



Digital accounting-based MSME governance to increase transparency and access to financing

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Article Info	ABSTRACT
Article history: Received Apr 26, 2026 Revised Jun 27, 2026 Accepted Sept 10, 2026 Keywords: Access To Financing; Business Governance; Digital Accounting; Financial Transparency; MSMEs.	MSMEs often face weak governance, limited financial transparency, and restricted access to formal financing, partly due to suboptimal digital accounting implementation. Although previous studies have examined digital transformation, financial technology, and MSME governance separately, limited evidence integrates digital accounting, financial transparency, access to financing, and governance within a single empirical framework. This study develops and validates an integrative Digital Accounting-Based MSME Governance model examining the mediating roles of financial transparency and access to financing. A quantitative approach was employed using purposive sampling, involving 175 valid MSME respondents in North Sumatra. Data were collected through documentation, interviews, and questionnaires and analyzed using Structural Equation Modeling–Partial Least Squares (SEM-PLS). The results show that Digital Accounting significantly affects Financial Transparency ($\beta = 0.503$), Access to Financing ($\beta = 0.513$), and MSME Governance ($\beta = 0.525$). Financial Transparency significantly affects Access to Financing ($\beta = 0.417$) and MSME Governance ($\beta = 0.570$), while Access to Financing significantly affects MSME Governance ($\beta = 0.520$). Financial transparency and access to financing also significantly mediate the relationship between Digital Accounting and MSME Governance. Theoretically, the study extends digital accounting from a technological capability to a governance-enabling mechanism by demonstrating complementary mediating pathways through financial transparency and access to financing. The findings contribute empirical evidence on how digital accounting can strengthen MSME governance in an emerging economy. <i>This is an open access article under the CC BY-NC license.</i>



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1. INTRODUCTION

Small, Micro, and Medium Enterprises (MSMEs) in Indonesia are the main pillars of the national economy and play a significant role in encouraging economic growth and equity (Muafi et al., 2023). Their contribution of more than 61% to Gross Domestic Product (GDP) and their ability to absorb more than 97% of the workforce affirm the strategic position of MSMEs in Indonesia's economic structure (Nainggolan, 2023). However, despite these contributions, fundamental problems in financial management and business governance persist. Many MSMEs do not have standardized financial recording systems, reliable financial reports, and adequate levels of transparency. This

condition contributes to low trust in formal financial institutions and is one of the causes of limited access to financing for MSMEs (Julita & Nainggolan, 2023).

Empirical facts show that more than 70% of MSMEs have not implemented good financial management standards, so the credit application process becomes more stringent and often requires additional verification from financial institutions (Devender et al., 2025). This phenomenon indicates a gap between the strategic role of MSMEs in the economy and their financial governance capacity. On the other hand, digital transformation presents an opportunity to overcome these problems through the implementation of digital accounting and technology-based software that allows for automated, real-time, and more accurate recording of transactions (Mujiatun et al., 2022a). Digital accounting has the potential to increase the transparency, accountability, and quality of MSME financial reporting, which can ultimately expand access to formal financing (Bhatti et al., 2022) (Gnatiuk et al., 2023; Lestari, 2025).

This study is primarily grounded in the Resource-Based View (RBV) and Agency Theory. From the RBV perspective, digital accounting is viewed as a strategic organizational capability that enables MSMEs to develop valuable, reliable, and timely financial information, thereby supporting more effective governance and sustainable competitiveness. Meanwhile, Agency Theory explains that transparent and credible financial reporting reduces information asymmetry between MSMEs and external stakeholders, particularly financial institutions, thereby strengthening organizational accountability and facilitating access to external financing. By integrating these theoretical perspectives, this study conceptualizes digital accounting not merely as a technological tool but as a governance capability that influences MSME governance through the complementary mechanisms of financial transparency and access to financing. This theoretical foundation provides the basis for explaining the structural relationships examined in the proposed research model.

Although the Resource-Based View (RBV) and Agency Theory are relevant for explaining the relationship between digital accounting and MSME governance, these theories do not fully explain the mechanism linking digital capabilities to improved governance. RBV conceptualizes digital accounting as a strategic capability that creates value, but it does not explain how this capability is translated into better governance practices. Meanwhile, Agency Theory explains that information transparency can reduce information asymmetry. Still, it does not adequately explain how digital accounting generates greater transparency and access to financing, which, in turn, strengthen governance. Therefore, mediating mechanisms in the form of financial transparency and access to financing are needed to explain this process. Integrating RBV and Agency Theory with these mediating mechanisms provides a more comprehensive explanation of how digital accounting contributes to improving MSME governance.

Previous studies consistently acknowledge that digital transformation contributes to MSME development; however, they conceptualize this transformation from different theoretical perspectives. Some studies associate digitalization with business model innovation and competitive advantage (Mukesh, 2022; Van Hoang et al., 2025; Wahyuni et al., 2025), whereas others emphasize financial inclusion through fintech adoption (Mai et al., 2024), organizational readiness for cloud accounting (Mujalli et al., 2024), or accounting information systems efficiency (Al-Okaily et al., 2023).

Although these studies generally report positive outcomes, they implicitly assume that technological adoption automatically generates governance improvements. This assumption remains theoretically underdeveloped because the internal governance mechanisms through which digital accounting influences MSME governance have not been adequately explained. In particular, financial transparency and access to financing have largely been examined as independent outcomes rather than as interconnected mechanisms that jointly explain how digital accounting translates into governance quality.

From the existing literature, it is evident that previous studies have predominantly examined digital transformation in MSMEs from isolated perspectives. Some studies have emphasized digital innovation and business performance (Mukesh, 2022; Van Hoang et al., 2025), while others have focused on financial inclusion, fintech adoption (Mai et al., 2024), cloud accounting readiness (Mujalli

et al., 2024), or accounting information systems (Al-Okaily et al., 2023). However, these studies have not simultaneously explained how digital accounting functions as an internal governance mechanism that enhances financial transparency and facilitates access to financing, ultimately shaping MSME governance. Moreover, empirical evidence integrating these constructs within a single structural framework remains limited, particularly in the context of MSMEs in emerging economies such as Indonesia and, more specifically, North Sumatra. This constitutes the primary research gap addressed in the present study.

Building upon these limitations, this study proposes a Digital Accounting-Based MSME Governance Model that conceptualizes digital accounting not merely as a technological innovation but as an internal governance mechanism operating through financial transparency and access to financing. Unlike previous studies that primarily treat digitalization as a direct driver of organizational performance or financial inclusion, this study argues that the governance implications of digital accounting emerge through these complementary mediating mechanisms. Accordingly, the novelty of this research lies not only in integrating these constructs into a single SEM-PLS model but also in reconceptualizing MSME governance as an outcome of digitally enabled accountability and financing capability rather than as a direct consequence of technology adoption alone.

Theoretically, this study extends the literature on digital accounting and MSME governance by providing empirical evidence that financial transparency and access to financing act as complementary mechanisms linking digital accounting with governance. The proposed model enriches the theoretical understanding of digital transformation from a governance perspective rather than merely from technological adoption or business performance. Practically, the findings offer evidence-based insights for policymakers, financial institutions, and MSME practitioners in designing digital accounting implementation strategies that support financial transparency and financing accessibility while strengthening governance practices in MSMEs.

2. RESEARCH METHOD

This study employed a quantitative approach using a model development research design to develop and empirically validate a Digital Accounting-Based MSME Governance Model. The research was conducted in North Sumatra Province, Indonesia, focusing on Micro, Small, and Medium Enterprises (MSMEs). The model development process consisted of four sequential stages. First, an exploratory study was conducted through a comprehensive literature review, documentation analysis, and semi-structured interviews with MSME practitioners, academics, and representatives from government institutions to identify governance challenges, digital accounting practices, and financing issues faced by MSMEs. The findings from this stage were used to establish the conceptual dimensions and structural relationships among the research variables. Second, a conceptual model and measurement instruments were developed based on the theoretical framework and empirical findings obtained during the exploratory stage. Third, the research instruments underwent expert judgment involving academics and practitioners to evaluate content validity. Subsequently, a pilot test was conducted with a limited number of MSME actors to assess the clarity, relevance, and reliability of the questionnaire items. Feedback obtained during this stage was used to refine both the measurement instruments and the proposed conceptual model. Finally, the revised model was empirically validated using Structural Equation Modeling–Partial Least Squares (SEM-PLS) to evaluate the measurement model, structural relationships, mediating effects, and the overall validity of the proposed governance model.

The population comprised Micro, Small, and Medium Enterprises (MSMEs) operating in North Sumatra across various business sectors, including trade, services, manufacturing, culinary, and creative industries. The study employed purposive sampling because respondents were required to possess characteristics relevant to the research objectives. The inclusion criteria required MSMEs to have operated continuously for at least three years, actively manage business financial records, and have experience using either digital or conventional accounting practices. The research was conducted in Medan, Deli Serdang, Binjai, and Langkat to represent different levels of business characteristics and digital accounting adoption. A total of 200 questionnaires were distributed to eligible MSMEs. Of

these, 186 questionnaires were returned, representing a 93.0% response rate. Prior to analysis, the returned questionnaires underwent a comprehensive data screening and cleaning process. Responses were examined for completeness, consistency, duplicate submissions, substantial missing values, and response patterns indicating insufficient engagement (e.g., straight-lining). In addition, the data were screened for coding errors and potential outliers to ensure data quality. After the data screening process, 11 questionnaires were removed due to incomplete responses or failure to satisfy the established data quality requirements. The remaining 175 questionnaires were considered valid for analysis, resulting in an effective response rate of 87.5%. This sample size was considered sufficient and exceeded the minimum requirement for SEM-PLS analysis, given the complexity of the proposed structural model and the number of latent constructs included in the study.

Data were collected using three complementary techniques. Documentation studies were conducted to obtain secondary data related to MSME development, digital accounting implementation, and government policies while supporting the theoretical development of the proposed model. Semi-structured interviews were conducted with MSME owners, academics, and government representatives to explore contextual issues, validate the conceptual framework, and ensure that the proposed indicators reflected actual business practices. The primary data were collected using a structured questionnaire consisting of closed-ended statements measured on a five-point Likert scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The questionnaire measured four latent constructs: Digital Accounting, Financial Transparency, Access to Financing, and MSME Governance. Measurement indicators were adapted from established studies with demonstrated validity and reliability and subsequently modified to suit the Indonesian MSME context. Before large-scale data collection, the questionnaire was evaluated through expert judgment and pilot testing to ensure content validity, readability, and measurement reliability.

Data analysis was conducted using Structural Equation Modeling–Partial Least Squares (SEM-PLS) with SmartPLS software because this method is suitable for prediction-oriented research involving multiple latent constructs, complex structural relationships, and mediating variables without requiring multivariate normality assumptions. The analysis consisted of two stages: measurement model evaluation (outer model) and structural model evaluation (inner model).

The measurement model was evaluated by examining indicator reliability, with outer loading values above 0.70 considered acceptable. Internal consistency reliability was assessed using Cronbach's Alpha and Composite Reliability (CR), with threshold values above 0.70. Convergent validity was evaluated using the Average Variance Extracted (AVE), where values greater than 0.50 indicated adequate convergent validity. Discriminant validity was assessed using the Heterotrait–Monotrait Ratio (HTMT), with values below 0.90 indicating satisfactory discriminant validity among latent constructs.

The structural model was evaluated by assessing multicollinearity using the Variance Inflation Factor (VIF), where values below 3.30 indicated the absence of severe multicollinearity. Model fit was assessed using the Standardized Root Mean Square Residual (SRMR), with values below 0.08 indicating acceptable model fit. The explanatory power of the model was examined through the Coefficient of Determination (R^2), while the contribution of each exogenous construct was assessed using Effect Size (f^2). The predictive capability of the proposed model was evaluated using Predictive Relevance (Q^2) obtained through the blindfolding procedure. The significance of direct, indirect, and mediating effects was tested using the bootstrapping procedure with 5,000 resamples at a significance level of 5%. The bootstrapping procedure with 5,000 resamples was employed because it provides robust, distribution-free estimates of standard errors and confidence intervals for direct and indirect effects, making it particularly appropriate for testing mediation effects in PLS-SEM.

Considering that all primary data were collected using self-administered questionnaires, the study also evaluated the potential presence of Common Method Bias (CMB). Following the full collinearity assessment approach, full collinearity VIF values were examined, and all constructs demonstrated values below the recommended threshold of 3.30, indicating that common method bias did not pose a significant threat to the validity of the research findings.

3. RESULTS AND DISCUSSIONS

Respondent Description

Based on the results of the distribution of questionnaires to 200 MSME actors in North Sumatra, 181 questionnaires have been filled out, but of this number, there are 6 incomplete questionnaires, so that there are 175 questionnaires that can be used for research, with the description in the following table:

Table 1. Description of MSME respondents in north sumatra

Features	Category	Frequency (n)	Percentage (%)
Gender	Male	77	44,0%
	Women	98	56,0%
Final Education	Elementary/Equivalent	15	8,6%
	"Junior High School"/Equivalent	28	16,0%
	"High School"/Vocational School	72	41,1%
	"Diploma" (D3)	20	11,4%
	"Bachelor" (S1)	35	20,0%
	"Postgraduate" (S2)	5	2,9%
Long Term of Effort	"3-5 years"	52	29,7%
	"6-8 years"	41	23,4%
	"9-11 years old"	36	20,6%
	> 11 years old	46	26,3%
Types of MSME Businesses	Trade	60	34,3%
	Culinary	48	27,4%
	Services	32	18,3%
	Industry/Crafts	20	11,4%
	Agriculture/Fisheries	10	5,7%
	Others	5	2,9%
Total Responden		175	

The majority of respondents are women, totaling 98 people (56%), compared to 77 men (44%), indicating that women play a relatively dominant role, especially in the trade and culinary sectors. In terms of education, most respondents have a high school/vocational background, with 72 people (41.1%), followed by 35 with a Bachelor's degree (20%) and 20 with a Diploma (11.4%), showing that the majority of MSME actors have a secondary education level, which presents potential for managerial capacity development through training. Regarding business duration, most MSMEs have been operating for 3-5 years (52 people, 29.7%), more than 11 years (46 people, 26.3%), 6-8 years (41 people, 23.4%), and 9-11 years (36 people, 20.6%), indicating that most businesses have passed the initial phase and have relatively mature operational experience. In terms of business type, the trade sector leads with 60 respondents (34.3%), followed by culinary 48 (27.4%), services 32 (18.3%), industry/crafts 20 (11.4%), agriculture/fisheries 10 (5.7%), and others 5 (2.9%), reflecting that the MSME structure in North Sumatra is dominated by sectors that are relatively easy to enter and have fast business turnover.

Data Analysis

Validitas Convergen

The Digital Accounting (X) construct has a loading value between 0.772 and 0.895, while the MSME Governance (Y) construct is in the range of 0.733-0.850. All of these values exceed the threshold of 0.70, so there are no indicators that need to be eliminated. The above description can be seen in Figure 1 of convergent validity:

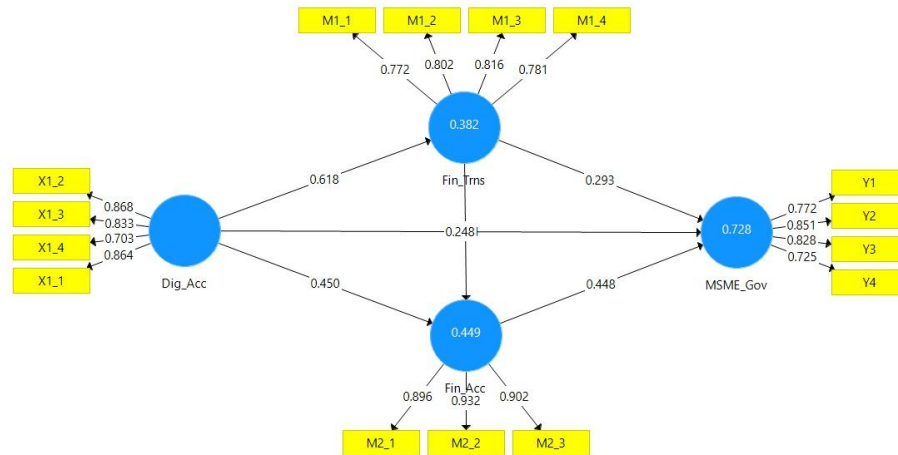


Figure 1. Convergent validity

The convergent validity analysis showed that all indicators in the model had high loadings above 0.70, demonstrating strong relationships with their respective constructs and confirming good convergent validity for Financial Transparency (Fin_Trns), Digital Access (Dig_Acc), and Financial Access (Fin_Acc). Therefore, all indicators meet the convergent validity criteria and are suitable for structural model evaluation. Following this, construct reliability is assessed using Cronbach's Alpha and Composite Reliability (>0.70) to ensure internal consistency and that the construct explains most of the variance in its indicators.

Table 2. Construct reliability and validity

Construct	Cronbach's Alpha	rho_A	Composite Reliability (CR)	AVE
Financial Transparency (M1)	0.803	0.804	0.871	0.628
Financing Access (M2)	0.896	0.898	0.935	0.829
Digital Accounting (X)	0.882	0.881	0.919	0.741
MSME Governance (Y)	0.806	0.811	0.874	0.635

The test results showed that the entire construct had a good level of reliability. The Cronbach's Alpha value was in the range of 0.803–0.896, which entirely exceeded the minimum limit of 0.70, thus indicating adequate internal consistency. The rho_A value (0.804–0.898) also confirmed the stability and reliability of each construct. In addition, the Composite Reliability value ranged from 0.871 to 0.935, which was also above the recommended threshold (≥ 0.70), thus reinforcing the evidence of construct reliability.

Heterotrait-Monotrait Ratio (HTMT)

HTMT assesses the extent to which constructs are conceptually different by comparing the correlation between indicators of different constructs with the correlation of indicators in the same construct. HTMT values lower than 0.85 indicate that constructs have adequate discriminant validity (Hair et al., 2022).

Tabel 3. Heterotrait-monotrait ratio (HTMT)

	M1 (Financial Transparency)	M2 (Financing Access)	X (Digital Accounting)	Y (MSME Governance)
M1 (Financial Transparency)				
M2 (Financing Access)	0.669			
X (Digital Accounting)	0.594	0.575		
Y (MSME Governance)	0.855	0.896	0.622	

The HTMT values between all constructs were below 0.90, indicating adequate discriminant validity. The construct pairs M2-Y (0.896) and M1-Y (0.855) showed the highest value, but remained below the critical threshold, while pairs such as X-M2 (0.575) showed relatively low values. This confirms that each construct is unique and different from each other. Therefore, it can be concluded that all constructs in this study are proven to have good discriminant validity, so that each construct can be considered to represent a different variable decisively.

Multicollinearity Assessment

Before evaluating the structural model, a multicollinearity test is carried out to ensure that there is no high correlation between indicators that can cause bias in the estimation of model parameters. Multicollinearity testing was performed using the Variance Inflation Factor (VIF). According to Hair et al. (2022), a VIF value of < 5.00 indicates the absence of a serious multicollinearity problem, while Kock (2015) suggested a VIF value of < 3.30 as an additional indicator to detect potential *common method bias*. The results of the VIF test are presented in Table 5.

Table 4. Collinearity statistics (Outer VIF Values)

Indicator	VIF	Threshold	Interpretation
M1_1	1.537	< 5.00	No multicollinearity
M1_2	1.679	< 5.00	No multicollinearity
M1_3	1.890	< 5.00	No multicollinearity
M1_4	1.720	< 5.00	No multicollinearity
M2_1	2.510	< 5.00	No multicollinearity
M2_2	3.339	< 5.00	No multicollinearity
M2_3	2.696	< 5.00	No multicollinearity
X1_1	3.290	< 5.00	No multicollinearity
X1_2	3.136	< 5.00	No multicollinearity
X1_3	2.776	< 5.00	No multicollinearity
X1_4	1.547	< 5.00	No multicollinearity
Y1	1.650	< 5.00	No multicollinearity
Y2	1.962	< 5.00	No multicollinearity
Y3	1.827	< 5.00	No multicollinearity
Y4	1.456	< 5.00	No multicollinearity

Source: SmartPLS output

Based on Table 4, all indicators have a Variance Inflation Factor (VIF) value that ranges from 1.456 to 3.339. All VIF values are below the maximum limit of 5.00, indicating that the model does not experience multicollinearity problems that can affect parameter estimation. Although the M2_2 indicator has the highest VIF value (3.339), its value is still within acceptable limits according to Hair et al. (2022). Thus, there is no excessive correlation between the indicators, so that the entire construct meets the assumption of multicollinearity-free and is suitable for use at the stage of structural model evaluation and hypothesis testing.

When using the VIF criterion < 3.30 as suggested by Kock (2015) to detect potential *common method bias*, most indicators have met these criteria. Only the M2_2 indicator had a value slightly above the threshold (3.339), but the difference was very small and showed no indication of serious multicollinearity. Therefore, overall, the research model can still be considered to meet the assumptions of collinearity and is worthy of further analysis using SEM-PLS.

Coefficient of Determination (R²):

The determination coefficient (R²) is used to measure the proportion of variance of endogenous variables that can be explained by exogenous variables in a structural model. The R² value

indicates how well the model can explain the variability of the data, making it one of the important benchmarks in assessing the predictive power of the model.

Table 5. Coefficient of determination

Variables	R Square	R Square Adjusted
M ₁ (Financial Transparency)	0.253	0.249
M ₂ (Financing Access)	0.393	0.386
Y (MSME Governance)	0.682	0.676

The table shows the results of regression analysis for three variables: M₁ (Financial Transparency), M₂ (Financing Access), and Y (MSME Governance). The R-Square value for M₁ is 0.253, which means that only 25.3% of the variation in Financial Transparency can be explained by this model. This suggests that other factors not covered by the model have a large influence. M₂ shows an R Square of 0.393, indicating that this model explains 39.3% variation in Financing Access, which is better than M₁, but still leaves other variables that can improve understanding.

For Y (MSME Governance), an R-squared of 0.682 indicates that this model has strong explanatory power, revealing 68.2% variation in MSME Governance. This shows that the factors influencing MSME Governance are more represented in this model compared to the other two variables.

Overall, MSME Governance had a greater explanatory contribution, while M₁ showed lower results. The mismatch between profitability and dividend policy in the Indonesian capital market is also reflected in these results, with market variables being more dominant in determining dividend policy than profitability. This leads to the need to include additional variables to improve the accuracy of the model and the explanation of the phenomenon that occurs.

Effect Size (f^2)

The effect size (f^2) analysis was conducted to determine the substantive contribution of each exogenous construct to the corresponding endogenous construct in the SEM-PLS structural model. f^2 values of 0.02, 0.15, and 0.35 indicate small, medium, and large effects, respectively, while values below 0.02 indicate a negligible effect (Hair et al., 2022).

Table 6. Effect size (f^2)

	M ₁ (Financial Transparency)	M ₂ (Financing Access)	X (Digital Accounting)	Y (MSME Governance)
M ₁ (Financial Transparency)	–	0.214	–	0.241
M ₂ (Financing Access)	–	–	–	0.516
X (Digital Accounting)	0.339	0.113	–	0.014
Y (MSME Governance)	–	–	–	–

Based on Table 6, Financial Transparency (M₁) has an f^2 value of 0.214 on Financing Access (M₂), indicating a medium effect size. This finding indicates that Financial Transparency makes a meaningful substantive contribution to explaining the variance in Financing Access. Furthermore, Financial Transparency (M₁) has an f^2 value of 0.241 on MSME Governance (Y), which also represents a medium effect, indicating a meaningful contribution to explaining variations in MSME Governance. Meanwhile, Financing Access (M₂) has an f^2 value of 0.516 on MSME Governance (Y). Since this value exceeds the threshold of 0.35, it indicates a large effect size. Thus, Financing Access represents the construct with the strongest substantive contribution to MSME Governance among the relationships examined in the model.

Furthermore, Digital Accounting (X) has an f^2 value of 0.339 on Financial Transparency (M₁), which is close to the 0.35 threshold and is categorized as a medium effect. This finding indicates that

Digital Accounting provides a relatively strong substantive contribution to Financial Transparency. In contrast, Digital Accounting (X) has an f^2 value of 0.113 on Financing Access (M2), indicating a small effect. This suggests that although Digital Accounting contributes to Financing Access, its substantive contribution is relatively limited compared with the contribution of other constructs in the model.

Finally, the direct effect of Digital Accounting (X) on MSME Governance (Y) has an f^2 value of 0.014, which is below the 0.02 threshold and is therefore categorized as a negligible effect. This finding indicates that the direct substantive contribution of Digital Accounting to MSME Governance is very small after accounting for Financial Transparency and Financing Access in the model.

Predictive Relevance (Q^2)

After assessing the model's explanatory power, its predictive relevance was further examined using Stone-Geisser's Q^2 value derived from the blindfolding procedure. This measure indicates how well the structural model can predict the endogenous constructs. Following Hair et al. (2022), a Q^2 value above zero indicates predictive relevance, while values of approximately 0.02, 0.15, and 0.35 indicate small, medium, and large levels of predictive relevance, respectively.

Table 7. Predictive relevance (Q^2)

Construct	SSO	SSE	Q^2	Interpretation
Financial Transparency (M1)	700.000	539.532	0.229	Moderate Predictive Relevance
Access to Financing (M2)	525.000	411.772	0.216	Moderate Predictive Relevance
MSME Governance (Y)	700.000	406.358	0.419	High Predictive Relevance

Based on Table 7, all endogenous constructs produced Q^2 values greater than zero, indicating that the proposed model possesses predictive relevance. Financial Transparency (M1) achieved a Q^2 value of 0.229, while Access to Financing (M2) recorded a Q^2 value of 0.216, both indicating moderate predictive relevance. Meanwhile, MSME Governance (Y) obtained the highest Q^2 value of 0.419, demonstrating high predictive relevance. These findings indicate that the proposed Digital Accounting-Based MSME Governance Model has satisfactory predictive capability in explaining the endogenous constructs and is therefore appropriate for subsequent structural model evaluation and hypothesis testing.

Standardized Root Mean Square Residual (SRMR)

Before testing the hypothesis, an evaluation of the overall model fit was carried out to assess the suitability of the proposed structural model with empirical data. One of the *model fit sizes* recommended in the PLS-SEM analysis is the Standardized Root Mean Square Residual (SRMR). The SRMR value represents the average difference between the observed correlation matrix and the correlation matrix predicted by the model. According to Hair Jr. et al., the model is declared to have a good level of conformity if the SRMR value is less than 0.08. The results of the *fit model* test using the SRMR index are presented in Table 7.

Table 8. Standardized root mean square residual (SRMR)

Model Fit Index	Value	Cut-off Value	Criteria	Conclusion
SRMR (Saturated Model)	0.061	< 0.080	Good Fit	Meets the criterion
SRMR (Estimated Model)	0.061	< 0.080	Good Fit	Meets the criterion

Based on Table 8, the SRMR values for both the Saturated Model and the Estimated Model are 0.061, which are below the recommended threshold of 0.08. These results indicate that the proposed model demonstrates a good overall model fit, suggesting that it adequately represents the relationships among the latent constructs. Therefore, the model satisfies the required goodness-of-fit criterion and is appropriate for subsequent structural model evaluation and hypothesis testing.

Practical Significance (PLSpredict)

In addition to evaluating the model's explanatory power through R^2 and Q^2 , this study assessed the model's practical significance using the PLSpredict procedure. PLSpredict evaluates the model's ability to predict observations outside the estimation sample (*out-of-sample prediction*). According to Shmueli et al. (2019), a PLS-SEM model demonstrates predictive capability when the Q^2_{predict} values are greater than zero. Furthermore, predictive performance is evaluated by comparing the prediction errors, namely the Root Mean Squared Error (RMSE) and Mean Absolute Error (MAE), between the PLS-SEM model and the benchmark Linear Model (LM). The results of the PLSpredict analysis are presented in Table 9.

Tabel 9. Practical significance (PLSpredict)

Indicator	RMSE	MAE	MAPE	Q^2_{predict}	Interpretation
M1_1	0.865	0.699	25.698	0.150	Predictive capability
M1_2	0.737	0.598	20.303	0.185	Predictive capability
M1_3	0.699	0.561	19.018	0.133	Predictive capability
M1_4	0.728	0.580	20.160	0.117	Predictive capability
M2_1	0.803	0.615	19.679	0.209	Predictive capability
M2_2	0.725	0.566	15.490	0.205	Predictive capability
M2_3	0.740	0.584	15.991	0.173	Predictive capability
Y1	0.748	0.586	17.047	0.180	Predictive capability
Y2	0.790	0.624	18.088	0.168	Predictive capability
Y3	0.813	0.627	19.435	0.185	Predictive capability
Y4	0.841	0.697	21.754	0.129	Predictive capability

As shown in Table 9, all indicators produced positive Q^2_{predict} values, ranging from 0.117 to 0.209. These results indicate that the proposed model possesses predictive capability for all endogenous indicators, thereby satisfying the criterion for predictive relevance suggested by Shmueli et al. (2019). The highest Q^2_{predict} value was observed for M2_1 (0.209), followed by M2_2 (0.205), indicating relatively stronger predictive performance for these indicators. Conversely, M1_4 recorded the lowest Q^2_{predict} value (0.117); however, because the value remains greater than zero, it still demonstrates acceptable predictive capability.

Moreover, the available comparison indicates that the PLS-SEM model produced a lower RMSE than the Linear Model (LM) for the reported indicator, suggesting that the proposed model generated smaller prediction errors. Overall, these findings demonstrate that the Digital Accounting-Based MSME Governance Model not only explains the relationships among the constructs but also exhibits adequate out-of-sample predictive performance, supporting its practical significance for both academic research and practical applications.

Line coefficient test

The path coefficient test is an important stage in the evaluation of structural models used to assess the strength and direction of relationships between latent variables. This test provides information on the significance of the influence of independent variables on dependent variables, thus allowing the researcher to confirm the hypothesis proposed in the study.

Table 10. Path coefficients

	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
M1 (Financial Transparency) -> M2 (Financing Access)	0.417	0.430	0.124	3.378	0.001
M1 (Financial Transparency) -> Y (MSME Governance)	0.570	0.569	0.075	7.583	0.000

M2 (Financing Access) -> Y (MSME Governance)	0.520	0.546	0.119	4.386	0.000
X (Digital Accounting) -> M1 (Financial Transparency)	0.503	0.503	0.077	6.537	0.000
X (Digital Accounting) -> M2 (Financing Access)	0.513	0.516	0.092	5.557	0.000
X (Digital Accounting) -> Y (MSME Governance)	0.525	0.528	0.066	7.926	0.000

The results of the path coefficient evaluation showed that all relationships between latent variables in the model were statistically significant at a significance level of 5%, which was indicated by a t-statistical value of > 1.96 and a p-value of < 0.05. This indicates that all hypothetical paths proposed are acceptable.

Digital Accounting (X) has a positive and significant influence on Financial Transparency (M1) with a path coefficient of 0.503 ($T = 6.537$; $p = 0.000$), showing that the implementation of digital accounting plays an important role in increasing the financial transparency of MSMEs. In addition, Digital Accounting also has a significant impact on Financing Access (M2), with a coefficient of 0.513 ($T = 5.557$; $p = 0.000$), which confirms that the implementation of digital systems can make it easier for MSMEs to obtain financing. The positive impact of Digital Accounting on MSME Governance (Y) has also proven to be significant, with a coefficient of 0.525 ($T = 7.926$; $p = 0.000$), indicating that digitalization of accounting not only affects transparency and access to financing but also directly strengthens MSME governance practices.

Financial transparency (M1) also plays an important role as a strengthening factor, as seen from the significant influence on Financing Access (M2) of 0.417 ($T = 3.378$; $p = 0.001$), which shows that MSMEs with a higher level of transparency tend to access financing more easily. The influence of Financial Transparency on MSME Governance is even stronger, at 0.570 ($T = 7.583$; $p = 0.000$), indicating that financial transparency is a major contributor in improving MSME governance. Meanwhile, Financing Access (M2) also makes a positive contribution to MSME Governance, with a coefficient of 0.520 ($T = 4.386$; $p = 0.000$), confirming that the ability to obtain adequate financing supports the improvement of MSME governance.

Indirect Effect Test

The mediation test in this study was carried out using the Indirect Effect Test, which aims to assess the extent to which the mediator variable passes on the influence of independent variables on the dependent variable. This test allows the identification of whether Digital Accounting affects the governance of MSMEs indirectly through Financial Transparency and Financing Access, as well as the determination of the significance of the mediation effect.

Table 11. Indirect effect

	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
X (Digital Accounting) -> M1 (Financial Transparency) -> M2 (Financing Access)	0.210	0.221	0.082	2.567	0.011
X (Digital Accounting) -> M1 (Financial Transparency) -> Y (MSME Governance)	0.178	0.162	0.060	2.949	0.003
M1 (Financial Transparency) -> M2 (Financing Access) -> Y (MSME Governance)	0.217	0.241	0.103	2.104	0.036
X (Digital Accounting) -> M2 (Financing Access) -> Y (MSME Governance)	0.158	0.161	0.073	2.171	0.030

The indirect effect test showed that all mediation paths were positive and significant ($p < 0.05$). Digital Accounting significantly improves Financing Access through Financial Transparency ($\beta = 0.210$; $t = 2.567$; $p = 0.011$), while it also strengthens MSME Governance via Financial Transparency ($\beta = 0.178$; $t = 2.949$; $p = 0.003$), highlighting transparency as a key mechanism. Additionally, the chain mediation through Financial Transparency $\rightarrow$ Financing Access $\rightarrow$ MSME Governance ($\beta = 0.217$; $t = 2.104$; $p = 0.036$) and the path Digital Accounting $\rightarrow$ Financing Access $\rightarrow$ MSME Governance ($\beta = 0.158$; $t = 2.171$; $p = 0.030$) were significant, confirming both partial and chain mediation in these relationships.

Discussion

Digital Accounting and MSME Governance

The findings indicate that Digital Accounting has a significant positive effect on MSME Governance. Rather than functioning solely as a technological innovation, digital accounting serves as an internal governance mechanism by generating timely, standardized, and reliable financial information. This reduces information asymmetry, strengthens internal control, and supports evidence-based managerial decision-making. In the context of Indonesian MSMEs, this relationship is particularly relevant because many MSMEs still operate with relatively simple administrative structures, limited separation between ownership and management, and varying levels of financial record-keeping capability. Digital accounting can therefore compensate for these structural limitations by institutionalizing more systematic financial monitoring and accountability practices. Consequently, governance improvements arise from the integration of digital accounting into daily financial management rather than from technology adoption itself.

This finding extends previous studies (Gao, 2023) by demonstrating that the governance benefits of digital accounting are generated through improvements in accounting information quality and accountability mechanisms. From the Resource-Based View (RBV), digital accounting can be interpreted as a strategic organizational capability when MSMEs develop the ability to consistently use digital financial information for monitoring, control, and decision-making. Its value therefore depends not merely on possessing digital tools but on embedding them into organizational routines. From an Agency Theory perspective, digital accounting reduces information asymmetry between owners, managers, and other stakeholders by making financial activities more transparent and traceable, thereby strengthening monitoring and accountability.

Nevertheless, digital accounting should not be viewed as the sole determinant of governance quality. Organizational readiness, managerial competence, and leadership commitment remain important complementary factors influencing how effectively digital accounting information is utilized in strategic decision-making (Antonini, 2024; Avelar et al., 2024). Thus, the Indonesian MSME context suggests that the governance value of digital accounting is contingent upon the organizational capacity to convert digital information into effective control practices.

Digital Accounting and Financial Transparency

The empirical results confirm that Digital Accounting positively influences Financial Transparency. Digital accounting standardizes financial recording, reduces manual errors, and facilitates timely reporting, thereby improving the reliability and traceability of financial information. For Indonesian MSMEs, where informal record-keeping and inconsistent financial documentation can constrain the credibility of business information, standardized digital records can provide a more consistent basis for communicating financial conditions to owners, business partners, financial institutions, and other stakeholders.

Unlike previous studies that mainly emphasized the operational benefits of digitalization (Agostino et al., 2022; Jans et al., 2022), this study demonstrates that digital accounting also functions as a governance infrastructure that supports organizational transparency. The relationship can also be explained through Agency Theory: greater visibility of financial transactions reduces information asymmetry and makes managerial or financial activities easier to monitor. In RBV terms, the capability

to generate, organize, and use reliable digital financial information represents an intangible organizational capability that can improve the quality of stakeholder relationships.

However, the effectiveness of digital accounting in enhancing transparency also depends on external regulatory environments, organizational culture, and the effectiveness of internal control systems (Awang et al., 2022; Lulaj et al., 2026). Therefore, digital accounting should be understood as an enabling capability whose transparency benefits become stronger when supported by appropriate organizational routines and control mechanisms.

This study contributes theoretically by positioning digital accounting as a transparency mechanism that improves the reliability and accessibility of financial information. Digital accounting enhances transparency because standardized and traceable financial records reduce errors and increase stakeholder confidence.

Financial Transparency and Access to Financing

Financial Transparency significantly affects Access to Financing. Transparent financial reporting acts as a signaling mechanism that reduces uncertainty faced by lenders and investors. In Indonesia, this relationship is especially important for MSMEs that may face difficulties demonstrating business performance because of incomplete financial records and limited formal documentation. More transparent and verifiable financial information enables financial institutions to assess business performance and repayment capacity with greater confidence, thereby reducing perceived information risk.

These findings reinforce the argument that transparency creates economic value by reducing information asymmetry rather than merely satisfying reporting requirements. Compared with previous studies (Alassuli et al., 2025; Gao, 2023; Oncioiu et al., 2020), the present study provides stronger empirical evidence that transparency functions as an intermediary mechanism connecting internal accounting practices with financing accessibility. From Agency Theory, transparency reduces the information advantage of borrowers and enables lenders to conduct more effective monitoring. From an RBV perspective, the ability to produce credible financial information constitutes an organizational capability that can improve MSMEs' external resource acquisition.

Nevertheless, transparency alone cannot fully explain financing decisions. Lending institutions also evaluate collateral availability, business performance, liquidity, and credit history before granting financing (Janský et al., 2023; Shaban & Omoush, 2025). Financial transparency should therefore be viewed as an important informational resource that improves financing prospects rather than as a guarantee of financing approval.

Financial Transparency and MSME Governance

The results reveal that Financial Transparency positively influences MSME Governance. Transparent financial information enables managers and stakeholders to monitor organizational performance, strengthens accountability, and supports objective decision-making. Within Indonesian MSMEs, where ownership and managerial roles are often closely intertwined, transparent financial information can reduce ambiguity regarding the use of business resources and provide a clearer basis for evaluating financial performance and managerial decisions.

This finding contributes theoretically by positioning financial transparency as a governance mechanism rather than merely an accounting outcome. While previous research has generally treated transparency as a reporting attribute (Rahmadita & Marsono, 2024; Tjahjadi et al., 2021), the present findings indicate that transparency has an organizational function because it facilitates monitoring and accountability. This interpretation is consistent with Agency Theory, in which access to reliable information reduces information asymmetry and strengthens control over organizational activities.

However, governance quality also depends on leadership effectiveness, organizational culture, and managerial capability. Financial transparency therefore, complements, rather than replaces, broader organizational governance mechanisms (Indriawati et al., 2022). Its contribution is strongest

when transparent information is actively used in monitoring, evaluation, and corrective decision-making..

Access to Financing and MSME Governance

Access to Financing significantly influences MSME Governance. Financial resources enable MSMEs to invest in accounting systems, employee development, technological infrastructure, and internal control mechanisms. In the Indonesian MSME context, improved financing access can be particularly consequential because resource constraints frequently limit the ability of small businesses to formalize administrative systems and invest in organizational capabilities. Additional financial resources can therefore create the capacity to institutionalize governance practices that would otherwise be difficult to implement.

Unlike studies that primarily associate financing with business growth (Khairiah & Inayah, 2024), the present findings demonstrate that financing also functions as an institutional resource supporting governance development. This relationship reinforces the RBV perspective because financial resources can be transformed into valuable organizational capabilities, including stronger information systems, human resources, and internal controls. However, resources generate governance value only when managerial capabilities enable them to be deployed effectively.

Poor financial management may weaken the governance benefits generated by increased financing access (Widyatini, 2019). Thus, financing should be regarded as an enabling resource rather than an automatic source of better governance.

The Mediating Role of Financial Transparency

Financial Transparency significantly mediates the relationship between Digital Accounting and MSME Governance. This result indicates that the governance effect of digital accounting is partly transmitted through the improvement of financial information quality and visibility. In Indonesian MSMEs, digital accounting can transform previously fragmented or manually recorded transactions into more structured financial information, which subsequently strengthens monitoring and accountability.

This mediation finding represents an important theoretical contribution because it demonstrates that digital accounting does not influence governance solely through technological adoption. Rather, technology creates governance value when its information outputs are converted into transparency and subsequently used for monitoring and decision-making. This mechanism is consistent with Agency Theory because improved transparency reduces information asymmetry, while RBV explains how the organizational capability to generate and utilize such information can become a source of sustained organizational value.

The Mediating Role of Access to Financing

Access to Financing also significantly mediates the relationship between Digital Accounting and MSME Governance. Digital accounting improves the quality and credibility of financial reports, enabling MSMEs to demonstrate their financial condition more effectively to financing providers. In Indonesia, where access to formal financing can be constrained by limited financial documentation and information asymmetry, credible digital financial records can strengthen MSMEs' ability to demonstrate business viability and meet financing requirements.

Increased financing subsequently provides resources that can be allocated to accounting systems, technology, human resources, and internal control. The mediation therefore reflects a sequential mechanism in which digital accounting strengthens financial credibility, financial credibility improves financing opportunities, and additional resources expand the organizational capacity to implement governance practices. From an RBV perspective, this illustrates how an information-based capability can facilitate access to external resources and subsequently support the development of other valuable organizational capabilities. From Agency Theory, the mechanism

begins with reduced information asymmetry between MSMEs and external financiers, which improves the credibility of the firm and facilitates resource acquisition.

Accordingly, the governance benefits of digital accounting extend beyond internal information management. Digital accounting can function as a strategic capability that connects internal information quality with external resource acquisition and, ultimately, governance development

4. CONCLUSION

This study concludes that Digital Accounting significantly enhances MSME governance, both directly and indirectly through financial transparency and access to financing. Digital Accounting improves the quality of financial information, strengthens accountability, and supports more effective managerial decision-making. Its contribution to financing access also demonstrates that digital accounting functions not only as an operational tool but also as a strategic mechanism for strengthening organizational capabilities and governance quality. Theoretically, this study extends the understanding of digital transformation in MSMEs from a technology adoption perspective toward a governance perspective. The developed model extends the digital accounting literature by positioning digital accounting as a governance-enabling capability that influences governance directly and indirectly through financial transparency and access to financing. By integrating digital accounting, financial transparency, financing access, and MSME governance into a single framework, the study provides a more comprehensive explanation of how digital accounting creates organizational value through transparency, reduced information asymmetry, and accountability. Methodologically, this study contributes by developing and empirically testing an integrated model that explains both the direct and indirect effects of digital accounting on MSME governance. From a policy perspective, the findings highlight the need to strengthen digital accounting adoption through digital literacy, accounting technology support, and policies that promote financial transparency. From a managerial perspective, MSMEs should view digital accounting as a strategic investment to improve transparency, stakeholder trust, financing access, and internal control, while considering managerial readiness and organizational capabilities. This study is limited to the Indonesian MSME context and the variables examined, which may limit the generalizability of the findings. Future research should test the developed model across different business sectors and regions to enhance its generalizability and employ longitudinal designs to examine how the effects of digital accounting on governance evolve over time. Future studies may also incorporate factors such as government support, organizational culture, industry characteristics, and digital capabilities to further extend the proposed model.

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