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Cloud Accounting, Artificial Intelligence, and Machine Learning in Digital Financial Applications: Implications for MSME Accounting Information in South Sumatra

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Abstract

Many MSMEs still do not understand the use of digital financial applications as a widespread issue and require optimal implementation of features available in artificial intelligence and machine learning to become drivers of accounting practices. Referring to the Technology Acceptance Model (TAM) theory, how someone accepts and uses information technology is influenced by two main factors, namely Perceived Usefulness, namely the belief that the use of technology will improve performance, productivity, effectiveness, and work results, second, perceived ease of use, namely the belief that technology can be used easily without requiring great effort, this requires cloud-based accounting to strengthen digital payments. This study was designed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The empirical results of this study confirm that Cloud accounting has an impact of (β = 0.42) on digital financial applications, followed by Artificial Intelligence (β = 0.35) and Machine Learning (β = 0.28). Digital financial applications have a positive and significant impact on accounting information quality (β = 0.28). This suggests that digital financial applications can improve perceived usefulness and ease of use through automated transaction recording, real-time financial analysis, and fast and accurate financial reporting. These findings demonstrate that technology investment relies heavily on employee understanding and skills to improve organizational performance and enhance collaboration between users. This study has limitations due to its dynamic nature, which follows the development of digital financial applications, which are subject to change along with technological innovation, feature updates, and changes in user behavior, as well as the ability to predict future financial analysis.

KEYWORDS

cloud accounting; artificial intelligence; machine learning; digital financial applications; information accounting.

Introduction

The development of digital technology is driving significant changes in various business sectors, including Micro, Small, and Medium Enterprises (MSMEs). In the digital economy era, MSMEs are required to adapt to technology to remain competitive and sustainable. One crucial aspect of business management is effective financial management through an accurate, transparent, and timely accounting system (Bramulya et al., 2025). However, many MSMEs still face challenges in recording and managing accounting data (Shabalov et al., 2021).

Various problems, including excesses and deficiencies, occur due to poor management, especially those that often occur in MSMEs, such as the low quality of accounting data produced (Buchalska-sugajska et al., 2025). MSME actors have not carried out financial records systematically, still using manual methods that are prone to errors, delays, and data loss (Ghimire & Qiu, 2025). This condition has an impact on the

low quality of financial reports, thus hampering the process of making the right business decisions (Olawade et al., 2025a). Limited understanding of accounting and minimal digital literacy are inhibiting factors in optimizing MSME financial management (Kes et al., 2025).

Along with technological developments, various digital financial application solutions have emerged designed to help business actors manage their finances more efficiently (Oseas et al., 2025). Digital applications offer automatic transaction recording features, financial report preparation, and real-time integration (Harverson et al., 2026). In practice, the use of digital financial applications by MSMEs has not been optimal due to a lack of user understanding, limited access to technology, and concerns about financial data security (Yeassin et al., 2025). This research framework focuses on the implementation of cloud-based accounting as an important innovation in accounting data management (P. Liu & Yang, 2025). Cloud accounting systems can store data online, are flexible, and provide easy collaboration between users. The adoption of cloud accounting in MSMEs still faces challenges such as limited infrastructure, trust in digital systems, and data security risks (Ding et al., 2025).

The development of artificial intelligence and machine learning is integrated into digital financial applications to automate accounting processes, detect transaction patterns, and provide more accurate financial predictions (Ndiaye et al., 2026). With AI and machine learning, accounting data quality can be improved through faster data processing and fewer errors. The use of technology in accounting practices in MSMEs is still low, due to a lack of understanding of the technology and limited resources (Paget et al., 2025). Another equally important issue is related to the security and integrity of accounting data. In digital systems, data is a key asset whose accuracy and security must be maintained. Risks such as data leaks, system errors, and information manipulation are challenges that MSMEs must face when using advanced technology-based digital financial applications (Ho et al., 2025).

Extensive research has been conducted on digital transformation in accounting, particularly examining the impact of digital technology on the quality of accounting information and business performance. Several previous studies have found that cloud accounting can improve the efficiency of recording and accessibility of financial data, while others have shown that artificial intelligence (AI) and machine learning (ML) can improve the accuracy of data analysis and support business decision-making. However, most of these studies have examined the impact of each technology separately and have not integrated various digital technologies into a comprehensive research model. From a theoretical perspective, there remains a gap regarding how the combination of modern digital technologies, such as Cloud Accounting, Artificial Intelligence (AI), Machine Learning (ML), and Digital Financial Applications (DFA), simultaneously impacts the quality of accounting information. Previous research has focused more on the direct relationship between a single technology and organizational performance, thus failing to provide a comprehensive understanding of the mechanisms by which various digital technologies integrate to produce quality accounting information.

Empirically, research on cloud accounting, artificial intelligence, and machine learning related to digital financial applications and their implications for accounting information quality in the Micro, Small, and Medium Enterprises (MSMEs) sector in South Sumatra is still limited. Most previous studies focused on large companies, the banking sector, or MSMEs in other regions, so the results may not reflect the characteristics of MSMEs in South Sumatra, which have varying levels of digital literacy, technological capacity, and operational conditions. Yet, MSMEs are a strategic sector that makes a significant contribution to the regional economy and faces the increasing demands of digital transformation (Alawida et al., 2022). The uniqueness of this study lies in examining the influence of Cloud Accounting, Artificial Intelligence, and Machine Learning on Accounting Information Quality through Digital Financial Applications as a mediating variable. In this study, Digital Financial Applications serve as a mediator, bridging the influence of Cloud Accounting, Artificial Intelligence, and Machine Learning on Accounting Information Quality. In other words, the implementation of digital technology does not directly result in improved accounting information quality, but rather increases the effectiveness of digital financial applications, which then contributes to improved accounting information quality. As a mediating variable, digital financial applications act as a mechanism for transforming technology into more efficient, integrated, and data-driven financial management practices. Unlike previous research, which generally examined the influence of each technology separately, this study integrates all three digital technologies into a comprehensive conceptual framework. In this research model, digital financial applications serve as a mechanism explaining how the use of digital technology can improve accounting information quality. Thus, the study not only identifies the direct influence of digital financial applications on accounting information quality but also uncovers the mediation process that occurs through the integrated use of all three digital technologies. This approach allows for a deeper understanding of the relative contribution of each digital technology to improving accounting information quality and produces more comprehensive and accurate estimates of the relationships between variables.

Based on these theoretical and empirical gaps, this study seeks to answer the following research questions: (1) How does Cloud Accounting affect Digital Financial Applications in MSMEs in South Sumatra. (2) How does Artificial Intelligence affect Digital Financial Applications in MSMEs in South Sumatra. (3) How Machine Learning influences Digital Financial Applications for MSMEs in South Sumatra (4) How Digital Financial Applications influence the quality of accounting information for MSMEs in South Sumatra. The proposed research hypotheses are: H1: Cloud Accounting has a positive influence on Digital Financial Applications for MSMEs in South Sumatra. H2: Artificial Intelligence has a positive influence on Digital Financial Applications for MSMEs in South Sumatra. H3: Machine Learning has a positive influence on Digital Financial Applications for MSMEs in South Sumatra. H4: Digital Financial Applications have a positive influence on the quality of accounting information for MSMEs in South Sumatra.

The urgency of this research is expected to overcome managerial constraints in small and medium enterprises through efforts to improve technological developments such as cloud accounting, artificial intelligence, machine learning, and digital financial applications that offer various conveniences and advantages, but their implementation in MSMEs still faces various obstacles (Wu & Liao, 2025a). This research is important to provide a deeper understanding of the role of digital technology in improving the quality of accounting data and supporting more effective and efficient business decision-making in MSMEs in the digital era (Basnayake et al., 2024). In this regard, this research is expected to provide a positive contribution in overcoming various obstacles faced, such as suboptimal accounting data quality, low digital literacy, and limitations in technology utilization (Chhillar et al., 2025). Therefore, the purpose of this study is to examine how the application of technology affects the quality of accounting data in supporting better financial management of MSMEs (Segundo et al., 2025).

As illustrated in the conceptual framework (Figure 1), agency theory explains the working relationship between principals (business owners) and agents (business managers),

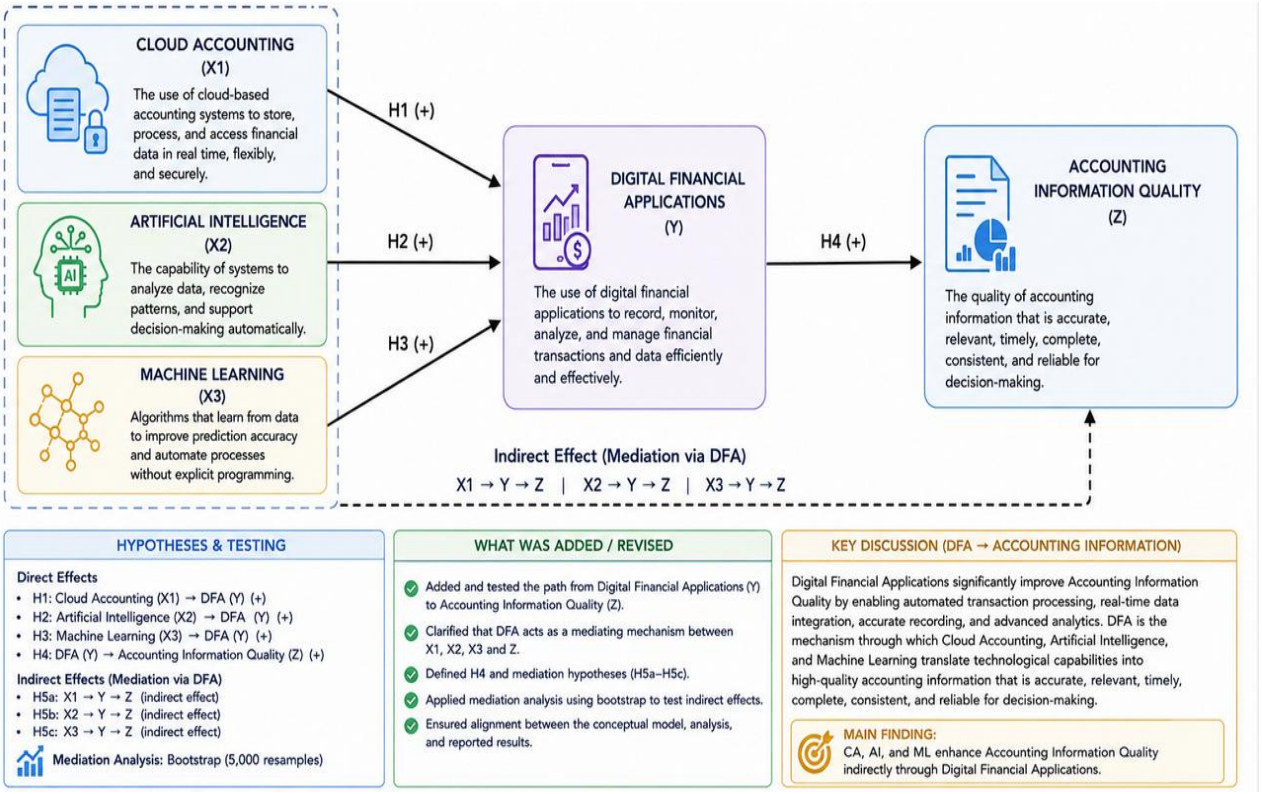

Figure 1. Conceptual Framework

Table 1. Dimensions and Indicators Cloud accounting

Cloud Accounting	Dimensions	Indicators
Cloud Accounting is an accounting system that utilizes technology to store, manage, and access financial data via the internet in real-time anytime and anywhere without having to rely on local devices or servers.	1. Benefits	a. Convenience
		b. Benefits
	2. Effectiveness	c. Flexibility
		d. Security

who often have differing interests in decision-making.

Principals are oriented towards increasing profits and the sustainability of MSMEs, while agents are more focused on compensation, job satisfaction, and fulfilling economic and psychological needs. In relation to the research variables, the use of Cloud Accounting helps principals and agents gain access to real-time, transparent, and accurate financial data, thereby reducing misinformation and minimizing conflicts of interest. Furthermore, Artificial Intelligence supports data analysis and automated decision-making processes, making financial activity monitoring more effective. Furthermore, Machine Learning enables the system to learn transaction patterns and quickly detect financial errors and fraud. This technology strengthens the use of Digital Financial Applications in recording, managing, and reporting MSME financial transactions more efficiently. Through the application of this digital technology, the quality of the resulting Accounting Information becomes more accurate, relevant, timely, and reliable. Thus, agency theory explains that the use of technologies such as cloud accounting, artificial intelligence, machine learning, and digital financial applications can help reduce information asymmetry between principals and agents and increase the effectiveness of MSME financial management(Al-karkhi & Rza, 2025).

Cloud Accounting

An accounting system that utilizes *cloud computing technology* to store, manage, and access financial data via the internet in real-time (Başar et al., 2025b). In this context, the entire financial recording and reporting process is carried out on a cloud-based server, thus enabling flexible access without relying on local devices (Badrudin et al., 2025a). Cloud accounting is a development of traditional accounting information systems that are integrated online, which allows for the automation of transaction recording, increased data accuracy, and collaboration between users on a single digital platform (Zhu, 2025). Cloud accounting is a technology-based solution that makes it easier for organizations to make decisions by providing fast, transparent, and real-time data-based financial information. This system also supports operational efficiency and better financial control (Pillai et al., 2025). Cloud accounting can be defined as an internet-based accounting system that enables real-time, flexible, integrated, and efficient financial data management, and supports data-driven decision-making within the organization (Rumanti et al., 2025).

There are several ways to measure this Cloud Accounting:

Cloud accounting is measured using indicators that reflect the level of adoption, utilization, and effectiveness of cloud-based systems in accounting data management (Huang, 2025) (see Table 1). Some measurement methods commonly used in research are as follows:

1. Convenience Perceived Ease of Use
   Measures the extent to which a cloud accounting system is easy to understand and use. This indicator includes ease of access, interface appearance, and transaction processing speed. This concept is often adopted from the Technology Acceptance Model (TAM).
2. Usefulness/Benefits (Perceived Usefulness)
   Measures the extent to which cloud accounting usage improves performance, efficiency, and productivity in financial management. This indicator reflects the tangible

Table 2. Dimensions and Indicators Artificial Intelligence

Artificial Intelligence (AI)	Dimensions	Indicators
Artificial Intelligence (AI) is a technology that automates accounting processes, analyzes financial data, detects transaction errors, and supports faster and more accurate decision-making.	1. Ability	a. Adoption Level
		b. Analytical Skills
	2. Data Management	c. Process Automation
		d. Error Detection

Table 3. Dimensions and Indicators Machine Learning

Machine Learning	Dimensions	Indicators
Machine learning is computer systems learn patterns from data, automatically improve performance, and produce more accurate predictions and decisions without explicit programming for each task.	1. Information Systems	a. Model Accuracy
		b. Predictive Performance
	2. Decision-making	c. Processing Speed and Efficiency
		d. New Data

benefits experienced by users in operational activities.

3. Accessibility and Flexibility
   Measuring the system's ability to provide real-time access to financial data from multiple devices and locations. This is crucial for supporting rapid and accurate decision-making.
4. System Security and Reliability
   Measures the level of financial data protection, including storage security, data encryption, and system reliability in preventing data loss or damage.Measuring the ability of cloud accounting to connect with other systems, such as digital financial applications, payment systems, or other business management software (Basnayake et al., 2024). Measuring the extent to which the use of cloud accounting can reduce operational costs, such as hardware costs, system maintenance, and labor. Cloud accounting measurements are carried out multidimensionally, covering technical aspects, benefits, security, and efficiency. Researchers can assess the extent to which cloud accounting systems are adopted and contribute to improving organizational performance (Başar et al., 2025b).

Artificial intelligence

Artificial Intelligence is a branch of computer science that focuses on the development of systems or machines capable of performing tasks that typically require human intelligence, such as thinking, learning, and problem-solving (Segundo et al., 2025). Artificial Intelligence is a system designed to act rationally by processing information from the environment, then taking optimal decisions or actions to achieve certain goals (Badrudin et al., 2025a). Artificial Intelligence is a technology that enables organizations to process large amounts of data to produce predictions, process automation, and more accurate and efficient data-based decision-making (Rumanti et al., 2025). Artificial Intelligence is a technology that enables machines to mimic human cognitive abilities, such as learning, analyzing, and making decisions, thereby increasing the efficiency and quality of performance in various fields.

There are several ways to measure this Artificial Intelligence

Artificial Intelligence (AI) is measured through indicators that reflect the level of adoption, capabilities, and impact on organizational performance, particularly in data management and decision-making (Basnayake et al., 2024) (see Table 2). Some commonly used measurement methods are as follows:

1. AI Adoption and Usage Rate
   Measures the extent to which an organization has implemented AI technologies in business processes, such as record-keeping automation, data analysis, or intelligent system-based services. This indicator includes the frequency of use and the scope of AI implementation in operational activities.
2. Analysis and Prediction Skills
   Measures AI's ability to process data to generate insights, predictions, and decision-making recommendations. The more accurate and faster a system is at analyzing data, the higher the AI's capability.
3. Process Automation
   Measuring the extent to which AI is able to replace or simplify manual work, such as transaction processing, error detection, and automatic financial data management.
4. Error Detection
   AI's ability to identify errors or anomalies in financial data
   Measuring the contribution of AI in improving the accuracy, speed, and precision of data *-driven decision making*. Measuring the ability of AI to integrate with other systems, such as digital financial applications, cloud accounting systems, and other business platforms (Hall, 2019.). Measuring the level of user acceptance of AI, including ease of use and perceived benefits in improving performance (Cupek et al., 2016). Measurement of Artificial Intelligence is multidimensional, covering technical, operational, and user perception aspects. With these indicators, researchers can assess the effectiveness of AI in supporting the efficiency, accuracy, and quality of decision-making in organizations (Jalilzadeh et al., 2026).

Machine Learning

Machine learning is a branch of artificial intelligence that allows computer systems to learn from data and experience without having to be explicitly programmed for each task. These systems improve their performance as data increases (Almotiri, 2024)on a task and performance measures, task performance improves with experience. This definition emphasizes the relationship between data, learning processes, and performance improvement. Machine learning is a technology that allows organizations to analyze large amounts of data to discover patterns, make predictions, and support data-driven decision-making automatically and more accurately (Campo et al., 2024). Machine learning is a method in artificial intelligence that allows systems to learn from data to improve performance, make predictions, and generate decisions automatically without explicit programming (Riesener et al., 2025).

There are several ways to measure this Machine Learning

Machine learning is measured through indicators that reflect model performance, the quality of the learning process, and its impact on information systems and decision-making (Cerioli et al., 2025) (see Table 3). These measurements generally cover the following technical and implementation aspects:

1. Model Accuracy
   Measures the accuracy of a machine learning model in generating predictions or classifications compared to

Table 4. Digital Financial Applications

Digital Financial Applications	Dimensions	Indicators
Digital Financial Applications are technological innovations in the financial sector that allow users to conduct transactions and manage their finances digitally through electronic devices.	1. Technological aspects	a. Usage Level
		b. System Quality
	2. Organizational benefits	c. Information Quality
		d. Quality of Service

Table 5. Dimensions and Indicators Accounting Information

Accounting information	Dimensions	Indicators
Accounting information is financial data that has been processed so that it can be used for planning, controlling, and decision making in an organization.	1. Information Quality	a. Information Accuracy
		b. Information Relevance
	2. Information Characteristics	c. Timeliness
		d. Information Completeness

actual data. This indicator is often used to assess the model's baseline performance in various applications,including digital financial systems.

2. Predictive Performance
   Measures the extent to which a machine learning model can generate accurate and relevant predictions based on historical data patterns. This is important in the context of financial planning and risk analysis.
3. Processing Speed and Efficiency
   Measures the time it takes a model to process data and produce output. An efficient model will be able to work quickly even with large data volumes.

Measuring the extent to which a model can perform well on new data (beyond the training data). This is important to ensure that the model does not simply "memorize" data, but actually learns patterns that can be applied broadly (Azmi et al., n.d.)). Measuring the ability of ML to be integrated with other systems, such as digital finance applications or cloud accounting, thereby providing added value in business practices. Machine Learning measurements are comprehensive, covering the model's technical performance, operational efficiency, and its contribution to data-driven decision-making. The effectiveness of ML in supporting digital systems can be evaluated objectively and scientifically.

Digital Financial Applications

Digital financial applications are information technology-based systems used to collect, process, store, and distribute financial information electronically to support organizational control and decision-making (Basnayake et al., 2024). Digital financial applications are part of *financial technology innovation* that utilizes digital technology to provide financial services such as payments, fund transfers, transaction recording, and efficient, fast, and integrated financial management (Olawade et al., 2025a). Digital financial applications are technology-based tools that enable organizations and individuals to manage financial activities in real-time, increasing transparency, operational efficiency, and supporting data-driven decision-making. Digital Financial Applications are technology-based systems that facilitate electronic, real-time, and integrated financial management, thereby increasing the efficiency, accuracy, and quality of financial information within an organization (Rumanti et al., 2025).

There are several ways to measure this Digital Financial Application

Digital Finance Applications are measured using indicators that reflect usage levels, system quality, and their impact on financial management performance (Ozili, 2021) (see Table 4). These measurements are generally multidimensional, encompassing aspects of technology, users, and organizational benefits, as follows:

1. Usage Level
   Measures the frequency and duration of application use in financial activities, such as transaction recording, reporting, and digital payments. The higher the frequency of use, the higher the level of technology adoption.
2. System Quality
   Measuring the technical performance of the application, including access speed, system reliability, ease of use (user-friendliness), and minimal disruption/errors in operations.
3. Information Quality
   Measures the extent to which the financial information produced is accurate, relevant, timely, and reliable to support decision making.
4. Quality of Service
   Measure the service support provided, such as technical assistance, system updates, and response to user issues.

Measure the level of user financial data protection, including encryption, access control, and security systems to prevent data leakage. Measure the extent to which the application provides tangible benefits, such as increasing efficiency, productivity, and the quality of financial management. Measure the application's contribution to improving organizational performance, including decision-making speed, financial control, and operational efficiency (Rachinger et al., 2019). Digital Financial Applications are measured comprehensively, considering technical aspects, information quality, security, and user benefits. This approach allows researchers to assess the application's effectiveness in supporting modern financial systems and overall organizational performance (Paula Monteiro et al., 2022).

Accounting Information

Accounting information is the result of processing financial transaction and activity data presented in a relevant, accurate, and timely manner to assist users in planning, controlling, and making economic and business decisions.

There are several ways to measure accounting information.

Accounting information is a collection of financial data that has been processed into useful information for users in planning, controlling, and decision-making (Lindiasari & Alfarizi, 2025) (see Table 5). There are several ways to measure the quality of accounting information. In general, the quality of accounting information is measured based on the ability of the information produced to support effective decision-making. The quality of accounting information can be measured using the following indicators:

1. Accuracy The accounting information presented is free from errors, reflects actual conditions, and is reliable for users.
2. Relevance The information produced meets user needs and is able to assist in the decision-making process.
3. Timeliness Information is available when needed so that it can be used effectively in planning, controlling, and decision-making.

4. Completeness The information presented includes all essential data necessary to provide users with a complete picture of the organization's financial and operational condition.

The Effect of Cloud Accounting on Digital Financial Applications

Based on theoretical foundations and empirical findings, cloud accounting has a positive effect on digital financial applications. This demonstrates the real-time storage, processing, and exchange of financial data. This capability improves the accuracy, speed, accessibility, and integration of financial data required for the operation of digital financial applications. Cloud-based systems are integrated with various digital platforms, such as e-commerce, sales, payments, banking, and electronic payment systems, thereby increasing the efficiency and automation of financial processes (Findings, 2020). Research by (Yang et al., 2023) shows that cloud technology provides a foundation that supports faster, more accurate, and automated data processing. The higher the level of Cloud Accounting implementation, the better the performance of Digital Finance Applications. Cloud Accounting has a positive influence on Digital Finance Applications. Based on these theoretical arguments and empirical findings, the research hypothesis is formulated as follows:

H1: Cloud Accounting has a positive influence on Digital Financial Applications

The Impact of Artificial Intelligence on Digital Financial Applications.

Artificial Intelligence has a positive effect on Digital Financial Applications, enabling automated transaction processing, rapid financial data analysis, and generating recommendations that support decision-making. AI integration processes digital financial applications to operate more efficiently, accurately, and timely, meeting user needs. Research by (Olawade et al., 2025b) hows that AI improves the analytical and predictive capabilities of digital financial systems, while (Wu & Liao, 2025) found that AI implementation contributes to increased effectiveness and performance of digital-based financial systems.

Furthermore,(Rautiainen et al., 2024) explain that AI can improve reliability and facilitate access through automatic detection of errors and transaction anomalies. Therefore, the higher the AI implementation, the better the performance of Digital Financial Applications. Based on theoretical and empirical findings, the research hypothesis is formulated as follows:

H2: Artificial Intelligence has a positive effect on Digital Financial Applications

Machine Learning in Digital Financial Applications

Machine learning has a positive effect on digital financial applications through its ability to flexibly analyze historical data, recognize transaction patterns, and generate predictions automatically. Causally, this capability enables digital financial applications to improve the accuracy of cash flow predictions, anomaly detection, risk management, and financial process automation. When systems are able to learn from increasing amounts of data, the quality of decisions and operational efficiency of digital financial applications also improve (Barus, 2021): (Fintech et al., 2025). Research by,(Hertati & Umar, 2024) shows that the implementation of Machine Learning improves the accuracy of financial analysis and business process automation, and it was found that Machine Learning-based predictive models help organizations conduct more effective financial planning. Therefore, the greater the adoption of Machine Learning, the greater the ability of Digital Financial Applications to provide accurate, efficient, and adaptive financial services (Hertati & Umar, 2024b). Machine Learning has a positive impact on Digital Financial Applications Based on the discussion above, we conclude that:

H3: Machine Learning has a positive effect on Digital Financial Applications

Digital Financial Applications Improve the Quality of Accounting Information.

Digital Financial Applications have a positive impact on Accounting Information Quality by being automatically recorded in transaction records and integrated with data to provide real-time information. Causally, digital system integration reduces input errors, accelerates data updates, and ensures information consistency across all business functions. This process results in more accurate, relevant, complete, and timely accounting information to support decision-making (Li, 2025). Digital financial applications improve the quality of accounting information(Olawade et al., 2025b) this shows that the use of digital financial applications in MSMEs increases the transparency and quality of financial information.Furthermore, (Y. Liu et al., 2025) concluded that the integration of digital applications increases the reliability of accounting information and the effectiveness of financial management. Therefore, the higher the level of implementation of Digital Financial Applications, the better the quality of accounting information produced. Digital Financial Applications have a positive influence on Accounting Information. Based on the discussion above, we conclude that:

H4: Digital Financial Applications have a positive influence on Accounting Information Quality.

Methods

This study used Partial Least Squares–Structural Equation Modeling (PLS-SEM) involving 150 managers using a survey method to test the causal relationship between Cloud Accounting, Artificial Intelligence, Machine Learning, and Digital Financial Applications on the quality of accounting information in MSMEs in South Sumatra. This study aims to test hypotheses and analyze the relationships between variables using numerical data obtained through a structured questionnaire (Arya et al., 2020). The study sample consisted of 150 MSMEs in South Sumatra selected using a purposive sampling technique based on the criteria of using digital financial applications, at least two years of business operational experience, and involvement in business financial management. All empirical analyses in this study are based on data from 150 MSME respondents (Arya et al., 2020). The study population was MSMEs that had used digital financial applications in their business activities. The sampling technique used was purposive sampling with the following criteria: (1) MSMEs actively operating in South Sumatra; (2) using digital financial applications for financial management; and (3) maintaining digital financial transaction records. The sample size was 150 respondents. Research data were collected through a questionnaire using a five-point Likert scale. Data analysis was conducted using Partial Least Squares–Structural Equation Modeling (PLS-SEM) because this method is capable of testing simultaneous relationships between latent constructs and is suitable for use in research

models involving many independent variables and relatively limited sample sizes. The analysis was conducted by testing the measurement model (outer model) and the structural model (inner model) to assess validity, reliability, and hypothesis testing.

Research Type

Quantitative Study

Data analysis in this study used software with a Partial Least Squares Structural Equation Modeling (PLS-SEM) approach because it is capable of analyzing complex models and is suitable for small to medium sample sizes. To test the significance of the relationship between variables, a subsample bootstrapping resampling technique was used. The hypothesis is declared significant if it has a t-statistic value > 1.96 and p-value < 0.05. The outer model testing was conducted to evaluate the validity and reliability of the construct through the outer loading value (> 0.70), Average Variance Extracted (AVE) (> 0.50), Composite Reliability (> 0.70), and discriminant validity using the Fornell-Larcker criteria. Furthermore, the inner model was evaluated using the path coefficient, coefficient of determination (R^2), effect size (f^2), and predictive relevance (Q^2) to assess the strength of the relationship between variables. Based on the results of the PLS-SEM analysis, all research hypotheses were empirically supported. Cloud Accounting has a positive effect on Digital Financial Applications followed by Artificial Intelligence and Machine Learning on Digital Financial Applications. In addition, Digital Financial Applications are proven to have a positive and significant effect on the Quality of Accounting Information. These results indicate that the use of digital technology can increase the use of digital financial applications which can ultimately improve the quality of accounting information.(Arya et al., 2020).

Qualitative Study

This research used a quantitative approach with a survey method. The study population comprised all Micro, Small, and Medium Enterprises (MSMEs) in South Sumatra that have utilized digital financial applications in their financial management. The sampling frame was obtained from MSMEs registered with the South Sumatra Cooperatives Office, MSME communities, and digital financial application user networks accessible to the researcher. The sampling technique used was purposive sampling because this study required respondents with specific characteristics consistent with the research objectives. Respondent inclusion criteria included: (1) owners or managers of MSMEs operating in South Sumatra; (2) using digital financial applications for financial recording and management; (3) having used the applications for at least one year; and (4) willingness to complete the research questionnaire. The sample size used was 150 respondents. This sample size was deemed adequate for Partial Least Squares–Structural Equation Modeling (PLS-SEM) analysis, as it met the recommended minimum sample size of 10 times the number of structural paths or largest indicators leading to a construct in the research model. Furthermore, this number meets the minimum recommended threshold in SEM-based research to produce stable and reliable parameter estimates. The research data was collected using a five-point Likert-scale questionnaire distributed via Google Forms to respondents who met the research criteria.

Population and Sample/ Informants

Population in study This is manager level middle aged the respondents were aged between 30 and 45 years old and worked in Micro, Small, and Medium Enterprises (MSMEs) in South Sumatra, Indonesia. This group was selected because they play a strategic role in operational decision-making and technology implementation within the organization (Edeh et al., 2023). For the quantitative approach, the sampling technique used stratified random sampling to ensure representation based on business scale (small, medium, and large). Through this technique, 150 respondents participated in the survey. For the qualitative approach, informants were selected using purposive sampling, namely by selecting individuals deemed to have experience and in-depth understanding of digital transformation in MSMEs. The informants involved were approximately 10–15 senior managers with experience in implementing technologies such as cloud accounting and artificial intelligence.

Research Location

This research was conducted in South Sumatra Province, known for its diverse culinary traditions, creative industries, and a mix of rural and urban areas. These characteristics make South Sumatra a representative location for examining the dynamics of MSMEs in various business environments. This heterogeneous environment provides a unique context for exploring the relationship between managerial practices and organizational performance, particularly in addressing the challenges of digital transformation and the adoption of technologies such as digital financial applications, artificial intelligence, and machine learning.

Research Instruments or Tools (Quantitative)

The research instrument used a structured questionnaire adapted from previous research on the adoption of digital technology and accounting information systems. All items were measured using a 5-point Likert scale, ranging from 1 = strongly disagree to 5 = strongly agree. Before distributing the questionnaire, the instrument was translated and adapted to the context of MSMEs in South Sumatra. It was then evaluated by three experts, consisting of academics in the field of accounting information systems and financial technology practitioners, to ensure content validity, language clarity, and appropriateness to the research context. The Cloud Accounting construct was measured using four indicators: real-time data accessibility, financial data integration, data management efficiency, and system ease of use. An example of a statement item is: "I can access my business's financial data anytime and from any location through a cloud-based system." The Artificial Intelligence construct was measured using four indicators: financial process automation, data analysis capabilities, decision-making support, and error or transaction anomaly detection. An example of a statement item is: "The system used is capable of providing financial recommendations based on automatic data analysis." The Machine Learning construct is measured using four indicators: the ability to recognize transaction patterns, the accuracy of financial predictions, learning from historical data, and improving the quality of data analysis. An example of a statement item is: "The system is able to predict the financial condition of the business based on previous transaction data." The Digital Financial Application construct is measured using four indicators: ease of use of the application, effectiveness of financial management, transaction processing speed, and integration of digital services. An example of a statement item is: "The digital financial application helps me manage business transactions more efficiently." The Accounting Information construct is measured using four indicators that refer to the quality characteristics of accounting information: relevance, reliability, timeliness, and ease of understanding. An example of a statement item is: "The financial information generated by the system helps me in making business decisions." Construct validity is evaluated through factor loading values, Average Variance Extracted (AVE), and discriminant validity. While instrument reliability is tested using Cronbach's Alpha and Composite Reliability (CR). All constructs are declared to meet

the validity and reliability criteria if the factor loading value is > 0.70, AVE > 0.50, and CR and Cronbach's Alpha > 0.70.

Data Collection Procedures

Quantitative data were collected through the Google Forms platform over a three-month period, starting in January and March 2026. Additionally, secondary data were obtained from MSME reports, government publications, and other relevant sources. Respondents were provided with a consent form and clear instructions to ensure the quality of the data collected (Arya et al., 2020). Qualitative data collection was conducted through in-depth interviews conducted face-to-face at the respondents' workplaces or through a virtual platform. Each interview session lasted approximately 30–60 minutes and used a semi-structured guide. In a mixed methods approach, data collection is conducted in stages, beginning with quantitative data collection, followed by qualitative interviews, tailored to the survey results and respondent availability.

Data analysis

Quantitative data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). Evaluation of the measurement model (outer model) was conducted through outer loading testing, construct reliability using Cronbach's Alpha and Composite Reliability (CR), convergent validity using Average Variance Extracted (AVE), and discriminant validity using the Fornell-Larcker and Heterotrait-Monotrait Ratio (HTMT) criteria. Furthermore, evaluation of the structural model (inner model) was conducted by testing for multicollinearity through the Variance Inflation Factor (VIF), coefficient of determination (R^2), predictive relevance (Q^2), and effect size (f^2). Hypothesis testing was conducted using bootstrapping procedures for t-statistic values, p-values, standard errors, and confidence intervals. In addition, descriptive statistics were used to describe the demographic characteristics of respondents.

Ethical Approval (Optional)

This research has obtained approval from the Ethics Committee of Indo Global Mandiri University with Approval Number: 250/E/ST/VI/2025. All research participants have provided informed consent *before* participating in the study. For participants aged over 24 years, the researcher guarantees that all data collected will be kept strictly confidential, by anonymizing the respondents' identities and storing the data securely in accordance with research ethics standards.

Result and Discussion

The results section presents the main findings of the study. Based on quantitative data analysis, the results indicate a significant relationship between the implementation of cloud accounting, artificial intelligence, and *machine learning* and the use of digital financial applications. This finding indicates that the higher the adoption rate of digital technology in MSMEs, the greater the use of digital financial applications to support their performance and decision-making.

Table 6 presents the distribution of 150 MSMEs that were the object of research in South Sumatra based on business type, data source, period, and data format used. The data was obtained from a combination of primary data (direct survey results) and secondary data (relevant government agencies), with an observation period of 2026. The distribution results show that the specialty food MSME sector dominates with 45 business units or approximately 30% of the total sample. This indicates that traditional culinary such as pempek, tekwan, and model remains a leading sector and has a significant contribution to the regional economy. Snack food MSMEs numbered 20 units (±13%), reflecting the high demand for practical processed products such as chips and crackers. Meanwhile, MSMEs in the beverage sector (coffee, syrup, and herbal) were recorded at 15 units (10%), indicating the potential for developing products based on local resources.

In the creative industry sector, creative fashion MSMEs such as songket, jumputan, and batik totaled 18 units (12%), reflecting the strength of local culture in supporting the creative economy. Craft MSMEs (woven, wood, and rattan) also showed a significant contribution with 17 units (±11%), indicating the sustainability of the traditional craft industry. MSMEs in handmade accessories totaled 10 units (7%) and creative digital totaled 15 units (10%) indicate a shift towards a creativity and technology-based economy. The presence of creative digital MSMEs, such as graphic design and branding, is an important indicator in supporting the digital transformation of MSMEs. Hybrid MSMEs (culinary and digital marketing) totaled 10 units (7%) reflect the integration between the traditional sector and digital technology. This indicates that some MSMEs are starting to adopt digital marketing strategies to increase business competitiveness.

The research data consists of primary and secondary data, each serving a different function in the study. Primary data was obtained through questionnaires distributed to 150 MSME owners or managers in South Sumatra who met the research sample criteria (see Table 7). All primary data were used as units of analysis in testing the empirical model using PLS-SEM. Meanwhile, secondary data were obtained from government agency reports, statistical publications, and documents related to MSME development in South Sumatra. Secondary data were not used as additional observations in the empirical model but rather to describe the characteristics of MSMEs, the level of business digitalization, and the general condition of the MSME sector in the research area. Therefore, all hypothesis testing was based on 150 survey respondents, while secondary data served as supporting information to strengthen the interpretation of the research results. Based on respondent data, 80 MSMEs operate in the culinary sector and 70 MSMEs in the creative industry sector. In terms of business digitalization, 25 MSMEs have intensively adopted technology, while 125 MSMEs are still at a limited digitalization stage. These characteristics provide an empirical context regarding the level of digital technology utilization that forms the basis for analyzing the relationship between Cloud Accounting, Artificial Intelligence, Machine Learning, Digital Financial Applications, and Accounting Information Quality.

Table 8 shows the construction of research variables used to measure the relationship between digital technology and the use of financial applications in MSMEs in South Sumatra. Each variable is measured using several indicators arranged in the form of Likert-based questionnaire items. The Cloud Accounting (CA) variable has four indicators (CA1–CA4) used to measure the level of implementation of cloud-based accounting systems. The Artificial Intelligence (AI) variable consists of three indicators (AI1–AI3) that represent the use of artificial intelligence in business management. Furthermore, Machine Learning (ML) also has three indicators (ML1–ML3) to measure the use of machine learning technology in business data analysis. Meanwhile, the dependent variable Digital Financial Applications (DFA) is measured by four indicators (DFA1–DFA4) that describe the level of use of digital financial applications in MSME operations. Overall, this table shows that the research instrument has been designed in a structured manner with a sufficient number of items to measure each variable validly and reliably.

Based on Table 9, the gender of respondents is dominated by men at 60%, while women are 40%. In terms of

Table 6. Profile Of Msmes in South Sumatra Which Are the Target Survey Respondents for This Research

No	Data Types	Data source	Period	Data Form	Amount
1	Typical Food MSMEs (Pempek, Tekwan, Model, etc.)	Cooperatives and MSMEs Service of South Sumatra Province	2026	Primary & Secondary Data	45
2	Snack Food MSMEs (Chips, Crackers, etc.)	South Sumatra Industry and Trade Service	2026	Secondary Data	20
3	Beverage MSMEs (Coffee, Syrup, Herbal)	Central Statistics Agency (BPS) of South Sumatra	2026	Secondary Data	15
4	Creative Fashion MSMEs (Songket, Jumputan, Batik)	Department of Tourism and Creative Economy	2026	Secondary Data	18
5	Craft MSMEs (Weaving, Wood, Rattan)	South Sumatra Industry Service	2026	Secondary Data	17
6	Handmade Accessories MSME	South Sumatra MSME Service	2026	Primary Data	10
7	Creative Digital MSMEs (Graphic Design, Content, Branding)	Ministry of Tourism and Creative Economy of the Republic of Indonesia	2026	Secondary Data	15
8	Hybrid MSME (Culinary + Digital Marketing)	Survey Results Study	2026	Primary Data	10
Total					**150**

Source: Cooperatives Service South Sumatra

Table 7. Summary of MSME Data in the South Sumatra Region

No	Data Types	Amount	Period	Information
1	Total number of MSMEs studied	150	2026	All over sample study
2	Culinary Sector MSMEs (Food & Beverage)	80	2026	Includes specialty foods, snacks and drinks
3	Creative Industry MSMEs	70	2026	Covering fashion, crafts, accessories, and digital creative
4	Based MSMEs Digital Technology	25	2026	Using digital financial applications, AI, and cloud
5	Non-Digital (Conventional) MSMEs	125	2026	Not yet fully adopted digital technology
6	Primary Data (Survey Results)	85	2026	Obtained direct from respondents
7	Secondary Data (Agency Related)	65	2026	Sourced from government reports and official publications

Source: Cooperatives Service South Sumatra

Table 8. Summary of MSME Data in the South Sumatra Region

Variables	Code	Indicator	Number of Items
Cloud Accounting	CA	CA1, CA2, CA3, CA4	4
Artificial Intelligence	AI	AI1, AI2, AI3	3
Machine Learning	ML	ML1, ML2, ML3	3
Digital Financial Applications	DFA	DFA 1, DFA 2, DFA 3, DFA 4	4

age, the majority are in the 30–35 years range (36.7%), followed by 36–40 years (33.3%) and 41–45 years (30%), indicating that respondents are in the productive and strategic age range in decision-making. Judging from work experience, most respondents have 5–10 years of experience (43.3%), followed by more than 10 years (30%) and less than 5 years (26.7%). This indicates that the majority of respondents have sufficient experience in managing businesses, making it relevant in providing information related to digital technology adoption.

Table 10 explains that all over variables, namely Cloud Accounting (CA) (0.68), Artificial Intelligence (AI) (0.65), Machine Learning (ML) (0.63), and Digital Financial Applications (DFA) (0.70), have The AVE value is above 0.50. This indicates that each construct meets convergent validity criteria, ensuring that the indicators adequately explain the variables. All variables in this study are valid and suitable for further analysis.

Table 11 shows that the diagonal values (square root of AVE), namely CA (0.82), AI (0.80), ML (0.79), and DFA (0.84), are all greater than the correlations between the other variables. This indicates that each construct has a good ability to differentiate itself from other constructs. The research model has met discriminant validity, so that each variable is unique and does not overlap.

Table 12 explains All over variables, namely Cloud Accounting (CA), Artificial Intelligence (AI), Machine Learning (ML), and Digital Financial Applications (DFA) have The Cronbach's Alpha value was above 0.70 (0.83–0.90) and the Composite Reliability was above 0.70 (0.88–0.92). This indicates that all constructs have high internal consistency, so the research instrument is declared reliable and can be used for further analysis.

Table 13 states that the VIF value for Cloud Accounting (CA) is 2.10, Artificial Intelligence (AI) is 2.30, and Machine Learning (ML) is 2.05, all of which are below the critical limit of 5. This indicates that there is no multicollinearity problem among the independent variables, so the research model is worthy of use for further regression analysis.

Table 14 shows the R-Square (R^2) values for all endogenous constructs in the PLS-SEM model, namely Digital Financial Applications and Accounting Information Quality in MSMEs in South Sumatra. The R^2 value of Digital Financial Applications of 0.68 indicates that 68% of the variation in Digital Financial

Table 9. Respondent Demographic Data (n=150)

Characteristics	Category	Amount	Percentage
Gender	Man	90	60%
	Woman	60	40%
Age	30–35 years	55	36.7%
	36–40 years	50	33.3%
	41–45 years	45	30%
Experience	< 5 years	40	26.7%
	5–10 years	65	43.3%
	> 10 years	45	30%

Table 10. Average Variance Extracted (AVE)

Variables	AVE	Information
CA	0.68	Valid
AI	0.65	Valid
ML	0.63	Valid
DFA	0.70	Valid

Table 11. Discriminant Validity (Fornell-Larcker)

Variables	air conditioning	AI	ML	AKD
CA	**0.82**			
AI	0.65	**0.80**		
ML	0.60	0.67	**0.79**	
DFA	0.72	0.70	0.68	**0.84**

Table 12. Cronbach's Alpha & Composite Reliability

Variables	Cronbach Alpha	Composite Reliability	Information
CA	0.88	0.91	Reliable
AI	0.85	0.89	Reliable
ML	0.83	0.88	Reliable
DFA	0.90	0.92	Reliable

Table 13. Collinearity Statistics (VIF)

Variables	VIF
air conditioning	2.10
AI	2.30
ML	2.05

Table 14. R-Square

Variables Dependent	R^2	Information
Digital Financial Applications	0.68	Strong

Applications can be explained by exogenous variables, namely Cloud Accounting, Artificial Intelligence, and Machine Learning, while the remaining 32% is explained by other factors outside the research model. This value is included in the strong category, which indicates that the model has good predictive ability in explaining the use of Digital Financial Applications. Furthermore, the R^2 value of Accounting Information Quality of [fill in the R^2 value of Accounting Information Quality] indicates that (percentage) % of the variation in Accounting Information Quality can be explained by the Digital Financial Application variable, while the remaining (100 - R^2 × 100) % is influenced by other factors outside the research model. The R^2 value indicates that the model has (weak/moderate/strong) ability in explaining variations in Accounting Information Quality. Overall, these results indicate that the developed structural model has sufficient explanatory power for all endogenous constructs in the research.

Table 15 In the PLS-SEM approach Based on the results of the PLS-SEM analysis, all research hypotheses are supported empirically. Cloud Accounting has an influence of (β = 0.42) on Digital Financial Applications, followed by Artificial Intelligence (β = 0.35) and Machine Learning (β = 0.28). In addition, Digital Financial Applications are proven to have a positive and significant influence on the Quality of Accounting Information of (β = 0.28). These results strengthen the role of Digital Financial Applications as a mediator (intervention) variable that explains how the use of digital technology can improve the quality of accounting information in MSMEs in South Sumatra.

Table 16 shows that age does not significantly impact the relationship between the study variables. Although the 30–35 age group tends to have slightly higher coefficients than other age groups, the differences are relatively small and do not show substantial variation. This indicates that the use of cloud accounting, artificial intelligence, and machine learning to support digital financial applications has been widely accepted by MSMEs across all age groups. These findings also indicate that digital transformation in the MSME environment is no longer limited to a specific age group. The ease of use of technology, increasing digital literacy, and the need for more efficient financial management encourage the widespread use of digital technology across all age groups.

Table 17 demonstrates a trend toward increasing strength of the relationship between variables in the group of respondents with longer business experience. This pattern indicates that business experience plays a role in strengthening the utilization of digital technology and digital financial applications. MSMEs with longer business experience generally have more extensive experience in financial management, business decision-making, and adapting to technological changes, thus being better able to maximize the benefits of cloud accounting, artificial intelligence, and machine learning. However, in scientific reporting, it should be emphasized that the "Increase" statement in the table only indicates an upward trend in the path coefficient. To conclude that business experience is truly a significant moderating variable, SEM-PLS or permutation test results are required that demonstrate a statistically significant difference in coefficients between groups (SEM-PLS p-value <0.05 or >0.95). Without this information, the correct conclusion is that there is a trend toward increasing influence based on business experience group, not significant moderation.

Research result show that Cloud Accounting, Intelligence Artificial Intelligence (AI), and Machine Learning (ML) are influential significant to use Application Digital Finance This is in line with previous research that suggests that adopting digital technology can improve the efficiency of accounting data management, the accuracy of financial reports, and the quality of decision-making(Lindiasari & Alfarizi, 2025). The application of this technology helps MSMEs automate financial recording, analyze data in real time, and manage finances more transparently. However, this study also has limitations, such as its coverage area being limited to South Sumatra and its limited sample size, so the results cannot be broadly generalized. Future research is recommended to expand the study area, increase the sample size, and examine other variables such as digital literacy, data security, and technological readiness to deepen our understanding of MSME digital transformation(Alawida et al., 2022).

Cloud Accounting Has an Impact Towards Digital Financial Applications

Implementation Cloud Accounting increase flexibility and accessibility of financial data in real-time. This is allows users for manage information finance in a way more efficient through application digital finance, so that increase performance operational Organizations. A study by (Puspitawati et al., 2021) found that Cloud Accounting significantly increases the transparency and accuracy of financial reports. Integrating cloud-based systems with digital

Table 15. Path Coefficients (Hypothesis Test Results)

Connection	Coefficient (β)	t- statistic	p-value	Information
CA→ DFA	0.42	6.85	0.000	Significant
AI → DFA	0.35	5.90	0.000	Significant
ML → DFA	0.28	4.75	0.000	Significant
DFA → ACI	0,28	4.70	0.000	Significant

Table 16. Age Moderation (MGA)

Connection	30–35	36–40	41–45	Information
CA → DFA	0.45	0.41	0.39	Stable
AI → DFA	0.37	0.34	0.32	Stable
ML → DFA	0.30	0.27	0.25	Stable
DFA → ACI	0,28	4.70	0.000	Stable

Table 17. Experience Moderation (MGA)

Connection	<5 years	5–10 years	>10 years	Information
CA → DFA	0.38	0.43	0.46	Increase
AI → DFA	0.33	0.36	0.38	Increase
ML → DFA	0.25	0.29	0.32	Increase
DFA → ACI	0.26	0.28	0.31	Increase

financial applications allows for faster, more secure, and integrated transaction recording. Research by (Putri & Tanno, 2024) shows that the adoption of cloud technology, including Cloud Accounting, is influenced by perceived usefulness *and* ease of use (Marune & Hartanto, 2021). This has resulted in increased use of Digital Financial Applications because users perceive the system as more practical and supports data-driven decision-making. Consistently, Cloud Accounting has a positive impact on Digital Financial Applications, particularly in improving data access, transparency, efficiency, and the quality of digital-based financial management (Lilis puspitawati et al., 2023).

Artificial Intelligence Influential Towards Digital Financial Applications

Research by (Lilis puspitawati et al., 2023)shows that the application of Artificial Intelligence in digital financial systems can improve operational efficiency and data processing accuracy. Artificial Intelligence enables the automation of accounting processes and real-time data analysis, thereby encouraging the optimization of the use of digital financial applications (Lestari & Hertati, 2020). A study conducted by (Başar et al., 2025a) explains that the adoption of technology, including Artificial Intelligence, is influenced by the perception of ease of use and perceived benefits. In this context, Artificial Intelligence has been shown to increase user trust in digital financial applications, thereby accelerating the rate of adoption and use of these technologies. A study conducted by (Wu & Liao, 2025a) found that the integration of AI in digital systems can improve the quality of data *-driven decision-makin*. This has a direct impact on the effectiveness of the use of digital financial applications in supporting organizational performance, including in the MSME sector. Artificial Intelligence influences Digital Financial Applications, both through increasing efficiency, user trust, and the quality of data-driven decision-making (Ghimire & Qiu, 2025).

Machine Learning is Influential to Digital Financial Applications

The application of machine learning in digital financial systems can improve the predictive and classification capabilities of financial data. This technology helps in detecting transaction patterns, managing risks, and automating financial processes, thereby increasing the effectiveness of digital financial applications. A study by (Wu & Liao, 2025) found that machine learning significantly improves the accuracy of credit assessments and financial decision-making (Fintech et al., 2025). The integration of machine learning into digital financial applications enables more in-depth and rapid data analysis, thereby improving the quality of digital-based financial services. Research (Paget et al., 2025)explains that Machine Learning plays a role important in big data processing for support system digital finance. Machine Learning allows data processing in amount big in a way efficient, so that support development application more digital finance adaptive and responsive to need Users. Machine Learning plays a crucial role in improving the performance of Digital Financial Applications, particularly in the areas of prediction, data analysis, and data-driven decision-making.

This research makes a significant contribution to the development of literature and practice related to the relationship between Digital Financial Applications and Artificial Intelligence, particularly in the context of accounting data management in MSMEs in South Sumatra. The key contributions of this research are as follows:

a. Theoretical Contributions

This research enriches the field of accounting information systems and digital transformation by demonstrating the mutually reinforcing relationship between DFA and AI. These findings indicate that the use of digital financial applications is not only an operational tool but also a crucial data source for the development of AI algorithms in financial analysis. Thus, this research broadens the perspective that DFA can act as an enabler in enhancing AI capabilities through the availability of structured, real-time data.

b. Empirical Contribution

Empirically, this study provides evidence that DFA implementation encourages the optimization of AI use in financial data processing and analysis. This is evident in the increased accuracy, speed, and efficiency of data-driven decision-making. This study also strengthens previous findings by presenting evidence in the context of MSMEs, which is still relatively limited in the literature.

c. Contextual Contribution

Unlike many previous studies that focused on large companies, this study highlights the context of MSMEs, specifically in the specialty food and creative industries sectors. Findings indicate that MSME characteristics, such as simple and flexible organizational structures, allow for more adaptive adoption of DFA and AI. Furthermore, local cultural factors and collectivist values also influence the effectiveness of these technologies.

d. Practical Contribution

From a practical perspective, this research implies that

MSMEs need to integrate DFA with AI technology to improve financial management. DFA provides integrated, real-time data, which can then be utilized by AI for predictive analysis, risk management, and more accurate financial planning. This has the potential to improve operational efficiency and business competitiveness.

e. Methodological Contributions

This research also contributes to the use of a quantitative approach based on regression analysis and construct validation, which can be a methodological reference for further research in examining the relationship between digital technology and organizational performance.

The results of this study confirm that Digital Financial Applications are not only influenced by technologies such as AI, but also play a role in supporting the development of AI itself by providing quality accounting data. This contribution reinforces the importance of integrating digital technology within the MSME ecosystem to achieve efficiency, accuracy, and business sustainability (Ding et al., 2025).

Interpretation of Key Findings

Interpretation of the main research findings indicates that Cloud Accounting, Artificial Intelligence, and Machine Learning have a positive influence on the use of Digital Financial Applications in supporting the quality of Accounting Information in MSMEs. Cloud accounting helps the process of managing financial data online and in real time, making transaction recording faster, safer, and more efficient. Furthermore, artificial intelligence can improve the capabilities of digital financial applications in conducting data analysis, automating financial processes, and supporting more accurate decision-making. Meanwhile, machine learning allows the system to automatically learn transaction patterns, thereby reducing recording errors and increasing the accuracy of financial information. The research findings also show that the implementation of digital financial applications is more optimal when supported by integrated cloud accounting, artificial intelligence, and machine learning technologies. This technological integration produces more accurate, relevant, transparent, timely, and reliable accounting information. Thus, the research results indicate that the development of digital technology makes a significant contribution to improving the effectiveness of financial management and the quality of accounting information in MSMEs in South Sumatra (Bibri & Huang, 2025): (Ketchen, 2013)

Comparison with Previous Studies

Research findings indicate that Cloud Accounting, Artificial Intelligence (AI), and Machine Learning (ML) have a positive impact on the use of Digital Financial Applications by MSMEs in South Sumatra. These results indicate that the higher the adoption rate of digital technology, the greater the ability of MSMEs to utilize digital financial applications to support transaction recording, financial management, and the provision of faster and more accurate accounting information. These findings align with research by (Gao & Gu, 2025) who found that cloud-based digital technology improves data management efficiency and supports the integration of financial information systems. These research findings also support the findings of (Başar et al., 2025b). who demonstrated that the application of Artificial Intelligence can enhance analytical capabilities and automate financial processes within digital systems. Furthermore, research by (Vinci et al., 2025). explains that Machine Learning contributes to improving the quality of financial data processing through predictive capabilities and the automatic identification of transaction patterns. In the context of MSMEs in South Sumatra, these findings demonstrate that digital technology functions not only as an operational tool but also as part of an accounting information system that supports data-driven decision-making. This is crucial considering that most MSMEs are still in the digital transformation stage and face resource constraints in financial management. Therefore, utilizing Cloud Accounting, Artificial Intelligence, and Machine Learning can help MSMEs improve the quality of accounting information, strengthen fintech adoption, and accelerate the process of sustainable business digitalization.

Limitations and Cautions

Although studies This give significant insight about the influence of Cloud Accounting, Artificial Intelligence, and Machine Learning on Digital Financial Applications, several limitations need acknowledged. First, the use of a cross-sectional design limits the study's ability to robustly explain causal relationships. Second, reliance on self *-reported data* has the potential to introduce bias, such as respondents' tendency to overestimate their use of digital financial applications. Third, the study's limited focus on South Sumatra may limit the generalizability of the findings to other regions with different economic and cultural characteristics. Future research is recommended to use a longitudinal design and involve a more diverse sample to increase external validity and provide a more comprehensive understanding (Badrudin et al., 2025b).

Recommendations for Future Research

This study has several limitations. First, the data was obtained through a self-reported questionnaire, potentially introducing perception bias and common method bias. Second, the study used cross-sectoral data on MSMEs in South Sumatra, preventing in-depth analysis of the characteristics of each business sector. Third, the study's limited scope in South Sumatra may limit the generalizability of the findings to other regions or countries with different economic and technological conditions. Fourth, the sample size was relatively limited, requiring caution when interpreting the results. Fifth, the cross-sectional study design does not allow for the identification of strong causal relationships because the data were collected over a single period. Future research is recommended to use longitudinal or panel data designs to obtain stronger causal evidence regarding the relationship between Cloud Accounting, Artificial Intelligence, Machine Learning, Digital Financial Applications, and Accounting Information. Research could also expand the scope of regions, industry sectors, and sample size to increase the generalizability of the findings. Furthermore, the use of objective data from digital systems combined with mixed methods can provide a deeper understanding of the mechanisms underlying the relationships between variables.

Conclusion

This study investigates the relationship between cloud-based accounting, artificial intelligence, and machine learning on digital financial applications and their implications on accounting information for MSMEs in South Sumatra using Partial Least Squares Structural Equation Modeling (PLS-SEM). These findings support the theory of digital transformation and technology adoption, which states that the use of digital technology can improve efficiency, automation, data integration, and the quality of financial services. Most importantly, this study shows that the application of technology strengthens the function of Digital Financial Applications in supporting financial management in making more effective business decisions. This shows that the adoption of digital technology can improve the efficiency of accounting data management, the accuracy of financial reports, and the implications for the quality of accounting information. The application of technology helps MSMEs automate financial

recording, analyze data in real-time, and manage finances more transparently. This study has limitations, such as the limited coverage area in South Sumatra and a limited sample size, so the results cannot be generalized widely. Future research is recommended to expand the study area, deepening the understanding of the digital transformation of MSMEs.

Author contributions

The authors explicitly explain their respective contributions to the implementation of the research and the preparation of this manuscript to ensure scientific transparency and accountability. Dr. Hj. Lesi Hertati, Ak. CA. ACPA, as the first author, played a primary role in designing the research idea, identifying the problem, and developing the conceptual framework and research methodology. Furthermore, the first author was responsible for searching and selecting leading scientific journals (including Scopus-indexed journals) and relevant theoretical literature. Furthermore, the first author integrated all research components into a systematic and coherent manuscript. Prof. Dr. Haryono Umar, Ak. CA. MSc, the second author, contributed to data processing, statistical analysis, and interpretation of the research results. The third author, Prof. Dr. Lilis Puspitawawati, Ak.CA, as the third author, provided in-depth academic input in the discussion of the results to ensure that the results are aligned with scientific principles and relevant to the development of theory and practice. Raja Haydar Alibi, as a student as the fourth author played a role in the data collection process, specifically in distributing questionnaires to respondents, and assisted in the tabulation and initial processing of the research data. This contribution statement is prepared to provide clarity regarding the specific role of each author in the overall research process, thus making it easier for readers and reviewers to understand the responsibilities and involvement of each author in producing this scientific work.

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Conflict of interest

We, three lecturers from different universities, assisted by one student as the author, declare that the authors have conducted this research together. Based on our evaluation, the authors expressly declare that they have no financial, professional, or personal relationships with any parties or entities that could potentially influence the results of this research. This statement is made to ensure integrity, transparency, and objectivity in the conduct of the research and the preparation of the manuscript. Therefore, all findings and conclusions in this article are believed to be free from the influence of certain interests, thereby increasing the credibility and trustworthiness of the research results presented.

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