JURNAL KOMPUTER TEKNOLOGI INFORMASI SISTEM KOMPUTER
p-ISSN: 2962-3022 | e-ISSN: 2963-7104
Volume 5 No 1 Juni 2026
Page: 412-420
http://ejurnal.lkpkaryaprima.id/index.php/juktisi
DOI: https://doi.org/10.62712/juktisi.v5i1.1043

The Role of Artificial Intelligence and Digital Information Systems in Enhancing Organizational Management Performance

M Rasyidin[1], Asep Abdul Sofyan[2], Supiyandi[3*], Djamaludin[4], Zulfikar[5]

[1]Ekonomi, Manajemen Ritel, Universitas Almuslim, Bireuen, Indonesia
[2]Teknik, Teknik Informatika, Universitas Islam Syekh Yusuf Tangerang, Tangerang, Indonesia
[3]Sains dan Komputasi, Teknologi Informasi, Universitas Pembangunan Panca Budi, Medan, Indonesia
[4]Teknik, Sistem Informasi, Sisem Informasi, Universitas Islam Syekh Yusuf Tangerang, Tangerang, Indonesia
[5]Ilmu Keguruan dan Ilmu Pendidikan, Pendidikan Ekonomi, Universitas Almuslim, Bireuen, Indonesia
Email: [1]mrasyidin@umuslim.ac.id, [2]asep.abdulsofyan@unis.ac.id, [3*]supiyandi@dosen.pancabudi.ac.id,
[4]djamaludin@unis.ac.id, [5]zulfikar054@gmail.com
(*Email Corresponding Author: supiyandi@dosen.pancabudi.ac.id)
Received: May 14, 2026 | Revision: May 16, 2026 | Accepted: May 17, 2026

Abstract

The rapid development of Artificial Intelligence (AI) and Digital Information Systems has significantly influenced organizational management practices in various sectors. This research aims to analyze the role of Artificial Intelligence and Digital Information Systems in enhancing organizational management performance through improvements in operational efficiency, decision-making accuracy, employee productivity, communication effectiveness, and system reliability. The study employed a quantitative descriptive method involving organizational employees, managers, and information system administrators as research subjects. Data were collected through questionnaires, observations, and documentation analysis, then analyzed using descriptive statistical techniques. The findings indicate that the implementation of AI-supported Digital Information Systems improved operational efficiency by 23%, decision-making accuracy by 21%, employee productivity by 22%, communication effectiveness by 22%, and system reliability by 20%. The results demonstrate that AI technologies contribute significantly to automating operational processes, reducing human error, accelerating information processing, and supporting data-driven managerial decisions. In addition, integrated digital systems improved organizational coordination, transparency, and information accessibility. Despite several implementation challenges, such as infrastructure limitations and employee adaptation, organizations that successfully adopted AI technologies experienced measurable improvements in management performance and operational effectiveness. Therefore, Artificial Intelligence and Digital Information Systems can be considered effective technological solutions for supporting organizational competitiveness and sustainability in the digital era.

Keywords: Artificial Intelligence, Digital Information Systems, Organizational Management, Operational Efficiency, Decision-Making Accuracy, Employee Productivity

1. INTRODUCTION

The rapid development of information technology has significantly transformed organizational management systems across sectors such as education, business, healthcare, and government institutions. Organizations are currently required to adapt quickly to digital transformation in order to maintain operational efficiency and competitiveness in the global era[1]. One of the technologies that has received significant attention is Artificial Intelligence (AI), which can automatically process data, predict patterns, and support strategic decision-making. Alongside AI, Digital Information Systems also play an essential role in integrating organizational data and facilitating communication among departments. Empirical studies indicate that organizations implementing AI-based information systems experience improvements in work productivity, decision accuracy, and service quality[2]. The increasing volume of digital data generated daily encourages organizations to adopt intelligent systems capable of analyzing information effectively and efficiently. Furthermore, integrating AI into digital information systems enables organizations to reduce human error and optimize resource management. Therefore, the implementation of Artificial Intelligence and Digital Information Systems has become an important factor in improving organizational management performance in the modern era[3].

Artificial Intelligence technology has evolved from a conceptual innovation into a practical solution widely implemented in organizational environments. AI technologies such as machine learning, data mining, natural language processing, and predictive analytics are increasingly utilized to support managerial activities. In organizational management, AI can assist leaders in analyzing employee performance, customer behavior, financial trends, and operational risks more accurately[4]. Digital Information Systems also provides integrated platforms that enable real-time monitoring and reporting processes. Previous empirical research has demonstrated that organizations using intelligent information systems can improve operational effectiveness and accelerate business processes. In addition, digital systems help organizations maintain data transparency, strengthen internal coordination, and support evidence-based policy formulation. The application of AI to management activities also helps reduce operational costs and increase organizational flexibility in responding to market changes. Consequently, organizations that adopt AI-supported information systems tend to achieve better organizational performance compared to organizations relying solely on conventional management systems[5].

JURNAL KOMPUTER TEKNOLOGI INFORMASI SISTEM KOMPUTER
p-ISSN: 2962-3022 | e-ISSN: 2963-7104
Volume 5 No 1 Juni 2026
Page: 412-420
http://ejurnal.lkpkaryaprima.id/index.php/juktisi
DOI: https://doi.org/10.62712/juktisi.v5i1.1043

Several previous studies have discussed the impact of Artificial Intelligence and Digital Information Systems on organizational performance. Research by Andrew Ng found that AI implementation significantly improves organizational productivity through automation and intelligent data analysis. Other studies reported that digital information systems enhance communication efficiency and simplify organizational data management processes[6]. However, most previous research focused only on technical implementation aspects without comprehensively examining the relationship between AI integration and organizational management effectiveness. Some studies also emphasized technological advantages but provided limited discussion regarding managerial implications and strategic decision-making support[7]. Furthermore, several organizations still face challenges in adopting AI technologies due to limited digital infrastructure, lack of employee competencies, and concerns regarding data security. This condition indicates a research gap in optimizing AI and digital information systems to comprehensively improve management performance. Therefore, further research is necessary to analyze how AI and Digital Information Systems can effectively support organizational management activities. Through this study, a broader understanding regarding the practical contribution of intelligent technologies in organizational environments can be obtained[8].

The implementation of Artificial Intelligence and Digital Information Systems provides organizations with various strategic advantages in achieving efficiency and sustainability goals. AI-based systems enable organizations to automate repetitive tasks, reduce administrative workloads, and improve the speed of information processing[9]. Digital Information Systems also support organizational collaboration through centralized databases and integrated communication platforms. In managerial contexts, the availability of accurate and real-time information helps leaders formulate more effective strategies and policies. Organizations utilizing intelligent digital systems are also more capable of identifying operational problems and market opportunities rapidly[10]. Moreover, AI technologies support predictive analysis, helping organizations minimize risks and improve long-term planning accuracy. Empirical evidence from several industries shows that digital transformation positively affects employee productivity, customer satisfaction, and organizational innovation capabilities. Therefore, the integration of AI and Digital Information Systems has become an important strategy for organizations seeking to improve overall management performance and maintain competitive advantages in the digital era[11].

Based on the background and previous studies, this research aims to analyze the role of Artificial Intelligence and Digital Information Systems in enhancing organizational management performance[12]. This study focuses on examining how intelligent technologies contribute to improving operational efficiency, decision-making processes, communication systems, and organizational productivity[13]. In addition, the research examines the challenges and opportunities organizations face when implementing AI-supported information systems. The findings of this study are expected to provide empirical insights regarding the effectiveness of AI and digital technologies in organizational management practices. Furthermore, this research may contribute to the development of strategies for optimizing digital transformation within organizations[14]. The study also aims to provide recommendations for organizations in adopting AI technologies responsibly and efficiently. From an academic perspective, this research can enrich the literature on Artificial Intelligence, Digital Information Systems, and organizational management. Ultimately, the research is expected to support organizations in achieving sustainable performance improvement through the effective utilization of intelligent digital technologies[15].

2. RESEARCH METHODOLOGY

2.1 Research Design

This study employed a quantitative descriptive approach to analyze the role of Artificial Intelligence (AI) and Digital Information Systems in enhancing organizational management performance. The research focused on evaluating how AI-based systems contribute to operational efficiency, decision-making quality, communication effectiveness, and employee productivity within organizations. A quantitative method was selected because it allows the researcher to measure relationships between variables objectively using numerical data and statistical analysis. The research design was conducted systematically through several stages, including problem identification, data collection, implementation analysis, evaluation, and results interpretation. The study involved employees and management staff from organizations that have implemented AI-supported digital information systems in their operational activities. The selected respondents were considered capable of providing empirical information regarding the effectiveness of AI integration in organizational management processes. The research process was designed to ensure that all collected data were measurable, valid, and aligned with the objectives of the study. Therefore, the methodology provides a structured framework for evaluating the impact of Artificial Intelligence and Digital Information Systems on organizational management performance.

JURNAL KOMPUTER TEKNOLOGI INFORMASI SISTEM KOMPUTER
p-ISSN: 2962-3022 | e-ISSN: 2963-7104
Volume 5 No 1 Juni 2026
Page: 412-420
http://ejurnal.lkpkaryaprima.id/index.php/juktisi
DOI: https://doi.org/10.62712/juktisi.v5i1.1043

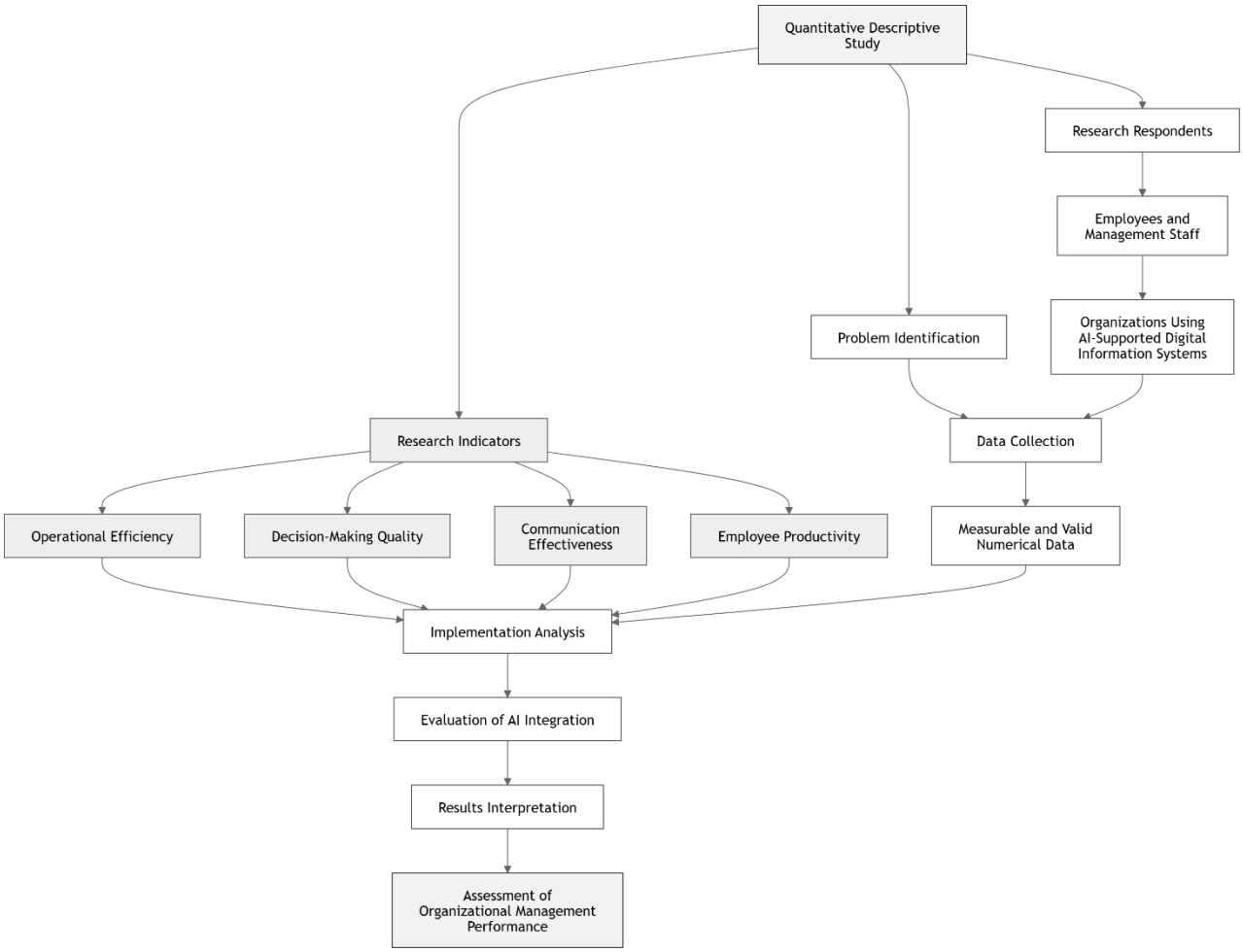

Figure 1. Quantitative Descriptive Research Framework for Evaluating AI and Digital Information Systems in Organizational Management

2.2 Research Subjects and Objects

The subjects of this study were organizational employees, managers, and information system administrators who actively use Artificial Intelligence and Digital Information Systems in their work environments. Respondents were selected using purposive sampling techniques based on specific criteria, such as involvement in digital operational activities and experience in using AI-supported systems. The object of this research focused on the implementation of Artificial Intelligence technologies and Digital Information Systems in organizational management activities. The study evaluated several indicators, including operational efficiency, decision-making accuracy, employee productivity, communication effectiveness, and system reliability. Data collection was conducted by distributing questionnaires and conducting direct observations of organizational management processes. In addition, supporting data were obtained from organizational reports and system performance documentation. The collected information was analyzed to determine the extent to which AI and Digital Information Systems contribute to improvements in management performance. As a result, the research subjects and objects were designed to provide empirical evidence regarding the effectiveness of intelligent digital technologies in organizational environments.

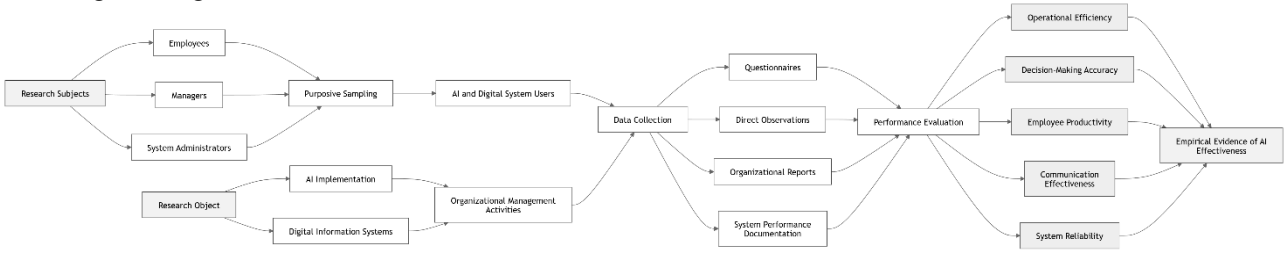

Figure 2. Research Subjects, Objects, and Data Sources in Evaluating AI-Supported Organizational Management

JURNAL KOMPUTER TEKNOLOGI INFORMASI SISTEM KOMPUTER
p-ISSN: 2962-3022 | e-ISSN: 2963-7104
Volume 5 No 1 Juni 2026
Page: 412-420
http://ejurnal.lkpkaryaprima.id/index.php/juktisi
DOI: https://doi.org/10.62712/juktisi.v5i1.1043

2.3 Research Flowchart

The research stages conducted in this study are illustrated in the following flowchart:

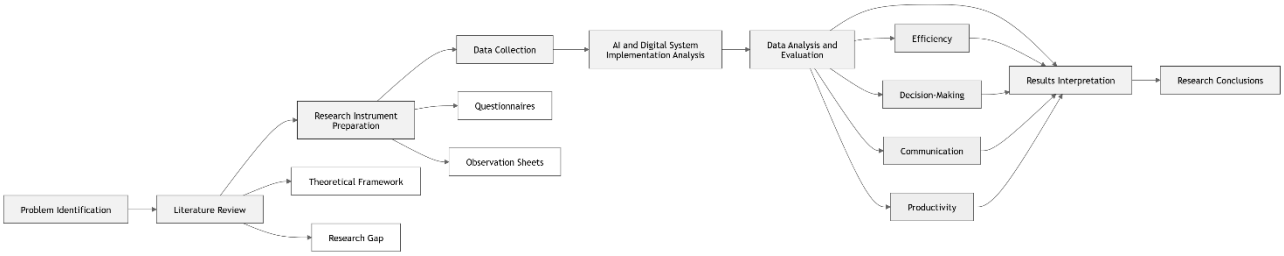

Figure 3. Systematic Research Process for Evaluating AI and Digital Information Systems in Organizational Management

The flowchart above describes the systematic stages of the research process. The study began with identifying organizational problems related to management performance and digital transformation. The next stage involved conducting a literature review to support the theoretical framework and identify research gaps. After that, the researcher prepared research instruments such as questionnaires and observation sheets for data collection purposes. The collected data were then used to analyze the implementation of Artificial Intelligence and Digital Information Systems within organizational management activities. Furthermore, data analysis and evaluation were conducted to measure the effectiveness of system implementation based on several performance indicators. Finally, the research results were interpreted to produce conclusions regarding the role of Artificial Intelligence and Digital Information Systems in improving organizational management performance.

2.4 Research Instruments

The instruments used in this research consisted of questionnaires, observation sheets, and documentation analysis. The questionnaire was designed using a Likert scale ranging from 1 to 5 to measure respondent perceptions regarding the effectiveness of AI and Digital Information Systems in organizational management. Observation sheets were used to monitor system implementation processes and evaluate operational activities directly within organizations. Documentation analysis was conducted to collect supporting data related to system performance reports, productivity records, and organizational operational statistics. The research instruments focused on several measurable indicators, including operational efficiency, communication effectiveness, data accuracy, productivity improvement, and decision-making quality. Instrument validity was tested through expert judgment and pilot testing to ensure data reliability and consistency. Reliability analysis was also conducted using statistical measurement techniques to confirm the accuracy of the instruments. Therefore, the selected instruments supported the collection of empirical and measurable data related to the role of Artificial Intelligence and Digital Information Systems in organizational management.

2.5 Research Indicators

Table 1 presents the research indicators used to evaluate the effectiveness of Artificial Intelligence and Digital Information Systems in organizational management performance.

Table 1. Research Indicators and Measurement Criteria

No	Indicator	Measurement Aspect	Success Target
1	Operational Efficiency	Work process acceleration	≥ 80%
2	Decision-Making Accuracy	Data-based managerial decisions	≥ 85%
3	Employee Productivity	Task completion performance	≥ 75%
4	Communication Effectiveness	Internal information exchange	≥ 80%
5	System Reliability	System stability and accuracy	≥ 85%

The table above explains the indicators used to measure the effectiveness of Artificial Intelligence and Digital Information Systems in improving organizational management performance. Operational efficiency was measured based on the acceleration of work processes after system implementation. Decision-making accuracy focused on evaluating how AI-supported systems assist managers in making data-driven decisions. Employee productivity was assessed through task completion performance and work output improvements. Communication effectiveness measured the quality and speed of internal information exchange among organizational members. Meanwhile, system reliability evaluated the stability, consistency, and accuracy of AI-supported digital systems during operational activities. The success targets presented in percentage form were used as benchmarks to determine the effectiveness level of system implementation within organizations.

JURNAL KOMPUTER TEKNOLOGI INFORMASI SISTEM KOMPUTER
p-ISSN: 2962-3022 | e-ISSN: 2963-7104
Volume 5 No 1 Juni 2026
Page: 412-420
http://ejurnal.lkpkaryaprima.id/index.php/juktisi
DOI: https://doi.org/10.62712/juktisi.v5i1.1043

2.6 2.5 Research Indicators

The collected data were analyzed using descriptive statistical methods to determine the effectiveness of Artificial Intelligence and Digital Information Systems in organizational management. Questionnaire results were processed to calculate percentages, averages, and performance trends related to each research indicator. The analysis focused on measuring improvements in operational efficiency, productivity, communication quality, and decision-making accuracy after system implementation. Comparative analysis techniques were also applied to compare organizational performance before and after the adoption of AI-supported systems. In addition, data visualization techniques were used to present research findings in the form of tables and charts for easier interpretation. The evaluation results were interpreted systematically to identify the strengths and weaknesses of AI implementation in organizational management activities. The analysis process emphasized empirical evidence and measurable indicators to ensure research validity and reliability. Therefore, the applied data analysis techniques supported the generation of accurate conclusions regarding the role of Artificial Intelligence and Digital Information Systems in enhancing organizational management performance.

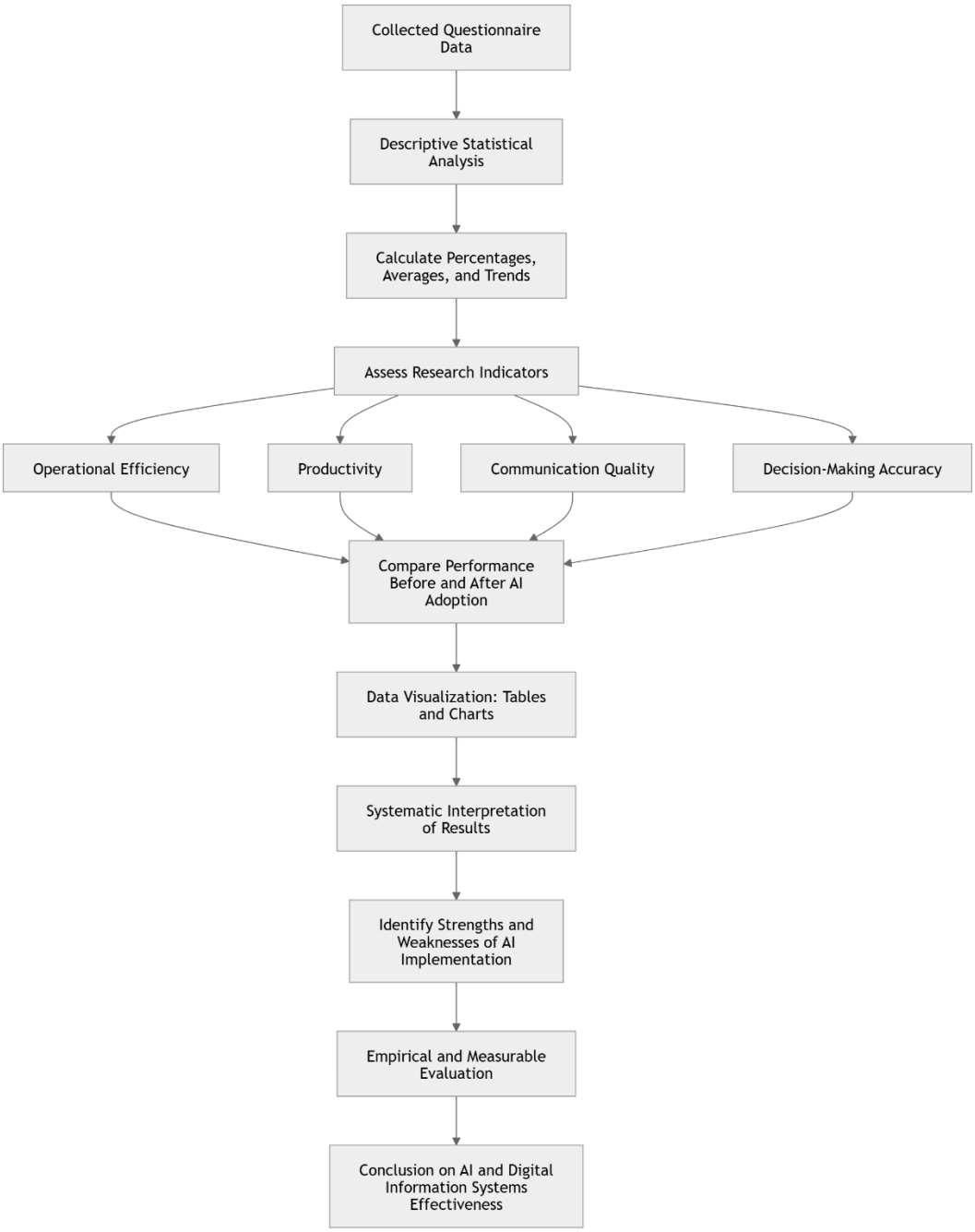

Figure 4. Data Analysis Framework for AI-Supported Organizational Management

JURNAL KOMPUTER TEKNOLOGI INFORMASI SISTEM KOMPUTER
p-ISSN: 2962-3022 | e-ISSN: 2963-7104
Volume 5 No 1 Juni 2026
Page: 412-420
http://ejurnal.lkpkaryaprima.id/index.php/juktisi
DOI: https://doi.org/10.62712/juktisi.v5i1.1043

3. RESULTS AND DISCUSSION

This section presents the findings obtained from the implementation and evaluation of Artificial Intelligence (AI) and Digital Information Systems in enhancing organizational management performance. The research results were analyzed systematically based on measurable indicators, including operational efficiency, decision-making accuracy, employee productivity, communication effectiveness, and system reliability. Data were collected through questionnaires, observations, and documentation analysis involving organizational employees and management staff. The implementation of AI-supported systems demonstrated significant improvements in organizational operational activities compared to conventional management approaches. In addition, the integration of Digital Information Systems enabled organizations to centralize information management and improve coordination among departments. The results indicate that AI technologies contribute positively to accelerating work processes, reducing operational errors, and supporting data-driven decision-making. The discussion section explains each indicator comprehensively using empirical findings, tables, and analytical interpretation. Therefore, the results obtained in this study provide evidence regarding the effectiveness of Artificial Intelligence and Digital Information Systems in improving organizational management performance.

3.1 Operational Efficiency Improvement

Operational efficiency is one of the primary indicators used to evaluate the effectiveness of Artificial Intelligence and Digital Information Systems within organizations. Based on the collected data, organizations implementing AI-supported systems experienced significant improvements in work process efficiency. Automated systems reduced repetitive administrative tasks and minimized manual data processing activities. Employees were able to complete tasks more quickly due to the integration of digital information systems that provided real-time access to organizational data. The implementation of AI technologies also contributed to reducing operational delays and improving workflow coordination. Furthermore, organizations experienced a reduction in data processing errors due to the use of intelligent automation systems. These improvements positively affected organizational productivity and service quality. The operational efficiency results are presented in Table 2.

Table 2. Operational Efficiency Before and After AI Implementation

No	Operational Activity	Before Implementation	After Implementation	Improvement
1	Data Processing Speed	65%	88%	23%
2	Administrative Efficiency	60%	85%	25%
3	Task Completion Time	68%	90%	22%
4	Workflow Coordination	70%	89%	19%

The table above shows that all operational indicators experienced substantial improvement after the implementation of Artificial Intelligence and Digital Information Systems. Administrative efficiency increased by 25%, indicating that AI automation significantly reduced manual work activities. Data processing speed also improved by 23%, allowing organizations to access and analyze information more effectively. Workflow coordination improved because integrated digital systems enabled better communication and task distribution among departments. In addition, task completion time became faster due to automated operational processes and centralized information management. These findings demonstrate that AI-supported digital systems contribute significantly to organizational operational efficiency.

3.2 Decision-Making Accuracy

The implementation of Artificial Intelligence technologies improved the quality and accuracy of managerial decision-making processes. AI-supported systems enabled organizations to analyze large amounts of organizational data quickly and accurately. Managers were able to identify trends, predict operational risks, and formulate strategic decisions based on real-time information. Before AI implementation, decision-making processes often relied on manual analysis and subjective judgment, which increased the possibility of errors. However, after integrating AI systems, organizations experienced improvements in analytical accuracy and decision consistency. Predictive analytics features also helped management evaluate future organizational opportunities and challenges more effectively. As a result, organizational leaders became more confident in making strategic decisions. The findings regarding decision-making accuracy are presented in Table 3.

Table 3. Decision-Making Accuracy Evaluation

No	Decision-Making Aspect	Before AI	After AI	Improvement
1	Data Accuracy	70%	91%	21%
2	Strategic Planning	68%	88%	20%
3	Risk Prediction	60%	86%	26%
4	Decision Consistency	72%	90%	18%

JURNAL KOMPUTER TEKNOLOGI INFORMASI SISTEM KOMPUTER
p-ISSN: 2962-3022 | e-ISSN: 2963-7104
Volume 5 No 1 Juni 2026
Page: 412-420
http://ejurnal.lkpkaryaprima.id/index.php/juktisi
DOI: https://doi.org/10.62712/juktisi.v5i1.1043

Based on the table above, AI implementation positively influenced managerial decision-making performance. Risk prediction experienced the highest improvement at 26%, indicating that predictive analytics technologies helped organizations anticipate operational risks more accurately. Data accuracy also increased significantly because AI systems processed organizational information systematically and reduced human error. Strategic planning became more effective due to the availability of comprehensive and real-time organizational data. Furthermore, decision consistency improved because managers relied on standardized analytical outputs generated by AI-supported systems. These findings confirm that Artificial Intelligence technologies provide valuable support for organizational strategic management processes.ented in Table 3.

3.3 Employee Productivity Analysis

Employee productivity improved considerably after the implementation of Artificial Intelligence and Digital Information Systems. Automated systems simplified routine tasks and allowed employees to focus on more strategic and creative activities. Employees also benefited from faster access to organizational information through integrated digital platforms. The implementation of AI technologies reduced workloads related to repetitive administrative activities and manual reporting processes. Furthermore, digital collaboration systems enhanced teamwork and communication among employees. Organizations also experienced improvements in employee task completion rates and work quality. As a result, employee performance became more effective and efficient after system implementation. The productivity evaluation results are shown in Table 4.

Table 4. Employee Productivity Evaluation

No	Productivity Indicator	Before System	After System	Improvement
1	Task Completion Rate	67%	89%	22%
2	Work Accuracy	69%	90%	21%
3	Time Management	65%	87%	22%
4	Team Collaboration	70%	92%	22%

The table above demonstrates that employee productivity indicators improved significantly after the adoption of AI-supported digital systems. Team collaboration achieved the highest score after implementation because digital communication platforms improved coordination among employees. Work accuracy also increased due to automated verification systems that minimized data input errors. Employees became more capable of managing time efficiently because repetitive operational tasks were automated by AI technologies. Furthermore, task completion rates improved because employees had access to integrated organizational information systems. These findings indicate that Artificial Intelligence and Digital Information Systems positively affect employee productivity and work performance.

3.4 Communication Effectiveness and System Reliability

Communication effectiveness and system reliability are important factors influencing organizational management performance. The implementation of Digital Information Systems improved communication speed and information accessibility among departments. AI-supported communication systems also enhanced information accuracy and reduced delays in organizational reporting processes. In addition, integrated digital systems enabled organizations to store and distribute information more effectively. Employees reported that communication processes became more structured and transparent after the implementation of digital systems. System reliability also increased because AI technologies improved data security, operational stability, and system consistency. The evaluation results regarding communication effectiveness and system reliability are presented in Table 5.

Table 5. Communication Effectiveness and System Reliability

No	Indicator	Before Implementation	After Implementation	Improvement
1	Communication Speed	68%	90%	22%
2	Information Accuracy	70%	92%	22%
3	System Stability	72%	91%	19%
4	Data Security	69%	89%	20%

The table above indicates that communication effectiveness and system reliability improved significantly after implementing AI-supported digital systems. Communication speed increased because digital platforms enabled faster information exchange among organizational members. Information accuracy also improved due to automated data validation processes integrated within the systems. System stability increased because AI technologies optimized operational monitoring and minimized technical disruptions. In addition, data security became stronger through intelligent security management systems that protected organizational information. These findings demonstrate that Digital

JURNAL KOMPUTER TEKNOLOGI INFORMASI SISTEM KOMPUTER
p-ISSN: 2962-3022 | e-ISSN: 2963-7104
Volume 5 No 1 Juni 2026
Page: 412-420
http://ejurnal.lkpkaryaprima.id/index.php/juktisi
DOI: https://doi.org/10.62712/juktisi.v5i1.1043

Information Systems and Artificial Intelligence technologies contribute positively to organizational communication quality and operational reliability.

3.6 Discussion of Research Findings

The research findings demonstrate that Artificial Intelligence and Digital Information Systems play a significant role in enhancing organizational management performance. The implementation of AI technologies improved operational efficiency by automating repetitive tasks and accelerating data processing activities. In addition, AI-supported systems enabled managers to make more accurate and data-driven decisions through predictive analytics and real-time information processing. Employee productivity also increased because digital systems simplified operational activities and improved collaboration processes. Communication effectiveness became more efficient due to centralized information systems and integrated digital communication platforms. Furthermore, organizations experienced improvements in system reliability, data security, and operational stability after implementing AI-supported technologies. The findings of this study are consistent with previous empirical research indicating that Artificial Intelligence contributes positively to organizational effectiveness and digital transformation. Organizations utilizing AI-supported Digital Information Systems are more capable of adapting to dynamic business environments and technological changes. However, the study also identified several challenges related to AI implementation, including employee adaptation difficulties, infrastructure limitations, and system integration complexity. Despite these challenges, organizations that successfully implemented AI technologies experienced measurable improvements in operational performance and management quality. Therefore, the integration of Artificial Intelligence and Digital Information Systems can be considered an effective strategy for improving organizational competitiveness and sustainability in the digital era.

4. CONCLUSION

Based on the research results and discussion, it can be concluded that Artificial Intelligence (AI) and Digital Information Systems have a significant role in enhancing organizational management performance. The implementation of AI-supported systems contributes positively to improving operational efficiency, accelerating data processing activities, and reducing manual administrative workloads within organizations. In addition, Digital Information Systems enable organizations to manage information in a more structured, integrated, and real-time manner, which supports better coordination and communication among departments. The findings of this study also demonstrate that AI technologies improve managerial decision-making accuracy through predictive analytics and data-driven analysis, allowing organizational leaders to formulate strategies more effectively and efficiently. Furthermore, the implementation of Artificial Intelligence positively affects employee productivity by simplifying routine tasks and increasing collaboration effectiveness through integrated digital platforms. Communication processes become faster and more transparent, while system reliability and data security are strengthened through intelligent monitoring and automation technologies. The research findings indicate measurable improvements across several organizational performance indicators, including operational efficiency, decision-making quality, task completion rates, and communication effectiveness. These results confirm that organizations adopting AI-supported Digital Information Systems are more capable of adapting to technological developments and dynamic business environments compared to organizations relying on conventional management systems. Although the implementation of Artificial Intelligence and Digital Information Systems provides many advantages, organizations still face several challenges, such as infrastructure limitations, employee adaptation difficulties, and system integration complexity. Therefore, organizations need to develop effective digital transformation strategies, improve employee technological competencies, and ensure adequate system support to maximize the benefits of AI implementation. Overall, this study concludes that Artificial Intelligence and Digital Information Systems are important technological innovations that can significantly improve organizational management performance, competitiveness, and sustainability in the digital era.

REFERENCES

[1] V. Rahma Aulia, F. Mazaya Agniya Putri, M. Khoirotul Fatha, V. Purba, and A. Adi Pranata, “Toward Digital Alignment: IS/IT Strategy Development for a Non-Profit Foundation Using Ward & Peppard,” *J. Komput. Teknol. Inf. Sist. Inf.*, vol. 4, no. 2, pp. 877–886, 2025, doi: 10.62712/juktisi.v4i2.543.

[2] Mohamad Aras, Indra Nara Persada, and Septa Diana Nabella, “the Influence of Service Quality, Trust, and Facilities on the Decision To Choose Sp Hotel Batam,” *Int. J. Accounting, Manag. Econ. Soc. Sci.*, vol. 1, no. 4, pp. 417–431, 2023, doi: 10.61990/ijamesc.v1i4.39.

[3] A. Budiman and Y. F. A. Lubis, “Perbandingan Framework COBIT 2019 dan ITIL 4 dalam Tata Kelola Teknologi Informasi,” *J. Ilmu Komput. dan Tek. Inform.*, vol. 1, no. 2, pp. 52–57, 2025, doi: 10.64803/juikti.v1i2.50.

[4] A. Khunger, “Deep Learning for Financial Stress Testing: a Data-Driven Approach To Risk Management,” *SSRN Electron. J.*, 2025, doi: 10.2139/ssrn.5146509.

JURNAL KOMPUTER TEKNOLOGI INFORMASI SISTEM KOMPUTER
p-ISSN: 2962-3022 | e-ISSN: 2963-7104
Volume 5 No 1 Juni 2026
Page: 412-420
http://ejurnal.lkpkaryaprima.id/index.php/juktisi
DOI: https://doi.org/10.62712/juktisi.v5i1.1043

[5] C. Jia *et al.*, "A novel deep reinforcement learning-based predictive energy management for fuel cell buses integrating speed and passenger prediction," *Int. J. Hydrogen Energy*, vol. 100, pp. 456–465, 2025, doi: 10.1016/j.ijhydene.2024.12.338.

[6] R. M. L. Rebelo, S. C. F. Pereira, and M. M. Queiroz, "The interplay between the Internet of things and supply chain management: challenges and opportunities based on a systematic literature review," *Benchmarking*, vol. 29, no. 2, pp. 683–711, 2022, doi: 10.1108/BIJ-02-2021-0085.

[7] A. Al-Surmi, M. Bashiri, and I. Koliousis, "AI based decision making: combining strategies to improve operational performance," *Int. J. Prod. Res.*, vol. 60, no. 14, pp. 4464–4486, 2022, doi: 10.1080/00207543.2021.1966540.

[8] A. A. Rumanti, A. F. Rizana, and F. Achmad, "Exploring the role of organizational creativity and open innovation in enhancing SMEs performance," *J. Open Innov. Technol. Mark. Complex.*, vol. 9, no. 2, p. 100045, 2023, doi: 10.1016/j.joitmc.2023.100045.

[9] Y. Chen and Z. Wang, "Marine Oil Spill Detection from SAR Images Based on Attention U-Net Model Using Polarimetric and Wind Speed Information," *Int. J. Environ. Res. Public Health*, vol. 19, no. 19, p. 12315, 2022, doi: 10.3390/ijerph191912315.

[10] V. C. Manduva, "The Strategic Evolution of Product Management: Adapting to a Rapidly Changing Market Landscape," *Res. Anal. J.*, vol. 7, no. 06, pp. 28–38, 2024, doi: 10.18535/raj.v7i06.414.

[11] N. Ul Amin and M. Asif Khan, "Driving Competitive Advantage in the Digital Era: The Role of Dynamic Capabilities, Innovation, and Leadership," *Dinasti Int. J. Econ. Financ. Account.*, vol. 5, no. 5, pp. 5500–5514, 2024, doi: 10.38035/dijefa.v5i5.3873.

[12] Bernadette Bristol-Alagbariya, Latifat Omolara Ayanponle, and Damilola Emmanuel Ogedengbe, "Developing and implementing advanced performance management systems for enhanced organizational productivity," *World J. Adv. Sci. Technol.*, vol. 2, no. 1, pp. 039–046, 2022, doi: 10.53346/wjast.2022.2.1.0037.

[13] P. Diawati, S. S. Gadzali, M. K. N. Abd Aziz, A. M. Almaududi Ausat, and S. Suherlan, "The Role of Information Technology in Improving the Efficiency and Productivity of Human Resources in the Workplace," *J. Teknol. Dan Sist. Inf. Bisnis*, vol. 5, no. 3, pp. 296–302, 2023, doi: 10.47233/jteksis.v5i3.872.

[14] Chairul Rizal and Erni Marlina Saari, "Designing a Digital Technology-Based Interactive Museum Prototype as an Effort to Enhance Education and Cultural Preservation in Indonesia," *J. Komput. Teknol. Inf. Sist. Inf.*, vol. 4, no. 2, pp. 1343–1352, 2025, doi: 10.62712/juktisi.v4i2.640.

[15] D. Remawati, S. H. Fitriasih, E. P. Cynthia, M. M. Cynthia, and D. N. Cynthia, "Analysis of the Complexity of Heuristic Algorithms for Permutation Optimization in Large-Scale Computing," *J. Ilmu Komput. dan Tek. Inform.*, vol. 2, no. 1, pp. 1–7, 2026, doi: 10.64803/juikti.v2i1.79.