


Systematic Literature Review: Management Information Systems and Information Technology

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ABSTRACT

This research aims to review articles related to Management Information Systems with Information Technology. This research method uses SLR (Systematic Literature Review) where article sources are taken from several databases in order to obtain data that matches the title of this article. Data retrieval sources come from searches of national and international journals published on Google Scholar, through the Publish or Perish application. The results of the analysis using VOSviewer on network visualization, overlay visualization, and density visualization show the relationship between various concepts related to management information systems and information technology.

Keywords: Management Information Systems; Information Technology; Information Systems

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1. INTRODUCTION

The management information system (SIM) is the main foundation in modern organizational information management. In the era of increasingly rapid digital transformation, the integration of information technology with management information systems is the key to success in improving organizational effectiveness, informed decision-making, and the competitiveness of companies in the global market. The development of information technology has revolutionized the way organizations manage data and information. The implementation of a management information system that is integrated with leading information technology can provide various strategic advantages, such as business process automation, improved team collaboration, real-time data analysis, and predictive capabilities that support strategic decision-making.

In the context of increasingly dynamic and complex business competition, organizations need an adaptive and scalable management information system. Information technology plays a key role as an enabler in creating a management information system that is responsive to changing business needs and is able to integrate various data sources to generate valuable insights. The digital transformation that is happening today requires organizations to have a deep understanding of the synergy between information management systems and information technology. This is a critical success factor for organizations to remain relevant and competitive in the digital era.

2. Literature Review Management Information System

A management information system is an integrated system that combines human resources, technology, and procedures to collect, filter, process, store, and distribute the information necessary to support management decision-making. Management Information System (SIM) is a computer-based system that integrates hardware, software, networking, data, and human resources components to collect, filter, process, create, and distribute data in an organization. According to (Laudon & Laudon, 2022), SIM is a combination of hardware, software, data, network, and people that organizations use to collect, filter, process, create, and distribute data.

The main components of a management information system include:(Wulandari & Sholihin, 2024)

1. Hardware: Computer hardware and physical infrastructure
2. Software: Programs, applications, and operating systems
3. Data: Raw materials processed into information
4. Network: Communication infrastructure and connections

5. People: Human resources that operate the system
6. Procedures: Operational policies and procedures

Information Technology in Management

Information technology has become the operational backbone of modern organizations (Stair & Reynolds, 2021) emphasizes that information technology encompasses all technologies used to create, store, exchange, and use information in its various forms. Information Technology (IT) in the context of Management Information Systems is a combination of hardware, software, communication networks, and human resources used to collect, process, store, and distribute information in an organization. (Balisa et al., 2024) Based on recent research, IT serves as a key enabler that enables organizations to automate business processes, improve operational efficiency, and support strategic decision-making. (Fathurohman et al., 2025) In today's era of digital transformation, IT is no longer considered a supporting function, but rather a core strategic asset that determines an organization's competitive advantage in an increasingly dynamic and competitive global market. (Pricilia & Firdaus, 2024)

Latest information technology trends affecting management information systems: (Muttaqin et al., 2021)

1. Cloud Computing: Provision of computing services over the internet with high scalability and flexibility
2. Internet of Things (IoT): Smart device connectivity that generates real-time data
3. Artificial Intelligence & Machine Learning: Process automation and predictive analytics
4. Big Data Analytics: Processing and analysis of large volumes of data for business intelligence
5. Blockchain Technology: Security and transparency in digital transactions
6. Mobile Computing: Access information systems through mobile devices
7. Cybersecurity: Protection of data and systems from digital threats

SIM Integration with Information Technology

The integration of management information systems with information technology creates a digital ecosystem that can increase operational efficiency and strategic advantage. (Turban et al., 2020) explained that this integration allows organizations to achieve a comprehensive digital transformation. Benefits of SIM integration with information technology: (Agustiara et al., 2024)

1. Enhanced Decision Making: Real-time information for better decision-making
2. Operational Efficiency: Process automation and reduction of redundancy
3. Cost Reduction: Operational and maintenance cost efficiency
4. Improved Communication: Better collaboration between departments
5. Competitive Advantage: Ability to respond quickly to market changes
6. Risk Management: More effective risk monitoring and control

3. Research Methods

This research was conducted using a qualitative method in Systematic Literature Review (SLR). The scope of data used is a research journal article on Management Information Systems with Information Technology. The source of data collection came from searching for national and international journals indexed by Google Scholar through the Publish or Perish application. Data analysis tool using VOSviewer software (Prihanto & Fairuzzaman, 2021).

Data collection techniques include opening the Publish or Perish software, then searching for journals based on keyword categories with the keyword "Information Technology Management Information System" in the last 5 years (2020-2024). Download RIS (Research Information Systems) and PDF (Portable Document Format) format files from all journals whose data has been collected Filter articles based on relevance and publication quality (Zahro et al., 2023).

Data analysis techniques include Mapping the results of visualization of bibliometric networks and trends of scientific publications using VOSviewer (Visualization of Similarities) algorithm software based on the number of clusters and their items, Mapping research topics based on literature studies with a temporal analysis approach, Analyzing the evolution of research themes from 2020 to 2024.

4. Results and discussion

Based on a literature study on Management Information Systems and Information Technology, there are 200 journals published on the Publish or Perish application from 2019 to 2024. Visualized using VOSviewer, out of 200 sources found with 10 *items* consisting of 3 *clusters* and 37 *links*. The results of the article search on the Publish or Perish software which are exported in RIS (Research Information Systems) format, then input and analyzed using the VOSviewer software, as shown below:

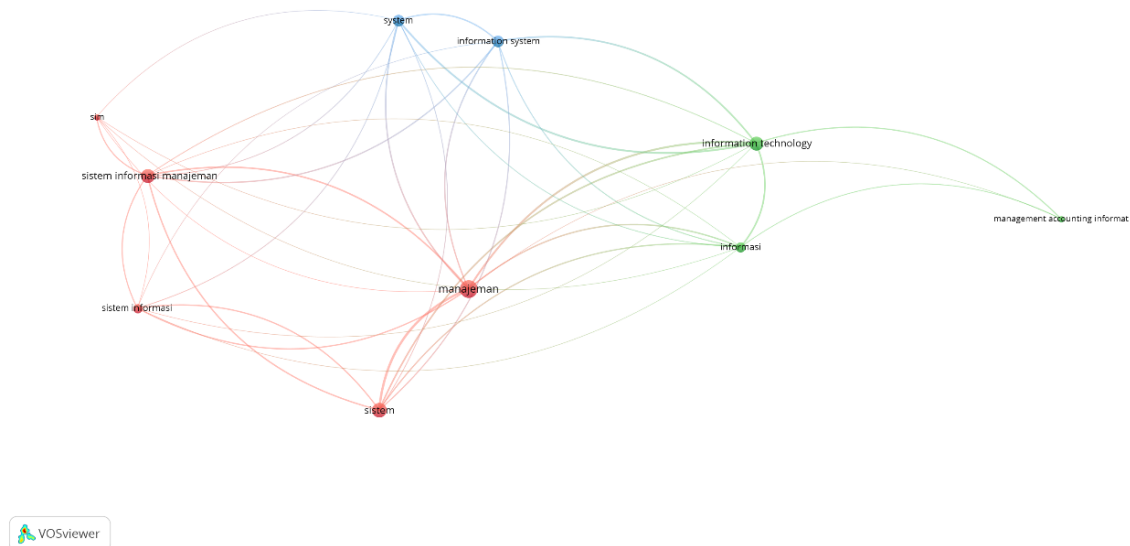


Figure 1: Network Visualization, Vosviewer (Source)

From Figure 1 above, it can be seen that the most research comes from the concept *system* and *management*. This visualization illustrates the relationship between various concepts related to information systems and management in the context of ethics and corporate governance. The map groups related terms into several colored groups, showing the thematic interconnectedness and frequency of collaboration between the concepts.

Blue Group (top) includes terms such as "*system, information system*" which forms an information technology cluster. **Green Group** (right) includes terms such as "*information technology, integrated, management accounting information*" which shows the integration of technology and accounting systems. **Light Green Group** (top right) includes terms such as "*management accounting information*" related to management accounting information systems. **Red Group** (bottom left and center) includes terms such as "*Information System Management, Information System, Management, System Eformation*" which shows a focus on information system management and overall organizational management.

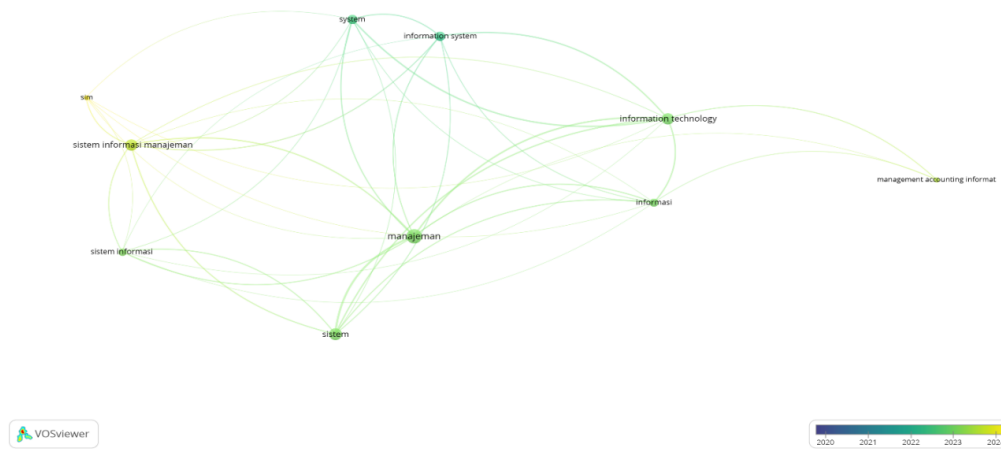


Figure 2: Overlay Visualization, Vosviewer (Source)

From Figure 2 above, it can be seen that the most research titles come from "System" with a time span of 2020-2024. System being a central concept that connects various aspects of research, followed by information system, management, information technology, Information Management System, Information and Management Accounting Information.

Visualized using VOSviewer, from this network analysis, it can be seen the relationship between concepts that form research patterns in the field of information systems and management. Concepts such as "system, information system, management, information technology, information management system, information system, information, information management, information accounting" forming an interrelated network with the dominance of the color green, showing how information systems become a central theme that connects various aspects of research such as information technology, management, and management accounting systems in an integrated context. This visualization illustrates the strong interconnectedness between information systems and management practices in modern organizations.

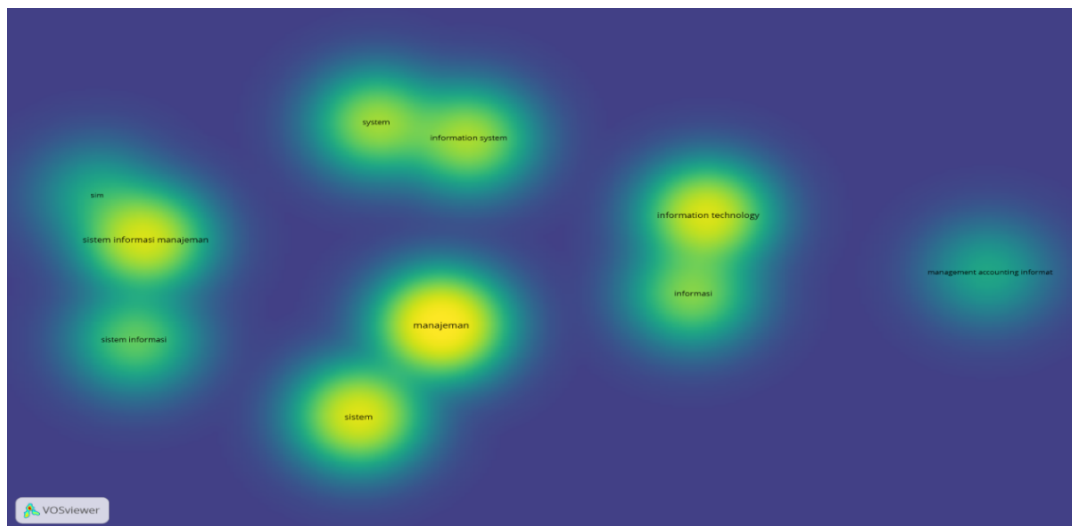


Figure 3 Density Visualization

From Figure 3 above, it can be seen that the most research titles come from "System" and "management" with a high research intensity. The density visualization shows the concentration of research in several key areas: system (the area with the highest intensity is bright yellow), information system, management, information technology, Information Management System, Information System, information and Management Accounting Information.

5. Conclusion

Management information systems with information technology is a research area that has undergone rapid development and significant transformation in the last five years. The results of the analysis using VOSviewer show that the integration between management information systems and information technology is not only a trend, but has become a strategic necessity for modern organizations. The evolution of research from 2020 to 2024 shows a paradigm shift from fragmented technology implementation to a holistic digital transformation approach. The convergence of technologies such as AI, IoT, cloud computing, and big data analytics has created a complex yet powerful ecosystem to support management decision-making.

The main findings of this study indicate that future research will increasingly focus on sustainable information systems, human-centric technology design, and cybersecurity in the context of management information systems. Organizations that are able to integrate management information systems with leading information technology will have a significant competitive advantage. This research provides a roadmap for academics and practitioners to understand the trends and directions of the development of management information systems that are integrated with information technology. The results of the visualization show that interdisciplinary collaboration between the fields of management and information technology will be increasingly important in future research.

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