



Accounting Information Systems for SMEs: A Systematic Literature Review

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Abstract. Information systems have proven to be critical to company success. Accounting information systems not only help in providing information for better decision making but also help companies with planning, controlling, assessing, and improving the company's business processes. The purpose of this research is to determine the effect of accounting information systems on small and medium companies' performance. It is hoped that this research will contribute to small and medium business actors to better understand the importance of accounting information systems for businesses and also for the government to be able to use the results of this research to design policies that encourage the use of AIS in small and medium businesses, provide training and support to actors small and medium enterprises, and improve the necessary information technology infrastructure. This research is qualitative in nature, carried out by conducting a systematic literature review of studies on the effect of accounting information systems on small and medium-sized companies during the period 2017 to 2022. The results of this study prove that accounting information systems can increase SMEs' performance. The implication of the research is improving decision-making decisions, improving internal controls, expanding access to financial information, and increasing transparency and accountability.

Keywords: information, accounting information systems, small and medium enterprise, systematic literature review, computer-based accounting information systems

1 Introduction

The rapid development of technology has made information the biggest force in the global economy. Increasingly fierce business competition has made large and small companies realize the importance of information for organizations and the need to invest in technology that will provide a competitive advantage for companies. Accounting information systems (AIS) as one type of information system needed to process transaction data to provide effective and more meaningful information for the organization. AIS plays an important role in helping companies run and make business decisions. This system collects transaction data, processes, and distributes the resulting information to internal and external parties [1]. The AIS is designed to support various

accounting, and tax. Today, as quoted from the STEKOM website, the development of accounting information technology has a major impact on a company's accounting information system (AIS). The real effect is the transformation of data processing from a manual accounting information system to a computerized accounting information system. Computerized accounting information systems (CAIS) produce financial reports that are far more efficient, effective, and accurate. The use of a computerized accounting information system is more profitable for organizations than the costs incurred by business entities that operate accounting information systems manually [2]. AIS is needed by various types of companies, both large companies and small and medium enterprises (SMEs) to carry out business operations.

According to the World Bank, SMEs play an important role in most economies, especially in developing countries. SMEs represent a large proportion of businesses worldwide and are significant contributors to job creation and global economic development. They represent approximately 90% of businesses and over 50% of jobs worldwide. SMEs are an important component of the primary sector in both developed and developing countries, where high GDP stimulates economic growth. These MSMEs, which have made up almost all businesses globally, show that they are able to overcome complex economic and social problems while achieving organizational goals, reducing unemployment rates by providing employment opportunities, and increasing national income and productivity [3] [4]. Governments around the world have begun to prioritize the growth of SMEs given the World Bank's prediction that hundreds of millions of jobs will be needed to support global workforce growth by 2030 [5].

Given the important role of SMEs for the economy in most developing countries, the sustainability of SMEs must be maintained. SMEs must be able to survive and even develop better. The performance of SMEs must continue to improve so that they can contribute to increased profits. To be able to perform well, SMEs need accounting information in carrying out their business activities. Accounting information can be obtained by SMEs from an accounting information system.

Many studies have been conducted discussing the effect of accounting information systems on company performance. The large number of studies that have been conducted makes the research results inconsistent because there are different abilities in interpreting the relationship between accounting information systems and business performance [6]. Among these studies there are those who say that the accounting information system has a positive correlation with the company's financial performance [7]. Research on the effect of information systems, especially on the performance of SMEs, is still rarely done. Even though, as explained above, SMEs have a big role in the country's economy. Based on this background, this research was conducted to provide a systematic literature review on the effect of accounting information systems on the performance of SMEs.

2 Literature Review

This section is divided into 5 subsections. First, it provides an overview of the accounting information system. Second, it provides a description of company performance. Third, it will explain about the relationship between accounting information systems and company performance. Four, it will explain about agency theory, and the last is about systematic literature review.

2.1 Accounting Information System

An accounting information system is defined as the result of the integration of a set of computer and manual components created to collect, store, and manage data and produce processed information [8]. Other experts say that accounting information systems process financial and non-financial data that directly affect financial transactions. The accounting information system consists of subsystems that support daily business operations, produce financial reports, provide internal management with special purpose financial reports and information needed for decision making [9].

There is a relationship between accounting information systems and company performance. The company's performance is reflected in the reports generated by the financial statements issued by the accounting information system. According to [10] an effective AIS provides information in the form of financial data, raw data, or other information, which is then processed by management into a credible annual report for the company.

2.2 Company Performance

Performance is the result of qualitative and quantitative work carried out by an employee in carrying out his duties in accordance with the responsibilities assigned to him [11]. From a financial perspective, company performance is a measure of management's success in managing the company's financial resources, especially in managing investments with the aim of creating value for shareholders [12]. The company's financial performance functions as a function of the manager's ability to run the business to maximize the owner's wealth which indicates that the company's financial performance is a product of accounting ratios related to past business profits. Thus, the company's performance becomes a reflection of a manager (agent) in managing the company's resources (capital).

The Accounting Information System (AIS) has a crucial role in providing relevant, accurate and timely financial and non-financial information to all stakeholders. Thus, the application of accounting information systems in business organizations can help business organizations to improve their performance both financial and non-financial performance.

2.3 The Relationship between Accounting Information Systems and Company Performance

The function of the AIS is to record, process and report the company's economic transactions. This system helps in providing information needed by management to manage business, make strategic decisions, and improve company performance [13]. By providing accurate, timely and relevant information, AIS 's can help companies improve their operational efficiency and effectiveness.

Other researchers define the function of AIS as to produce financial and non-financial information needed by management and other stakeholders to evaluate company performance and make business decisions [14]. AIS plays an important role in providing financial reports and other performance reports that are used by stakeholders to monitor company performance. This information helps in identifying weaknesses and opportunities, as well as formulating appropriate strategies to improve company performance.

2.4 Agency Theory

Agency theory examines the problems and solutions associated with delegating tasks from principals to agents when the two parties involved have conflicting interests [15]. In this theory, both parties recognize the potential benefits arising from the exchange between them. The principal delegates tasks to the agent, and in return the agent receives a reward from the principal based on the actions or decisions taken in carrying out the assigned tasks. Agency problems arise because of conflicts of interest between the parties. With more complete and better information, agents can act or make decisions that are not in the interests of their clients.

Several studies on the relationship between AIS and firm performance use agency theory to describe agents' decisions to use AIS in business operations with the aim of maximizing shareholder wealth. A study on this matter explains the existence of information asymmetry which causes agents to report invalid information to principals [16].

2.5 Systematic Literature Review

A systematic literature review is a research technique for identifying, evaluating, and interpreting all relevant research findings related to a particular research question, a particular topic, or a phenomenon of concern [17]. Independent learning (individual learning) is a type of primary learning (primary learning), and systematic review is secondary learning (secondary learning). Systematic reviews can be very helpful in summarizing relevant research findings so that the evidence presented to policy makers is more comprehensive and balanced.

3 Research Method

The method used in this study was a systematic literature review based on the original guidelines as proposed by Kitchenham [17]. The steps used to carry out a systematic literature review are in accordance with [18], namely:

1. Planning a review
2. Execute review.
3. Reporting and dissemination.

3.1 Planning a Review

At this stage a search for research questions will be carried out. The literature search design in this study uses the Population, Intervention, Compare, and Outcomes (PICO) framework. This framework was chosen to support the design of research questions in a systematic literature review. The PICO framework also serves as a tool for determining literature keywords and as a basis for selecting literature benchmarks to be used. The research question in this study is: is there any effect from computer-based AIS on the performance of SMEs?

3.2 Execute Review

This study uses secondary data. Secondary data obtained from research that has been done by previous researchers. The data collected is provided in the form of journal articles from a database based on questions that have been prepared with the PICO framework. The strategy for selecting literature is as follows: first, the selected journals come from the Scopus database. Second, the selected articles relate to AIS and SMEs performance. Third, the selected articles must be in the 2017 – 2022 timeframe. The four selected articles are in English. Fifth, the article must be in the form of a journal that is already in the final stage. Sixth, articles must be in open access. Seventh, the search criteria used are "Accounting information systems" AND "SMEs "performance".

A systematic literature review begins with reading the abstract of each paper to identify the aims and approaches used. To better understand the impact of computer-based AIS on the performance of SMEs, the content is dug deeper to examine the impact of SMEs.

3.3 Reporting and Report Disseminations

At this stage, a systematic review report is prepared to present the results and findings of the research process.

4 Results and Discussion

Data search using the Scopus database with the initial search criteria "Accounting information systems" AND "SMEs" AND "performance" yielded 39 articles. All the 39 articles were screened again with the following criteria: the selected articles must be in the 2017 – 2022 timeframe, all articles must be in English, the article must be in the form of a journal that is already in the final stage, and the articles must be in open access. This screening resulted in 14 articles for review.

4.1 Publishers

At the end of the screening step there are fourteen articles. The image shows a graph of the number of articles by publisher. Most of the articles published in MDPI (4 articles).

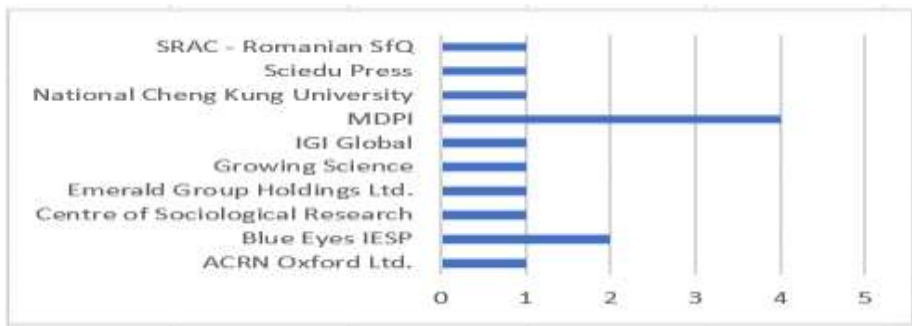


Fig. 1 Distribution Articles

4.2 Types of Research

Table 1 shows the results of a literature search conducted. As many as 71.43 percent or 10 articles surveyed used quantitative techniques. Furthermore, as many as 3 papers using qualitative methods, and the rest using mixed methods (mixed qualitative and quantitative methods).

Table 1. Type of Research

Type of Research	frequency	Percent-ages
Quantitative Research	10	71,43
Qualitative Research	3	21.43
Mixed Research (Qualitative and Quantitative)	1	7,14
Total	14	100

Source: Article Analysis

4.3 Research Methods in Articles

Table 2 shows the results of a review of papers on AIS and organizational performance related to the research method used, showing evidence that 8 out of 14 papers, or 57.14 percent used the questionnaire method. The next method found in the literature review is the survey, which is equivalent to 3 papers or 21.43 percent. Two articles use case studies as a research method and one article uses a different method.

Table 2. Research Methods

Type of Research	frequency	Percent-ages
Questionnaire	8	57,14
Survey	3	21.43
Case study	2	14,29
Other	1	7,14
Total	14	100

Source: Article Analysis

4.4 Research Findings

The following are research findings based on a systematic literature review of 14 papers on AIS and SMEs performance, we found diversity in research findings, as summarized in Table 3. The relationship/effect of the role of AIS on SMEs performance, the intention to adopt computer/cloud-based AIS, the effect of AIS alignment on SMEs performance each has a weight of 14.29 percent or 2 articles. While the rest, the impact of implementing AIS on performance, CAIS specifically for law firms, optimizing AIS implementation for sustainable business performance, quality accounting resources for AIS, technology operations impacting MAP, and the effect of SAM on performance, each has a weight of 7.14 percent or 1 article.

Table 3. Research Findings

Research result	frequency	Percent-ages
Relationship/effect of the role of AIS on SME performance	2	14,29
Intention to adopt computer/cloud-based AIS	2	14,29
Impact of implementing AIS on performance	1	7,14
CAIS specifically for law firms	1	7,14
Optimizing AIS implementation for sustainable business performance	1	7,14
Effect of AIS alignment on SME performance	2	14,29
Qualified accounting resources for AIS	1	7,14

Technology operations impact MAP	1	7,14
the effect of MAS on performance	1	7,14
Total	14	100

Source: Article Analysis

Relationship/effect of Accounting Information Systems with SME Performance

In general, the relationship between accounting information systems and company performance has been suggested by Romney who stated that this helps in providing the information needed by management to manage business, make strategic decisions, and improve company performance. In this systematic literature review it was found that there is a positive and significant role of AIS and knowledge management capabilities in improving performance [19]. The low ability to use AIS and the ability to utilize knowledge management causes low organizational performance. As small businesses face declines in their use of AIS and knowledge management due to a lack of operational, regulatory and knowledge base support, and businesses rely on legacy systems to generate revenue, poor revenue puts them in a difficult position to make decisions. This research demonstrates the importance of AIS and knowledge management capabilities in maintaining competitive advantage. A good understanding of AIS and knowledge management skills add value and improve organizational performance.

Other findings state that organizations that have implemented AIS realize substantial benefits, including saving time, money, and manpower, providing valuable information to executives, and enhancing professional skills. They are almost completely satisfied with the quality that AIS provides. Because AIS has been proven as a superior technology capable of managing large amounts of data, the application of AIS will become more intensive soon [20]. To meet this need, it is necessary to think about how to motivate employees to learn and develop their ability to use AIS-related technologies.

Intention to Adopt Cloud/Computer Based Information System

With the advancement of information technology, several information systems have begun to adopt this new technology into their products. An example is the existence of a cloud-based accounting information system. SMEs as business organizations that have an important role in the economy of developing countries must be supported to implement accounting information systems in their businesses so that the performance of SMEs continues to increase. Research to explore the factors that underlie SMEs to use cloud-based accounting information systems reveals the result that despite the significant benefits of cloud technology, data security is the main problem that prevents SMEs from adopting cloud accounting [21].

Other studies that have been conducted discuss some of the factors that effect the intention to adopt AIS-based computers, including coercive pressure, mimetic pressure, and normative pressure [4]. The findings show that it turns out that the intention to adopt AIS in SMEs must be forced. Mandatory nature (coercive pressure) leads to better environmental commitment, which in turn has a significant impact on the intention to

adopt computer-based AIS. In addition, we found that SMEs prefer to imitate (mimetic pressure) the IT/IS decisions of other companies including their competitors rather than advising on recommendations made internally to implement computer-based AIS. It was also found that there was normative pressure where pressure was exerted by suppliers, government agencies, or other bodies that had successfully implemented computer-based AIS.

The Impact of Implementing a Computer-Based AIS on Performance

The impact of implementing computer-based AIS on performance using the Balanced Scorecard component can be seen from the financial, customer, internal processes, and learning and growth perspectives [22]. First, from a financial perspective (average 4.12), CAIS provides more timely and accurate information for decision making, reduces the burden on documentation and administration of organizations, has a direct impact on small business profitability, saves time, and is easy to classify with greater detail.

Second, from a customer perspective (average 3.79), CAIS provides high-quality information (relevance, accuracy, and completeness) that can increase an organization's effect in providing market information such as customer needs and organizational internal efficiency, improve cost control, and improve customer and supplier relationships. Third, from an internal process perspective (average 4.13), CAIS enhances application integration and facilitates realignment of objectives for each department or division. Fourth, from a learning and growth perspective, CAIS supports the growth of organizations that are more efficient and effective in-service delivery.

Effect of AIS alignment on SME performance

The results of studies from several countries show a significant relationship between the level of AIS alignment and non-financial performance. Alignment in terms of initiation, prevalence and consolidation among SMEs shows a significant correlation with AIS alignment for non-financial performance [23]. Therefore, the higher the level of AIS alignment, the better the owner's perception of performance.

Other research states that there is a significant effect between AIS alignment on the non-financial performance of indigenous and non-native companies. In addition, there are significant differences between Indigenous and Chinese communities in measuring non-financial performance. The major differences between the indigenous and Chinese communities are revealed in three indicators: future events, external information, and non-financial markets [24]. Indicators with a high average score (AIS requirements), for the Chinese community are on future events, non-economic information, external information, non-financial (market), automatic acceptance, direct reporting. Indigenous people are more concerned with the company's internal processes, so the need for AIS and AIS capabilities related to internal processes are more than one. However, the Chinese community's perception of outside information is superior to that of the Indigenous people.

5 Conclusion

This study presents a systematic literature review on the effect of computer-based information systems on the performance of SMEs during the period 2017 – 2022. There are 14 published articles from the Scopus database. The results of the study show that to improve the performance of SMEs in addition to requiring an accounting information system, knowledge management is also required. Knowledge management is proven to be able to minimize the threat of competitive pressures in the business environment. AIS has substantial benefits such as saving time, money, and manpower, providing valuable information to executives, and enhancing professional skills. Regarding the intention to adopt AIS in organizations effected by coercive pressure, mimetic pressure, and normative pressure as well as data security. The impact of implementing computer-based AIS on performance based on the Balanced Scorecard component can be seen from the perspective of finance, customers, internal processes, as well as learning and growth. Finally, there is a significant relationship between the level of AIS alignment and non-financial performance. The higher the AIS alignment level, the better the owner's perception of performance.

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