Radical Transformations in Business Management in Light of the Artificial Intelligence Revolution between Opportunities and Challenges

Faouzia Hagain* [1] and Anhar Chabbi[2]

[1] University of Biskra, Algeria
[2] University of Biskra, Algeria
faouzia.hagain@univ-biskra.dz

Abstract. This study aims to clarify the concept of Artificial Intelligence (AI) and its transformative impact on business across multiple sectors. By examining AI applications in economic institutions, the research highlights key areas where AI enhances performance, including marketing, productivity, accounting, logistics, human resources, and security, while leveraging automation, machine learning, and data analytics to enable more efficient operations, personalized customer experiences, and informed decision-making. At the same time, business administration is undergoing profound transformations driven by rapid AI advancements and global digitalization, creating structural, operational, and strategic shifts in organizations. The study also addresses challenges such as data privacy, cyber security risks, and potential job displacement, emphasizing the need for robust digital infrastructures, continuous skill development, and ethical frameworks to ensure transparency and fairness. Overall, AI emerges as a central catalyst for reshaping managerial functions, enhancing competitiveness, fostering innovation, and redefining labor market dynamics, offering substantial opportunities for sustainable growth in modern business management.

Keywords: Artificial Intelligence, Business Administration, Artificial Intelligence Applications.

1. Introduction

Business organizations currently operate in an environment marked by intense competition, rapid technological development, and unpredictable global conditions. Over the last decade, the emergence of artificial intelligence has dramatically transformed business administration, pushing institutions toward new management paradigms based on data-driven strategies, automation, and advanced analytics. These advancements have accelerated pre-existing changes such as digital transformation, shifts in consumer expectations, and evolving workforce competencies.

The purpose of this research is to analyze the fundamental transformations occurring within business administration, clarify the role of artificial intelligence in deepening and accelerating these changes, and assess the opportunities and challenges associated with AI-driven management models. This study adopts a qualitative analytical approach based on contemporary theoretical frameworks in management, digital transformation, and AI-enabled organizational development.

The rapid evolution of artificial intelligence and its integration into business environments have created a profound shift in managerial practices. Despite the numerous opportunities offered by AI, organizations still face significant challenges related to technological readiness, human adaptation, ethical implications, and the redefinition of business models. The central problem addressed in this research is:

D. Agti et al. (eds.), *Proceedings of the International Conference on Artificial Intelligence Applications in Business Administration in MENA Region (ICAIABA 2026)*, Advances in Economics, Business and Management Research 393,
https://doi.org/10.2991/978-94-6239-711-8_14

"To what extent are artificial intelligence technologies reshaping business administration, and how effectively can organizations balance the strategic opportunities and operational challenges arising from this transformation?"

To address this gap, this study proposes the following hypotheses regarding the impact of AI on business administration:

- Artificial intelligence significantly enhances managerial decision-making by increasing accuracy, speed, and predictive capabilities.
- Organizations adopting AI based systems achieving her operational efficiency compared to those relying on traditional management models.
- The integration of AI introduces new challenges, particularly in terms of skills shortage, resistance to change, and ethical concerns related to data privacy.
- Successful implementation of AI requires a supportive organizational culture, continuous training, and strong technological infrastructure.

2. Literature Review

The problem of applying artificial intelligence in corporate management is in the focus of research by scholars from many countries who analyse various aspects of this issue. The main ones are the research of the authors ;Jasmin Praful Bharadiya, RejiKurien Thomas and Farhan Ahmed (2023) *:* **Rise of Artificial Intelligence in Business and Industry***:* **more advanced services**. It also highlights the need for organizations to revisit their strategies and proactively pursue new opportunities as AI expands across various sectors[1]; Yevheniia Khaustova, Taras Riabokin (2024)***:*** **integration of artificial intelligence into the corporate management system** : The study aims to analyze how AI can be incorporated into corporate management and how it influences decision quality. It also highlights the major drawbacks and potential risks linked to AI-based management models [2]; Raja Shahzaib, b Faiza Latif, c Syed Wahaj Ali (2025)***:*** **The Role of Intelligent AI Agents in Optimizing Business Management and Decision-Making Processes***.*This research contributes to both theory and practice by synthesizing evidence across disciplines, providing actionable managerial recommendations, and offering a roadmap for future inquiry into the design of trustworthy, human-centric AI ecosystems that foster innovation, resilience, and sustainable competitive advantage [3] ; Jonathan H.Westover (2025)***:***The study highlights key barriers to implementation, such as unclear regulations, internal resistance, and ethical concerns. It concludes that an organization's ability to adapt—not just its technological investments—will determine its success in this transformation. It also notes that adoption time lines will differ widely across regions and industries geographic and industry contexts [4] ; Ch. V. L. L. Kusuma Kumariand others (2025)***:*** Artificial Intelligence in Business Management: Unlocking Opportunities, Addressing Challenges, and Transforming Corporate Leadership.. The study concludes that AI augments human judgment, enabling organizations to achieve greater agility, innovation, and competitiveness [5] .

[6]: **The Impact of Artificial Intelligence on Business Administration** : This paper reviews how Artificial Intelligence (AI) transforms business administration , boosting efficiency in domains like marketing, HR, finance, logistics, and decision-making through automation, data analytics and machine learning.

2.1 Artificial Intelligence (AI):

is a multidisciplinary field of computer science dedicated to the development of computational systems capable of performing functions that traditionally require human cognitive abilities. These functions include perception [7], reasoning, learning, problem-solving, and decision-making. AI seeks to design algorithms and intelligent models that enable machines to autonomously acquire knowledge from data [8] , adapt to changing environments, and execute complex tasks with a degree of autonomy and accuracy comparable to human intelligence [9] . In essence, AI represents both the theoretical foundations and the practical techniques that allow machines to simulate, augment, or replicate intelligent behavior[10] .

2.2 Artificial Intelligence (AI) in Business Management

is defined as the systematic application of advanced computational methodologies—encompassing machine learning algorithms, intelligent data analytics, autonomous decision-support systems, and natural language processing tools—within organizational and managerial contexts to enhance the effectiveness, precision, and strategic quality of business operations. In managerial practice [11], AI functions as an augmentative and transformational capability that enables firms to process complex datasets, forecast trends, optimize resource allocation, automate operational routines, and support high-level strategic decision-making [12]. Through its integration in various business functions—including finance, marketing, human resources, and supply chain management—AI contributes to improving organizational performance, fostering innovation, and strengthening competitive advantage in increasingly dynamic and data-driven business environments[13].

3. Aims

The primary aim of this study is to produce a set of evidence-based findings and achieve several core objectives. It examines the concept, significance, characteristics, and global development of artificial intelligence (AI), while emphasizing its various applications within business administration. The study further identifies the most widespread AI tools used in this field and evaluates both the anticipated benefits and the potential risks associated with the growing adoption of AI technologies.

4. Research Methodology and Tools

This study relied on the descriptive approach by reviewing and analyzing previous literature that addressed the applications of artificial intelligence in business management. The practical side of the study was further supported by selecting three global companies that employ artificial intelligence in various administrative processes. The descriptive information related to these companies was collected from their official websites, while statistical data was obtained using artificial intelligence tools. In addition, the inductive method was employed to analyze the data and draw conclusions in order to achieve a deeper understanding of how artificial intelligence is utilized in the business environment.

5. Results

The number of technology-oriented firms particularly those built on artificial intelligence has continued to grow steadily each year. This upward trend is largely driven by the accelerating global shift toward digital transformation and by the pivotal role of AI in fostering economic development and organizational innovation. Consequently, numerous successful AI-enabled business models have emerged worldwide, achieving notable breakthroughs across multiple industries. This progress is especially evident in the United States and several European countries, which remain at the forefront of advancements in this domain.

From this perspective, the following table (1) highlights three illustrative examples of leading AI-based companies that have achieved significant success in the field. Their selection was guided by two key criteria: the geographical diversity of their operations and the high level of recognition they have received from media outlets and specialized institutions that assess and rank organizations within this sector.

Table 1. Explanatory presentation of companies (Yasser, LUCIDYA, IBM)

	IBM	LUCIDYA	YASSIR
Overview	Is a global technology leader specializing in AI-driven enterprise solutions. The company develops advanced tools for automation, data analytics, and decision support, allowing businesses to enhance efficiency and innovate at scale. With operations in more than 170 countries, IBM remains one of the most influential organizations shaping the future of digital transformation.	is a Saudi-based technology company focused on customer experience management through Arabic-language AI and natural language processing. Its platform enables organizations to analyze customer sentiment, monitor social interactions, and make data-driven decisions. Lucidya has become a key regional player for brands seeking deeper insights into Arabic-speaking markets.	is an Algerian super app offering mobility, delivery, and fintech services supported by AI-driven optimization. The company uses advanced algorithms to improve routing, pricing, and customer experience, making it one of the fastest-growing tech startups in North Africa. Yassir has expanded across several countries, positioning itself as a leader in digital on-demand services.
Year of Establishment	1924	2016	2017
Location Headquarters	United States of America	Riyadh, Saudi Arabia	Algeria
Sector	Technology _ IT Information	Productivity Business/ software	On-Demand Services

Source: Prepared by the two researchers based on the websites of the three companies understudy.

6. Discussion

- **IBM :** leverages artificial intelligence to develop enterprise solutions, enhance business services, automate routine operations, and support decision-making through predictive analytics. These AI-driven applications have improved operational efficiency, minimized human errors, and enabled management to make faster and more accurate decisions. For client organizations, the key benefits include heightened competitiveness, reduced operational costs, and accelerated innovation in business processes and enterprise services. Nonetheless, IBM encounters several challenges, including the substantial costs associated with large-scale AI implementation, the necessity of training employees to effectively interact with intelligent systems, and the careful management of risks arising from the reliance on AI in strategic decision-making.
- **LUCIDYA :** specializes in leveraging artificial intelligence to analyze customer sentiment on social media, enhance customer experience, manage corporate reputation, and support data-driven marketing and strategic decision-making. AI facilitates real-time reporting and analytics for marketing and customer service teams, improving the understanding of customer needs and enabling rapid responses to negative interactions. The primary benefits include increased customer satisfaction and loyalty, greater efficiency in marketing campaigns, and the ability to make informed, data-driven decisions. However, the company faces challenges such as ensuring accurate analysis across various Arabic dialects, safeguarding customer data and privacy, and continuously updating AI models to adapt to evolving customer behaviors.
- **YASSIR** : utilizes artificial intelligence to optimize vehicle routing and logistics for transportation and delivery services, manage orders dynamically, and detect fraud in digital payment systems. These AI-driven applications have shortened waiting times, enhanced delivery accuracy, reduced human errors, and increased overall operational efficiency. The principal benefits include improved customer satisfaction and loyalty, lower operational costs, and a strengthened competitive position in the digital transportation market. Key challenges comprise the necessity for accurate data to train AI models, addressing digital infrastructure limitations in certain regions, and continuously updating algorithms to adapt to fluctuations in demand and user behavior.
- **IBM :** is expected to continue expanding its AI services, cloud computing capabilities, and data analytics offerings, with a primary focus on delivering AI solutions for large enterprises. Future growth will depend on the development of innovative products, including machine learning systems and predictive analytics, as well as leveraging the increasing global demand for business process automation.
- **LUCIDYA**'s significance is projected to grow in the Middle East region, driven by the rising adoption of AI tools for sentiment analysis, customer experience enhancement, and digital reputation management. This trend is especially notable

as organizations increasingly rely on data-driven insights for digital marketing and strategic decision-making.

- **YASSIR :** demonstrates promising prospects in the digital transportation and logistics market across North Africa and the Arab world. The expansion of digital delivery services, combined with AI applications for route optimization, dynamic order management, and improved payment systems, positions the company for continued growth and operational efficiency.

Overall AI Impact Across Companies

All three companies have leveraged AI to enhance operational efficiency and improve decision-making, although their areas of application differ: IBM in enterprise services, Lucidya in marketing and reputation management, and Yassir in transportation and logistics. Key benefits include improved customer experience, reduced operational costs, strengthened competitiveness, and innovation in operational processes. Common challenges involve employee training, continuous updating of AI models, and maintaining data quality and privacy. This analysis underscores the strategic role of AI as a critical tool for achieving sustainable growth and securing a competitive advantage in diverse business contexts.

7.Conclusion

Based on the preceding analysis, it is clear that artificial intelligence (AI) has emerged as a pivotal strategic tool in business management, driving improvements in operational efficiency, data-driven decision-making, customer experience, and sustainable competitive advantage. The three companies examined IBM in enterprise services, Lucidya in customer sentiment analysis and reputation management, and Yassir in digital transportation and delivery demonstrate the diverse applications of AI across various sectors and the tangible value it contributes to organizational performance.

The study also highlights that AI adoption entails certain challenges, including the necessity for employee training, ensuring data quality, safeguarding privacy, and continuously updating intelligent models to adapt to evolving market conditions and customer behaviors. Nevertheless, the advantages of AI integration clearly outweigh these challenges, particularly in terms of enhancing performance, reducing operational costs, and strengthening competitiveness.

To answer the problem and the hypotheses, it can be said : Artificial intelligence technologies are reshaping business administration to a significant and transformative extent, fundamentally redefining how organizations plan, operate, and make decisions. AI-driven systems enhance administrative efficiency by automating routine tasks, optimizing resource allocation, and enabling data-driven decision-making through advanced analytics and predictive models. These technologies allow organizations to improve accuracy, speed, and consistency in administrative processes, while also supporting strategic planning and performance evaluation.

Moreover, organizations are increasingly demonstrating the ability to effectively balance the strategic opportunities and operational challenges associated with AI adoption. By investing in employee training, adopting ethical and regulatory frameworks, and integrating AI gradually into existing systems, organizations can mitigate challenges such as skill gaps, resistance to change, and data security concerns. When aligned with organizational goals, AI becomes not only a technological tool but a strategic enabler that strengthens competitiveness, innovation, and long-term sustainability

8. Recommendations:

To effectively harness the potential of artificial intelligence (AI) in business management, organizations should adopt the following strategic measures:

- **Gradual Integration of AI**: Encourage the progressive incorporation of AI across all administrative processes, ranging from routine operations to strategic decision-making, to ensure seamless adoption.
- **Employee Training and Capacity Building**: Invest in continuous training programs to equip staff with the necessary skills to work effectively with intelligent systems and leverage AI capabilities.
- **Robust Digital Infrastructure:** Develop and maintain a strong digital infrastructure to support AI applications, ensuring data accuracy, processing efficiency, and system reliability.
- **Enhancing Customer Experience**: Utilize AI to analyze customer behaviors and needs, enabling the delivery of personalized, responsive, and efficient services that improve satisfaction and loyalty.
- **Continuous Monitoring and Algorithm Updates**: Establish ongoing mechanisms to monitor, evaluate, and update AI algorithms, ensuring that organizations remain adaptive and responsive to market dynamics and operational changes.

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