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The Effect of Digitalization of Accounting on Efficiency and Cost Reduction in Entrepreneurial Companies Small and Medium-Sized Enterprises in the City of Pontianak

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ABSTRACT

Accounting digitization is an important part of technological transformation that is believed to be able to increase the competitiveness of micro, small, and medium enterprises (MSMEs) through operational efficiency and cost control. However, empirical evidence regarding the simultaneous effect of accounting digitization on efficiency and cost reduction is still limited, especially in the regional context in Indonesia. This study aims to analyze the impact of accounting digitization on efficiency and cost reduction in MSMEs in the city of Pontianak. The study uses a quantitative approach with an explanatory survey design. Data was collected through a structured questionnaire from 372 MSME respondents selected using purposive sampling techniques, then analyzed using multiple linear regression. The results show that accounting digitization has a positive and significant effect on efficiency and cost reduction. These findings confirm that the implementation of digital accounting systems, such as cloud accounting and mobile-based accounting applications, can accelerate the recording process, improve the accuracy of reports, and reduce administrative and operational costs. Theoretically, this study reinforces the literature on the role of accounting technology in supporting the performance of MSMEs. In practical terms, the results of this study can be used as a basis for local governments and stakeholders in designing policies and digitalization assistance programs to strengthen the sustainability of MSME businesses in the digital economy era.

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INTRODUCTION

The development of digital technology has changed the way accounting works, including for small and medium-sized enterprises (SMEs) that often face cost issues and difficulties in managing operations. Adopting a digital accounting system is an important solution to improve the quality of financial data, speed up the recording process, and reduce costs by utilizing automation and system integration (Mujalli, 2024; Gupta, 2025). The implementation of cloud-based accounting and digital applications has helped business owners obtain more

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accurate financial reports that can be accessed in real-time, thereby facilitating the decision-making process (Rawashdeh, Al-Majali, & Alhawary, 2022; Almaya, Khalil, & Rahman, 2025).

Previous studies have shown that the use of digital systems in accounting provides benefits such as increased efficiency, reduced costs, and improved competitiveness for MSMEs (Armeliza, 2024; Chen & Zhao, 2025; Lutfi, 2022). From the perspective of Technology Organization Environment (Toe), the progress of accounting digitization depends on technological readiness, internal organizational factors, and support from the business environment (Sari, 2024; Rahman & Sultana, 2025). However, not all MSMEs are able to implement digital systems due to obstacles such as a lack of technological capabilities, inadequate infrastructure, and high costs (Iskandar, Setiawan, & Prasetyo, 2023; Barry & Clarke, 2024; Mkhize, 2025).

Previous international studies also support that accounting digitization can improve the accuracy of financial reports, accelerate the flow of information, and reduce management costs (Chen & Zhao, 2025; Almaya et al., 2025; Rawashdeh et al., 2022). However, in Indonesia, particularly in the city of Pontianak, research that simultaneously studies the impact of accounting digitization on efficiency and cost reduction in MSMEs is still limited (Santoso & Wibowo, 2025; Lutfi, 2022).

Thus, this study aims to complement previous studies by analyzing the real impact of accounting digitization on operational efficiency and cost reduction for MSMEs in Pontianak City. Focusing on these two aspects is expected to provide a more comprehensive contribution than previous studies. In addition, the results of this study are also expected to provide a better understanding of the role of technology in the world of accounting, as well as assist the government and related parties in designing digitalization assistance strategies to increase the resilience and competitive capabilities of small and medium enterprises (Armeliza, 2024; Santoso & Wibowo, 2025).

RESEARCH METHODOLOGY

This study uses a quantitative approach with an explanatory survey method that aims to determine the effect of accounting digitization on efficiency and cost reduction in micro, small, and medium enterprises (MSMEs) in Pontianak City. The scope of the study covers various types of MSMEs, both in the fields of trade, services, and production.

The population in this study consists of all MSMEs registered with the Pontianak City Cooperative and MSME Office in 2024, totaling 5,240 business units. The sample size was determined using the Slovin formula at a 5% error rate (α = 0.05). The calculation results are as follows:

$$n = \frac{N}{1 + Ne^2} = \frac{5240}{1 + 5240(0{,}05)^2} = \frac{5240}{1 + 13{,}1} = \frac{5240}{14{,}1} \approx 372$$

Thus, the number of samples used in the study was 372 respondents. The sampling technique used was purposive sampling, which only included MSMEs that had implemented a digital accounting system for at least one year. To collect data, the researchers distributed questionnaires containing statements in the form of a 5-point Likert scale

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The research instrument consists of three main variables, namely accounting digitization (X), efficiency (Y1), and cost reduction (Y2). Each variable is defined based on indicators from previous references, such as ease of use, speed of recording, savings in administrative costs, and effectiveness of financial reports. Before use, the research instrument was tested for validity using the Pearson Product Moment test and for reliability using the Cronbach Alpha test.

Data analysis was performed using multiple linear regression with the aid of statistical software. Classical assumption tests such as normality, multicollinearity, and heteroscedasticity were also conducted to ensure the validity of the model. With this research design, it is hoped that strong empirical evidence can be provided regarding the impact of accounting digitization on efficiency and cost reduction. In addition, this study can also support policy recommendations to strengthen the implementation of digitization among MSMEs in the city of Pontianak.

The following table shows how to measure research variables in a structured manner. The Accounting Digitization variable (X) is assessed based on the ease of use of the application, the speed of transaction recording, data access via the cloud, and the automatic generation of reports. The dependent variable Efficiency (Y1) includes time savings, reduction of manual tasks, report accuracy, and increased operational productivity. Meanwhile, Cost Reduction (Y2) includes efficiency in administrative costs, labor, document storage, and operations. All indicators are measured using a 1 to 5 Likert scale and are based on previous research.

Table 1 Operationalization of Variables

VariabLES	Indikator	Scale	Source
Accounting Digitalization (X)	Ease of use of accounting applications Speed of transaction recording Cloud-based financial data accessibility Automatic report integration	Likert 1–5	Lutfi (2022); Badria & Hasanah (2025)
Efficiency (Y1)	Time savings in recording Reduction of manual work Improved report accuracy Increased operational productivity	Likert 1–5	Rawashdeha et al. (2022); Armeliza et al. (2024)
Cost Reduction (Y2)	Reduction of administration costs Reduction of labor costs. Document storage cost efficiency Operational cost efficiency	Likert 1–5	Lutfi (2022); Sari (2024)

Source: Data processed 2025

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RESULTS AND DISCUSSION

Validation and Reliability Test Results

The validity test is carried out by analyzing the Pearson product-moment correlation. The results show that all indicators have a calculated r value greater than r table, namely 0.102, with a sample size of 372 and a significance level of 0.05.

Therefore, all items in the instrument are considered valid. Next, the reliability test was carried out using the Cronbach Alpha method, the results showed an α value greater than 0.70 for all variables. Thus, the research instrument is considered reliable

Table 2. Instrument Reliability Test Results

Variable	Number of Indicators	*Cronbach Alpha*	Information
Accounting Digitalization (X)	4	0,874	*Reliabel*
Efficiency (Y1)	4	0,861	*Reliabel*
Cost Reduction (Y2)	4	0,889	*Reliabel*

Source: Data processed 2025

The reliability test of the measuring instruments in the research was carried out using the Cronbach Alpha method to determine the extent to which the instruments were consistent in measuring variables. The results can be seen in Table 2, all research variables have a Cronbach Alpha value above 0.70, which means the instrument is quite reliable. The Accounting Digitalization variable (X) with 4 indicators reached a value of 0.874, the Efficiency variable (Y1) with 4 indicators reached 0.861, while the Cost Reduction variable (Y2) with 4 indicators reached 0.889. These figures show that each instrument is able to measure its variables consistently and reliably. Therefore, all measuring instruments used in this research are considered reliable and suitable for use to collect data from respondents

Classic Assumption Test Results

The results of the normality test using the Kolmogorov-Smirnov method show a Sig. value of 0.200, which is greater than 0.05, so it can be concluded that the data has a normal distribution. In the multicollinearity test, a Tolerance value greater than 0.10 and a VIF less than 10 were obtained, meaning that there are no signs of multicollinearity in the model. The heteroscedasticity test using the Glejser method showed a Sig. value greater than 0.05, indicating that there is no heteroscedasticity in the regression model. Based on these results, the data can be used for multiple linear regression analysis.

Results of Multiple Linear Regression Analysis

Based on the analysis, the regression equation is obtained as follows:

Model 1 (Efficiency): Y = 2,341 + 0,462X + e

Model 2 (Cost Reduction): Y = 1,927 + 0,518X + e

Table 3. Regression Test Results of Accounting Digitalization on Efficiency (Y1).

Independent Variable	B	Std. Error	t count	Sig.
Constant	2,341	0,412	5,682	0,000
Accounting Digitalization (X)	0,462	0,073	6,342	0,000

Source: Data processed 2025

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The R² value = 0.543, indicating that 54.3% of the variation in MSME efficiency can be explained by accounting digitization. The calculated F value = 40.245; Sig. = 0.000 < 0.05, which means that the model is significant.

The results of the multiple linear regression test in Table 3 show that the Accounting Digitization (X) variable has a positive and significant effect on Efficiency (Y1) in MSMEs. The regression coefficient of 0.462 means that every one-unit increase in accounting digitization will increase MSME efficiency by 46.2%. The R-squared value (R²) = 0.543 indicates that 54.3% of the variation in efficiency is explained by the level of accounting digitization, while the remaining 45.7% is influenced by factors outside the model. The t-test results show that accounting digitization has an individual effect with a t-value of 6.342 and Sig. = 0.000, which is less than 0.05. The overall F test shows F count = 40.245 with Sig. = 0.000, which is less than 0.05, indicating that this regression model is valid and significant in explaining the effect of accounting digitization on MSME efficiency.

Table 4. Regression Test Results of Accounting Digitalization on Cost Reduction (Y2).

Independent Variable	B	Std. Error	t count	Sig.
Constant	1,927	0,398	4,843	0,000
Accounting Digitalization (X)	0,518	0,081	6,395	0,000

Source: Data processed 2025

R² value = 0.578, which means 57.8% of the variation in cost reduction can be explained by accounting digitalization. Calculated F value = 44.119; Sig. = 0.000 < 0.05, which means the regression model is significant.

The results of the multiple linear regression test in Table 4 show that the Accounting Digitization variable (X) has a positive and significant impact on Cost Reduction (Y2) in MSMEs. The regression coefficient of 0.518 means that every one unit increase in accounting digitization will increase cost reduction by 51.8%. The R-squared value (R²) = 0.578 indicates that 57.8% of the change in cost reduction can be explained by the level of accounting digitization, while the rest is influenced by other factors not included in this model. The F test results show that F count = 44.119 with significance (Sig.) = 0.000, which is less than 0.05, indicating that the regression model as a whole is significant and can be used to predict the impact of accounting digitization on MSME cost reduction.

Discussion

The results of this study indicate that accounting digitization has a significant impact on improving efficiency and cost savings for small and medium-sized enterprises in Pontianak City. These findings are in line with previous studies (Rawashdeha et al., 2022; Lutfi, 2022; Armeliza et al., 2024) which show that the use of digital accounting applications can accelerate the transaction recording process, reduce repetitive manual tasks, and improve the quality of financial reports.

The Impact of Accounting Digitalization on Efficiency. The regression coefficient (B = 0.462) indicates that every increase in the level of accounting digitalization can increase the efficiency of MSME businesses by 46.2%. Accounting digitization helps save time in recording, improves the accuracy of financial reports, and speeds up managerial decision-

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making. The results of this study are in line with the research by Armeliza et al. (2024), which emphasizes the importance of using cloud-based accounting services for MSMEs.

The Effect of Accounting Digitalization on Cost Reduction. The regression coefficient value (B = 0.518) shows that accounting digitalization helps reduce costs, especially administrative costs, manual labor costs, and document storage costs. This study is in line with the research by Sari (2024) and Iskandar et al. (2023), which states that digitization plays an important role in improving operational cost efficiency, especially in small businesses.

Practical Implications For MSME players, accounting digitization facilitates the process of financial recording and reporting and serves as a strategy to reduce operational costs. For policymakers, the results of this study can be used as a basis for designing accounting digitization assistance programs, including providing incentives or subsidies for the use of digital applications for MSMEs in Pontianak City.

Thus, the results of this study indicate that accounting digitization has a significant impact on improving efficiency and reducing operational costs for MSMEs. From this, accounting digitization can strengthen the competitiveness and sustainability of MSME businesses in the digital era.

CONCLUSION

This study shows that accounting digitization has a significant impact on improving operational efficiency and reducing costs for MSME entrepreneurs in Pontianak City. The results show that by using digital accounting applications, the transaction recording process becomes faster, financial data is more accurate, and it helps improve business decision-making. In addition, digitization also keeps administrative costs, manual labor costs, and document storage costs under control, thereby directly impacting business profitability and competitiveness. Theoretically, this study supports the role of accounting technology in improving MSME performance through greater efficiency and better cost management. In practical terms, the research results confirm that accounting digitization is an important factor that must be integrated into business planning, as well as the basis for government policies in encouraging MSME digital transformation. Thus, accounting digitization is not only a tool for recording finances, but also a strategic tool to strengthen the sustainability and competitiveness of companies in the digital economy era.

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