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Artificial Intelligence Adoption in Organizations: A Management Framework for Improving Decision-Making and Operational Performance

Mohamed Jalaluddin¹, Dr. S. Chidambaram², Vikas Gulati³, Dr. Shweta Agarwal⁴

¹Associate Professor, Electrical and Electronics Engineering, Vidyavardhaka College of Engineering, Mysuru-570002.

E-mail id mohammed.jalaluddin@vvce.ac.in

²Department of Information Technology National Engineering College Kovilpatti - 628 503. E-mail: chidambaram@nec.edu.in

³Professor, School of Mechanical Engineering, Lovely Professional University, Phagwara (Punjab). Email: vikasgulati1979@gmail.com

⁴School of Engineering & Technology, K.R Mangalam University, Gurugram, India. E-mail: ershweta.cs@gmail.com

Abstract

This study aims to examine the emerging adoption of artificial intelligence (AI) within organizations and develop a management-oriented perspective linking AI utilization with organizational decision-making and operational performance. The study seeks to examine the extent to which organizations employ AI across workflow automation, decision support, strategic decision-making, and sourcing, procurement, and supply-chain activities. It further aims to provide an empirical foundation for understanding the organizational conditions required for broader AI integration. The analysis uses establishment-level data from the World Bank Enterprise Survey-Follow-up on Artificial Intelligence (WBES-OS), India, 2026, covering 1,355 establishments. The findings show that AI adoption remains limited across the examined organizational functions. Only a small proportion of establishments reported using AI for workflow automation and decision support, while strategic decision-making and supply-chain applications also showed relatively limited adoption. The results indicate that organizations are at different stages of AI integration and continue to rely substantially on conventional processes. The study concludes that organizational AI adoption in India is still developing and requires greater attention to technological readiness, organizational capabilities, employee competencies, managerial involvement, and effective integration with existing processes. The findings provide a foundation for future empirical investigation into whether AI adoption contributes to decision-making effectiveness and operational performance.

Keywords: Artificial intelligence, Decision-making, Organizational performance, Supply chain, Technology adoption

1. Introduction

Artificial intelligence (AI) has increasingly become an important organizational technology due to its ability to process large volumes of information, identify patterns, support prediction, and assist managers in complex business activities. Unlike conventional information systems that primarily provide access to stored information, AI-enabled systems can contribute to analysis, prediction, recommendation, and, in some circumstances, automated decision processes. This development has encouraged organizations to consider AI not only as a technological investment but also as a component of organizational strategy and operational transformation (Bhima *et al.*, 2023). The adoption of AI, however, is influenced by several organizational and environmental conditions, including technological readiness, managerial commitment, employee capabilities, organizational resources, and perceived business value (Kar *et al.*, 2021).

AI adoption has consequently moved beyond isolated experimentation toward applications embedded within organizational functions. Organizations may employ AI in customer management, marketing, supply-chain activities, production planning, forecasting, financial processes, and managerial decision support (Chen *et al.*, 2022). The benefits associated with AI cannot be assumed simply from acquiring AI technologies. Effective implementation requires organizations to align technological capabilities with business processes, managerial practices, and employee responsibilities. Recent research therefore emphasizes that organizational agility and management commitment can influence whether AI adoption translates into meaningful organizational outcomes (Aldossary *et al.*, 2026). AI adoption should thus be understood as an organizational transformation process rather than merely the installation of a new digital technology.

Decision-making represents one of the most important areas in which AI can influence organizational performance. Modern organizations frequently operate in environments characterized by uncertainty, information overload, rapid changes in customer requirements, and increasing competitive pressure (Nagaraj *et al.*, 2026). AI systems can assist decision-makers by processing information rapidly, identifying relationships within complex datasets, generating predictions, and presenting recommendations that may not be readily

identified through conventional analytical approaches. Alasmri and Basahel (2022) associate AI use with improvements in decision-making and broader individual and organizational outcomes, suggesting that AI can contribute value when it is appropriately integrated into organizational activities.

AI does not necessarily replace managerial judgment (Hong *et al.*, 2026). The relationship between human decision-makers and AI systems can take different forms depending on the characteristics of the decision. Shrestha *et al.* (2019) distinguish between arrangements involving human-to-AI delegation, sequential human-AI decision-making, and aggregated human-AI decision-making (Meilinda *et al.*, 2026). This perspective demonstrates that organizational value may arise from combining computational capabilities with human experience rather than treating AI and managers as competing decision-makers. In addition, AI capability has been associated with decision-making processes that influence organizational performance, particularly through mechanisms involving decision speed and decision quality (Neiroukh *et al.*, 2025). Therefore, examining AI adoption requires attention not only to whether organizations use AI but also to how AI becomes incorporated into managerial decision processes.

Operational performance is another important outcome associated with organizational AI adoption. AI can support operational activities by improving information processing, forecasting demand, identifying inefficiencies, optimizing resource allocation, and supporting coordination across organizational functions (SALAMA, 2026). In production and operations environments, AI-based decision frameworks have demonstrated potential for improving operational efficiency and supporting more accurate decisions in complex situations (Al-Surmi *et al.*, 2022). Similarly, AI can contribute to supply-chain resilience by supporting information-driven decisions and helping organizations respond to disruptions and changing operational conditions (Belhadi *et al.*, 2022).

The potential operational benefits of AI are particularly relevant as organizations increasingly seek improvements in productivity, responsiveness, flexibility, and resource utilization. Nevertheless, operational improvements depend on the extent to which AI is effectively connected with organizational processes (Rajagopal *et al.*, 2022). Barriers related to skills, organizational readiness, implementation complexity, and managerial acceptance may restrict the realization of expected benefits (Booyse and Scheepers, 2024). Consequently, AI adoption should be evaluated through its relationship with actual organizational capabilities and outcomes rather than through technology implementation alone.

Despite the growing interest in AI adoption, organizations continue to experience difficulties in converting AI investments into consistent improvements in decision-making and operational performance. The existence of AI technology within an organization does not automatically ensure effective managerial decisions or superior operational outcomes (Komarova and Krawczyk, 2025). Organizations may differ substantially in their technological capabilities, management commitment, employee readiness, and ability to integrate AI into existing workflows. Furthermore, automated decision-making can introduce concerns regarding accountability, interpretability, human involvement, and organizational control (Badghish and Soomro, 2024). These challenges create a need for an integrated perspective that considers AI adoption alongside organizational capabilities and decision-making processes.

Existing research has examined several individual dimensions of organizational AI adoption, including adoption drivers, organizational readiness, decision-making, operational performance, and AI capability (Felemban *et al.*, 2024). However, these dimensions are often investigated separately or within specific organizational contexts. Less attention has been given to an integrated management framework that connects AI adoption with AI capability, human-AI interaction, decision-making effectiveness, and operational performance. In particular, further empirical attention is required to understand whether improved decision-making represents an important mechanism through which AI adoption can contribute to operational performance (Ferdousi *et al.*, 2026). Addressing this gap can provide a more comprehensive understanding of how organizations can translate AI adoption into measurable managerial and operational benefits.

This study aims to develop and empirically examine a management framework explaining how artificial intelligence adoption can contribute to organizational decision-making and operational performance. Specifically, the study seeks to examine the relationship between AI adoption and decision-making effectiveness; assess the relationship between AI adoption and operational performance; evaluate the contribution of organizational AI capability; investigate the role of human-AI interaction in organizational decision processes; and determine whether decision-making effectiveness mediates the relationship between AI adoption and operational performance. By integrating these relationships within a single framework, the study seeks to provide both theoretical understanding and practical guidance for organizations seeking to implement AI effectively.

2. Materials and Methods

2.1 Study Design

This study employed a quantitative, cross-sectional study design to examine the relationship between artificial intelligence adoption, organizational decision-making, and operational performance. The research was based on secondary establishment-level data obtained from the World Bank Enterprise Survey–Follow-up on Artificial Intelligence (WBES-OS) for India. A quantitative approach was appropriate; the study focuses on measurable organizational characteristics and empirical relationships among AI-related variables and organizational outcomes. The cross-sectional design enables the assessment of AI adoption and related organizational practices within the survey period. The research design therefore provides an appropriate foundation for evaluating the proposed management framework and determining whether organizational AI adoption is associated with improved decision-making and operational outcomes.

2.2 Study Framework

The proposed framework examines artificial intelligence adoption as the primary explanatory factor influencing organizational decision-making and operational performance. The model assumes that organizations can obtain greater value from AI when technological capabilities are effectively incorporated into managerial and operational processes. Decision-making effectiveness is positioned as an important mechanism connecting AI adoption with organizational performance. AI capability and human–AI interaction are considered supporting dimensions that can influence how effectively AI is integrated into organizational activities. The framework therefore considers both direct and indirect relationships between AI adoption and organizational outcomes. This model provides a structured basis for empirically examining the proposed relationships and developing a management-oriented explanation of AI-enabled organizational improvement.

2.3 Research Population and Sampling

The study population consisted of business establishments represented in the India World Bank Enterprise Survey–Follow-up on Artificial Intelligence conducted in 2026. The dataset contains 1,355 establishments and includes information concerning artificial intelligence use, business processes, technology adoption, employment, and organizational activities. The original survey used a structured sampling approach to obtain establishment-level information from the target business population. For the present research, the available establishments were considered the empirical population for statistical analysis. The effective number of observations may vary across analyses; some survey variables contain missing or non-substantive responses. Such observations were treated according to their original survey classifications rather than being automatically interpreted as evidence of AI non-adoption.

2.4 Data Collection

This study used secondary data from the World Bank Enterprise Survey–Follow-up on Artificial Intelligence (WBES-OS), India, 2026, collected during March and April 2026. Variables were selected from the survey documentation according to their relevance to AI adoption, decision-making, and organizational operations. AI adoption was represented through observable indicators concerning the use of AI for workflow automation and decision support, strategic decision-making, and sourcing, procurement, and supply-chain activities. The original response categories and coding structures were retained where appropriate. This approach ensures that the empirical analysis remains closely aligned with the definitions and measurement procedures established by the original survey.

2.5 Data Analysis

The study employed descriptive and inferential statistical techniques to evaluate the proposed research framework. Descriptive analysis was first used to summarize organizational characteristics and patterns of AI adoption. Frequency distributions and percentages were used for categorical variables, while appropriate summary statistics were considered for numerical measures. Inferential analysis was subsequently designed to examine associations between AI adoption and organizational outcomes. Regression-based procedures can be used to estimate the direction and strength of the proposed relationships, while mediation analysis can be applied where the available variables adequately support examination of indirect effects through decision-making effectiveness. Statistical significance, effect estimates, confidence intervals, and model explanatory performance should be considered collectively when interpreting the findings.

3. Results

3.1 AI Use for Workflow Automation and Decision Support

The adoption of artificial intelligence for workflow automation and decision-support activities remains relatively limited among the surveyed organizations. Most firms reported that these applications were not currently incorporated into their organizational processes, indicating that AI-enabled automation has yet to become a routine component of business operations, as shown in Table 1. A small proportion of organizations have begun integrating AI into workflows and decision-support activities, suggesting an emerging transition

toward technology-assisted organizational processes. These findings indicate considerable scope for broader AI integration, particularly where intelligent systems can support routine activities, enhance information processing, and assist managers in making timely and informed decisions.

Table 1. AI for workflow automation/decision support

AI use	Firms (n)	Percentage (%)
Yes	50	3.7
No	1,299	95.9
Don't know	6	0.4
Total	1,355	100.0

Source: World Bank Group, India – World Bank Enterprise Survey – Follow-up on Artificial Intelligence, 2026, variable ai_b2a5. Data file: India-2026-AI_follow-up_data, 1,355 cases.

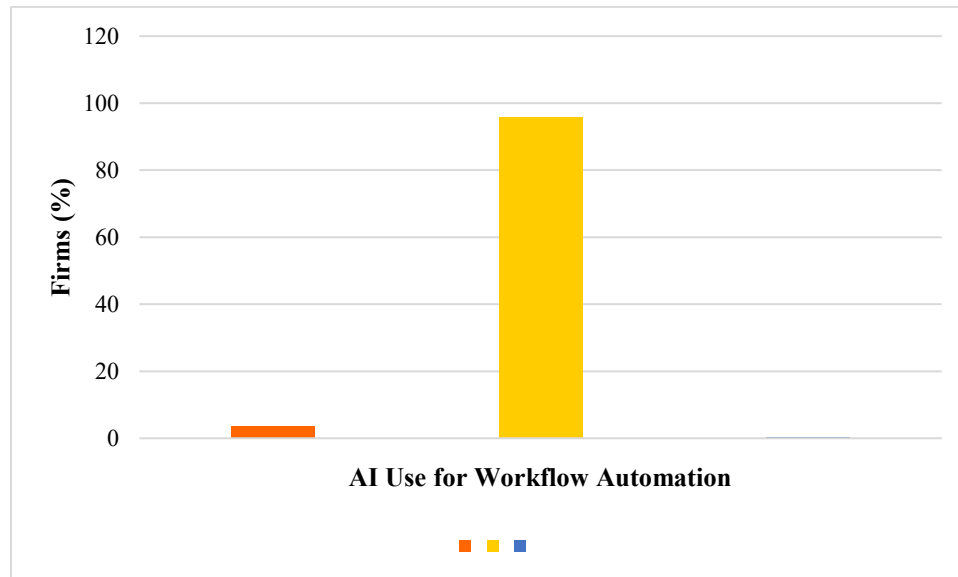


Figure 1. AI Use for Workflow Automation and Decision Support

The integration of artificial intelligence into workflow automation and decision-support activities remains at an early stage among the surveyed organizations. Most firms have not yet incorporated AI into these organizational processes, suggesting that conventional approaches continue to dominate routine workflow and managerial support activities, as shown in Figure 1. The presence of organizations using AI indicates a developing interest in intelligent technologies for streamlining processes and supporting organizational decisions. The findings also suggest that broader implementation may depend on technological readiness, organizational capabilities, employee skills, and management's willingness to integrate AI into existing operational and decision-making structures.

3.2 AI Use in Strategic Decision-Making

The use of artificial intelligence in strategic decision-making is still developing across the surveyed organizations. AI-supported strategic decision processes have been adopted by a relatively small group of firms, whereas a substantially larger proportion reported no such application, as shown in Table 2. This pattern suggests that organizations may still be exploring appropriate ways to incorporate AI into higher-level managerial activities. The findings also highlight the need for organizations to develop suitable capabilities, governance mechanisms, and managerial expertise before relying extensively on AI-generated insights for strategic decisions. Consequently, effective AI adoption may require both technological readiness and organizational preparedness.

Table 2. AI Use in Strategic Decision-Making

AI use	Firms (n)	Percentage (%)
Yes	59	4.4
No	459	33.9
Don't know	2	0.1
Missing	835	61.6
Total	1,355	100.0

Source: World Bank Group, India – World Bank Enterprise Survey – Follow-up on Artificial Intelligence, 2026, variable ai_b4a5.

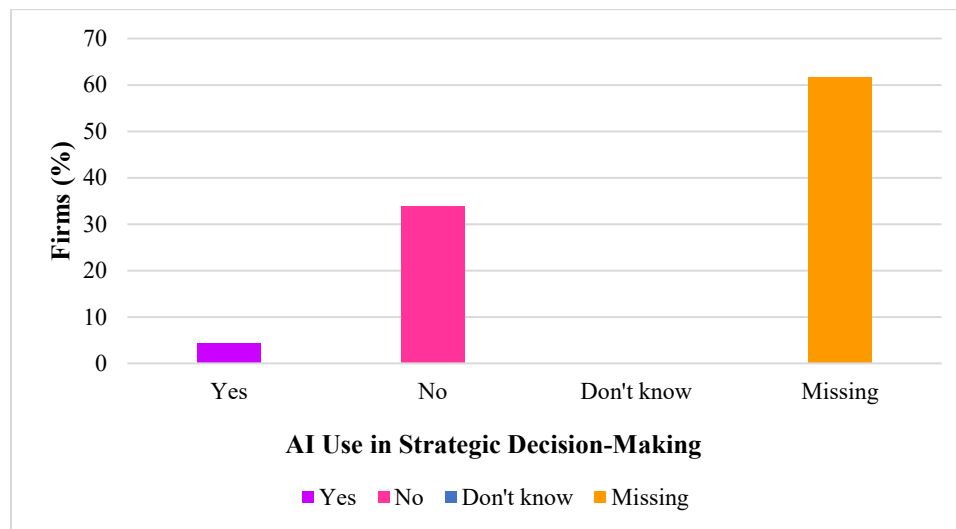


Figure 2. AI Use in Strategic Decision-Making

The extent to which organizations incorporate artificial intelligence into strategic decision-making processes. The distribution indicates that AI-supported strategic decision-making has not yet become a common organizational practice, as shown in Figure 2. Traditional approaches continue to predominate, while only a limited group of organizations have incorporated AI into strategic activities. The presence of responses indicating uncertainty also suggests that awareness of AI use may not be consistent across organizations. Furthermore, the substantial proportion of unavailable responses should be considered when interpreting the overall pattern. These findings highlight the continuing need for organizational preparedness, managerial awareness, appropriate governance, and technological capabilities to facilitate effective AI-supported strategic decision-making.

3.3 AI Use in Sourcing, Procurement and Supply Chain

Artificial intelligence has begun to enter important operational functions, particularly sourcing, procurement, and supply-chain activities. However, its adoption across these processes remains relatively limited, as shown in Table 3. The findings suggest that organizations have opportunities to expand the use of intelligent technologies in areas involving supplier management, purchasing decisions, inventory coordination, demand assessment, and supply-chain planning. Greater integration of AI into these functions could support more efficient processing of organizational information and improve the responsiveness of operational activities. The results indicate an emerging role for AI in operational management while also reflecting substantial potential for further organizational adoption.

Table 3. AI Use in Sourcing, Procurement and Supply Chain

AI use	Firms (n)	Percentage (%)
Yes	103	7.6
No	414	30.6
Don't know	3	0.2
Missing	835	61.6
Total	1,355	100.0

Source: World Bank Group, India – World Bank Enterprise Survey – Follow-up on Artificial Intelligence, 2026, variable ai_b4a3.

4. Discussion

The findings indicate that organizational AI adoption in the surveyed Indian establishments remains at an emerging stage, particularly when AI is considered in relation to workflow automation, decision support, and strategic managerial activities. The results suggest that conventional organizational processes continue to dominate, while AI is being introduced selectively into specific business functions. This pattern can be interpreted as evidence that technological availability alone does not guarantee organizational adoption. Firms may require adequate digital infrastructure, employee capabilities, managerial commitment, and

organizational readiness before AI becomes embedded in routine activities. This interpretation is consistent with the broader argument that AI adoption represents an organizational transformation process rather than simply the acquisition of a technological solution.

The findings further indicate that AI adoption is not uniform across organizational functions. The presence of AI applications in sourcing, procurement, and supply-chain activities suggests that firms may initially perceive value in operational functions where large volumes of information, repetitive processes, forecasting requirements, and coordination activities create opportunities for technological assistance (Elhasyim, 2026). AI can potentially support these activities by improving information processing and assisting organizations in responding to changing operational requirements. However, the comparatively limited penetration of AI across the examined functions indicates that organizations are still developing the capabilities required for wider implementation. This interpretation supports the view that operational excellence through AI depends on overcoming technological, organizational, and managerial barriers rather than simply implementing AI tools (Tariq *et al.*, 2021).

The results concerning strategic decision-making are particularly relevant to the management focus of this study. AI-supported strategic decision-making appears to remain less established than traditional approaches. One possible interpretation is that strategic decisions involve greater uncertainty, organizational consequences, managerial accountability, and contextual knowledge than routine operational activities. Consequently, organizations may be more cautious about incorporating AI into high-level decisions. AI-generated recommendations may be useful for supporting managerial judgment, but organizations may remain reluctant to delegate strategically important decisions entirely to automated systems. This interpretation is consistent with research emphasizing the importance of appropriately combining human judgment and artificial intelligence in strategic organizational decision-making (Trunk *et al.*, 2020).

The findings broadly correspond with previous research demonstrating that AI adoption can influence organizational decision-making while also revealing that adoption remains dependent on organizational acceptance and implementation conditions. Song *et al.* (2025) examined AI adoption and organizational decision-making and emphasized the importance of factors influencing organizational acceptance of AI. The present findings complement this perspective by showing that AI-supported decision activities have not yet become widespread across the surveyed establishments. Thus, the results suggest that the potential value of AI for decision-making may be recognized theoretically while practical organizational adoption remains comparatively limited. The findings are also consistent with the arguments that identified both driving forces and barriers associated with achieving operational excellence through AI.

The emergence of AI use within sourcing, procurement, and supply-chain activities in the present study indicates that organizations are beginning to apply AI to operational functions where efficiency and information management are important. At the same time, the limited overall adoption suggests that barriers may continue to restrict broader implementation. Therefore, the present evidence supports the proposition that organizational AI transformation is likely to be gradual rather than instantaneous. The findings concerning strategic decision-making can also be interpreted alongside those who examined the combination of human and artificial intelligence in strategic organizational decision-making. The limited adoption observed in the present study is compatible with the idea that organizations may favor collaborative arrangements in which AI provides analytical support while managers retain responsibility for final judgments. Such an approach may be particularly appropriate for strategic decisions where human managers contribute contextual understanding, organizational experience, and accountability that cannot necessarily be replaced by automated systems.

The broader organizational implications are consistent with Wamba-Taguimdje *et al.* (2020), who highlighted the importance of AI-based transformation projects in generating business value. Their work suggests that AI creates organizational value when technological transformation becomes connected with business processes and organizational capabilities. The present findings similarly indicate that the existence of AI applications across selected functions should not automatically be interpreted as evidence of comprehensive organizational transformation. Instead, the observed adoption pattern suggests that firms may be progressing incrementally toward broader AI-enabled operations.

The results also complement Usman *et al.* (2024), who investigated the relationship between AI adoption and organizational performance in manufacturing. While the present analysis does not establish a causal performance effect from the available descriptive results alone, the observed adoption of AI within operational functions provides empirical context for understanding how organizations are beginning to integrate AI into business activities. Accordingly, the current findings reinforce the importance of examining AI adoption at the level of specific organizational functions rather than treating adoption as a single uniform phenomenon.

The findings have several implications for organizational management. First, managers should view AI adoption as a staged organizational transformation requiring appropriate technological and human capabilities. Investment in AI technologies should therefore be accompanied by employee development, process redesign, managerial awareness, and appropriate governance arrangements. Second, organizations may benefit from initially applying AI to operational activities where information-intensive processes and

repetitive tasks provide clear opportunities for technological support. Third, the limited adoption of AI in strategic decision-making highlights the importance of maintaining appropriate human oversight. Managers should establish decision structures that allow AI-generated information to complement rather than automatically replace managerial judgment. Finally, organizations should evaluate AI initiatives according to their contribution to organizational processes and decision quality rather than measuring success solely by the presence of AI technology.

Several limitations should be acknowledged when interpreting the findings. First, the study relies on secondary cross-sectional survey data, which limits the ability to establish causal relationships between AI adoption and organizational outcomes. Second, the analysis is restricted to the variables available within the World Bank AI follow-up dataset, meaning that some dimensions of AI capability, human-AI interaction, and organizational performance may not be captured comprehensively. Third, the presence of missing and “don’t know” responses in some AI-related variables requires careful interpretation and may reduce the effective sample available for particular analyses. Finally, the findings are specific to the surveyed Indian establishments and should therefore not be generalized automatically to organizations operating in other national or institutional environments.

Future research should extend the present analysis by examining AI adoption across different organizational sizes, industries, and geographical contexts. Longitudinal studies could provide stronger evidence regarding whether initial AI experimentation develops into sustained organizational transformation and whether adoption subsequently improves operational outcomes. Future researchers should also investigate the mechanisms through which AI affects managerial decision quality, employee productivity, organizational agility, and operational efficiency. Greater attention should be given to human-AI collaboration, particularly in strategic decision-making; the effective distribution of responsibilities between managers and intelligent systems may influence the value obtained from AI. Finally, future studies could integrate primary organizational data with large-scale secondary datasets to develop more comprehensive models of AI capability and organizational performance.

5. Conclusion

This study examined the emerging pattern of artificial intelligence adoption among organizations in India using establishment-level evidence from the World Bank Enterprise Survey-Follow-up on Artificial Intelligence, 2026. The findings indicate that AI adoption remains at an early stage across the examined organizational activities. AI use for workflow automation and decision support is still limited, while adoption in strategic decision-making and sourcing, procurement, and supply-chain activities also remains developing. These patterns suggest that organizations are gradually exploring AI applications but have not yet integrated them extensively into routine managerial and operational processes. The findings further highlight the importance of organizational readiness, technological capability, employee skills, managerial awareness, and appropriate governance for broader AI integration. From a management perspective, organizations should approach AI adoption as an ongoing transformation process rather than simply as a technology investment. Greater attention to human involvement, organizational capabilities, and process integration may help firms obtain meaningful value from AI. However, the present descriptive evidence does not establish that AI adoption directly causes improvements in decision-making or operational performance. Future empirical analysis using appropriate inferential methods is therefore necessary to test these relationships more rigorously. The study provides useful evidence of the current state of organizational AI adoption and establishes a foundation for further investigation into how AI can contribute to more effective decision-making and improved operational performance.

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