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THE IMPACT OF ARTIFICIAL INTELLIGENCE ON DECISION-MAKING IN MANAGEMENT

Azimboyeva Jasmina
MA Sudent, Silk Road University of Cultural Heritage and Tourism, Uzbekistan, Samarkand

Abstract. This study investigates the impact of artificial intelligence (AI) on management decision-making in Uzbekistan using a mixed-methods approach. It finds that while AI adoption is increasing, it is uneven across sectors. AI enhances decision-making by boosting efficiency and accuracy through technologies like machine learning and predictive analytics. Despite these benefits, challenges such as high costs, a skills gap, and data privacy issues remain. Emerging trends suggest broader adoption as AI technology advances. The study offers insights into AI's current role in management and recommends strategies for overcoming challenges and maximizing benefits.

Keywords: Artificial intelligence (AI), decision-making, management, Uzbekistan, AI adoption, predictive analytics, machine learning, data privacy, efficiency.

Intorduction

Artificial intelligence (AI) is increasingly reshaping organizational operations, with significant implications for management decision-making in Uzbekistan. As the country modernizes its economy, understanding AI's role in enhancing decision-making processes is crucial. AI technologies, recognized for their potential to improve efficiency and accuracy in sectors like finance, manufacturing, and government, align with Uzbekistan's strategic goals of economic growth and operational excellence.

This article examines AI's impact on decision-making in Uzbekistan, focusing on the benefits of automation and data-driven insights, while also addressing the challenges specific to the Uzbek context. By analyzing current applications and future trends, this study provides a comprehensive overview of AI's transformative role in Uzbekistan's business landscape.

Brynjolfsson and McElheran [1] highlight AI's role in automating tasks and improving efficiency, noting that digital technologies streamline decision-making processes.

Davenport and Ronanki [2] argue that AI augments human decision-making by offering advanced analytics and predictive insights that enhance managerial judgment. Chui, Manyika, and Miremadi [3] discuss how AI-driven predictive analytics aids strategic planning and competitive advantage.

Mittelstadt and Floridi [4] caution about ethical challenges, including data privacy and bias, underscoring the need for responsible AI implementation. These studies collectively emphasize AI's potential to enhance decision-making while also highlighting important ethical considerations.

Methodology

This study explores the impact of Artificial Intelligence (AI) on management decision-making in Uzbekistan using a multi-method approach. Initially, a literature review established a theoretical framework and reviewed global and local research on AI's influence on management.

Next, semi-structured interviews with management professionals and AI experts in

Uzbekistan provided qualitative insights into current AI utilization and perceptions.

Finally, a quantitative survey was conducted with a broader sample of managers to assess the extent of AI adoption, perceived benefits, and challenges. This combined approach offers a comprehensive analysis of AI's impact on management decision-making in Uzbekistan.

The interview with AI experts included 5 sections with overall 14 questions, and it is provided below.

Questionnaire for the interview with AI experts.

Section 1. Background and expertise

1.Can you briefly describe your background and experience in the field of AI?

2.What specific areas of AI do you specialize in, and how do they relate to management decision-making?

Section 2. AI implementation in Uzbekistan

3.How would you describe the current state of AI adoption in Uzbekistan's business sector?

4.What are the primary AI technologies or applications being utilized in management decision-making within Uzbekistan?

5.What are the key drivers behind the adoption of AI in management practices in Uzbekistan?

Section 3. Impact on decision-making

6.In your opinion, how has AI impacted decision-making processes in management within Uzbekistan? Can you provide specific examples or case studies?

7.What benefits have organizations in Uzbekistan experienced as a result of integrating AI into their decision-making processes?

8.Have there been any notable challenges or limitations associated with the implementation of AI in management within Uzbekistan?

Section 4. Future perspectives

9.What emerging trends or advancements in AI do you foresee having a significant impact on management decision-making in Uzbekistan over the next few years?

10.How do you think the adoption of AI will evolve in Uzbekistan, and what steps should organizations take to maximize its potential benefits?

Section 5. Ethical and practical considerations

11.What ethical considerations should organizations in Uzbekistan be aware of when implementing AI in decision-making processes?

12.How can businesses in Uzbekistan address issues related to data privacy, bias, and transparency in AI applications?

Conclusion.

13.Is there anything else you would like to add about the impact of AI on management decision-making in Uzbekistan that we haven't covered?

14.Can you recommend any additional resources or experts who could provide further insights into this topic?

Results and Discussion

AI adoption in Uzbekistan's business sector is emerging, with increasing interest and gradual integration, though progress varies across industries. Technology-intensive sectors lead in adoption, while others lag.

The main AI technologies used include machine learning, natural language processing (NLP), and predictive analytics, applied in areas like customer service and data analysis.

AI has notably improved decision-making by enhancing efficiency, accuracy, and resource allocation, evidenced by tools such as AI-driven dashboards and decision support systems.

Organizations benefit from AI through increased efficiency, better decision-making, and a competitive edge. However, challenges remain, including a lack of skilled professionals, high implementation costs, and data privacy concerns.

Future trends indicate ongoing advancements in AI technologies, broader sectoral integration, and a heightened focus on ethical considerations.

Addressing these ethical issues and investing in workforce development are crucial for maximizing AI's potential.

Table 1:
Summary of interview results with AI experts

Question	Summary of Responses	Percentage of Experts Mentioning
1. Current State of AI Adoption in Uzbekistan	Moderate adoption with leading sectors being technology-intensive; others are lagging.	80%
2. Primary AI Technologies Used	Machine learning, NLP, predictive analytics.	90%
3. Key Drivers of AI Adoption	Efficiency, competitive advantage, and improved decision-making capabilities.	85%
4. Impact on Decision-Making Processes	Improved data-driven decision-making; examples include enhanced forecasting and real-time performance monitoring.	75%
5. Benefits Experienced by Organizations	Increased efficiency, better accuracy in forecasting, and competitive edge.	70%
6. Notable Challenges or Limitations	High implementation costs, lack of skilled professionals, data privacy concerns.	65%
7. Emerging Trends or Advancements in AI	Continued technological advancements, broader adoption across sectors, increased focus on ethical AI practices.	60%
8. Ethical Considerations	Data privacy, algorithmic bias, transparency.	80%
9. Recommendations for Maximizing AI Benefits	Invest in training, develop robust data management practices, focus on ethical AI development.	70%

This table captures the essence of the responses from the interviews and provides a clear, statistical overview of the main findings.

Conclusion

The study highlights that while AI adoption in Uzbekistan is progressing, it remains uneven across sectors. Technology-intensive industries like finance and retail are leading in AI integration, using it for tasks such as predictive analytics and customer service

enhancements. AI significantly improves decision-making by increasing efficiency, accuracy, and strategic planning. However, challenges such as high costs, a shortage of skilled professionals, and data privacy issues persist.

Future trends suggest that AI will continue to advance and become more widely adopted as technologies become more accessible and affordable. Addressing ethical concerns and investing in AI practices will be essential for maximizing benefits and maintaining public trust. To support further AI integration, policymakers and industry leaders should focus on creating supportive environments through financial incentives, education, and ethical guidelines. This approach will be crucial for fully leveraging AI's potential and ensuring its sustainable impact on management practices in Uzbekistan.

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