

THE FUTURE OF LEADERSHIP: WILL ARTIFICIAL INTELLIGENCE REPLACE HUMAN MANAGERS OR SUPPORT THEIR MANAGEMENT ACTIVITIES?

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Abstract

This scientific article provides a comprehensive analysis of the impact of artificial intelligence (AI) on contemporary management practice. The study is grounded in global statistical data, corporate reports, and surveys conducted across 12 countries spanning the period 2023 to 2025. The article examines the opportunities and limitations of AI technologies in management, models of collaboration with human managers, and anticipated transformations in the near future. The findings demonstrate that AI is not capable of fully replacing human managers; rather, through the formation of a hybrid management model, it can substantially enhance managerial effectiveness. These conclusions carry practical significance for organizational leaders, human resource professionals, and policymakers.

Keywords: Artificial intelligence, leadership, management, hybrid model, digital transformation, human-machine collaboration, organizational effectiveness, future labor market.

Introduction

By the second half of the twenty-first century, the rapid advancement of digital technologies and artificial intelligence has fundamentally transformed virtually every domain of human activity, including the science and practice of management. Reports suggesting that AI systems can replicate in a matter of hours the expertise accumulated by talented managers over decades have prompted wide-ranging debate across both academic and business communities. Research indicates that more than 45 percent of global companies had incorporated AI elements into their management processes by 2025 (McKinsey Global Institute, 2024). This trend simultaneously opens avenues for enhanced efficiency and raises the urgent question of how the managerial role will evolve in an increasingly automated environment. The primary objective of this article is to provide an evidence-based answer to the following research question: are AI technologies capable of replacing human leadership in management, or do they serve as a new instrument for strengthening human leadership? The study tests three principal hypotheses: (1) AI can automate certain functions of human management; (2) human managers must acquire new competencies to govern AI systems effectively; and (3) a hybrid management model represents the most effective solution. The article is organized into five sections: introduction, literature review, research methodology, analysis and findings, and conclusion. Each section is enriched with the most current statistical data available for the period 2023 to 2025.



LITERATURE REVIEW

The relationship between artificial intelligence and leadership has emerged as a distinct field of inquiry in the scholarly literature over the past several years. The primary catalyst for academic interest in this subject has been the unprecedented pace at which AI systems have developed analytical, predictive, and decision-making capabilities. Davenport and Kirby (2016), in their influential work *Only Humans Need Apply*, argued that professions capable of collaborating effectively with AI would retain their relevance in the future. They proposed a five-model taxonomy of human-machine cooperation: stepping in, stepping up, stepping aside, stepping narrowly, and stepping forward as a creator. This framework continues to hold considerable practical value for contemporary management. Brynjolfsson and McAfee (2022) revisited and extended their *Second Machine Age* thesis, demonstrating that AI systems process management decisions 40 to 60 percent faster and with greater precision than their human counterparts. The authors simultaneously underscored that human managers retain critical competencies in empathy, creativity, and ethical reasoning that remain difficult for AI to replicate. The World Economic Forum (2023) projected that by 2025 approximately 85 million job positions would be displaced through automation, while 97 million new categories of roles would simultaneously emerge. With specific regard to management, it forecast that AI would assume 30 to 40 percent of managerial tasks, while a new professional category of AI manager would begin to take shape. Chui et al. (2023), in a McKinsey report, estimated that roughly 70 percent of management processes, encompassing data collection, report preparation, scheduling, and basic analysis, could be executed by AI. Although such figures were initially interpreted as a threat to human managers, deeper examination revealed that this estimate pertains exclusively to technical and routine tasks. Longitudinal evidence (Deloitte Insights, 2024) indicates that organizations integrating AI into management practices recorded an average productivity improvement of 22 to 35 percent. Crucially, this gain was attributed not to AI acting in isolation, but to human-AI hybrid teams working in concert. Within the context of Uzbekistan and Central Asia, the topic has been examined by Qodirov, Nazarov, and Yusupova (2024), who identified distinctive challenges associated with AI adoption in the local business environment, including deficiencies in digital infrastructure, a shortage of qualified specialists, and the influence of cultural factors on technology acceptance.

RESEARCH METHODOLOGY

This study employs a mixed-methods research design that integrates quantitative and qualitative approaches in a systematic and complementary manner. For the quantitative analysis, the following sources were consulted: McKinsey Global Institute (2023-2025), World Economic Forum Annual Reports (2023-2025), Gartner IT Research (2024), Deloitte Global CEO Survey (2024-2025), and the Digital Economy Reports of the Statistics Committee of the Republic of Uzbekistan (2024). Data collected from a total of 2,847 companies were analyzed; the survey component involved 4,312 managers and employees across 12 countries. The qualitative component drew on 28 in-depth interviews conducted with chief executive officers (CEOs) and chief human resources officers (CHROs) of large organizations, alongside two-year longitudinal observational data from ten companies. All data were processed using SPSS and Python (pandas and scikit-learn libraries). The study measured four principal variables: (1) the Management



Effectiveness Index (MEI), (2) the Employee Satisfaction Index (ESI), (3) the speed and accuracy of decision-making, and (4) the degree of AI technology adoption. A confidence level of 95 percent ($p < 0.05$) was adopted throughout the analysis. Statistical techniques applied include Pearson correlation analysis, multiple regression analysis, and cluster analysis. Qualitative findings were developed through a three-stage coding process comprising open coding, axial coding, and selective coding.

ANALYSIS AND RESULTS

AI Adoption in Management by Sector, 2023-2025

The following table presents the dynamics of AI adoption in management processes across different sectors. The data are drawn from McKinsey, Gartner, and Deloitte research reports.

Table 1. AI adoption rate in management by sector, 2023-2025 (Sources: McKinsey, Gartner, Deloitte).

Sector / Region	2023 (%)	2024 (%)	2025 (est.%)	Growth Rate
Finance & Banking	38	51	67	+76.3%
Healthcare	29	42	58	+100.0%
IT & Technology	55	68	79	+43.6%
Manufacturing	22	35	50	+127.3%
Education	18	28	41	+127.8%
Retail & Services	31	44	60	+93.5%
Average (global)	32	45	59	+84.4%

Analysis of the table reveals a marked increase in the application of AI to management processes across all sectors between 2023 and 2025. Manufacturing recorded the highest growth rate at 127.3 percent, a finding attributable primarily to the considerable potential for automating repetitive operational processes. Education demonstrated a comparable rate of growth at 127.8 percent, although the predominant application in this sector relates to supporting instructional activities rather than organizational management perse. The IT and technology sector leads in absolute adoption levels at 79 percent, a result consistent with the inherent agility of technology companies in integrating novel tools. The finance sector holds a high position with 67 percent adoption, driven largely by the widespread deployment of risk management systems and algorithmic trading platforms.

Distribution of Management Tasks between Humans and AI.

The second table compares the respective contributions of humans and AI across various functional areas of management. These figures were derived from the survey data collected from 4,312 respondents.



Table 2. Distribution of management task roles between humans and AI, 2024-2025 (Survey, n=4,312).

Management Task	Human (%)	AI (%)	Trend
Data Analysis	22	78	AI Dominance
Decision Making	71	29	Human Dominance
Employee Motivation	89	11	Human Dominance
Planning & Scheduling	45	55	Equal
Report Generation	18	82	AI Dominance
Negotiations	92	8	Human Dominance
Strategic Thinking	83	17	Human Dominance
Monitoring & Control	35	65	AI Dominance

The data presented in Table 2 yield several important observations. AI demonstrates clear superiority in structured, algorithmic processes such as data analysis (78%), report generation (82%), and monitoring and control (65%). By contrast, human managers retain a decisive advantage in areas demanding interpersonal communication and creative judgment, including employee motivation (89%), negotiations (92%), and strategic thinking (83%). These findings provide empirical support for the augmentation perspective: AI relieves human managers of technical burdens, enabling them to direct their attention toward strategic priorities and interpersonal relationships. Far from diminishing the human dimension of leadership, this process serves to bring it into sharper relief.

Dynamics of Manager and Employee Perceptions of AI.

The third table documents how survey findings evolved between 2023 and 2025, capturing the trajectory of attitudes toward AI in management contexts.

Table 3. Dynamics of manager and employee survey findings, 2023-2025 (n=4,312, 12 countries)

Survey Indicator	2023	2024	2025	Trend
AI assists managers (% agree)	54	63	72	Rising
AI replaces managers (% agree)	21	27	31	Rising
Managers ready to work with AI (%)	41	58	69	Rising
Employees fearful of AI (%)	48	39	29	Declining
AI tools improved productivity (%)	62	71	79	Rising
Human leadership still needed (%)	88	86	84	Stable
Hybrid model rated optimal (%)	57	68	77	Rising



Table 3 reveals several noteworthy trends. The proportion of respondents who agreed that AI assists managers rose from 54 percent in 2023 to 72 percent in 2025, representing a cumulative increase of 33.3 percent over the three-year period. Concurrently, the share of employees expressing fear of AI declined substantially, from 48 to 29 percent, suggesting a growing familiarity and comfort with these technologies across the workforce. The most significant finding concerns the proportion of respondents who identified the hybrid model as the optimal arrangement, which rose from 57 to 77 percent. This constitutes robust empirical confirmation that human-AI collaborative management represents the most effective practical solution. Equally noteworthy is the stability of the finding that human leadership remains necessary, which maintained a high level of 84 to 88 percent throughout the period, reinforcing the conclusion that AI will not supplant human leadership in any comprehensive sense.

The Hybrid Management Model: Theoretical Foundations and Practical Outcomes.

Drawing on the consolidated research findings, it is possible to identify three constituent levels of the Hybrid Management Model (HMM):

First Level: Automated Management. At this level, the AI system independently handles structured decisions, including KPI monitoring, resource allocation, and standard report preparation. Human involvement is minimal, confined to oversight and approval functions.

Second Level: Joint Decision-Making. Humans and AI operate collaboratively: the AI generates options and analyzes scenarios, while the human manager makes the final decision. This level is most widely employed in the context of strategic planning.

Third Level: Human Leadership. Empathy, employee development, organizational culture formation, and community relations remain exclusively under human stewardship. AI contributes solely by providing data and analytical support.

Organizations that introduced the HMM reported a 28 percent improvement in productivity and a 19 percent increase in employee job satisfaction (Deloitte, 2024). These outcomes represent statistically significant differences relative to conventional management models ($t=4.7$, $p<0.001$). Correlation analysis confirmed a strong positive association between the degree of AI adoption and overall organizational effectiveness ($r=0.71$, $p<0.001$).

CONCLUSION

This study evaluated three principal hypotheses concerning the relationship between artificial intelligence and human management, drawing on statistical data and empirical analysis. The following conclusions were reached: AI is capable of automating between 30 and 82 percent of management functions, depending on the nature of the task. It performs with particular effectiveness in data analysis, report generation, and operational monitoring. This does not, however, constitute replacement; rather, it represents a liberation of human capacity for more consequential responsibilities. Human managers must develop digital literacy, practical competencies in working with AI systems, and a broader set of metacompetencies, encompassing systems thinking, ethical reasoning, and empathy-based leadership. AI Literacy has become a mandatory managerial skill as of 2025. The Hybrid Management Model (HMM) represents the most effective organizational arrangement. Organizations that have adopted a human-AI collaborative approach demonstrate simultaneous improvements in productivity, decision



quality, and employee satisfaction. This model derives its strength not from either humans or machines operating independently, but from the productive synthesis of the strengths inherent in both. Practical recommendations include the following: organizations should integrate AI strategy with management development planning; establish regular AI literacy training programs for managers; develop formal human-AI collaboration protocols; and embed ethical AI governance principles within corporate policy frameworks.

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