



The Impact of Artificial Intelligence on Administrative Decision-Making: A Descriptive Analytical Study on the Female Leaders of Organizational Committees in the Department of Information Science, College of Arts, Imam Abdulrahman Bin Faisal University

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ABSTRACT. In our rapidly evolving digital age, artificial intelligence (AI) plays a pivotal role in reshaping administrative decision-making processes. This study aims to assess the impact of AI on decision-making within academic institutions, focusing on the experience of female organizational committee leaders in the Department of Information Sciences at the College of Arts, Imam Abdulrahman bin Faisal University. Using a descriptive analytical approach and a case study of the Department of Information Sciences, the study explores the extent of AI adoption, its role in improving service quality, and the challenges hindering its full integration. A structured questionnaire was used to collect quantitative and qualitative data from a purposive sample of committee leaders. The results indicate a positive perception of AI's role in enhancing decision accuracy, reducing human error, and improving operational efficiency. However, challenges remain, such as limited technical knowledge and concerns about reduced human interaction. The study concludes with practical recommendations for improving the integration of AI into academic administrative decision-making, with the goal of achieving a balanced synergy between technological precision and human acumen.

INTRODUCTION

Amid the rapid transformations the world is witnessing in the fields of business and education, artificial intelligence (AI) has emerged as a pivotal force transforming managerial decision-making mechanisms. Decision-makers increasingly rely on data-driven insights, supported by technologies such as machine learning and predictive analytics, rather than relying exclusively on intuition or personal experience. The power of AI lies in its ability to process massive amounts of data quickly and accurately, helping organizations uncover hidden patterns, predict future trends, and make

informed decisions. This transformation contributes to increased decision-making efficiency, reduced operational risks, and enhanced adaptability to environmental changes, giving organizations a tangible competitive advantage (Al-Mousawi, 2024).

Despite these significant benefits, the application of AI raises issues related to ethics, transparency, and human oversight. Biases may arise in the outcomes of intelligent systems due to flaws in input data or embedded algorithms, potentially leading to inaccurate or unfair decisions. Over-reliance on AI may marginalize the human element and limit creativity and flexibility, especially in complex situations that require broad contextual understanding. Therefore, it becomes imperative to adopt AI as a supportive tool that complements, rather than replaces, human strategic thinking (Moulai, 2021).

Despite growing global interest in AI applications in management, there is a clear gap in the literature regarding its role in administrative decision-making within higher education institutions in the Kingdom of Saudi Arabia, particularly with regard to female leaders. Studies exploring how Saudi female leaders interact with AI technologies in administrative contexts remain limited. Therefore, this study aims to fill this gap by investigating the impact of AI on the administrative decision-making process of female leaders in organizational committees in the Department of Information Sciences at Imam Abdulrahman bin Faisal University in the Kingdom of Saudi Arabia.

RESEARCH PROBLEM

Academic institutions have witnessed a growing integration of Artificial Intelligence (AI) in supporting administrative decision-making processes — from curriculum design and resource management to student performance monitoring and academic advising. However, the true impact of AI on administrative decisions within higher education remains ambiguous, particularly concerning the experience of female leaders of organizational committees in the Department of Information Science at the College of Arts, Imam Abdulrahman Bin Faisal University. This raises a central question: To what extent does Artificial Intelligence influence administrative decision-making, and how does this affect the planning, service provision, and educational environment for female committee leaders?

RESEARCH SIGNIFICANCE

This study is of substantial importance to both the academic and administrative fields. In an era marked by rapid digital transformation, AI has become an essential tool in university management — aiding in data analysis, curriculum planning, and service quality enhancement. Scientifically, the study contributes to the growing body of literature on AI's

role in academic administration by offering deeper insights into how it supports decision-making among female leaders. It also proposes a theoretical framework to guide future research and application. Practically, the study offers data-driven perspectives for decision-makers on the effectiveness of AI in managing the affairs of committee leaders. It aims to provide actionable recommendations for enhancing their administrative experience, optimizing resource use, and improving institutional services. Furthermore, it may serve as a reference for other academic institutions seeking best practices for integrating AI in their administrative processes.

RESEARCH QUESTIONS

In addition to the main question regarding AI's impact on administrative decision-making, the following sub-questions are posed:

1. What is the concept of Artificial Intelligence, and how is it related to administrative decision-making?
2. To what extent are AI technologies employed in administrative decision-making at the College of Arts, Imam Abdulrahman Bin Faisal University?
3. How does AI improve academic and administrative services provided to female leaders of organizational committees?
4. What challenges hinder the effective use of AI in supporting administrative decisions within the college?
5. How can AI utilization be improved to ensure more efficient and effective decision-making in managing the affairs of female committee leaders?

RESEARCH OBJECTIVES

The study aims to:

1. Define the concept of Artificial Intelligence and its relationship to administrative decision-making.
2. Assess the extent to which AI is utilized in administrative decision-making at the College of Arts.
3. Analyze the impact of AI on the quality of academic and administrative services provided to female committee leaders.
4. Identify key challenges in adopting AI in academic administration and propose solutions.
5. Offer recommendations to enhance the efficiency of AI in supporting decision-making processes to improve the educational and administrative experience of committee leaders.

METHODOLOGY

This research relies on a descriptive-analytical approach to explore the current use of artificial intelligence technologies in the administrative decision-making process at the College of Arts at Imam Abdulrahman bin Faisal University. The researchers adopted a descriptive-analytical approach with a case study. The study also focuses on evaluating the effects of integrating artificial intelligence on the quality of administrative services provided, by examining the experiences of female leaders in organizational committees in the Department of Information Sciences.

Data was collected using a data collection tool, which included a structured questionnaire administered to female leaders, with the aim of providing a comprehensive and in-depth understanding of their experience using artificial intelligence in the administrative environment.

This study also represents an important first step that contributes to bridging a current knowledge gap and paving the way for broader future research that can build on the findings of this exploratory study.

DATA COLLECTION INSTRUMENT

The primary data collection tool was a structured **questionnaire**, carefully designed to assess the influence of AI on administrative decision-making. It includes both quantitative and qualitative items that measure the level of AI use, its perceived effectiveness, and the challenges encountered. The tool provides a holistic view of the actual experience of the committee leaders in integrating AI into their daily administrative operations.

STUDY POPULATION AND SAMPLE

The study population includes all **female leaders of organizational committees** in the Department of Information Science at the College of Arts, Imam Abdulrahman Bin Faisal University, with a total of six active committees. A **purposive sampling method** was employed to ensure the inclusion of those directly involved in decision-making, enabling the measurement of the relationship between the independent variable (AI) and the dependent variable (administrative decision-making).

DELIMITATIONS OF THE STUDY

Topical Delimitation: The study focuses specifically on the impact of AI on administrative decision-making.

Human Delimitation: The research targets female leaders of organizational committees in the Department of Information Science at the College of Arts, Imam Abdulrahman Bin Faisal University.

COMPILATION AND COMMENTARY ON PREVIOUS STUDIES

The findings of the current study are consistent with many of the trends identified in previous literature regarding the transformative role of AI in administrative decision-making. Similar to Ben Nasser (2023) and Gayathri and Pilla (2023), this research confirms that AI contributes to enhancing the accuracy, efficiency, and objectivity of administrative decisions. Participants in this study highlighted significant improvements in reducing human error and improving the speed of decision-making, confirming the positive correlations reported by Ben Nasser.

Furthermore, this study supports the findings of Delmi and Zubaida (2022) in emphasizing the role of AI in improving higher education services, particularly in areas such as academic planning and data analysis. It also agrees with Vasi (2022) and Butt (2023) in highlighting the continued need for human oversight, as participants expressed concerns about the decline in human interaction and the overreliance on AI, reinforcing the idea that AI should be a complement to human judgment, not a substitute for it. However, the current study differs from Mollay (2021), which reported a negative relationship between AI (and emotional intelligence) and decision-making in banking contexts. This discrepancy can be attributed to contextual differences: while Mollay's study focused on commercial finance, the current research focuses on academic management, where AI tools are often used for planning support rather than high-risk transaction decisions.

Moreover, while Ariza-Montes et al. (2023) found that AI may contribute to increased dependency, laziness, and reduced human autonomy in decision-making, the current study did not indicate such behavioral consequences. Instead, participants emphasized knowledge gaps and technical training needs as key barriers, suggesting that institutional readiness plays a more important role in the success of AI integration than behavioral resistance per se.

Notably, the current study makes a unique contribution by focusing on female leaders on organizational committees within a specific academic department—a demographic and organizational category not directly addressed in previous research. This adds contextual depth and gender perspective to how AI is perceived and applied within university structures, particularly in the Saudi higher education context.

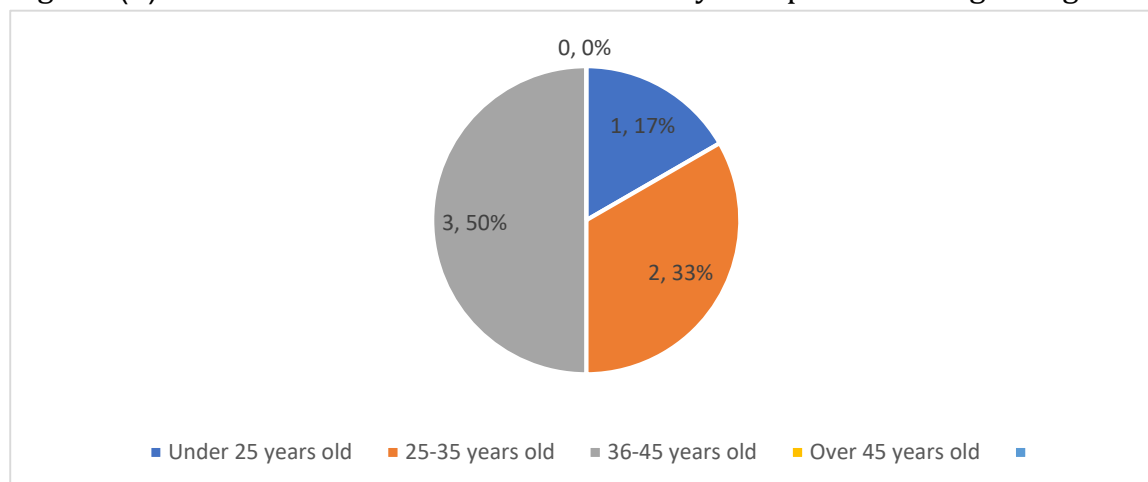
RESULTS AND DISCUSSION

This section presents and interprets the results obtained from the questionnaire distributed to the female leaders of organizational committees in the Department of Information Science, College of Arts, Imam Abdulrahman

Bin Faisal University. The findings offer insight into participants' awareness, engagement with AI technologies, perceived benefits, and challenges.

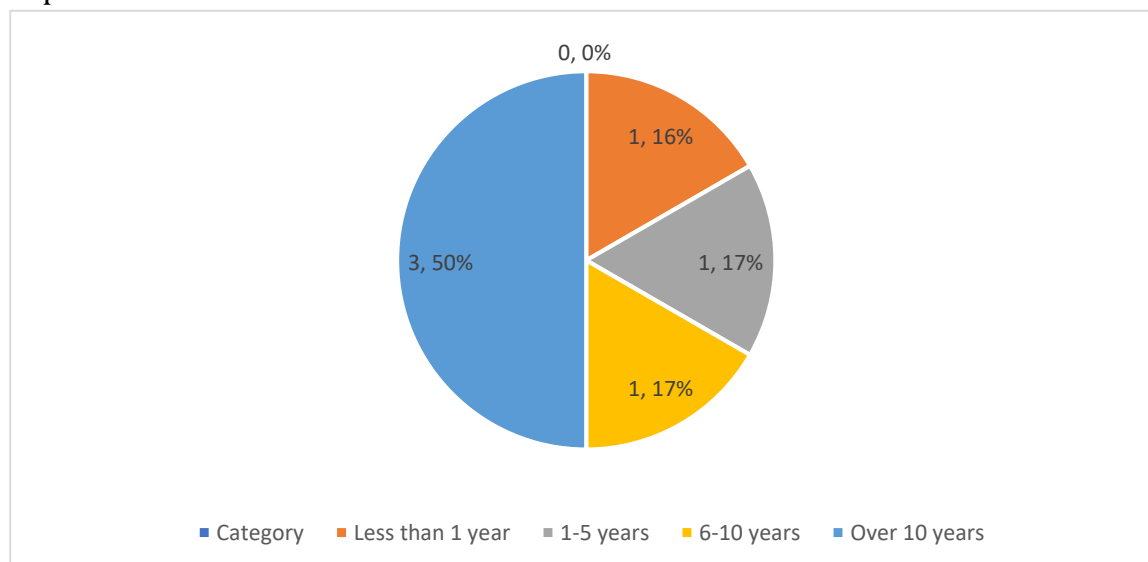
Demographic Characteristics

Figure (1) shows the distribution of the study sample according to age.



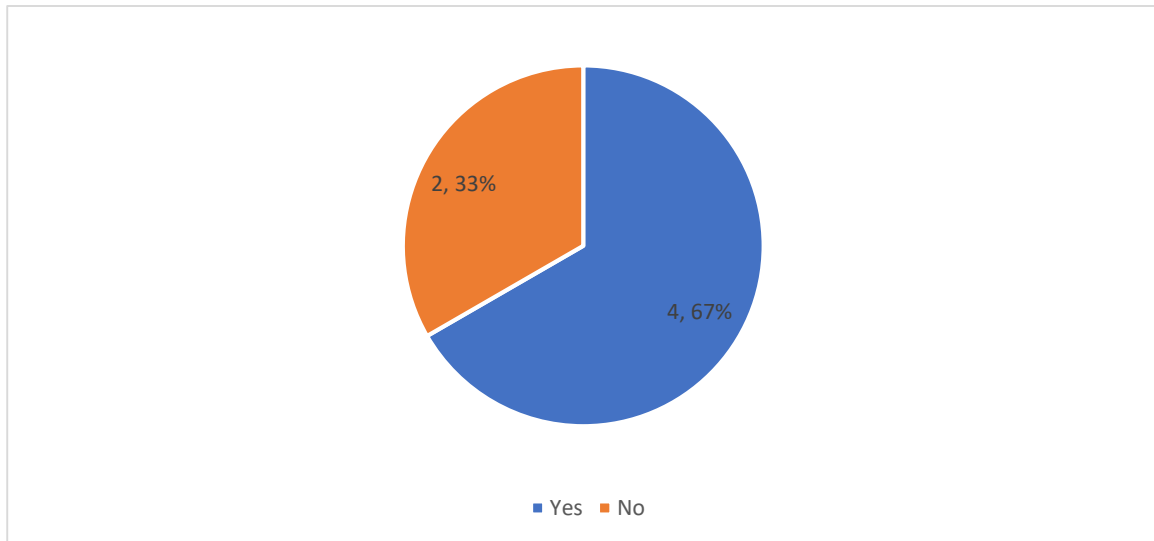
Most respondents (50%) fell within the 36–45 age group, indicating a mature leadership profile with substantial professional experience. Another 33.3% were aged between 25–35 years, reflecting the presence of younger leaders assuming administrative roles. A minority (16.7%) were under 25, which aligns with expectations given the leadership responsibilities involved.

Figure (2) shows the distribution of the study sample according to years of experience.



A significant proportion (50%) of participants reported over 10 years of professional experience. The remaining responses were equally distributed among those with less than 1 year, 1–5 years, and 6–10 years of experience (17% each). This indicates a strong base of institutional knowledge among the majority, combined with a renewal of leadership through younger entrants.

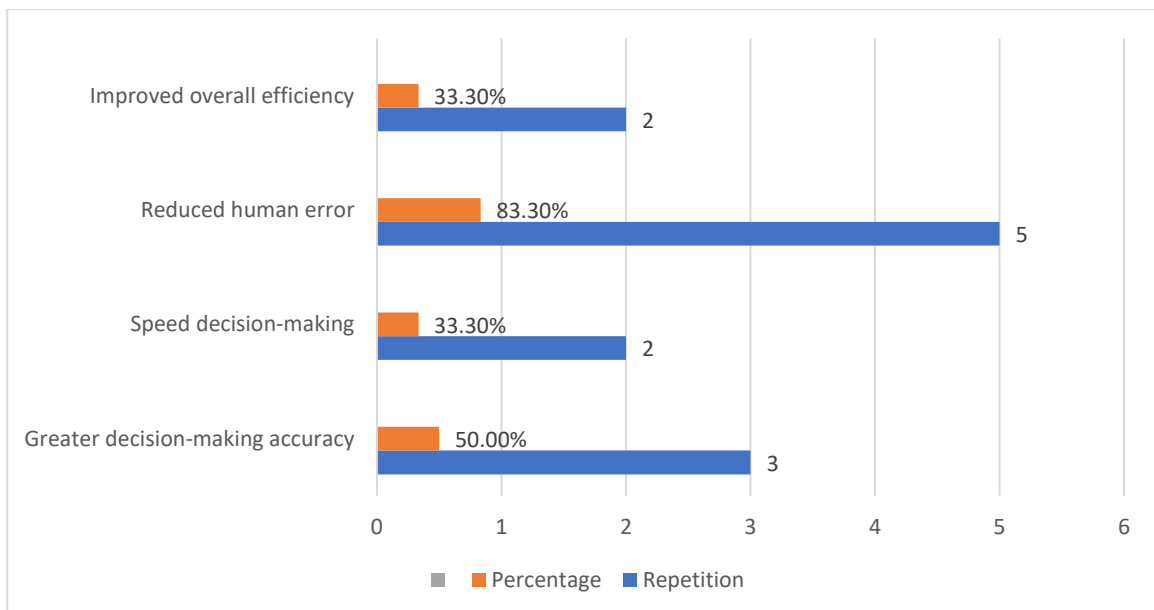
Figure (3) shows the use of artificial intelligence in administrative tasks.



Two-thirds of the participants (67%) confirmed the use of AI technologies in administrative decision-making. However, 33% reported no AI usage, revealing a gap in implementation or awareness. This suggests a gradual adoption curve, with potential for broader institutional integration if adequate training and support are provided.

Figure (4) shows the Perceived Benefits of AI in Decision-Making.

Participants highlighted several key benefits derived from AI applications:



Reduction of Human Error (83.3%): Seen as the most significant advantage, indicating trust in AI's data processing capabilities.

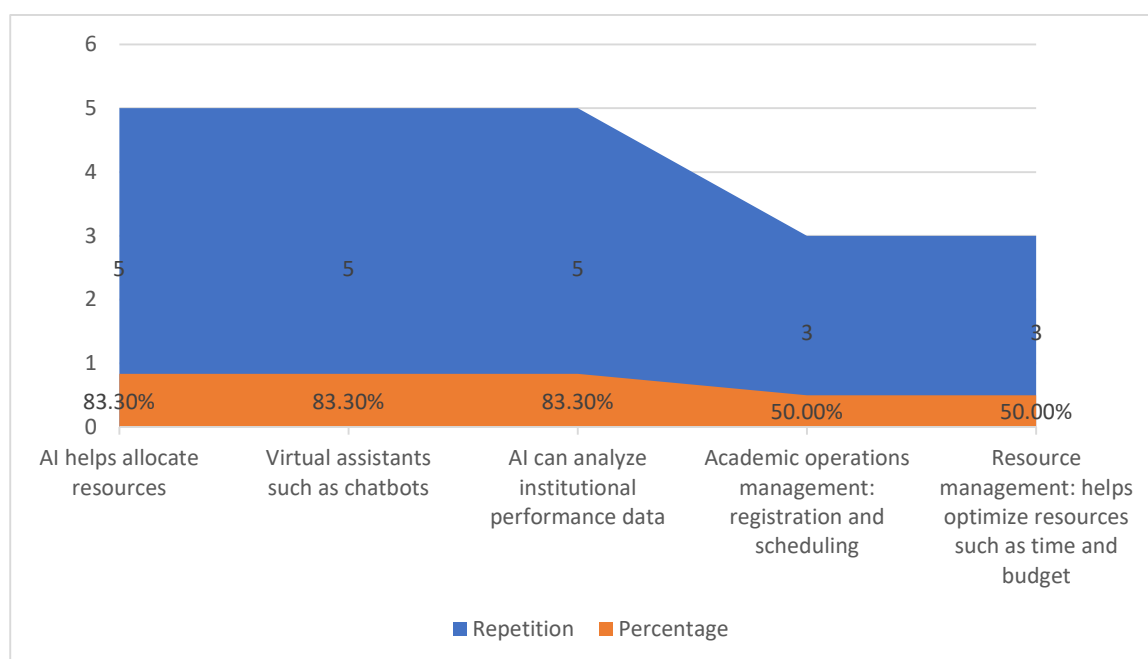
Increased Accuracy in Decisions (50%): Reflects confidence in AI's analytical objectivity.

Improved Efficiency and Decision Speed (33.3% each): These benefits emphasize the operational value of AI in time-sensitive administrative contexts.

These findings demonstrate that AI is perceived not just as a tool for automation, but as a strategic aid in enhancing decision-making quality and institutional performance.

Figure (5) shows Anticipated Future Applications of AI.

Participants expressed high expectations for AI's future role in several academic and administrative domains



Scientific Research and Collaboration (100%): All respondents agreed on the significant potential of AI in enhancing research productivity and interfaculty collaboration.

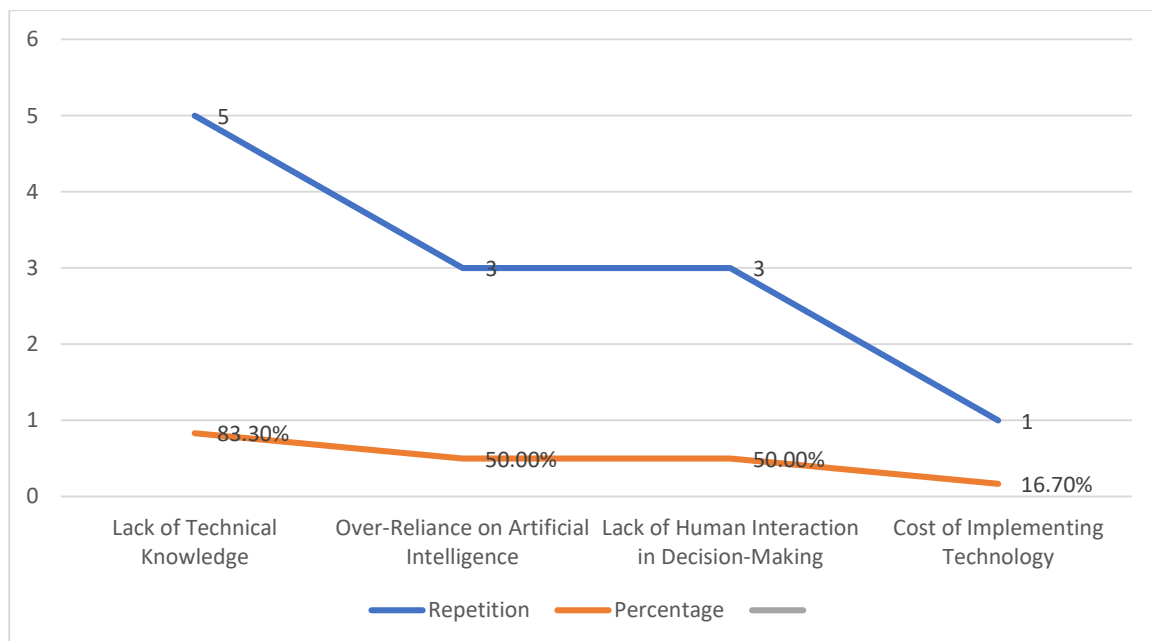
Resource Allocation, Virtual Assistants, and Institutional Data Analysis (83.3%): These functions reflect the participants' foresight in leveraging AI for data-driven academic planning.

Academic Operations and Process Optimization (50%): Indicates moderate interest in streamlining routine functions.

Recruitment and Personnel Selection (16.7%): The lower percentage may reflect concerns regarding AI's ability to make nuanced human-centric decisions.

Figure (6) illustrates the main challenges in implementing artificial intelligence.

The leading challenges identified by participants include:

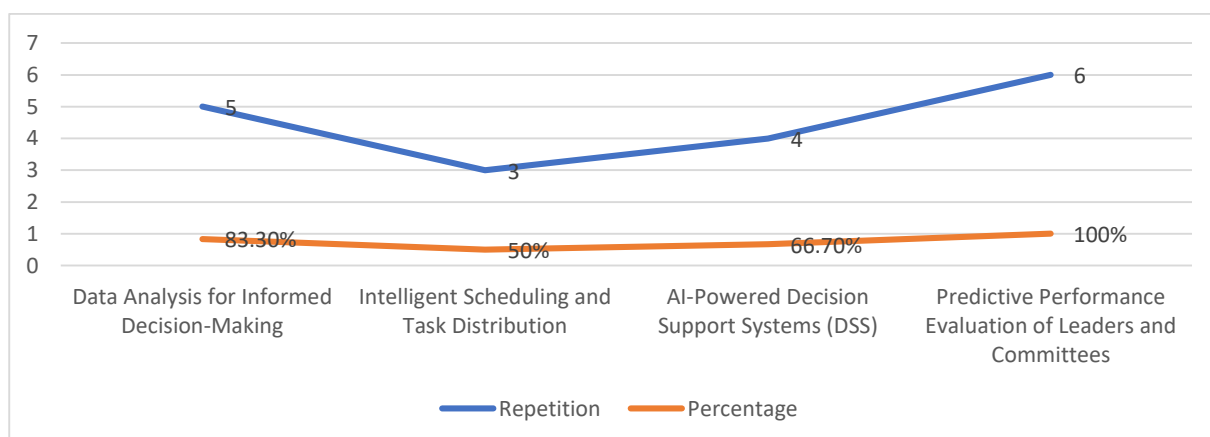


- **Lack of Technical Knowledge (83.3%)**: Indicates a pressing need for capacity-building programs tailored to academic leaders.
- **Overreliance on AI & Reduced Human Interaction (50% each)**: Highlight the necessity of maintaining human oversight and fostering a balanced human-AI decision model.
- **Cost of Implementation (16.7%)**: Financial barriers were less significant compared to knowledge and cultural factors.

These results emphasize the need for comprehensive AI literacy training, policies that ensure ethical use, and frameworks that maintain the centrality of human judgment.

Figure (7) shows the Mechanisms for Enhancing AI Integration in Decision-Making.

Participants identified the following strategies as most effective in improving AI-driven decision-making:



1. **Predictive Performance Evaluation (100%):** Using AI models to anticipate committee performance and proactively reallocate responsibilities.
2. **Data-Driven Decision Support (83.3%):** Leveraging historical and real-time data to inform strategic actions.
3. **AI-Based Decision Support Systems (66.7%):** Facilitating multi-criteria analysis of options for optimal outcomes.
4. **Smart Scheduling and Task Allocation (50%):** Enhancing operational efficiency by assigning tasks based on skills and performance metrics.

These strategies reflect a deep awareness of how AI can be systematically embedded to support academic leadership and streamline committee operations.

CONCLUSION AND RECOMMENDATIONS

This study explored the impact of Artificial Intelligence (AI) on administrative decision-making among female leaders of organizational committees in the Department of Information Science at the College of Arts, Imam Abdulrahman Bin Faisal University. The findings revealed a growing awareness of AI's potential in enhancing decision quality, minimizing human error, and optimizing institutional performance.

Despite evident benefits, several challenges persist, notably limited technical knowledge, apprehension about AI replacing human judgment, and inconsistent application across administrative units. The study also uncovered strong support for future AI use in research collaboration, data analysis, and resource planning.

To ensure more effective and efficient integration of AI in academic administration, the following recommendations are proposed:

1. **Implement predictive performance systems** using machine learning to proactively manage committee activities.
2. **Enhance AI literacy** among administrative leaders through workshops and training programs tailored to their roles.
3. **Deploy AI-supported Decision Support Systems (DSS)** that provide data-driven evaluations of options and outcomes.
4. **Adopt intelligent task allocation tools** to distribute responsibilities based on skillsets, availability, and prior performance.
5. **Establish ethical and operational guidelines** that ensure AI is used as a supportive tool rather than a substitute for human insight.

These measures aim to foster a strategic and balanced use of AI that reinforces institutional goals while preserving human oversight, creativity, and flexibility in decision-making.

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