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Determination of Digital Accounting Factors to Increase MSMEs Income

Maryanto[1*], Ayu Esteka Sari[2]

[1,2]STIE Sakti Alam Kerinci, Sungai Penuh, Jambi, Indonesia

Corresponding author maryantoyanto1974@gmail.com

Abstract

This study aims to analyze the factors that affect the adoption of digital accounting and its impact on the increase in income of Micro, Small, and Medium Enterprises (MSMEs). Using quantitative methods and the Structural Equation Modeling (SEM) approach through AMOS software, this study identifies three main factors that play a role in the adoption of digital accounting, namely technology, internal organization, and regulation. The results of the analysis show that internal organizational factors have the greatest influence on the implementation of digital accounting, followed by regulations and technology. The tested research model met the Goodness of Fit criteria, with an R^2 value of 0.664, which shows that 66.4% variability in digital accounting adoption can be explained by these three factors. The synergy between MSMEs, the government, and technology developers is very important to accelerate digital transformation and increase the competitiveness of MSMEs in the digital economy era.

Keywords: Digital accounting, MSMEs, Technology, Internal organization, Regulation.

INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) serve as a backbone of many economies, contributing significantly to employment generation, innovation, and local economic development. However, one of the persistent challenges faced by MSMEs is financial management, particularly in maintaining accurate records, tracking expenses, and ensuring compliance with tax regulations (Prayogi, Muda, and Kholis 2024). Traditional accounting methods, which rely on manual bookkeeping, are often prone to

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errors, inefficiencies, and delays in financial reporting(Heliani 2023; Mahrani and Soewarno 2018). These limitations can hinder business growth and affect profitability (Apriliani and Prakoso 2023). As digital transformation continues to reshape various industries, adopting digital accounting systems has emerged as a crucial factor in enhancing MSME income.

Digital accounting refers to the use of technology-driven financial management tools such as cloud-based accounting software, artificial intelligence (AI), and automated bookkeeping systems. These tools offer real-time financial insights, automate repetitive tasks, and improve accuracy in record-keeping (Al-Taani et al. 2024; Dao Thi 2023). By leveraging digital accounting, MSMEs can enhance their financial decision-making, minimize human errors, and optimize cash flow management. Additionally, digital platforms allow for seamless integration with banking systems, facilitating efficient transactions and improving overall financial transparency(Yeşilyurt and Vezne 2023). The adoption of digital accounting can lead to increased business efficiency and profitability (Shumeyko, Sagamonova, and Sagamonova 2019). Automated financial reporting enables business owners to monitor their financial performance with greater accuracy, allowing them to make informed strategic decisions (Morshed and Khrais 2025). Furthermore, digital accounting systems provide enhanced security features, reducing the risks associated with fraud and financial mismanagement. As a result, MSMEs that integrate digital accounting solutions can improve their competitiveness, attract investors, and expand their market reach.

Despite the evident benefits, many MSMEs face challenges in transitioning to digital accounting. Limited access to financial resources, lack of digital literacy, and resistance to change are among the key barriers preventing small businesses from adopting modern accounting solutions (Antonini 2024; Kruskopf et al. 2020). Moreover, concerns related to data security, software costs, and the complexity of implementation further discourage MSMEs from embracing digital transformation. Without proper support and guidance, many small businesses struggle to shift from traditional accounting practices to digital solutions (Al-Khasawneh 2022). Government initiatives and financial institutions play a vital role in promoting the adoption of digital accounting among MSMEs(Kusumaningtyas et al. 2022). Providing training programs, subsidies, and affordable digital accounting solutions can help small business owners overcome the barriers to adoption (Alshehadeh et al. 2024). Additionally, collaboration between technology providers and business support organizations can create tailored digital accounting solutions that address the specific needs of MSMEs (Kusumaningtyas et al.

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2022). Awareness campaigns highlighting the long-term benefits of digital accounting can also encourage more businesses to embrace this transformation (Fatmawaty et al. 2023).

Digital accounting presents a significant opportunity for MSMEs to improve financial efficiency, increase profitability, and enhance business sustainability(Vărzaru et al. 2023). However, the successful implementation of digital accounting depends on various factors, including accessibility, affordability, and business owners' willingness to adopt new technologies. Understanding these factors is essential in formulating effective policies and support systems that empower MSMEs to maximize the benefits of digital accounting, ultimately contributing to economic growth and financial stability.

This study aims to explore the key factors influencing the adoption of digital accounting in MSMEs and its impact on business income. By analyzing technology, internal organization, and regulation, this research seeks to provide insights into how MSMEs can leverage digital accounting for sustainable growth. Identifying these factors will help policymakers, financial institutions, and technology providers develop targeted strategies to support MSMEs in digitalizing their financial management processes.

METHOD

This study employs a quantitative research approach using Structural Equation Modeling (SEM) with AMOS to analyze the key factors influencing the adoption of digital accounting and its impact on MSME income. AMOS (Analysis of Moment Structures) is a powerful statistical tool for examining complex relationships between multiple variables, making it suitable for identifying direct and indirect effects among digital accounting factors, adoption levels, and income growth.

The population for this study consists of Micro, Small, and Medium Enterprises (MSMEs) that operate in various businesses. The study focuses on MSMEs that either: Have adopted digital accounting systems (e.g., cloud-based software, AI-driven financial management tools). The study targets MSMEs in Kerinci Regency. The purposive sampling method is used to select MSMEs that meet specific criteria relevant to the study(Sari, Haryono, and Yuliviona 2024). The sample consists of business owners, accountants, or financial managers responsible for handling financial records. According to Heirs, The sample size is determined using Structural Equation Modeling (SEM) with AMOS, which typically requires a minimum of 100-400 respondents for reliable model estimation (Sari 2022). The rule of thumb for SEM is at least 10-20 respondents per observed variable to ensure statistical power (Sari et al. 2022). With sampling Criteria: MSMEs operating for at least 2 years, Businesses using either traditional or digital

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accounting systems, and Owners or accountants with knowledge of financial management.

In this research, Structural Equation Modeling (SEM) with AMOS is used to test the hypotheses regarding the adoption of digital accounting and its impact on MSME income. Hypothesis testing involves analyzing the relationships between key variables such as Tenchonoly (TN),Internal Organization (IO) and Regulation (RG). Once the measurement model is validated, the structural model is analyzed to examine hypothesized relationships between digital accounting adoption and MSME income growth. The model fit is assessed using standard SEM criteria, including Chi-Square/Degree of Freedom ($\chi^2/df \leq 5.0$), Comparative Fit Index (CFI ≥ 0.90), Goodness-of-Fit Index (GFI ≥ 0.90), and Root Mean Square Error of Approximation (RMSEA ≤ 0.08). If these indicators meet acceptable thresholds, it confirms that the model accurately represents real-world relationships. Additionally, path coefficients and significance values ($p < 0.05$) are examined to determine the strength and direction of relationships between variables. A significant positive coefficient between three variables on digital accounting adoption at MSME.

RESULTS

Flowchart Development

Based on the existing theoretical study, a diagram of the relationship between constructs and their indicators is made. The results of the flow diagram drawing using IBM SPSS AMOS 21 software in the study can be seen in Figure 1 as follows;

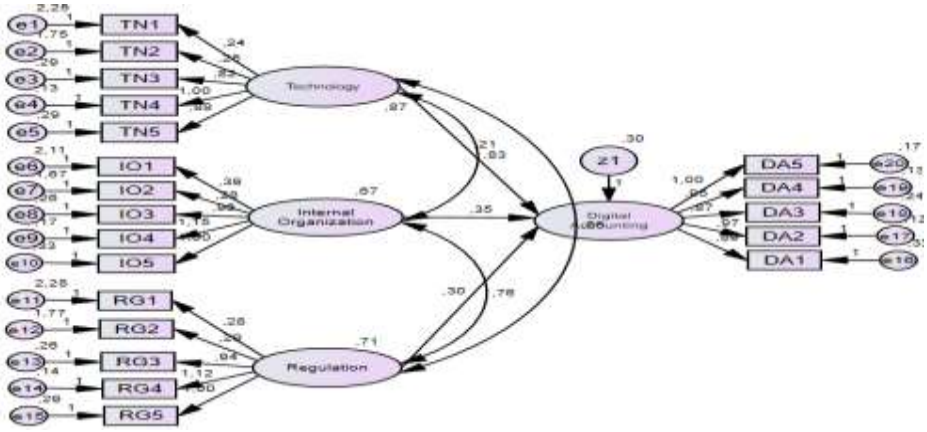


Figure 1: Structural Equations Model of Research

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Model Assessment

The model assessment is carried out to find out how far the hypothesized model is according to the fit or if the model can explain the existing sample data. The results of the model assessment in this study are as follows:

Table 1 Results of Goodness of Fit Index Testing

Criteria of Goodness of Fit Index	*Cut-off Value*	Result	Evaluation of criteria
χ2 (Chi-Square)	As small as possible is better and ≤ 2,56	2.199	Accepted
Probability	≥ 0,05	0,086	Accepted
GFI	≥ 0,90	0,904	Accepted
RMSEA	≤ 0,08	0,048	Accepted
AGFI	≥ 0,90	0,901	Accepted
TLI	≥ 0,90	0,963	Accepted
CFI	≥ 0,90	0,971	Accepted

The model criteria test shows that this model is under the data or fits the available data.

Structural Equations Model Asumsion Test

Normality Test The normality test was carried out using the critical ratio criterion of a kurtosis value of ±2.58 at a significance level of 0.01. The data can be concluded to have a normal distribution if the critical ratio value of the kurtosis value is <2.58 (Ghozali, 2011:226). The data normality test presented as shown in Table 2 shows that no data deviates from the normality test, so it can be concluded that the distribution of data in this study is normally distributed

Table 2. Assessment of normality test results

Variable	Min	max	skew	c.r.	kurtosis	c.r.
TN5	2,000	5,000	-,817	-3,335	-,913	-1,863
DA1	2,000	5,000	-1,144	-4,671	-,264	-,540
DA2	2,000	5,000	-1,052	-4,294	-,560	-1,143
DA3	2,000	5,000	-1,445	-5,898	,567	1,158

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Variable	Min	max	skew	c.r.	kurtosis	c.r.
DA4	2,000	5,000	-1,026	-4,188	-,648	-1,322
DA5	2,000	5,000	-1,035	-4,226	-,513	-1,048
RG1	1,000	5,000	-,676	-2,760	-1,044	-2,131
RG2	1,000	5,000	-,771	-3,147	-,756	-1,543
RG3	2,000	5,000	-,843	-3,442	-,853	-1,741
RG4	2,000	5,000	-,803	-3,278	-,976	-1,992
RG5	2,000	5,000	-,753	-3,073	-1,099	-2,244
IO1	1,000	5,000	-,663	-2,707	-1,007	-2,055
IO2	1,000	5,000	-,779	-3,181	-,676	-1,380
IO3	2,000	5,000	-,822	-3,354	-,871	-1,779
IO4	2,000	5,000	-,802	-3,274	-,948	-1,934
IO5	2,000	5,000	-,733	-2,992	-1,113	-2,271
TN1	1,000	5,000	-,667	-2,722	-1,033	-2,108
TN2	1,000	5,000	-,756	-3,088	-,746	-1,523
TN3	2,000	5,000	-,779	-3,181	-,904	-1,845
TN4	2,000	5,000	-,812	-3,315	-,922	-1,882
Multivariate					405,548	68,355

Pipeline Diagram Conversion in Equation

The next stage in SEM modeling is to convert the flowchart into a structural equation as follows:

Table 3. Standardized Regression Weights

			Estimate
Digital_Accounting	<---	Technology	,212
Digital_Accounting	<---	Internal_Organization	,310
Digital_Accounting	<---	Regulation	,271

DA = 0,212 TN + 0,310 IO + 0,271 RN + Z1

Explanation of the Equation

This equation shows the relationship between Digital Accounting (DA) as a dependent variable with three independent variables, namely Technology (TN), Internal Organization (IO), and Regulation (RN). With an explanation:

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1) 0.212 (Technology) → Every 1 unit increase in Technology will increase Digital Accounting by 0.212 units, assuming the other variables remain.
2) 0.310 (Internal Organization) → Every 1 unit increase in the Internal Organizational factor will increase Digital Accounting by 0.310 units. This shows that the internal aspects of the organization have the most influence compared to other variables.
3) 0.271 (Regulation) → Every 1 unit increase in Regulation will increase Digital Accounting by 0.271 units.
4) Z1 is a component of errors or other factors that are not explained by the Technology, Internal Organization, and Regulation variables. This could include other external factors that are not included in the regression model.

This equation shows that Internal Organizations (IO) have the greatest influence on Digital Accounting, followed by Regulation (RN) and Technology (TN). If a company wants to improve the implementation of Digital Accounting, then the most important factor to consider is the strengthening of the organization's internal systems, followed by regulatory compliance and technology adoption. However, this model does not take into account other variables that may also be influential, such as economic factors, organizational culture, or the readiness of human resources.

Hypothesis Test

Table 4 Regression Weights

			Estimate	S.E.	C.R.	P
Digital_Accounting	<---	Technology	,213	,082	2,590	,010
Digital_Accounting	<---	Internal_Organization	,354	,087	4,048	***
Digital_Accounting	<---	Regulation	,301	,053	5,656	***

Multiple regression analysis that shows the relationship between Digital Accounting and three independent variables Technology, Internal Organization, and Regulation. Here is an explanation of each column in the table:

1) The Influence of Technology on Digital Accounting
   a) Estimate: 0.213 → Every 1 unit increase in Technology will increase Digital Accounting by 0.213 units, assuming other variables remain.
   b) S.E.: 0,082 → Standard error in coefficient estimation.
   c) C.R.: 2,590 → This value is obtained from 0.213 / 0.082, indicating how strong the relationship between Technology and Digital Accounting is.

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d) P-value: 0,010 → Since the p < 0.05, it means that this relationship is significant at a 95% confidence level.
e) The C.R. value of the Technology variable is 2.590 with a significance level of 0.010 < 0.05 which means that hypothesis one (H1) stating that there is an influence of Technology on Digital Accounting is accepted.

2) The Influence of Internal Organizations on Digital Accounting

a) Estimate: 0.354 → Internal Organization has a greater influence than Technology.
b) S.E.: 0.087 → The standard error is greater than Technology, but still within acceptable limits.
c) C.R.: 4,048 → A fairly high score indicates a strong relationship.
d) P-value: *** → Usually the *** sign means p < 0.001, which means this relationship is very significant.
e) The C.R. value of the Internal Organizations variable is 4,048 with a significance level of 0.000 < 0.05 which means that hypothesis one (H1) stating that there is an influence of Technology on Digital Accounting is accepted.

3) The Influence of Regulation on Digital Accounting

a) Estimate: 0.301 → Every 1 unit increase in Regulation increases Digital Accounting by 0.301 units.
b) S.E.: 0.053 → The standard error is quite small, indicating a stable estimate.
c) C.R.: 5,656 → The relationship is very strong compared to the other two variables.
d) P-value: *** → This relationship is very significant (p < 0.001).
e) The C.R. value of the Regulation variable is 5,656 with a significance level of 0.000 < 0.05 which means that hypothesis one (H1) stating that there is an influence of Technology on Digital Accounting is accepted.

Squared Multiple Correlations

Squared Multiple Correlations (R^2) is a measure that shows how much an independent variable can explain a dependent variable in a regression model or Structural Equation Modeling (SEM).

Table 5. Squared Multiple Correlations

			Estimate
Digital_Accounting			,664

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Interpretation of Squared Multiple Correlations ($R^2 = 0.664$) in SEM The Squared Multiple Correlations (R^2) = 0.664 value shows that 66.4% of the variation in Digital Accounting can be explained by three independent variables: Technology, Internal Organization and Regulation. The remaining 33.6% was explained by other factors that were not included in the model, such as human resources, organizational culture, company policies, or other external factors.

CONCLUSION

Digital Accounting increases efficiency in financial management, reduces recording errors, and enables more accurate data-driven decision-making. The adoption of accounting technology helps MSMEs in accessing funding because more structured financial statements make the process of applying for credit or investment easier. Digital Accounting allows for better tax compliance, reducing the risk of fines or sanctions due to administrative errors. Improving operational efficiency through accounting automation contributes to increasing the profitability and income of MSMEs.

MSMEs need to be provided with training and support in digital literacy and the use of technology-based accounting systems. The government and stakeholders should provide incentives, policies, and infrastructure that support digital transformation in the MSME sector. Accounting technology developers need to ensure their solutions are easy to use, secure, and affordable for MSMEs with limited resources.

The adoption of Digital Accounting has proven to have a positive influence on increasing MSME income through increased efficiency, financial transparency, and access to funding sources. However, its success is highly dependent on technological readiness, internal organizational support, and conducive regulations. Therefore, synergy between MSMEs, the government, and technology providers is urgently needed to accelerate digital transformation in the MSME sector.

REFERENCES

Al-Khasawneh, Reem Oqab. 2022. “The Developments of the Digital Technologies in the Accounting Scientific Research in the Light of the Corona Pandemic-An Exploratory Study in the Hashemite Kingdom of Jordan.” WSEAS Transactions on Business and Economics 19:1085–98. doi: 10.37394/23207.2022.19.95.

Al-Taani, Attallah Hassan Mohamed, Murad Ali Ahmad Al-Zaqeba, Hussein Mousa Ahmad Maabreh, and Baker Akram Falah Jarah. 2024. “Exploring the Impact of Digital Accounting and Digital Zakat on Improving Business Sustainability in the

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Middle East and Malaysia." International Journal of Advanced and Applied Sciences 11(1):56–67. doi: 10.21833/ijaas.2024.01.007.

Alshehadeh, Abdul Razzak, Murad Ali Ahmad Al-Zaqeba, Ghaleb Awad Elrefae, Haneen Aqel Al-Khawaja, and Nader Mohammad Aljawarneh. 2024. "The Effect of Digital Zakat and Accounting on Corporate Sustainability through Financial Transparency." Asian Economic and Financial Review 14(3):228–49. doi: 10.55493/5002.v14i3.5016.

Antonini, Carla. 2024. "Accounting Digitalization in the Quest for Environmental Sustainability." Current Opinion in Environmental Sustainability 66:101399. doi: 10.1016/j.cosust.2023.101399.

Apriliani, Rina, and Teguh Prakoso. 2023. "The Relationship between Accounting Practices and Business Performance: Literature Review Study of SMEs in the Service Industry." Journal of Management Science (JMAS) 6(3):306–14.

Dao Thi, Hong Nhung. 2023. "Digital Accounting Systems (DIS): Concepts, Components and Roles in Business." International Journal of Research in Vocational Studies (IJRVOCAS) 3(1):10–14. doi: 10.53893/ijrvocas.v3i1.182.

Fatmawaty, Andi Siti, Aslam Mei Nur Widigdo, Mei Ie, Jumintono, Lady Karlinah, Evi Nurifah Julitasari, Esi Hairani, and Ani Muttaqiyathun. 2023. "Improving Smes Innovative Work Behavior: How the Role of Transformational Leadership and Knowledge Sharing in the Digital Era." Journal of Law and Sustainable Development 11(3):1–20. doi: 10.55908/SDGS.V11I3.735.

Heliani. 2023. "MSME Financial Accounting In West Java: Sustainability And Impact Factors." Jurnal Akuntansi 27(3):568–87. doi: 10.24912/ja.v27i3.1739.

Kruskopf, Shawnie, Charlotta Lobbas, Hanna Meinander, Kira Söderling, Minna Martikainen, and Othmar Lehner. 2020. "Digital Accounting and the Human Factor: Theory and Practice." ACRN Journal of Finance and Risk Perspectives 9(1):78–89. doi: 10.35944/JOFRP.2020.9.1.006.

Kusumaningtyas, Reza Octavia, Rahayu Subekti, Abdul Kadir Jaelani, Asron Orsantinutsakul, and Utkarsh K. Mishra. 2022. "Reduction of Digitalization Policy in Indonesian MSMEs and Implications for Sharia Economic Development." Juris: Jurnal Ilmiah Syariah 21(2):157–71. doi: 10.31958/juris.v21i2.6855.

Mahrani, Mayang, and Noorlailie Soewarno. 2018. "The Effect of Good Corporate Governance Mechanism and Corporate Social Responsibility on Financial Performance with Earnings Management as Mediating Variable." Asian Journal of Accounting Research 3(1):41–60. doi: 10.1108/AJAR-06-2018-0008.

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Morshed, Amer, and Laith T. Khrais. 2025. “Cybersecurity in Digital Accounting Systems: Challenges and Solutions in the Arab Gulf Region.” Journal of Risk and Financial Management 18(1). doi: 10.3390/jrfm18010041.

Prayogi, Wanda, Iskandar Muda, and Azizul Kholis. 2024. “Analysis of the Use of Digital Accounting in Micro, Small, and Medium Enterprises (MSMEs) in Medan, Indonesia.” International Journal of Research and Review 11(5):100–111. doi: 10.52403/ijrr.20240513.

Sari, Ayu. 2022. “Competitive Advantage Tourism Based on E-Tourism To Improve Tourist Destinations.” International Journal of Social Science 2(4):1831–38. doi: 10.53625/ijss.v2i4.3945.

Sari, Ayu Esteka, Gampo Haryono, and Reni Yuliviona. 2024. “Confirmatory Factor Analysis (CFA) To Measure Competitive Advantage in Tourism Village From Supply Tourism Perspectives.” International Journal of Economics, Business and Innovation Research 03(01):110–26. doi: https://doi.org/10.15294/dp.v32i1.10678.

Sari, Ayu Esteka, Abdul Razak Munir, Jumidah Maming, and Edia Satria. 2022. “Development of Marketing Mix in Tourism With Technology Acceptance Model (TAM) in the Tourist Area of Kerinci Regency.” KnE Social Sciences 2022:378–85. doi: 10.18502/kss.v7i12.11542.

Shumeyko, M. V., G. V. Sagamonova, and E. V. Sagamonova. 2019. “Informational Platform of the Digital Accounting.” in IOP Conference Series: Materials Science and Engineering. Vol. 698.

Vărzaru, Anca Antoaneta, Claudiu George Bocean, Dalia Simion, Dorel Berceanu, and Mădălina Giorgiana Mangra. 2023. “Digital Revolution, Sustainability, and Government Revenues: A Transversal Analysis of How Digital Transformation and Sustainable Practices Impact Sustainable Government Revenues.” Systems 11(11). doi: 10.3390/systems11110546.

Yeşilyurt, Etem, and Rabia Vezne. 2023. “Digital Literacy, Technological Literacy, and Internet Literacy as Predictors of Attitude toward Applying Computer-Supported Education.” Education and Information Technologies 28(8):9885–9911. doi: 10.1007/s10639-022-11311-1.

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