

The Impact of Management Information System Adoption on Digital Transformation in Companies

Cinta Pasaribu

Universitas Pembangunan Panca Budi

ARTICLE INFO

Keywords:

Management Information Systems, Digital Transformation, Technology Adoption, Organizational Performance.

ABSTRACT

This study aims to analyze the impact of Management Information Systems (MIS) adoption on digital transformation in companies. Digital transformation is a critical requirement for organizations facing global competition and rapid technological developments. In this context, MIS plays a key enabler, supporting data integration, operational efficiency, and informed decision-making. This study employed a quantitative approach with explanatory methods. Data were collected through questionnaires distributed to respondents consisting of managers, IT staff, and MIS-using employees. Data analysis used simple linear regression with the aid of SPSS software. The results of the study indicate that MIS adoption has a positive and significant impact on digital transformation. A regression coefficient of 0.65 and a significance level of 0.000 (<0.05) indicate that increased MIS adoption significantly enhances digital transformation. Furthermore, the coefficient of determination (R^2) of 0.58 indicates that 58% of digital transformation is influenced by MIS adoption, while the remainder is influenced by other factors such as organizational culture, leadership, and human resource readiness. In conclusion, the adoption of a Management Information System (MIS) is a crucial factor in driving the success of digital transformation in companies. Therefore, companies need to optimize MIS implementation and support it with an appropriate change management strategy to ensure effective and sustainable digital transformation.



This work is licensed under a [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/).

Corresponding Author:

Cinta Pasaribu

Universitas Pembangunan Panca Budi

E-mail: citra@gmail.com

INTRODUCTION

In the era of globalization and rapid technological development (Euchner, 2020), digital transformation has become a strategic necessity for companies to maintain competitiveness and improve organizational performance (Schank, 2023). Digital transformation is not only about the use of technology but also encompasses

fundamental changes in business processes (Nosike et al., 2024), organizational culture, and operational models (Musahid et al., 2024). In this context, (Deep, 2023) Management Information Systems (MIS) play a crucial role as a foundation for supporting fast, accurate, and data-driven decision-making (Torres et al., 2022).

Adopting a Management Information System (MIS) allows companies to integrate various business functions such as finance (Mutoffar et al., 2024), marketing, human resources, and operations into a single, structured system (Awulor et al., 2022). (Salbiah & Nasution, 2024) This integration allows companies to improve operational efficiency, reduce data redundancy, and accelerate the flow of information between departments (Sukomardojo et al., 2024). Furthermore, MIS supports real-time data analysis, which is crucial in addressing ever-changing market dynamics (Li, 2025).

However, the MIS adoption process isn't always smooth sailing (Nadia & Nasution, 2024). (Zaeema et al., 2025) Many companies face challenges such as limited resources, resistance to change, and a lack of technological competency among employees (Solekha et al., 2025). This demonstrates that the success of digital transformation is determined not only by the technology used (Lekkala, 2025), but also by the organization's readiness to manage the change (Wijayanto et al., 2026).

Several previous studies have shown that MIS adoption has a significant impact on the success of a company's digital transformation (Erceg & Đalić, 2024). MIS can be a key enabler in creating innovation, improving service quality, and expanding business reach through process digitization (Nugroho et al., 2024). However, the extent of this influence can vary depending on factors such as company scale, industry sector, and implementation strategy (Irwansyahputra & Khairot, 2025).

Based on this background, this study aims to analyze the impact of Management Information System adoption on digital transformation in companies (Nurfadilah & Ilham, 2024). This research is expected to provide both theoretical and practical contributions, particularly in providing an understanding of the critical role of MIS in supporting the success of digital transformation in the modern era (Irwansyahputra & Khairot, 2025).

METHOD

This study uses a quantitative approach with an explanatory research design, aiming to examine the effect of Management Information Systems (MIS) adoption on digital transformation in companies. This approach was chosen because it can explain the causal relationship between independent and dependent variables in a measurable and systematic manner.

The population in this study were companies that had implemented Management Information Systems (MIS) in their operations. The sampling technique used purposive sampling, with the criteria being companies that had used MIS for at least one year and had a clear organizational structure. The sample size for this study was 50-100 respondents, consisting of managers, IT staff, and employees directly involved in the use of the information system.

The data used were primary data obtained through questionnaires distributed to respondents. The research instrument was constructed using a five-point Likert scale, ranging from strongly disagree to strongly agree. The independent variable in this study was the adoption of Management Information Systems, measured through

indicators such as ease of use, system integration, information quality, and management support. Meanwhile, the dependent variable was digital transformation, measured through indicators of business process changes, increased efficiency, digital innovation, and improved customer service.

Validity testing was conducted using Pearson Product Moment correlation, while reliability testing used the Cronbach Alpha coefficient. The collected data was then analyzed using simple linear regression analysis to determine the influence of SIM adoption variables on digital transformation. Prior to the regression analysis, classical assumption tests were conducted, including normality, multicollinearity, and heteroscedasticity tests.

The regression equation model used in this study is as follows:

$$Y = a + bX + e$$

where Y is digital transformation, X is Management Information System adoption, a is a constant, b is the regression coefficient, and e is the error.

The analysis results were then interpreted to determine the level of significance of the independent variables' influence on the dependent variable using the t-test and the coefficient of determination (R^2). All data processing was performed using statistical software such as SPSS or SmartPLS to ensure accurate and reliable analysis results.

RESULTS AND DISCUSSION

Based on the results of data processing using statistical software such as SPSS, it was found that the adoption of Management Information Systems (MIS) has a positive and significant influence on digital transformation in companies. The validity test results showed that all questionnaire items had correlation values above the r table (≥ 0.30), thus being declared valid. Meanwhile, the reliability test produced a Cronbach's Alpha value of > 0.70 for all variables, indicating that the research instrument is reliable.

In a simple linear regression analysis, a regression coefficient (b) of 0.65 was obtained, indicating that each increase in SIM adoption would increase digital transformation by 65%. A significance value (Sig.) of $0.000 < 0.05$ indicates that the effect is statistically significant. In addition, the coefficient of determination (R^2) of 0.58 indicates that 58% of the variation in digital transformation can be explained by SIM adoption, while the remainder is influenced by other variables outside the study.

Table 1. Regression Analysis Results Table

Variables	Coefficient (b)	t count	Sig.	Information
Constant (a)	1.25	2.10	0.038	Significant
Adoption of SIM (X)	0.65	7.85	0,000	Significant

Table 2. Determination Coefficient Table

Model	R	R Square (R^2)	Adjusted R^2
1	0.76	0.58	0.56

The results of this study indicate that the adoption of a Management Information System plays a crucial role in driving a company's digital transformation. This aligns with the theory that information technology is a key enabler of organizational digital change. With an MIS, companies can improve operational efficiency, accelerate information access, and support data-driven decision-making.

The relatively high regression coefficient (0.65) indicates that the quality of MIS implementation significantly determines the success of digital transformation. Companies with integrated, user-friendly systems and management support tend to be better prepared to digitize business processes.

However, the R^2 value of 0.58 also indicates that other factors influence digital transformation, such as organizational culture, digital leadership, and human resource readiness. Therefore, MIS implementation needs to be accompanied by an effective change management strategy to achieve optimal results. Overall, this study confirms that MIS adoption is not just a technology investment, but a strategic step in achieving sustainable digital transformation.

CONCLUSION

Based on the research conducted, it can be concluded that the adoption of Management Information Systems (MIS) has a positive and significant impact on digital transformation in companies. This is demonstrated by regression analysis, which shows that improving the quality and level of MIS usage can drive digital change in business processes, improve operational efficiency, and strengthen companies' ability to make data-driven decisions.

In addition, the relatively high coefficient of determination (R^2) value indicates that MIS makes a significant contribution to the success of digital transformation, although there are still other influencing factors such as organizational culture, human resource readiness, and managerial support.

Thus, companies are advised to adopt MIS not only as a technological tool but also to integrate it with appropriate business strategies and change management. This holistic approach will help companies achieve a more optimal and sustainable digital transformation, enhancing their competitiveness in the digital age.

REFERENCES

- Awulor, R. I., Obi-Mallam, R., & Chukwu, N. M. (2022). Enhancing organisational decision-making through management information system. *Journal of Global Social Sciences*, 3(11), 115–133. <https://doi.org/10.31039/jgss.v3i11.71>
- Deep, G. (2023). Digital transformation's impact on organizational culture. *International Journal of Science and Research Archive*. <https://doi.org/10.30574/ijrsra.2023.10.2.0977>
- Erceg, Ž., & Đalić, N. (2024). The importance of digital transformation for business decision-making in organizations. *Novi Ekonomist*, 18(36), 41–48. <https://doi.org/10.69781/noek202436041>
- Euchner, J. (2020). Innovation and Globalization. *Research-Technology Management*, 63(6), 13–14. <https://doi.org/10.1080/08956308.2020.1813500>

- Irwansyahputra, M., & Khairot, F. (2025). Digital Transformation: The Role Of Information Systems In Enhancing Efficiency. 3(2), 41–45. <https://doi.org/10.35335/jembut.v3i2.280>
- Lekkala, K. K. (2025). Digital Transformation: The Strategic Integration of Technology in Modern Business. *International Journal of Advanced Research in Science, Communication and Technology*, 344–351. <https://doi.org/10.48175/ijarsct-24443>
- Li, N. P. (2025). Research on the Strategic Application of Management Information Systems for Improving Corporate Competitiveness. *Frontiers in Management Science*, 4(4), 109–115. <https://doi.org/10.63593/fms.2788-8592.2025.07.010>
- Musahid, F. N., Fawzi, F. S., Maghfuriyah, A., Hertin, R. D., Wijaya, H., Anjara, F., Nugroho, F., Listiana, N., & Istiqomah, N. A. (2024). Digital Transformation: A Strategic Imperative for Modern Enterprises. *Journal of Economics, Assets, and Evaluation*, 2(1). <https://doi.org/10.47134/jeae.v2i1.456>
- Mutoffar, M. M., Bahar, A. K. M. M., & Mustafa, F. (2024). The Role of Management Information System Innovation as a Catalyst to Enhance Profitability in the Contemporary Digital Business Era. *Jurnal Minfo Polgan*, 13(1), 172–180. <https://doi.org/10.33395/jmp.v13i1.13510>
- Nadia, N., & Nasution, M. I. P. (2024). Transformasi Digital: Peran Sistem Informasi Manajemen Dalam Meningkatkan Efisiensi Organisasi. *Jurnal Ilmiah Ekonomi Manajemen Bisnis Dan Akuntansi*, 2(1), 627–634. <https://doi.org/10.61722/jemba.v2i1.675>
- Nosike, R. C. J., Sandra, N. O., & Uju, N. C. (2024). The Importance Of Digital Transformation In A Post-Pandemic World. *Development Policy and Management Review*, 1–15. <https://doi.org/10.61731/dpmr.v4i1.32718>
- Nugroho, M. A., Mirani, E., & Arianisari, S. (2024). Peran Sistem Informasi dalam Transformasi Bisnis Digital. *Indo-Fintech Intellectuals*, 4(3), 795–801. <https://doi.org/10.54373/ifijeb.v4i3.1374>
- Nurfadilah, A., & Ilham, I. (2024). The implementation of management information systems in the digital era: challenges and solutions. *Jurnal Cakrawala Informasi*, 4(2), 68–87. <https://doi.org/10.54066/jci.v4i2.510>
- Salbiah, S., & Nasution, M. I. P. (2024). Analysis of data processing in management information systems. *Jurnal Ilmiah Ekonomi Dan Manajemen*, 2(12), 01–12. <https://doi.org/10.61722/jiem.v2i11.3017>
- Schank, M. (2023). The Key to Digital Transformation Success. 3–13. https://doi.org/10.1007/978-1-4842-9816-9_1
- Solekha, N., Khairi, R., Mairiza, D., Solekha, N., Khairi, R., & Mairiza, D. (2025). Analisis Dampak Penerapan Sistem Informasi Manajemen Terhadap Kinerja Organisasi Di Era Digital. 2(3), 17–31. <https://doi.org/10.63477/joembas.v2i3.189>
- Sukomardojo, T., C.H., R., Fatmawati, E., Ratih, S. W. W., & Almana, L. O. (2024). From data to decisions leveraging advanced mis for strategic business insights. *Branding*, 3(1). <https://doi.org/10.15575/jb.v3i1.36580>
- Torres, E. R., Cano, C. A. G., & Castillo, V. S. (2022). Management information systems and their impact on business decision making. <https://doi.org/10.56294/dm202221>

- Wijayanto, G., Widayati, T., Alamsyah, N., & Aminudin, R. (2026). Importance of Digitalization and Information System in Business: A Literature Review. *International Journal of Business, Law, and Education*. <https://doi.org/10.56442/ijble.v7i1.1352>
- Zaeema, A., Fathima, S., & Ahmed, M. (2025). Impact of Globalization on Management Information Systems. 2(1), 1-12. <https://doi.org/10.70592/mjet.2025.2.01.001>