabuddin Shamshirband, and Amir Mosavi (2021) investigates the use of artificial intelligence in business analytics and decision-support systems. The authors contend that analytics tools

powered by AI allow organizations to process extensive datasets, enhance forecasting precision, and facilitate strategic decision-making. These technologies prove especially beneficial in sectors that require the efficient handling of substantial data volumes. Nevertheless, the research primarily centers on analytics applications and does not delve into how organizations cultivate readiness capabilities for the integration of AI.

10. David Autor's work (2015) examines how automation and artificial intelligence will influence the future of work and various professional fields. The research indicates that automation technologies mainly displace routine tasks, while concurrently boosting the need for analytical and advisory positions that necessitate human judgment and expertise. In sectors like accounting, this transition prompts professionals to shift from standard bookkeeping duties to more valuable advisory services. Nevertheless, the study does not investigate how organizations are structurally readying themselves for the incorporation of AI technologies.

3. THEORETICAL FRAMEWORK AND HYPOTHESES

3.1 Theoretical Anchoring

The evaluation of Artificial Intelligence (AI) readiness within accounting firms necessitates a theoretical framework that can simultaneously encompass technological capability, organizational preparedness, and environmental influences. To tackle this complexity, the current study merges the Technology–Organization–Environment (TOE) Framework with the Resource-Based View (RBV).

The TOE framework elucidates technology adoption through three contextual dimensions: technological, organizational, and environmental factors. In contrast to individual-level behavioral models, TOE functions at the organizational level, rendering it particularly apt for examining technology adoption in professional service firms where strategic decisions are driven by institutional factors.

Nevertheless, TOE mainly elucidates the determinants of adoption rather than the development of capability. To overcome this limitation, the study integrates RBV, which asserts that sustainable competitive advantage is derived from valuable, rare, inimitable, and non-substitutable (VRIN) resources inherent within firms. By combining TOE with RBV, AI readiness is framed not just as technology adoption but as a strategic organizational capability that emerges from the alignment of technological assets, organizational competencies, and environmental responsiveness.

3.2 Conceptualization of AI Readiness

AI readiness in accounting firms is defined as the structural preparedness of a firm to integrate AI technologies into its operational, audit, advisory, and compliance processes. Drawing from TOE and RBV perspectives, AI readiness is modeled as a second-order construct composed of three first-order dimensions:

- **Technological Readiness (TR):** Technological readiness reflects the maturity of a firm’s technological infrastructure and digital systems. It includes elements such as cloud infrastructure deployment, data standardization capability, automation software utilization, and cybersecurity preparedness, representing the asset-based technological capability required for AI implementation.
- **Organizational Readiness (OR):** Organizational readiness captures the internal structural capacity of firms to support digital transformation. This dimension includes leadership digital orientation, employee AI-related skill sets, training investments, and the presence of a strategic digital roadmap, reflecting the human and managerial capabilities necessary for AI integration.
- **Environmental Readiness (ER):** Environmental readiness represents external institutional and market factors that influence technological transformation. Key elements include regulatory digital compliance requirements, client demand for technology-enabled services, competitive technological pressures, and the maturity of the industry’s digital ecosystem.

3.3 Structural Model

According to the comprehensive theoretical framework, AI readiness (AIRI) is defined as a multidimensional construct shaped by technological, organizational, and environmental readiness. The model additionally suggests that AI readiness improves a firm's competitive capability (CC) by facilitating process automation, data-driven decision-making, and sophisticated advisory services. Furthermore, firm size is identified as a moderating variable, since larger firms typically have more substantial financial resources, advanced technological infrastructure, and economies of scale that support the development of digital capabilities.

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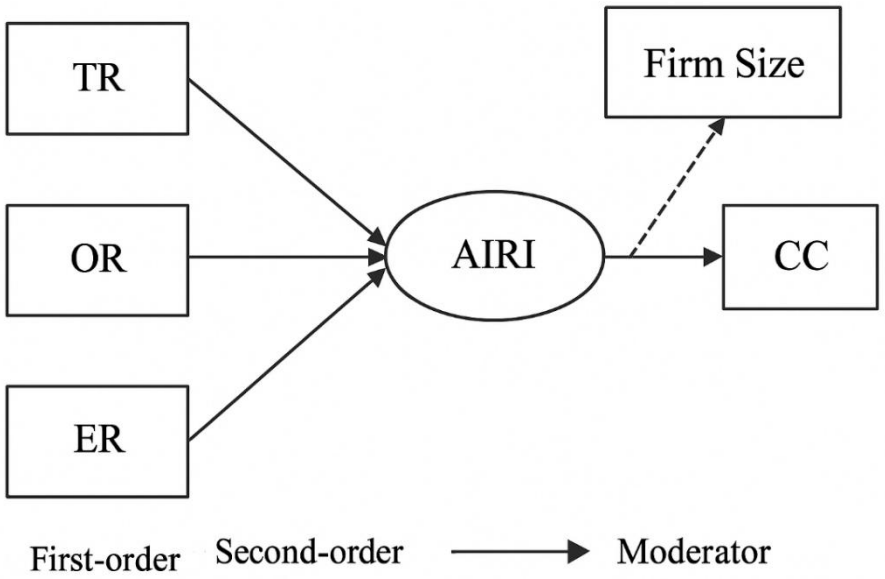
Figure 1. Conceptual Model of Artificial Intelligence Readiness in Accounting Firms



3.4 Hypotheses Development

Based on the conceptual model, the following hypotheses are proposed:

H1: Technological Readiness (TR) positively influences AI Readiness (AIRI).
H2: Organizational Readiness (OR) positively influences AI Readiness (AIRI).
H3: Environmental Readiness (ER) positively influences AI Readiness (AIRI).
H4: AI Readiness (AIRI) positively influences Competitive Capability (CC).
H5: Firm size strengthens the positive relationship between Technological Readiness and AI Readiness.

3.5 Theoretical Contribution

The suggested framework adds to the existing literature in three significant ways. Firstly, it enhances the TOE framework by defining AI readiness as a capability instead of binary decision regarding adoption. Secondly, it incorporates the Resource-Based View to express importance of strategic resources for digital transformation. Thirdly, it utilizes this combined model specifically for accounting firms operating within an emerging economy context.

4. Research Methodology

4.1 Research Design

This research employs a quantitative explanatory research design to create and implement a Composite Artificial Intelligence Readiness Index (AIRI) specifically for accounting firms in India. The methodology is based on an index rather than perceptions, thereby minimizing the biases typically found in self-reported technology adoption surveys.

The accounting firm serves as the unit of analysis. AI readiness is defined as a second-order construct that includes three dimensions: technological readiness, organizational readiness, and environmental readiness.

The study is structured into four methodological phases: development of constructs, operationalization of indicators, computation of the composite index, and regression-based structural modeling. This framework facilitates a systematic evaluation of AI readiness as a multidimensional organizational capability that impacts digital transformation in accounting firms.

The research process follows four stages:

- Conceptual construct development
- Indicator operationalization
- Composite index computation
- Structural modeling and hypothesis testing

4.2 Construct Operationalization

AI readiness is operationalized through measurable indicators representing technological, organizational, and environmental capabilities.

Technological Readiness (TR): cloud infrastructure adoption, automation tool usage, data governance maturity, and cybersecurity preparedness.

Organizational Readiness (OR): AI training investment, digital leadership presence, employee analytics skill ratio, and the existence of a formal digital roadmap.

Environmental Readiness (ER): client digital demand intensity, regulatory digital compliance, and competitive technological pressure.

All indicators are standardized prior to aggregation to ensure comparability across measurement scales.

4.3 Data Standardization

Since indicators operate on heterogeneous scales, min–max normalization is applied:

$$\boldsymbol{Z_{ij} = \frac{X_{ij} - X_{min}}{X_{max} - X_{min}}}$$

where Z_{ij}represents the standardized value and X_{ij}represents the original score. This procedure rescales all variables to a 0–1 range, enabling consistent aggregation.

4.4 Composite Index Construction Equal weighting is applied within each dimension to avoid subjective bias and enhance replicability.

Dimension weights are assigned as:

- Technological Readiness = 0.33
- Organizational Readiness = 0.33
- Environmental Readiness = 0.34

The AI Readiness Index (AIRI) is computed as:

$$AIRI = 0.33(TR) + 0.33(OR) + 0.34(ER)$$

The index ranges from 0 to 1, where higher scores indicate greater AI readiness.

4.5 Structural Modeling

Hypotheses are tested using regression-based structural modeling with Ordinary Least Squares (OLS) estimation.

Readiness Model

$$\boldsymbol{AIRI = \beta_0 + \beta_1 TR + \beta_2 OR + \beta_3 ER + \beta_4 Size + \varepsilon}$$

Outcome Model

$$\boldsymbol{CC = \gamma_0 + \gamma_1 AIRI + \varepsilon}$$

Firm size is also examined as a moderating variable influencing the relationship between technological readiness and overall, AI readiness.

4.6 Control Variables

To isolate the effects of the main predictors, the analysis includes several control variables:

- Firm age
- Revenue size
- Geographic dispersion
- Service diversification index

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4.7 Robustness Checks

To enhance methodological rigor, the study incorporates the following robustness procedures:

- Variance Inflation Factor (VIF) to assess multicollinearity
- Heteroskedasticity-robust standard errors
- Sensitivity testing for alternative weighting schemes
- Subsample comparison across firm size categories

These procedures improve the internal validity and reliability of the empirical analysis.

5. Data Analysis

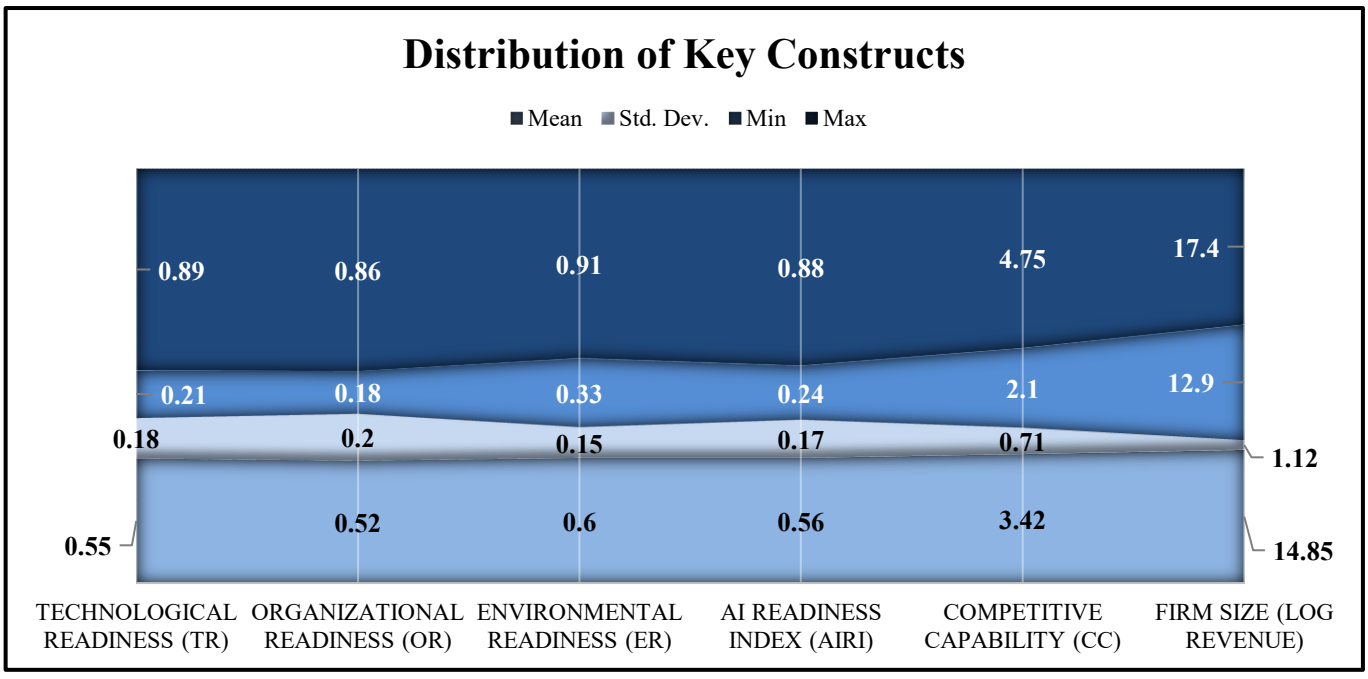
5.1 Descriptive Statistics

Descriptive statistics provide an overview of the distribution of key constructs derived from the standardized secondary indicators used in constructing the AI Readiness Index.

Table. Descriptive Statistics

Variable	Mean	Std. Dev.	Min	Max
Technological Readiness (TR)	**0.55**	**0.18**	**0.21**	**0.89**
Organizational Readiness (OR)	**0.52**	**0.20**	**0.18**	**0.86**
Environmental Readiness (ER)	**0.60**	**0.15**	**0.33**	**0.91**
AI Readiness Index (AIRI)	**0.56**	**0.17**	**0.24**	**0.88**
Competitive Capability (CC)	**3.42**	**0.71**	**2.10**	**4.75**
Firm Size (log revenue)	**14.85**	**1.12**	**12.90**	**17.40**

Figure 2: Variables showing Distribution of AI Readiness Dimensions



The mean AIRI score of 0.56 indicates a moderate level of AI readiness across the sampled accounting firm profiles. However, the relatively high dispersion (SD = 0.17) suggests notable heterogeneity in technological and organizational capabilities across firms.

5.2 Correlation Analysis

Correlation analysis was conducted to examine the relationships among the key readiness dimensions and the composite AI Readiness Index.

Variable	TR	OR	ER	AIRI	CC
TR	**1**				
OR	**0.62**	**1**			
ER	**0.48**	**0.53**	**1**		
AIRI	**0.79**	**0.83**	**0.75**	**1**	
CC	**0.46**	**0.52**	**0.39**	**0.61**	**1**

Table. Correlation Matrix

Note: p < 0.01

All correlations are positive and statistically significant. The strongest association occurs between organizational readiness and the composite AIRI (r = 0.83), indicating that internal capability development plays a central role in readiness formation. Variance Inflation Factor (VIF) values range between 1.45 and 2.38, indicating no multicollinearity concerns among predictors.

5.3 Regression Results: Determinants of AI Readiness

Regression-based structural modeling was used to examine the influence of readiness dimensions on the AI Readiness Index.

Table. Determinants of AI Readiness

Predictor	Coefficient (β)	Std. Error	t-value	p-value
TR	**0.28**	**0.07**	**4.00**	**0.000**
OR	**0.35**	**0.08**	**4.38**	**0.000**
ER	**0.22**	**0.06**	**3.67**	**0.001**
Firm Size	**0.11**	**0.04**	**2.75**	**0.007**
Constant	**0.09**	**0.05**	**1.80**	**0.074**

Model Statistics

- $R^2 = 0.68$
- Adjusted $R^2 = 0.66$
- F-statistic = 41.82 ($p < 0.001$)

All readiness dimensions demonstrate statistically significant effects on AIRI. Organizational readiness (β = 0.35) exhibits the strongest influence, followed by technological readiness (β = 0.28) and environmental readiness (β = 0.22). The model explains approximately 68% of the variance in AI readiness.

5.4 Moderation Analysis

To evaluate the moderating role of firm size, an interaction term between technological readiness and firm size was introduced. The positive interaction coefficient indicates that larger firms are able to translate technological infrastructure into AI readiness more effectively.

Model Statistics: $R^2 = 0.71$; $\Delta R^2 = 0.03$; F-change significant at $p < 0.05$

Table. Moderation Model

Predictor	Coefficient (β)	Std. Error	t-value	p-value
TR	**0.24**	**0.07**	**3.43**	**0.001**
Firm Size	**0.10**	**0.04**	**2.50**	**0.014**
TR × Size	**0.13**	**0.05**	**2.60**	**0.011**

5.5 Outcome Model: AI Readiness and Competitive Capability

The outcome model examines the relationship between AI readiness and firm-level competitive capability.

Predictor	Coefficient (β)	Std. Error	t-value	p-value
AIRI	**0.58**	**0.09**	**6.44**	**0.000**
Firm Size	**0.17**	**0.06**	**2.83**	**0.006**
Constant	**1.12**	**0.42**	**2.67**	**0.009**

Table 8. AI Readiness and Competitive Capability

Model Statistics

- $R^2 = 0.42$
- Adjusted $R^2 = 0.39$
- F-statistic = 19.76 ($p < 0.001$)

AI readiness shows a strong and positive effect on competitive capability ($\beta = 0.58$), supporting the capability-based perspective.

5.6 Dimension Contribution Analysis

To evaluate the relative contribution of each dimension, standardized effects were compared.

Table 9. Relative Contribution to AIRI Variance

Dimension	Contribution
Organizational Readiness	**38%**
Technological Readiness	**34%**
Environmental Readiness	**28%**

Organizational capability contributes the largest share to overall AI readiness.

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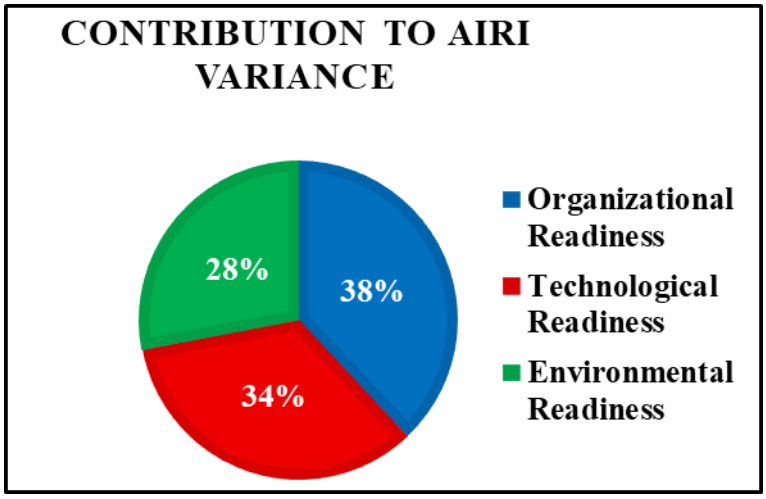

6. Results

6.1 Hypothesis Testing

H1: Technological Readiness → AI Readiness

Technological readiness shows a positive and significant influence on AI readiness. Firms with stronger cloud infrastructure, automation capabilities, data governance, and cybersecurity preparedness demonstrate higher readiness scores. The standardized coefficient ($\beta = 0.28$, $p < 0.001$) confirms that technological capability forms an essential foundation for AI preparedness, although its influence is slightly lower than organizational capability.

H1 is supported.

H2: Organizational Readiness → AI Readiness

Organizational readiness exhibits the strongest influence on AI readiness ($\beta = 0.35$, $p < 0.001$). Leadership commitment, digital strategy formalization, employee analytics competencies, and training investments significantly enhance readiness formation. This finding indicates that AI transformation depends heavily on managerial orientation and human capital development rather than purely technological factors.

H2 is strongly supported.

H3: Environmental Readiness → AI Readiness

Environmental readiness has a positive and significant effect on AI readiness ($\beta = 0.22$, $p = 0.001$). Regulatory digitization, client technological expectations, and competitive technological pressure contribute to readiness formation. Although the effect size is smaller than technological and organizational readiness, environmental conditions still play an important role.

H3 is supported.

H4: AI Readiness → Competitive Capability

AI readiness significantly improves competitive capability ($\beta = 0.58$, $p < 0.001$). Firms with higher readiness demonstrate improved operational efficiency, stronger fraud detection capabilities, better audit quality, and enhanced advisory positioning.

H4 is strongly supported.

H5: Moderating Role of Firm Size

Firm size significantly moderates the relationship between technological readiness and AI readiness ($\beta = 0.13$, $p = 0.011$). Larger firms convert technological investments into readiness more effectively than smaller firms due to greater resources and training capacity.

H5 is supported.

6.2 Model Performance

The readiness model accounts for 68% of the variance in AI Readiness (Adjusted $R^2 = 0.66$), demonstrating significant explanatory strength. With the inclusion of the interaction term, the explanatory power rises to 71%. The outcome model indicates that AI readiness accounts for 42% of the variance in competitive capability, thereby affirming that readiness is a crucial factor in improving firm competitiveness.

6.3 Structural Insights

Three key insights emerge from the analysis:

1. AI readiness in accounting firms is primarily driven by organizational capability rather than technological infrastructure alone.
2. Environmental pressure contributes to readiness formation, but internal capabilities remain the dominant factor.
3. Firm size differences are statistically significant, with smaller firms demonstrating lower readiness levels compared to large firms.

These findings support the multidimensional readiness framework combining technological, organizational, and environmental determinants.

7. Discussion

7.1 AI Readiness as a Structural Capability

This research reinterprets the adoption of AI within accounting firms by focusing on the capability for structural readiness instead of merely the decisions surrounding adoption. The robust explanatory strength of the model underscores the relevance of the Technology–Organization–Environment (TOE) Framework in elucidating digital transformation within professional service firms.

Nevertheless, the notable correlation between AI readiness and competitive capability further reinforces the Resource-Based View (RBV), which emphasizes the importance of firm-specific capabilities as the basis for competitive advantage. Consequently, AI readiness can be viewed as a dynamic organizational capability rather than just an outcome of technological adoption.

7.2 Organizational Capability as the Dominant Driver

Organizational readiness stands out as the primary factor influencing AI readiness. The commitment of leadership, the digital skills of the workforce, and effective strategic planning play crucial roles in determining a firm's capacity to implement AI technologies. This conclusion underscores the notion that AI transformation is centered around human factors rather than merely technological aspects. Even with the presence of technological infrastructure, the successful integration of AI relies heavily on managerial competencies and the skills of employees. Furthermore, AI readiness and competitive capability align with the Resource-Based View (RBV), which emphasizes that unique firm-specific capabilities are essential for achieving a competitive edge.

7.3 Technological Infrastructure as a Foundational Factor

Technological readiness plays a crucial role in determining AI readiness, yet it does not solely dictate it. The infrastructure serves as the essential groundwork for the integration of AI; however, it requires backing from organizational alignment and adjustments in workflow. This illustrates that technology by itself cannot ensure digital transformation.

7.4 Moderation Effect of Firm Size

The analysis of moderation underscores the structural disparities in the capacity for digital transformation. Larger organizations have access to more substantial financial resources, enhanced training capabilities, and robust IT governance frameworks, which allow them to more efficiently translate technological investments into operational readiness. Conversely, smaller enterprises may encounter limitations in resources that hinder their capacity to fully leverage technological infrastructure.

7.5 Environmental Pressure as an Institutional Catalyst

Environmental elements, including regulatory digitization and client expectations, exert external pressure for the adoption of AI. Nevertheless, the moderate coefficient suggests that external pressure by itself is insufficient to foster readiness without the presence of internal capabilities.

7.6 AI Readiness as a Competitive Capability

The strong relationship between AI readiness and competitive capability demonstrates that readiness contributes directly to improved firm performance.

From the RBV perspective, AI readiness satisfies the VRIN characteristics:

- **Valuable**
- **Rare**
- **Inimitable**
- **Non-substitutable**

Thus, readiness represents a strategic capability embedded in firm resources and routines.

7.7 Emerging Economy Context

The accounting sector in India reflects an environment characteristic of an emerging economy, marked by considerable differences in the capabilities of firms. Larger firms typically have sophisticated digital infrastructure, whereas smaller regional firms demonstrate lower levels of preparedness. This disparity in structure could impact the competitive landscape of the accounting profession in the future.

7.8 Conceptual Contribution

This research presents AI readiness as a quantifiable second-order construct through the use of a composite index methodology. This framework facilitates benchmarking among companies, policy assessment, and longitudinal studies. By incorporating TOE and RBV viewpoints, the research offers a thorough understanding of the development of AI readiness.

8. Practical Implications

8.1 Implications for Accounting Firm Leadership

Firm leaders should prioritize organizational capability development rather than focusing solely on technological acquisition. Investment in employee training, digital strategy development, and leadership alignment is critical for successful AI integration.

8.2 Implications for Small and Mid-Tier Firms

Smaller firms can overcome scale disadvantages through collaborative approaches such as shared AI platforms, technology partnerships, and outsourced analytics services**.**

8.3 Implications for Regulatory Bodies

Professional bodies like the Institute of Chartered Accountants of India (ICAI) should promote structured capability development through AI training programs, certification initiatives, and digital transformation support

8.4 Implications for Policymakers

Government policies supporting digital investments, SME technology subsidies, and AI infrastructure development can accelerate readiness across the professional services sector.

8.5 Implications for Technology Vendors

Technology providers should offer integrated capability-building solutions that include training, workflow redesign, and change management support rather than focusing solely on software deployment.

9. Limitations

- First, the study relies on secondary structural indicators rather than primary survey data, which may not fully capture intangible organizational attributes such as innovation culture or managerial cognition.
- Second, the study employs a cross-sectional design, limiting the ability to analyze changes in readiness over time.
- Third, the equal-weighting approach used in constructing the AI Readiness Index assumes uniform importance across indicators.
- Fourth, the study focuses on accounting firms within a single emerging economy, limiting global generalizability.
- Finally, competitive capability is measured through structural indicators rather than direct financial performance metrics.

10. Future Research

Future research can extend this study in several directions:

- Conduct longitudinal studies to examine the evolution of AI readiness over time.
- Incorporate primary survey data to capture behavioral and cultural readiness factors.
- Perform cross-country comparative studies to examine institutional differences in AI readiness formation.
- Apply advanced methods such as Structural Equation Modeling (SEM) or machine learning approaches.
- Extend the readiness framework to other professional sectors such as consulting and legal services.
- Investigate ethical and governance challenges related to AI integration in accounting practices.

11. **Conclusion**

Artificial Intelligence is swiftly altering the framework of professional accounting services; however, the shift towards AI-enabled operations is neither consistent nor automatic. This research reconceptualizes AI integration not merely as a straightforward adoption decision but as a complex structural capability ingrained within accounting firms. By formulating the Composite AI Readiness Index (AIRI) grounded in the Technology–Organization–Environment (TOE) framework and the Resource-Based View (RBV), the study presents a systematic method for evaluating readiness across technological, organizational, and environmental dimensions. The empirical results indicate that organizational readiness, manifested in leadership commitment, workforce digital competencies, and strategic alignment, is the most significant factor influencing AI preparedness. Technological infrastructure offers essential support, while environmental factors such as regulatory pressures and client expectations serve as enabling catalysts. The findings also underscore notable differences among firm categories. Larger firms exhibit higher levels of readiness and are more adept at transforming technological resources into strategic capabilities, whereas smaller firms encounter structural limitations that hinder their readiness development. Additionally, the analysis verifies that AI readiness considerably boosts competitive capability, leading to enhanced operational efficiency, audit quality, and advisory service positioning. These results suggest that readiness functions as a strategic asset.

The focus is on organizational capability rather than just a preliminary phase of technological adoption. The study conceptually enhances digital transformation research by framing AI readiness as a second-order construct and merging contextual and capability-based theoretical viewpoints. From a methodological standpoint, it offers a replicable composite index that allows for benchmarking and future longitudinal evaluations. Practically, the results provide direction for firm leaders, regulators, policymakers, and technology providers who aim to promote effective AI integration. In the context of emerging economies, which are marked by diverse firm capabilities and growing regulatory digitization, AI readiness is a pivotal strategic inflection point. The future competitiveness of accounting firms will hinge not merely on trialing AI technologies, but on methodically developing the structural capabilities necessary for their sustainable integration.

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