

Bibliometric Analysis and Systematic Literature Review: Effective Decision Making with the Help of Accounting Information

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Abstract: In an increasingly complex and competitive digital era, effective decision-making is a key challenge for organizations and companies. Accounting information, as a source of financial and non-financial data, is considered crucial to support the process. However, constraints in data access, integration, and utilization often hinder informed and rapid decision-making. To understand the trends and contributions of research in this field, this article uses bibliometric analysis and systematic literature review methods. Data were obtained through searching for articles related to accounting information systems and decision-making from the Web of Science database, with a time limit of 2019-2025 and certain relevance criteria. The results of the analysis show that related publications are increasing rapidly, with the main focus on the role of accounting information systems in improving management effectiveness and strategic decision making. Other findings show that the use of Big Data and digital technology in accounting information systems can improve data quality, minimize risks, and increase organizational transparency and accountability. Thus, the utilization of appropriate and integrated accounting information systems is essential to support more accurate and efficient decision making in today's digital era.

Introduction

In the era of increasingly complex and competitive digitalized information, the phenomenon of decision making among organizations is becoming increasingly important. This phenomenon is characterized by the increasing complexity of information that must be managed by managers in order to achieve organizational goals (Ragazou et al., 2023). In the midst of highly competitive and intense competition, decisions taken must not only be fast, but must also be based on accurate and relevant data. Accounting information, which includes both financial and non-financial data, plays an important role in providing the

necessary information to support effective decision making (Monteiro et al., 2022). However, despite the availability of accounting information, challenges in its utilization often hinder the optimal decision-making process.

The importance of this research lies in the effort to understand how accounting information can be effectively utilized in decision-making. In this context, bibliometric analysis becomes a very useful tool to evaluate and map the existing literature on the relationship between accounting information and decision making (Rodrigues et al., 2021). Using this method, this study aims to identify research trends, researcher contributions as well as collaboration networks between researchers in this field. This is expected to provide new insights for academics and practitioners in understanding how accounting information can be optimized for better decision making (Mohammed, 2024).

The problem that often occurs and is faced when making decisions is the lack of access to relevant and accurate information (Schippers & Rus, 2021). Many managers find it difficult to access the data needed to make the right decisions (Tulli, 2022). In addition, the information available is often not well integrated, making it difficult for managers to get a comprehensive picture of the situation at hand (Thielsch et al., 2021). This research aims to identify these challenges and provide solutions through the utilization of accounting information. By understanding these problems, it is hoped that new ways can be found to improve the effectiveness of decision making. Therefore, the importance of using accounting information in decision making is not only limited to the financial reporting aspect, but also includes strategic planning, operational control, and evaluation of organizational performance (Mohammed, 2024).

Accounting information systems can provide timely and accurate financial information, which allows managers to make informed decisions regarding resource allocation, budgeting and investment (Ali & AlSondos, 2020). Improved data accuracy: AIS can reduce the risk of errors and fraud by automating accounting processes and providing internal controls (Zheng, 2022). Accounting information generated from integrated information systems is able to provide a comprehensive picture of the financial condition, cash flow, and potential risks and opportunities facing the organization (Al-Matari et al., 2022). Thus, the effectiveness of decision making is highly dependent on the quality and reliability of available accounting information.

Bibliometric analysis can assist in identifying patterns that exist in previous research, including frequently discussed topics, methodologies used and results achieved. By analyzing relevant publications, this research can provide a clear picture of the development of knowledge in the field of accounting and decision making. In addition, it is important to consider how accounting information can be integrated in the decision-making process. By understanding the ways in which this information can be used effectively, managers can improve the quality of their decisions.

An information system is a set of methods that process data and convert it into information that can be calculated, compared, presented, and interpreted. Computer-based Accounting Information Systems (AIS) collect, store, process, and report financial and

accounting data. This system is the application of technology and computers in the accounting process (Puasa et al., 2019). Information systems also enable the acquisition, recording, processing, and transmission of information, always present in business for the purpose of communication, decision making, and use as a competitive tool in a competitive market (Gurbaxani & Whang, 1991). Meanwhile, the definition of a management information system is a series of information subsystems that are comprehensive and integrated and rationally integrated which are able to transform data into information in various ways to increase productivity according to the style and nature of the manager based on predetermined quality criteria (Dwivedi et al., 2020).

Decision making is an intellectual process that is fundamental to human behavior, and it can be said that everyone in an organization is a decision maker, which of course has different degrees and meanings (Wahono & Ali, 2021). However, it needs to be said that it is managers who play an important role, especially in organization-oriented decision making. Decision-making is the core task of every manager. When the activities are well known and structured, decision making follows some rational models based on economic criteria (March, 1994; Mintzberg, 2024). However, when there is a new situation or a high level of uncertainty and managers are under time pressure, their rational models can no longer be used.

Managers are faced with various problems related to business activities almost every day during the period, and they make decisions and implement them to solve these problems (Beerepoot et al., 2023). Most of the data on which decision making is based is obtained from the company's accounting information system. One of the main tasks of modern accounting information systems, which emerged as a result of technological developments in the field of information and production today, is to provide information for users at all levels; to provide reliable and understandable information, which will be used in planning and auditing activities, at the required time and place (Iyibildiren et al., 2023).

Research Method

The research method used in this article is bibliometric literature analysis and systematic literature review with a focus on accounting information systems in helping to improve the effectiveness of good decision making. The tool used in the analysis is using special software VOSviewer developed by Van Eck and Waltman at Leiden University, the Netherlands (Van & Waltman, 2020). The mapping function of VOSviewer creates a two-dimensional map in which items are placed at a distance that reflects the similarity between them. Data retrieval was performed based on the Web of Science (WoS) core collection, which is the world's largest dataset of leading scientific information retrieval, analytics and citation platforms (Li et al., 2018). We chose Web of Science as the research database because this paper was part of a larger research project that used Web of Science. However, we observed that most of the papers indexed in Web of Science were also indexed in Scopus.

In the first phase of this study, a search was conducted based on the keywords "accounting information systems" and "decision making" on the scanned journals in the Web of Science database, and publications related to these subjects were compiled. Clear inclusion

and exclusion criteria will be established to ensure the selection of relevant articles for analysis. The criteria will be determined based on the research objectives and questions. Inclusion criteria may include, 1) international journals; 2) English language; 3) discuss accounting information; 4) journals published in 2019 - 2025; 5) open access. While the exclusion criteria include 1) national journals; 2) not in English; 3) not discussing accounting information; 4) journals published before 2019.

The information obtained from this survey was first evaluated in terms of distribution over the years and then analyzed within the scope of other headings such as country, institution, author, journal, keywords, and bibliography.

Journal Characteristics Related to Accounting Information Systems and Decision Making by Year

Published articles that will be used in bibliometric analysis in this study use the years 2019 to 2025. Literature collected in this study uses keywords in English.

Databases	Keywords
Science Direct	((“accounting information system” OR “decision-making” AND “managerial”))

Source: processed by researcher, 2025

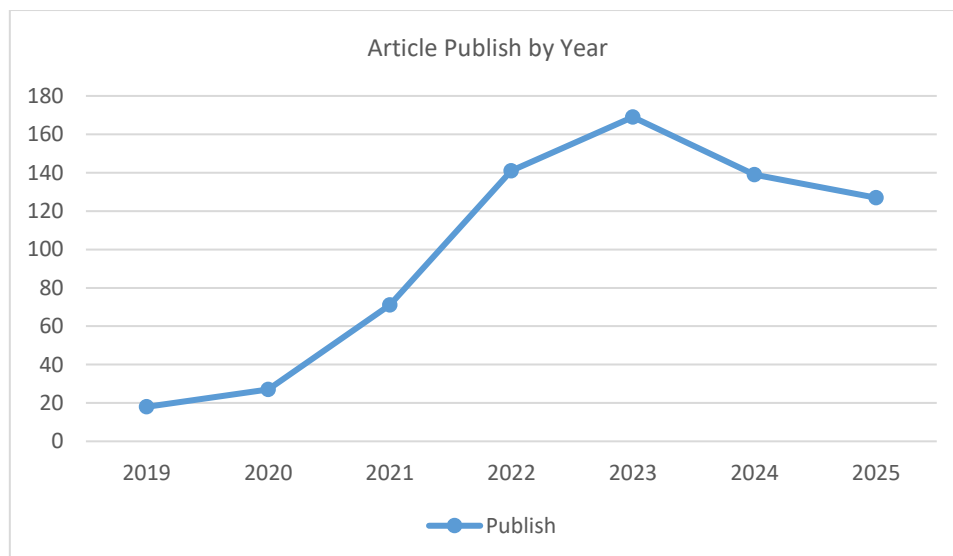


Figure 1. Evolution of the Number of Publications on Accounting Information Systems per Year

Figure 1 shows from the last 6 years until this year the number of published articles with keywords related to “decision making”, “accounting information system” and “managerial” of course with open access articles amounted to 692. The year 2024 is a year where the publication rate related to accounting information and decision making is high, which means that many researchers are conducting research on this theme

Journal Characteristics by Country

Several countries conduct research related to accounting information systems and managerial decision making, the majority of the highest publications with themes according

to keywords are in the USA or the United States. The following data is an explanation of the publication of articles in WoS.

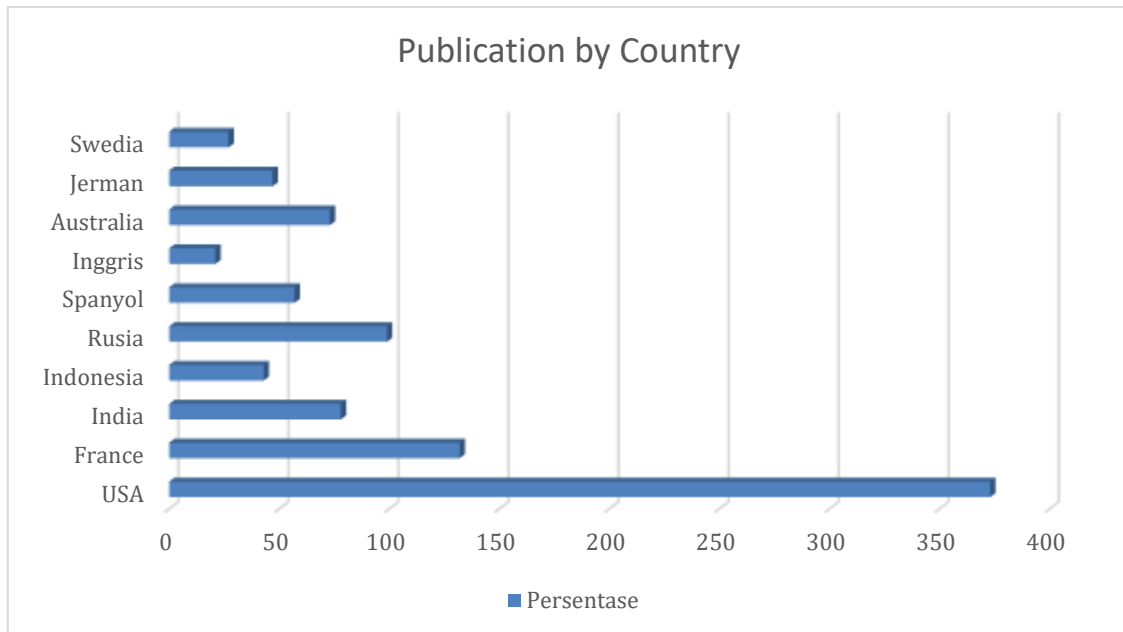


Figure 2. Most Relevant Countries

Through Figure 2, it can be seen that the United States or USA is ranked first with 373 publications followed by France or France which occupies the second position with 132 publications related to keywords or themes that have been determined.

Result and Discussion

Through the database collection that has been done previously according to the keywords and themes that have been determined, a network graph is created using Vosviewer software. The size of the nodes and words on the graph shows their weight. The greater the frequency of nodes and words, the greater the weight. The color that exists and appears on each network shows how closely the two keywords are related, and the nodes with the same color are regrouped into their respective clusters..

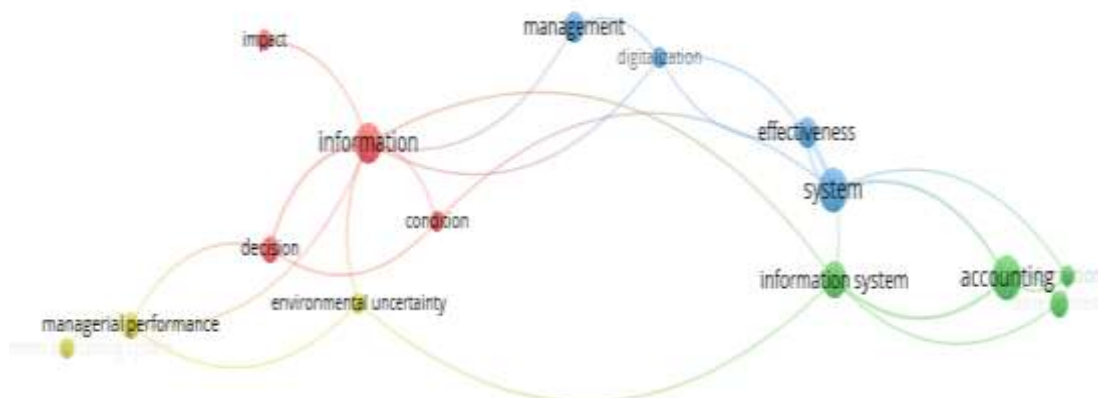


Figure 3: Vosviewers Topic Network

In this figure it can be seen that through color it is divided into four clusters, 3 of which contain 4 topics and 1 cluster contains 3 topics. Where the first cluster with red color contains information, impact, condition and decision. The information variable is a topic that has been studied by many researchers with a circle diameter that is quite large compared to the diameter of the 3 variables in the red cluster. The second cluster is green which contains accounting, development, formation and information systems where the accounting topic has research that is in demand and is often carried out by researchers. The third cluster is blue with the topics of management, digitalization, effectiveness, management and system. The last is cluster 4 with a yellow network containing environmental uncertainty, management accounting, and managerial performance.

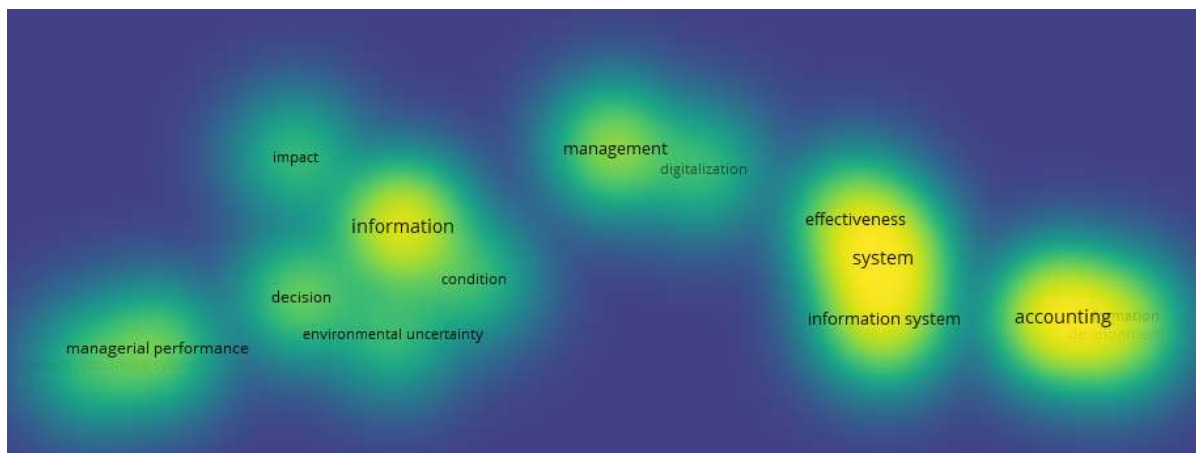


Figure 4. Density Visualization

Literature Identification

After collecting data and seeing the spread of research related to decision making through accounting information, a literature review is carried out again in accordance with the abstract, keywords, and themes that have been determined so that the topics discussed do not expand and focus. Previously, a total of 692 data had been collected in accordance with the inclusion and exclusion but had not been filtered through abstracts, keywords and the suitability of the content or theme in the article. 5 articles were found that were very close to the required requirements through content, theme, abstract and keywords.

Table 2. Research and citations

Author & Years	Title	Finding	Cited
Mohammed, M. M. (2024)	The importance of accounting information in management decision making process	This research highlights that the importance of using accounting information in administrative decision making, so that good decision making will facilitate strategic planning in accounting. This shows that effective planning is essential to achieve organizational goals while minimizing risks. Valuable information will provide effective decisions for the future and	8

Author & Years	Title	Finding	Cited
		this shows that accounting information and decision-making are closely related so that the dependency of accounting information and decision-making is very important..	
Latifah, L., Setiawan, D., Aryani, Y. A., & Rahmawati, R. (2021)	Business strategy–MSMEs' performance relationship innovation and accounting information system as mediators.	Research shows that business strategies, especially differentiation strategies that emphasize product uniqueness and quality, do not directly improve MSME performance. Instead, its success is highly dependent on innovation and the implementation of AIS that support the strategy. The findings of this article are that strategies will not be optimal without the support of innovation and good information systems. This study also confirms that innovative capabilities and the use of AIS can improve the competitiveness and sustainability of MSMEs amid increasingly complex market competition, even though performance measurement is based on owner perceptions that may not fully reflect real conditions.	207
Setyani, S., Hanifah, I. A., & Ismawati, I. I. (2022).	The role of budget decision making as a mediation of accounting information systems and organizational culture on the performance of government agencies.	The findings in this study state that organizational culture and accounting information systems affect budget decision-making in local governments, where organizational culture has a significant influence on budget decision-making and performance of government agencies.	27
Kaup, M., Wiktorowska- Jasik, A., Smacki, A., & Baszak, K. (2024).	Information systems and technologies supporting decision-making processes in logistics companies.	This study found that various information systems and technologies used in logistics companies, such as material planning systems, customer service, and goods flow optimization, significantly improve operational efficiency and decision-making. In addition, the application of artificial intelligence and machine learning further strengthens the company's ability to manage the entire supply chain process more flexibly and responsively to market changes. These technologies not only support scheduling and inventory control,	1

Author & Years	Title	Finding	Cited
		but also improve customer service through real-time shipment tracking and faster delivery, and help companies to compete in the logistics 4.0 era.	
Lu, X. (2024).	Influence of financial accounting information transparency on supply chain financial decision-making.	Key findings show that the application of environmental technologies in supply chains can improve operational efficiency, customer satisfaction and enterprise value, while supporting sustainability and environmental impact reduction. Big data serves as a mediator that enables companies to run greener and financially efficient business practices, through more accurate analysis and data-driven decision-making. The research also highlights the importance of transparency and clarity of financial information in enhancing stakeholder trust and supporting economic and environmental sustainability. Overall, the study confirms that the integration of environmental technologies and big data management can strengthen supply chain financial decisions while supporting the achievement of global sustainability goals, particularly in the context of sustainable development in the digital age.	3

Source: processed by researcher, 2025

Discussion

Mohammed's research (2024) states that accounting information is an important thing in running or starting an organization to achieve its goals with effective decision making. Because through accounting information which is a big data as described by Lu's research (2024), it can minimize existing risks. Not only is it good and important in decision making in organizations, but big data from this accounting information can be useful in companies, businesses, and government. In a business such as MSMEs, accounting information followed by innovation and technology is very helpful in strategizing whether it is marketing or business planning (Latifah et al., 2021). Through the information system that has been collected, it will help various kinds of operations and scheduling efficiently.

The level of accurate data and information obtained will facilitate decision making, in the realm of business and companies this accounting information system supports superior strategic decision making (Zohry & Al-Dhubaibi, 2024). Management can analyze massive historical sales data along with market sentiment from social media, economic trends, and competitor data to forecast product demand, identify new market opportunities, or optimize pricing strategies (Zhang et al., 2022). By monitoring real-time operational data, such as production cost per unit, supply chain performance, or departmental overhead, companies

can identify inefficiencies, bottlenecks, and waste (Oteri et al., 2023). This analysis enables process automation, optimization of resource allocation, and substantial cost reduction. In addition, the ability for risk detection and fraud prevention becomes much stronger. Suspicious transaction patterns, noticeable differences in spending, or unusual account activity can be detected automatically by Big Data algorithms, long before the fraud harms the company. This not only protects financial assets but also preserves the company's reputation in the eyes of stakeholders.

For the government sector and public organizations, accounting information systems are catalysts for transparency, public service effectiveness, and accountability (Sarifudin & Damanik, 2024). Governments can use financial data from different departments, along with demographic data, service usage data, and even geographic data, to allocate budgets more effectively and appropriately (Khan et al., 2024). For example, analyzing spending data on social programs against their real impact on society can help the government identify the most effective programs and terminate inefficient ones. In addition, big data from accounting information enables the improvement of the quality and effectiveness of public services (Agustino et al., 2022). By understanding patterns of service requests, response times, and citizen feedback from various platforms, the government can identify areas that need improvement, simplify processes, and personalize services.

Conclusions

It can be concluded that accounting information is an important tool that helps improve the effectiveness of decision-making in organizations, especially through technology-based accounting information systems and Big Data. The use of timely, accurate, and integrated information can minimize risks, increase transparency, and support economic and environmental sustainability. However, the main challenges faced are access, quality, and effective data management. Bibliometric analysis methods help identify research trends and collaborations in this area, so as to support the development of better accounting information systems for better decision-making.

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