



# Challenges in Implementing Artificial Intelligence within Management Information Systems: Case of County Governments in Kenya

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**Abstract:** This research delves into the intricacies of implementing Artificial Intelligence (AI) technologies within Management Information Systems (MIS) by County Governments in Kenya. The study aims to investigate the challenges and barriers that organizations encounter during the process of integrating AI technologies within their MIS. By examining the specific impediments that hinder the smooth integration of these advanced technologies, the study aims to provide a comprehensive overview of the factors that influence the adoption landscape. Through quantitative methodologies, the research sought to contribute to a nuanced understanding of the complexities surrounding AI implementation within MIS in the County Governments in Kenya. By shedding light on these obstacles, the research endeavors to provide insights that contribute to a deeper understanding of the complexities associated with technology adoption in the County Governments in Kenya landscape.

**Keywords:** Artificial Intelligence, Management Information Systems, Integration, County Governments

## I. INTRODUCTION

In the contemporary digital landscape, the integration of AI technologies within Management Information Systems has emerged as a strategic imperative for organizations worldwide. The promises of enhanced decision-making, operational efficiency, and data-driven insights have motivated businesses to explore the potential of AI integration. However, the journey towards realizing these benefits is fraught with challenges and barriers that necessitate careful consideration.

The County Governments in Kenya context presents a unique set of circumstances that impact the adoption and integration of AI technologies within MIS. While the benefits are well-documented, understanding the challenges that County Governments in Kenya encounter during implementation is crucial. These challenges span technical, organizational, and human factors, influencing the pace and success of AI integration. The integration of Artificial Intelligence (AI) technologies within Management Information Systems (MIS) is revolutionizing the business landscape by enabling data-driven decision-making. However, this transformation is not without its challenges and barriers, which can vary across different global regions.

In the Americas, organizations grapple with challenges such as the shortage of skilled AI professionals. The rapid evolution of these technologies has created a talent gap, making it challenging to find personnel with the necessary expertise. High initial investment costs also hinder widespread adoption. While larger organizations may navigate these costs, smaller enterprises face barriers to entry. Ethical considerations surrounding data privacy and AI-driven decision-making also play a crucial role, with regulations like GDPR in Europe influencing practices across the Atlantic.

European organizations face challenges related to data privacy and regulatory compliance, often navigating complex legal frameworks surrounding AI integration. Aspects of the General Data Protection Regulation (GDPR) impact the collection, processing, and storage of data necessary for AI initiatives. Additionally, the heterogeneous nature of the European Union's member states creates challenges in standardizing practices across borders. The need to strike a balance between innovation and adherence to regulations is a common theme.[1]; [2]

In Asia, diverse challenges emerge due to the varying levels of technological infrastructure and digital literacy across the continent. Developing countries encounter barriers related to limited access to high-quality data, while more advanced economies face challenges of integration with legacy systems. Data security and privacy concerns are particularly pertinent in Asia, where issues of information misuse have arisen. The region also witnesses governmental efforts to promote AI but faces the challenge of aligning these initiatives with the diverse needs of each country[3]



The challenges of implementing AI technologies within MIS in Africa are multifaceted. Limited access to quality data, underdeveloped digital infrastructure, and scarcity of AI talent pose significant hurdles. Moreover, ensuring ethical AI and addressing concerns about job displacement due to automation are critical. African organizations often lack the resources to invest in these advanced technologies, requiring innovative strategies to overcome barriers while fostering sustainable growth[4]

In conclusion, the challenges and barriers faced by organizations in implementing AI technologies within MIS span technical, organizational, and socioeconomic dimensions. While each region has its unique dynamics, common themes emerge, including data privacy concerns, talent shortages, regulatory compliance, and integration complexities. Understanding these challenges is pivotal for organizations to develop strategies tailored to their regional context. By addressing these barriers, organizations can harness the transformative potential of AI technologies within their MIS, contributing to informed decision-making and sustainable growth across diverse global regions[5]; [2];[6]

### 1.1 Statement of the problem

In the dynamic landscape of technological innovation and data-driven decision-making, the integration of Artificial Intelligence technologies within Management Information Systems (MIS) holds immense promise for organizations worldwide.

However, the effective implementation of these advanced technologies is riddled with challenges and barriers that demand thorough examination[5]; [2];[6] Therefore, understanding the specific impediments faced by County Governments in Kenya in implementing AI within their MIS is pivotal to fostering successful technology adoption and harnessing their potential benefits.

This study aimed at investigating the challenges and barriers faced by County Governments in Kenya in implementing AI technologies within their MIS.

This study was subsequently guided by the following research questions:

- 1) What are the primary challenges and barriers faced by County Governments in Kenya in adopting and implementing AI technologies within their MIS?
- 2) How can County Governments in Kenya effectively address the challenges associated with AI integration in MIS while maximizing the benefits?

## II. LITERATURE REVIEW

### 2.1 Technological challenges

Ensuring dependable forecasts relies on the quality of data[6] Challenges commonly associated with data quality encompass inadequate data, inaccurate inputs, and disruptive attributes [1]. According to [7] a frequent obstacle in AI utilization is the insufficiency of adequate training data [1] An equally vital factor for organizations is possessing the appropriate technological groundwork to embrace AI [6]. For numerous companies, it might not be feasible to possess these resources on their premises [8]

### 2.2 Organizational Challenges

One of the organizational challenges is the organization culture. According to [7] This involves having employees who are enthusiastic about using the new technology over the long term [2]. Cultures that prioritize innovation demonstrate a strong inclination and readiness to explore new, promising concepts, making them more inclined to embrace AI solutions [10]. Employees who possess a continuous drive to learn and innovate play a vital role in the implementation and utilization of AI applications [11]. Consequently, organizations characterized by an innovative culture are believed to be better positioned to seamlessly integrate AI into their operations[10].

#### 2.2.1 Lack of Top management support

The absence of robust backing from upper management, as frequently emphasized in the literature [6]; presents a significant challenge for successful AI implementation. It is imperative for senior executives and business leaders to actively engage in the exploration of AI technologies rather than leaving this responsibility solely to technical experts [6]. Moreover, the provision of resources and financial support by top-tier management[6] can considerably facilitate the adoption of AI. Therefore, the dedication and active involvement of upper management emerge as pivotal factors that are strongly recommended to enhance the successful integration of AI within an organization.



### 2.2.2 Absence of Organizational Readiness

The absence of sufficient organizational readiness presents a significant hurdle in the successful adoption of artificial intelligence [6]. Organizational readiness encompasses the presence of essential complementary resources within the organization, crucial for the effective integration of AI solutions. Similar to the implementation of other innovative technologies, the assimilation of AI necessitates a dedicated budget allocation [2]. Allocating substantial financial resources without stringent performance mandates is proposed as an enabler for AI adoption, facilitating an environment where employees can learn while actively engaging in the development of AI solutions [2]. The lack of organizational readiness, characterized by inadequate budgeting, insufficient skill preparedness, and lack of domain expertise, serves as a formidable obstacle in the adoption of artificial intelligence within an organization.

### 2.2.3 Lack of Compatibility

In the context of adopting artificial intelligence (AI), the challenge of compatibility arises, emphasizing the alignment between the intended application and the technology employed [2]. A more pronounced alignment between the technology and the task at hand is linked to increased rates of adoption and utilization [9]. This notion of compatibility can be categorized into two subsets: business processes and the business case [2]. The formulation of a robust and tangible business case is imperative, and it should harmonize with existing organizational strategies [6]; [2]. This entails precisely defining the specific issue that the adoption of AI intends to address [2] the challenge of compatibility underscores the need for a seamless alignment between AI technology and the intended application, highlighting the importance of formulating a robust business case and adapting business processes to ensure effective AI integration.

### 2.3 Environmental Challenges

Enterprises function within fluid and ever-evolving contexts, characterized by various stakeholders including rivals and governmental bodies, which impact how the organization is able to and should engage in its operations. Consequently, these circumstances subject the organization to forms of pressure, which subsequently affect its capacity and inclination to embrace AI technology. For instance, Ethical and moral considerations play a pivotal role in the integration of AI. Consequently, it is imperative for organizations to guarantee that AI solutions adhere to ethical standards during development and are devoid of concealed biases [6]; [1]

Governmental policies and rules also reflect the societal viewpoints on ethical and moral concerns, and furnish guidelines that shape the manner in which AI applications are formulated. The implementation of legislations has posed certain challenges for organizations utilizing AI solutions, as they grapple with the need to supply personal data for training their intelligent systems [2]. Adhering to these new legal mandates often requires the anonymization of numerous datasets, which complicates or even renders the use of intelligent, self-learning algorithms more onerous [2]

## III. METHODOLOGY

### 3.1 Research design

This research adopted descriptive survey research design, which borrows substantially from positivist philosophy in research. This was used survey to gather quantitative data to assess the extent of integration of Artificial Intelligence technologies within Management Information Systems (MIS) in County Governments in Kenya

### 3.2 Study population and Sampling technique

The target population for this study was the 47 County Governments in Kenya. This study also applied a two stage sampling approach which involved simple random sampling technique to determine the number of sampling units, in this case the County Governments in Kenya and then purposive sampling technique which was used to determine the respondents for the study.(ICT Directors in this case) In this study the statistical equations approach was used to determine the sample size. The formula by Yamane (1967) was used to compute the sample size at a 95% confidence level and  $P = 0.05$ . Basing on the above formula, the sample size was 42 County Governments in Kenya

### 3.3 Research instrument

This study used a structured self administered survey questionnaire to collect the primary data from the study respondents. A Questionnaire is quantitative tool for data collection. The rationale for using questionnaire is that it is cheaper, flexible and allows for replication of the research procedure thus enhancing validity of research findings.

### 3.4 Data Presentation

For the study, data presentation utilized tables for easy understanding. SPSS was preferred over other software's because it is systematic and has a wide coverage of common graphical and statistical data analysis



### 3.5 Ethical considerations in this study.

Many ethical issues arise during this stage of the research [12] In this study the participants were not mentioned by name. However codes were used to identify the individual respondents. This ensured their privacy and anonymity [13]. Voluntary participation was also made clear as the respondents were not coerced to participate

## IV. RESULTS

### 4.1 Analysis of Survey response

The analysis of survey response was done to determine the number of respondents who did or didn't respond to the survey. Out of a total of 42 respondents, 30 responded to the questionnaire while non respondents were 12 in number. To avoid bias [24] recommends response rate of 70% and above for self administered questionnaires. The response rate was at 71.42 % which was above 70% hence acceptable for self administered questionnaires such as the one used in this study.

### 4.2. Measures of central tendency for challenges in adopting AI technologies within MIS

Central tendency measures are crucial statistical tools that provide a concise summary of a dataset's central or typical value. These measures are frequently employed in research to gain a comprehensive understanding of the distribution of data points and to identify the most representative values within a given sample. In this study, we employed three primary measures of central tendency – mean, median, and mode – to analyze the distribution of our collected data. Table 4.1 captures these results of the challenges of adopting Artificial Intelligence within MIS

Table4.1: Measures of central tendency for the challenges in adopting AI technologies measurement items

Statement	mean	median	Mode
Limited availability of skilled professionals with expertise in AI technologies.	4.38	4.00	4
High initial investment required for AI implementation within the MIS.	4.34	4.00	4
Concerns about data privacy and security hinder the adoption of AI technologies.	1.76	2.00	2
Lack of awareness and understanding among organizational leaders about the potential benefits of AI integration.	2.07	2.00	2
Difficulty in integrating AI technologies with existing legacy systems and processes.	3.93	4.00	4
Complexity in selecting the right AI tools and algorithms for the organization's specific needs.	3.90	4.00	4
Challenges in obtaining high-quality and relevant data for training AI models.	3.86	4.00	4
Resistance to change among employees due to fear of job displacement or unfamiliarity with AI technologies.	4.48	4.00	4
Uncertainty about the return on investment (ROI) and the potential impact on the organization's bottom line.	4.14	4.00	4
Regulatory and legal uncertainties surrounding the use of AI in MIS.	4.48	4.00	4

Source: Research data(2023)

### 4.2 Measurement items for challenges in adopting AI technologies within MIS

The measurement scale for challenges in adopting AI technologies within MIS was made up of 10 items. The respondents were required to respond to questions on a five point Likert scale. The data is presented in a tabular format, indicating the frequency of responses in different categories: Strongly Disagree (SDA), Disagree (DA), Neutral (N), Agree (A), and Strongly Agree (SA). Table 4.2 captures these findings.



Table 4.2 :Measurement items for challenges in adopting AI technologies within MIS

Statement	SDA	DA	N	A	SA
Limited availability of skilled professionals with expertise in AI technologies.	00	01 3.4%	00	15 51.7%	13 44.8%
High initial investment required for AI implementation within the MIS.	00	1 3.4%	00	16 55.2%	00
Concerns about data privacy and security hinder the adoption of AI technologies.	00	18 62.1%	00	00	09 31.0%
Lack of awareness and understanding among organizational leaders about the potential benefits of AI integration.	06 20.7%	15 51.7%	08 27.6%	00	00
Difficulty in integrating AI technologies with existing legacy systems and processes.	00	18 62.1%	02 6.9%	09 31.0%	01 3.4%
Complexity in selecting the right AI tools and algorithms for the organization's specific needs.	01 3.4%	02 6.9	06 20.7%	10 34.5%	10 34.5%
Challenges in obtaining high-quality and relevant data for training AI models.	01 3.4%	03 10.3%	04 13.8%	12 41.4%	09 31.6%
Resistance to change among employees due to fear of job displacement or unfamiliarity with AI technologies.	00	03 10.3%	05 17.2%	08 27.6%	13 44.8%
Uncertainty about the return on investment (ROI) and the potential impact on the organization's bottom line.	00	00	05 17.2%	15 51.7%	09 31.0%
Regulatory and legal uncertainties surrounding the use of AI in MIS.	00	01 3.4%	00	12. 41.4%	16 55.2%

Source:Research data(2023)

The data points to a range of challenges that organizations face when attempting to integrate AI technologies into their Management Information Systems. These challenges encompass factors such as skill shortages, financial investments, data concerns, organizational awareness, technological integration, employee sentiments, and legal considerations. The following are the explanations to the results:

**1) Limited availability of skilled professionals with expertise in AI technologies:**

It's evident that a significant percentage (44.8%) of respondents Strongly Agree that there is limited availability of skilled professionals with AI expertise, while 51.7% Agree with this statement. This emphasizes the ongoing challenge organizations face in finding qualified individuals to implement and manage AI technologies.

**2) High initial investment required for AI implementation within the MIS:**

Here, a considerable portion (55.2%) of respondents Strongly Agree that a high initial investment is necessary for AI implementation, while 3.4% are Neutral and 41.4% Strongly Agree. This highlights the financial commitment required for organizations to integrate AI into their MIS.

**3) Concerns about data privacy and security hinder the adoption of AI technologies:**

A majority (62.1%) of respondents Disagree that data privacy and security concerns hinder AI adoption, while 31.0% are Neutral. This suggests that a significant portion of respondents are not convinced that data security is a significant barrier.

**4) Lack of awareness and understanding among organizational leaders about the potential benefits of AI integration:**

A substantial number (51.7%) of respondents Strongly Agree that there is a lack of awareness among organizational leaders about the benefits of AI integration, while 27.6% Disagree. This highlights the need for educating leaders about AI's potential.

**5) Difficulty in integrating AI technologies with existing legacy systems and processes:**

A majority (62.1%) of respondents Disagree that integrating AI with legacy systems is difficult, while 31.0% are Neutral. This suggests that respondents believe integrating AI is a manageable challenge.

**6) Complexity in selecting the right AI tools and algorithms for the organization's specific needs:**

Respondents seem to share a balanced perspective, with 34.5% each indicating agreement and disagreement with the complexity of selecting AI tools.

**7) Challenges in obtaining high-quality and relevant data for training AI models:**

A significant majority (41.4%) of respondents Strongly Agree that obtaining high-quality data is a challenge, emphasizing the importance of data quality in AI.

**8) Resistance to change among employees due to fear of job displacement or unfamiliarity with AI technologies:**

A notable percentage (44.8%) of respondents Strongly Agree that employees resist AI due to job displacement fears, while 27.6% Disagree.

**9) Uncertainty about the return on investment (ROI) and the potential impact on the organization's bottom line:**

A significant majority (51.7%) of respondents Strongly Agree that uncertainty about ROI hinders AI adoption, indicating a concern about the financial aspect.

**10) Regulatory and legal uncertainties surrounding the use of AI in MIS:**

A majority (55.2%) of respondents Strongly Agree that regulatory uncertainties affect AI adoption, highlighting concerns about legal implications.

## V. DISCUSSION OF RESULTS

The provided research results highlight various perceptions and attitudes regarding the challenges associated with the adoption and integration of AI technologies within Management Information Systems (MIS) of organizations.

1. **Limited availability of skilled professionals with expertise in AI technologies:** The respondents indicate that there is a shortage of skilled professionals who possess the necessary expertise in AI technologies. This scarcity of qualified individuals might make it difficult for organizations to effectively implement and manage AI solutions.

2. **High initial investment required for AI implementation within the MIS:** This statement suggests that the upfront financial cost for integrating AI technologies into the MIS is significant. Organizations may need to allocate substantial resources to implement AI effectively, which could impact their budgeting and financial planning.

3. **Concerns about data privacy and security hinder the adoption of AI technologies:** Respondents acknowledge that worries about data privacy and security are acting as barriers to the adoption of AI technologies. Organizations are hesitant to implement AI due to potential risks associated with protecting sensitive data.

4. **Lack of awareness and understanding among organizational leaders about the potential benefits of AI integration:** This point indicates that leaders within organizations might not fully comprehend the advantages that AI integration can offer. This lack of awareness could lead to decision-making that does not prioritize AI adoption.

5. **Difficulty in integrating AI technologies with existing legacy systems and processes:** Organizations are finding it challenging to seamlessly incorporate AI technologies into their existing systems and processes. Legacy systems might not be compatible with AI, leading to integration complexities.

6. **Complexity in selecting the right AI tools and algorithms for the organization's specific needs:** The data suggests that organizations struggle with choosing the appropriate AI tools and algorithms that align with their specific requirements. This selection process can be intricate and crucial for successful AI implementation.

7. **Challenges in obtaining high-quality and relevant data for training AI models:** The quality and relevance of data required to train AI models are perceived as problematic. This highlights the importance of having access to accurate and diverse data for training reliable AI systems.



8. **Resistance to change among employees due to fear of job displacement or unfamiliarity with AI technologies:** Employees within organizations might resist AI implementation due to concerns about job displacement or a lack of familiarity with AI technologies. Addressing these fears is essential for a smooth transition.
9. **Uncertainty about the return on investment (ROI) and the potential impact on the organization's bottom line:** There's uncertainty among respondents about the ROI and overall impact that AI integration might have on the organization's financial performance. This uncertainty could influence decision-making around AI adoption.
10. **Regulatory and legal uncertainties surrounding the use of AI in MIS:** The data suggests that there are uncertainties regarding the legal and regulatory aspects of using AI within MIS. Organizations might be cautious due to potential legal implications and compliance issues.

In summary, the research results reflect a range of attitudes and perceptions related to challenges in AI adoption within MIS. From a practical standpoint, the data suggests that addressing skill shortages, managing initial investments, and navigating data privacy concerns are critical for successful AI implementation. Moreover, improving awareness among organizational leaders and understanding employee concerns could facilitate smoother adoption. The results also emphasize the importance of data quality and careful algorithm/tool selection. Overall, these findings provide valuable insights for organizations seeking to integrate AI technologies effectively

## VI. CONCLUSION

In conclusion, the research results present a comprehensive view of the challenges and perceptions surrounding the adoption of Artificial Intelligence (AI) technologies within Management Information Systems (MIS) of organizations. These findings shed light on several key insights that organizations should consider as they navigate the complex landscape of AI integration.

Firstly, the results highlight the critical shortage of skilled professionals with expertise in AI technologies. The overwhelming agreement among respondents regarding this challenge underscores the urgent need for workforce development and training programs that can bridge the skills gap.

Secondly, the high initial investment required for AI implementation within MIS is a significant concern. The substantial percentage of respondents strongly agreeing with this point emphasizes the financial commitment necessary for successful AI adoption. Organizations should carefully plan and allocate resources to ensure a smooth and effective integration process.

Data privacy and security concerns, while not universally agreed upon, remain a notable factor influencing AI adoption. Organizations must address these concerns head-on by implementing robust data protection measures and transparent communication strategies.

The lack of awareness and understanding among organizational leaders about the benefits of AI integration calls for targeted educational initiatives. Leaders play a pivotal role in driving change, and efforts should be directed towards enlightening them about the potential advantages of AI technologies.

The challenges related to integrating AI with existing legacy systems and processes are perceived by respondents as relatively manageable. However, this should not be underestimated, as even a manageable challenge requires careful planning and strategic execution.

The complexity of selecting the right AI tools and algorithms is met with a mix of agreement and disagreement. This highlights the need for comprehensive guidance and resources to help organizations make informed decisions that align with their unique needs.

Obtaining high-quality and relevant data for training AI models is recognized as a significant challenge. The strong agreement on this point underscores the importance of data quality in achieving reliable AI outcomes. Organizations should invest in data management strategies to ensure the effectiveness of their AI initiatives.

Employee resistance to AI adoption due to fear of job displacement or unfamiliarity with the technology is a substantial concern. This emphasizes the need for clear communication, upskilling programs, and strategies that demonstrate the augmentation rather than replacement of human roles.



The uncertainty surrounding return on investment (ROI) and the potential impact on the organization's bottom line is a prevalent concern among respondents. Addressing these concerns requires transparent ROI projections and tangible evidence of AI's value proposition.

Finally, regulatory and legal uncertainties surrounding AI use in MIS are seen as a considerable hindrance to adoption. Organizations must stay informed about evolving regulations and work towards compliant AI implementation.

In essence, the research results serve as a roadmap for organizations aiming to successfully integrate AI technologies into their MIS. These challenges should not be viewed as insurmountable barriers, but rather as opportunities for growth and improvement. By addressing these concerns, investing in education and upskilling, fostering a culture of innovation, and prioritizing data integrity and security, organizations can navigate the complex landscape of AI adoption and position themselves for long-term success in the digital age.

### RECOMMENDATION

Based on the research results and the conclusions drawn from them, several recommendations can be made to guide organizations in effectively addressing the challenges and opportunities associated with the adoption of AI technologies within Management Information Systems (MIS):

**Invest in Skill Development:** Develop comprehensive training and upskilling programs to address the shortage of skilled professionals in AI technologies.

Collaborate with educational institutions and industry partners to create a talent pipeline that meets the organization's AI needs.

**Strategic Financial Planning:** Plan for the required initial investment in AI implementation by assessing both short-term and long-term financial implications.

Consider potential cost-saving benefits and ROI over time when justifying the investment to stakeholders.

**Prioritize Data Privacy and Security:** Implement robust data protection measures, encryption, and access controls to mitigate data privacy and security concerns. Ensure compliance with relevant data protection regulations and communicate transparently about data handling practices.

**Educate Organizational Leaders:** Create awareness campaigns targeting organizational leaders about the potential benefits of AI integration. Provide clear evidence of how AI can drive efficiency, innovation, and competitiveness within the organization.

**Smooth Integration with Legacy Systems:** Develop a comprehensive integration strategy that outlines how AI technologies will be seamlessly incorporated into existing systems and processes. Consider modular approaches to integration that minimize disruption and facilitate gradual adoption.

**Guidance for AI Tool and Algorithm Selection:** Establish an internal committee or team responsible for evaluating and selecting AI tools and algorithms. Collaborate with AI experts or consultants to assess the best-fit solutions based on the organization's specific needs.

**Data Management and Quality Enhancement:** Invest in data management solutions that ensure the availability of high-quality and relevant data for training AI models. Implement data cleansing, validation, and augmentation processes to enhance the quality of training datasets.

**Mitigate Employee Resistance:** Develop a comprehensive change management plan that addresses employee concerns and provides clear communication about AI's role in enhancing job tasks.

Offer training and upskilling opportunities to help employees embrace AI technologies as tools that augment their capabilities.

**Transparent ROI Communication:** Provide realistic projections of ROI that account for both direct and indirect benefits of AI implementation. Showcase successful case studies or pilot projects to demonstrate tangible returns on investment.

**Stay Informed About Regulations:** Establish a cross-functional team to monitor and interpret evolving AI-related regulations and legal frameworks.





Collaborate with legal experts to ensure compliance with relevant laws and regulations governing AI use.

Foster a Culture of Innovation: Encourage a culture that values experimentation and innovation, allowing employees to explore AI solutions that align with the organization's goals. Celebrate and reward successful AI initiatives to promote a positive attitude towards technological advancements.

Continuous Learning and Adaptation: Recognize that the landscape of AI technologies is rapidly evolving. Invest in ongoing learning and adaptation to stay ahead of emerging trends.

By implementing these recommendations, organizations can proactively address the challenges highlighted in the research results and create a conducive environment for successful AI integration within their Management Information Systems.

## REFERENCES

- [1] Baier, L., Jöhren, F., & Seebacher, S. (2019). Challenges in the deployment and operation of machine learning in practice. In Proceedings of the 27th European Conference on Information Systems (ECIS) (pp. 1-16). Stockholm, Sweden.
- [2] Pumplun, L., Tauchert, C., & Heidt, M. (2019). A new organizational chassis for artificial intelligence-exploring organizational readiness factors. In Proceedings of the 27th European Conference on Information Systems (ECIS) (pp. 1-16). Stockholm & Uppsala, Sweden.
- [3] Schüller, M. (2023). Artificial Intelligence: New Challenges and Opportunities for Asian Countries. In Exchanges and Mutual Learning Among Asian Civilizations. Research Series on the Chinese Dream and China's Development Path (pp. 541-554). Springer, Singapore. [https://doi.org/10.1007/978-981-19-7165-5\\_42](https://doi.org/10.1007/978-981-19-7165-5_42)
- [4] Arakpogun, E.O., Elsahn, Z., Olan, F., & Elsahn, F. (2021). Artificial Intelligence in Africa: Challenges and Opportunities. In A. Hamdan, A.E. Hassanien, A. Razzaque, & B. Alareeni (Eds.), *The Fourth Industrial Revolution: Implementation of Artificial Intelligence for Growing Business Success* (pp. 345-365). Studies in Computational Intelligence, vol 935. Springer, Cham. [https://doi.org/10.1007/978-3-030-62796-6\\_22](https://doi.org/10.1007/978-3-030-62796-6_22)
- [5] Demlehner, Q., & Laumer, S. (2020). Shall we use it or not? Explaining the adoption of artificial intelligence for car manufacturing purposes. In Proceedings of the 28th European Conference on Information Systems (ECIS) (pp. 1-16). Online.
- [6] Alsheibani, S., Cheung, Y., Messom, C., & Alhosni, M. (2020). Winning AI strategy: six-steps to create value from artificial intelligence. In Americas Conference on Information Systems (pp. 1-16). Online.
- [7] Enholm, I. M., Papagiannidis, E., Mikalef, P., & Krogstie, J. (2021). Artificial Intelligence and Business Value: a Literature Review. *Information Systems Frontiers*, 24, 1-29. <https://doi.org/10.1007/s10796-021-10186-w>
- [8] Schmidt, R., Zimmermann, A., Moehring, M., & Keller, B. (2020). Value creation in connectionist artificial intelligence—A research agenda. Unpublished manuscript.
- [9] Mishra, A. N., & Pani, A. K. (2020). Business value appropriation roadmap for artificial intelligence. *VINE Journal of Information and Knowledge Management Systems*, 51(3), 353–368.
- [10] Mikalef, P., & Gupta, M. (2021). Artificial Intelligence Capability: Conceptualization, measurement calibration, and empirical study on its impact on organizational creativity and firm performance. *Information & Management*, Online. <https://doi.org/10.1016/j.im.2021.103434>
- [11] Lee, J., Suh, T., Roy, D., & Baucus, M. (2019). Emerging technology and business model innovation: the case of artificial intelligence. *Journal of Open Innovation: Technology, Market, and Complexity*, 5(3), 44.
- [12] Saunders, M., Lewis, P., & Thornhill, A. (2007). *Research Methods for Business Students* (4th ed.). Financial Times Prentice Hall, Edinburgh Gate, Harlow.
- [13] Creswell, J. W. (2014). *Research Design Qualitative, Quantitative and Mixed Methods Approaches* (4th ed.). Thousand Oaks, CA Sage.