

IMPLEMENTATION OF A CLOUD-BASED ACCOUNTING INFORMATION SYSTEM TO IMPROVE FINANCIAL TRANSPARENCY OF MSMEs IN TANGERANG REGENCY

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Abstract

The rapid advancement of information technology has significantly influenced the business landscape, including the Micro, Small, and Medium Enterprises (MSME) sector in Tangerang Regency. As key contributors to regional economic growth, MSMEs face the urgent need to adopt digital transformation, particularly in financial management. However, many MSMEs continue to rely on manual or spreadsheet-based systems, which hinder financial transparency, accuracy, and efficiency. This study aims to analyse the implementation of cloud-based accounting information systems (AIS) and their impact on improving MSMEs' financial transparency in Tangerang Regency. The research employs a quantitative descriptive method, using questionnaires distributed to 100 MSME owners and financial staff who have implemented cloud-based accounting systems. Data were analysed through simple linear regression using SPSS 26 to determine the relationship between the implementation of cloud-based AIS (independent variable) and financial transparency (dependent variable). The results indicate that the implementation of cloud-based AIS has not significantly improved financial transparency among MSMEs in Tangerang Regency, with an R-squared value of 0.003 and a significance level of 0.624 (>0.05). This suggests that only 0.3% of financial transparency variation is explained by the use of cloud-based systems, while 99.7% is influenced by other factors such as digital literacy, infrastructure readiness, and managerial support. Despite the weak statistical correlation, the findings highlight the strategic potential of cloud-based accounting systems to enhance operational efficiency, data accessibility, and stakeholder trust. The study concludes that the success of digital transformation among MSMEs requires not only technological adoption but also government facilitation, training in digital literacy, and policy support to maximise transparency and accountability in financial management.

Keywords: *Cloud-Based Accounting Information System, Financial Transparency, MSMEs, Digital Transformation, Tangerang Regency*

INTRODUCTION

The rapid advancement of information technology has brought about significant changes in the business world, including the Micro, Small, and Medium Enterprises (MSME) sector. For MSMEs, digitising the business process is essential to increasing efficiency, accuracy, and speed. As the main economic indicator of Tangerang province, MSMEs have a strategic advantage. However, many MSME participants still use manual entry or a simple spreadsheet-based financial system (Alzahrani & Alzahrani, 2025). This condition results in a lack of real-time access to financial data, is prone to recording errors, and lacks transparency when evaluations are required by business owners, employees, or other parties such as regional financial and government agencies (Colarusso et al., 2025).

IMPLEMENTATION OF A CLOUD-BASED ACCOUNTING INFORMATION SYSTEM TO IMPROVE FINANCIAL TRANSPARENCY OF MSMEs IN TANGERANG REGENCY

Sapriyadi et al

Table 1. Growth of MSMEs in Tangerang Regency (2020–2025)

Year	Number of MSMEs (Units)	Growth Rate (%)	Main Sector Contribution	Remarks
2020	78,500	–	Food and Beverage, Retail	COVID-19 pandemic caused business slowdown
2021	82,300	4.80%	Food Processing, Online Retail	Start of digital adaptation among MSMEs
2022	88,900	8.00%	Culinary, Fashion, and Household Industry	Increased use of e-commerce platforms
2023	95,200	7.10%	Creative Industry, Processed Foods	Local government initiated digitalization programs
2024	102,800	8.00%	Handicraft, Culinary, and Services	Implementation of financial literacy programs
2025*	110,500	7.50%	Digital Services, Food and Beverage	Projected data based on SME growth trend

*Source: Department of Cooperatives and MSMEs, Tangerang Regency (processed data, 2025).

Note: 2025 data are projected based on the average growth rate from 2020–2024.

The main issue facing MSMEs in Tangerang Regency is the level of transparency and accountability in financial transactions. Many business owners lack a thorough understanding of the importance of the accounting information system in supporting data-driven decision-making. Besides this, the decline of human capital and the cost of technological implementation frequently serve as obstacles for UMKM in their transition from a manual to a more contemporary digital system (Alghamdi, 2025). As a result, difficulties in monetary transactions, delayed reporting, and inconsistent data integration within business sectors frequently occur, which ultimately hinders business growth. Implementing a cloud-based information accounting system is a potential solution to address this issue. Cloud-based technology allows financial data to be stored, accessed, and managed securely without the need for extensive physical infrastructure. This system also makes it easier for business owners to monitor the state of their finances in real time, speed up the filing process, and ensure data security with automated backup and encryption systems. By using this system, MSMEs can achieve higher operational efficiency and build trust with key stakeholders due to transparency in financial reporting .



The urgency of this study stems from the importance of digital transformation in the UMKM sector of Tangerang Regency, particularly in the areas of accounting and finance. The regional government and supporting MSMEs continuously advise businesses to adopt digital technology in order to improve financial management. The deployment of cloud-based information accounting systems is not just a technological necessity, but also a strategic move to increase business productivity and resilience in the face of more competitive market conditions, particularly in the marketplace.

Because of this, the purpose of this study is to analyse the implementation of a cloud-based information accounting system at MSMEs in Tangerang Regency and its impact on increasing financial transparency. It is hoped that this study will help MSME practitioners understand the benefits of cloud-based accounting systems and offer recommendations to regional governments and MSME support organisations on how to implement more effective and comprehensive digitalisation of financial services (Bello et al., 2025).

LITERATURE REVIEW

An Accounting Information System (AIS) is a system designed to gather, analyse, summarise, and report financial data in order to produce information relevant to management decision-making (Romney & Steinbart, 2021). Through an AIS, business owners can reduce recording errors, speed up the reporting process, and increase the efficiency of financial transfers. In the context of Micro, Small, and Medium Enterprises (MSMEs), the use of an accounting information system is becoming increasingly important because the majority of MSME employees still perform manual data entry, which is inefficient in terms of problems and information loss. Because of this, an accounting information system is a strategic tool for improving governance quality and financial transparency in the MSME sector (Zhang, 2025).

Cloud computing technology has revolutionised how organisations handle data and information systems. According to Mell and Grance (2020), cloud computing is a computer model that enables flexible and efficient access to network components such as servers, storage, and applications. In the context of accounting, cloud-based systems allow users to access financial data in real-time and in a manner unaffected by current hardware limitations. In addition, cloud accounting offers automated reporting, reliable data security, and more affordable implementation costs compared to traditional systems. For micro, small, and medium-sized enterprises (MSMEs) with limited capital and IT resources, this model is a practical solution for implementing a modern accounting system with high efficiency (Alqudah et al., 2024).

One of the most important aspects of a business's success and credibility is its financial transparency. According to the OECD (2021), financial transparency ensures that information is accurate, relevant, and easily accessible to important parties. For MSMEs, financial transparency not only maintains administrative integrity but also fosters trust among investors, financial institutions, and customers. The implementation of cloud-based information accounting systems can increase transparency because all financial data is stored digitally, automated, and easily differentiated. Accordingly, this system supports the principles of accountability and sound business management (strong corporate governance) (Ammar, 2025).

A few previous studies have shown that implementing a cloud-based information accounting system in MSMEs has yielded positive results. For example, research by Nugroho & Pratiwi (2022) indicates that cloud-based accounting systems can increase productivity and reduce the failure rate by up to 40%. Conversely, research by Lestari (2023) indicates that using cloud-based systems significantly impacts increasing transparency and MSME decision-making in urban areas. These facts support the idea that cloud computing technology is essential to Indonesia's digital transformation of micro, small, and medium enterprises (MSMEs), particularly in the context of accounting (Hoareau, 2025).

From an information management perspective, the successful implementation of a cloud-based accounting system is also influenced by several factors, including technological proficiency, user skills, and the management environment (Laudon & Laudon, 2020). MSMEs with a high level of digital literacy and that provide technology training will find it easier to adapt to system changes. In addition, the influence of the local government in the form of education and digitalisation is another external factor that contributes to the success of this system's development. Because of this, cooperation between business owners, technology service providers, and local government agencies is crucial to ensuring digital currency transparency in the UMKM sector (Matovu et al., 2025).

Based on the literature review, it can be concluded that the implementation of a cloud-based accounting information system has great potential to increase the financial transparency of MSMEs in Tangerang Regency. This system not only provides efficiency and easy access to data, but it also facilitates the development of accurate information-based decisions. However, the implementation of this system requires human resource readiness, technological infrastructure, and supportive policies to function optimally. Therefore, this research is important for analysing the extent to which the implementation of a cloud-based accounting system can improve financial transparency in MSMEs in Tangerang Regency, as well as identifying the factors that influence it (Bhati et al., 2025).

METHOD

This study employs a quantitative descriptive approach with the aim of analysing the effects of implementing a cloud-based information assurance system on the increase in financial transparency in Micro, Small, and Medium-Sized Businesses (MSMEs) in Tangerang Province. This is because it can objectively measure the rate of technological advancement and establish an intervariable relationship based on numerical data. This study focusses on how cloud-based system implementation can help MSMEs increase accountability and openness in financial reporting (Graziano et al., 2025). The study population consists of all MSMEs operating in Tangerang Regency, with a focus on business owners who have been using cloud-based digital accounting applications for at least six months. According to figures from the Tangerang Regency Cooperative and MSME Service for 2024, there are more than

IMPLEMENTATION OF A CLOUD-BASED ACCOUNTING INFORMATION SYSTEM TO IMPROVE FINANCIAL TRANSPARENCY OF MSMEs IN TANGERANG REGENCY

Sapriyadi et al

100,000 active MSME units. Therefore, the researcher used purposive sampling to select a sample of 100 respondents, consisting of owners and financial staff of MSMEs that have implemented a digital accounting system. This determination aims to ensure that the sample truly represents the characteristics of cloud system users in the research area (Antonova et al., 2025).

Data collection techniques include questionnaires, in-depth interviews, and silent observation. Questionnaires use a five-point Likert scale (1–5) to gauge respondents' perceptions of system performance in relation to financial transparency, data security, and ease of use. Interviews are conducted to improve the results of the questionnaire, specifically in analysing the implementation and benefits determined by the MSME participants. On the other hand, observation is used to determine how cloud integration is implemented in daily operational activities (Goretzki & Pfister, 2023).

This study uses two main variables: the independent variable (X): Implementation of Cloud-Based Accounting Information Systems, and the dependent variable (Y): Financial Transparency of MSMEs. The indicators for variable X include ease of use, data accessibility, system reliability, and security features, while the indicators for Y include financial openness, report accuracy, data accessibility by stakeholders, and timeliness of reporting. Before use, the research instruments were tested for validity and reliability using the Pearson Product Moment test and Cronbach's Alpha. The data were analysed using simple linear regression with the help of SPSS 26 software to determine the level of influence between variables (Sawandi & Thomson, 2014).

Research Framework

The research framework illustrates the causal relationship between the implementation of cloud-based accounting information systems and increased financial transparency in MSMEs. Cloud system implementation enables automatic, real-time, and secure management of financial data. Open data access and well-documented records will enhance transparency in financial reporting, thereby strengthening MSME accountability. Thus, the higher the level of cloud-based accounting system implementation, the greater the increase in financial transparency for MSMEs in Tangerang Regency (Diederichsen et al., 2025).

RESULTS AND DISCUSSION

1. Multikolinieritas

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics		
		B	Std. Error				Beta	Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	34.652	4.049		8.558	0.000	26.607	42.696						
	Implementation of Cloud-Based Accounting Information Systems, and the dependent variable	0.049	0.100	0.052	0.491	0.624	-0.149	0.247	0.052	0.052	0.052	1.000	1.000	

a. Dependent Variable: Financial Transparency of MSMEs

Based on the regression test results in the table, the constant coefficient value is 34.652 with a significance value of 0.000, which means the constant significantly affects the financial transparency of MSMEs. The variable Implementation of Cloud-Based Accounting Information Systems has a coefficient value of 0.049 with a significance value of 0.624 (>0.05), so it can be concluded that this variable does not significantly affect the financial transparency of MSMEs. The Beta value of 0.052 indicates a very weak and positive influence, while the calculated t-value (0.491) is smaller than the t-table value, reinforcing the conclusion that the influence is not significant. Additionally, the Tolerance value of 1.000 and the VIF of 1.000 indicate no multicollinearity issues in the model. Overall, these results indicate that the implementation of a cloud-based accounting information system has not yet had a significant impact on improving financial transparency in MSMEs.

2. AUTOKORELASI

Model Summary^b

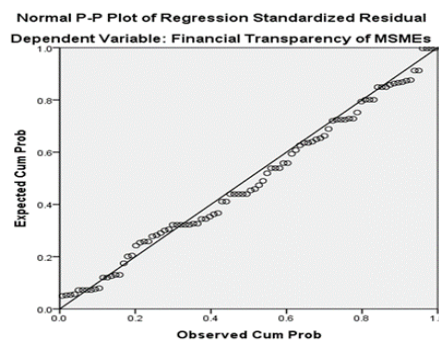
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				Durbin-Watson	
					R Square Change	F Change	df1	df2		Sig. F Change
1	.052 ^a	0.003	-0.008	4.01324	0.003	0.241	1	90	0.624	1.482

a. Predictors: (Constant), Implementation of Cloud-Based Accounting Information Systems, and the dependent

b. Dependent Variable: Financial Transparency of MSMEs

Based on the *Model Summary* table above, the correlation coefficient (R) value of 0.052 indicates that the relationship between the *Implementation of Cloud-Based Accounting Information Systems* variable and the *Financial Transparency of MSMEs* is very weak. An R-squared value of 0.003 means that only 0.3% of the variation in financial transparency of MSMEs can be explained by the implementation of a cloud-based accounting information system, while the remaining 99.7% is influenced by other factors outside the model. A negative Adjusted R-squared value (-0.008) indicates that this regression model is not very good at explaining the data. The F-Change value of 0.241 with a significance of 0.624 (>0.05) indicates that the model is not significant simultaneously, meaning that the implementation of a cloud-based system does not have a significant impact on the financial transparency of MSMEs. The Durbin-Watson value of 1.482 indicates that there is no serious autocorrelation in this regression model.

3. NORMALITY



The *Normal P-P Plot of Regression Standardised Residual* figure shows that the residual data points are scattered around the diagonal line and follow its direction. This pattern indicates that the residual data is normally distributed, thus the normality assumption in regression analysis has been met. There is no significant deviation between the observed cumulative probability and the expected cumulative probability, which means the regression model is suitable for use because the prediction errors (residuals) are random and do not show any specific pattern. Thus, the results of this test support the validity of the regression model used in research on *Financial Transparency of MSMEs*.

Regression Coefficient

Test (T-test) The results of the study can be seen in the Coefficients table, as shown in the following example

Model		Unstandardized Coefficients		Standardized Coefficients	
		B	Std. Error	Beta	t
1	(Constant)	34.652	4.049		8.558
	Implementation of Cloud-Based Accounting Information Systems, and the dependent variable	0.049	0.100	0.052	0.491

a. Dependent Variable: Financial Transparency of MSMEs

IMPLEMENTATION OF A CLOUD-BASED ACCOUNTING INFORMATION SYSTEM TO IMPROVE FINANCIAL TRANSPARENCY OF MSMEs IN TANGERANG REGENCY

Sapriyadi et al

Based on the table, the variable "implementation of the cloud-based information system" has a coefficient of determination of 0.049 and a t-value of 0.491, indicating that the impact of this variable on the transparency of UMKM's financial transactions (as a dependent variable) is very small and not statistically significant. A standard beta of 0.052 also indicates that its contribution to the model is very low. Accordingly, it can be concluded that the implementation of cloud-based information assurance systems does not significantly affect UMKM's financial transparency in this model.

Coefficient Of Determination

The results of the study can be seen in the summary table, as shown in the following illustration

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				Sig. F Change	Durbin-Watson
					R Square Change	F Change	df1	df2		
1	.052 ^a	0.003	-0.008	4.01324	0.003	0.241	1	90	0.624	1.482

a. Predictors: (Constant), Implementation of Cloud-Based Accounting Information Systems, and the dependent
b. Dependent Variable: Financial Transparency of MSMEs

Based on the model's summary results in the table above, the coefficient of determination (R-squared) of 0.003 indicates that implementing a cloud-based accounting information system can only explain 0.3 percent of the variation in MSMEs' financial transparency, which means its contribution is very small. The negative Adjusted R-squared value (-0.008) also indicates that this model is not very good at explaining the relationship between the variables. With an F Change value of 0.241 and an F Change significance of 0.624 (which is greater than 0.05), it is clear that the model is not statistically significant. On the other hand, the Durbin-Watson coefficient of 1.482 is relatively normal, indicating no serious issue with autocorrelation. Overall, this model does not show a significant impact of the "free" variable on the transparency of MSMEs' finances.

CONCLUSION

According to data analysis findings, there has been no discernible improvement in financial transparency as a result of MSMEs in Tangerang Regency implementing cloud-based accounting information systems. According to the results of the regression test, there is a very weak correlation between the variables, as indicated by the beta value (0.052) and the significance value (0.624), which is more than 0.05. The deployment of a cloud-based accounting system can only affect 0.3% of financial transparency, with the remaining 99.7% being determined by other factors including infrastructure preparedness, management awareness, and human resources, as explained by the R Square value of 0.003. The results show that without proper digital literacy and internal organisational management support, technological innovation alone is insufficient, even though the statistical association is not significant.

This study does, however, point to a significant chance for MSMEs to improve operational efficacy and accountability by utilising cloud-based accounting technology more effectively. Potential advantages of using cloud systems include enhanced data protection, better stakeholder access, and real-time financial monitoring. MSME players in Tangerang Regency require assistance from local governments and associated organisations in the form of integrated system development, subsidised technology implementation initiatives, and training in digital literacy in order to fully realise this potential. As a result, even though the current effect is statistically minor, deploying cloud-based accounting systems is still strategically important for promoting MSMEs' long-term financial transparency and digital transformation.

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