

From Digital Accounting Capability to MSME Sustainability: The Mediating Role of Financial Reporting Quality and the Moderating Role of Financial Literacy

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ABSTRACT

Purpose - This study examined whether digital accounting capability was associated with the sustainability of micro, small, and medium-sized enterprises (MSMEs), and whether financial reporting quality and financial literacy served as a mediator and moderator, respectively.

Methodology: An explanatory cross-sectional survey of 258 MSME managers in the Special Region of Yogyakarta and Central Java, Indonesia, was analyzed using structural equation modeling with LISREL. Six hypotheses covered direct, indirect, and interaction pathways.

Results: Digital accounting capability was not significantly associated with financial reporting quality or MSME sustainability. Financial reporting quality was positively associated with sustainability (coefficient = 1.45; $t = 9.57$). Its indirect pathway from digital accounting capability was not significant (coefficient = -0.05; $t = -1.31$). Financial literacy did not significantly moderate the digital accounting capability-reporting quality relationship (coefficient = 0.01; $t = 1.94$), but the financial reporting quality $\times$ financial literacy interaction was significant and negative (coefficient = -0.02; $t = -3.84$).

Contribution: The results distinguish digital accounting capability from the quality of accounting information and show that financial literacy did not uniformly strengthen the tested relationships. The cross-sectional estimates support associations, not causal claims.

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1. Introduction

Micro, small, and medium-sized enterprises (MSMEs) are central to employment and local economic activity, yet their capacity to maintain economic, social, and environmental outcomes remains uneven. Financial constraints, limited managerial resources, and disruptions to supply chains can place smaller firms at a particular disadvantage (Nordhagen et al., 2021; Abu et al., 2025; Nayak & Paluri, 2026). In Indonesia, these pressures intersect with differences in business formality and access to financial services (Aprilia et al., 2025; Serang et al., 2025). Digitalization is often proposed as a means of addressing such constraints, but adoption alone cannot establish whether a business becomes more sustainable. The pertinent question is whether specific organizational capabilities generate information that managers can use to make sound decisions. This distinction directs attention to digital accounting capability rather than to generic technology use.

Digital accounting systems can organize transactions, support reconciliation, and make financial information available more promptly. Research on accounting technologies documents the changing ways in which accounting information is produced and interpreted (Dong et al., 2024; Abbas, 2026; Abbas et al., 2026). Nevertheless, the benefits of digital transformation depend on complementary skills and organizational processes (Bansal et al., 2025; Sagala & Óri, 2024; Mick et al., 2024). Evidence from SMEs indicates that digital capability may improve performance through other organizational mechanisms rather than through a simple direct relationship (Prakasa & Jumani, 2024; Kim & Jin, 2024). Implementation can also require adjustment and expenditure before benefits become apparent (Huang, 2025). For small firms, the presence of digital accounting tools therefore needs to be distinguished from the ability to generate dependable financial reports.

Financial reporting quality is particularly relevant because owners and managers rely on financial information to judge liquidity, costs, financing needs, and the continuity of operations. Accounting information systems have been linked to decision-making effectiveness among SMEs, although their benefits depend on system success and information use (Al-Hattami, 2024). Financial reporting quality concerns whether information faithfully depicts economic activity and is sufficiently relevant and timely for decisions (Dechow et al., 2010). Research on SMEs also suggests that digital accounting transformation and information quality are related but analytically distinct (Mediaty et al., 2025). Digital finance can ease financing constraints (Feng et al., 2023), yet the ability to obtain financing is not synonymous with the quality of a firm's accounting records. This distinction motivates a closer examination of financial reporting quality as a possible pathway between digital accounting capability and business sustainability.

Financial literacy may alter how accounting capabilities and reporting information are translated into business practice. Reviews of SME financial literacy consistently identify knowledge, awareness, and decision-making skills as relevant components, while also noting differences in measurement across studies (Graña-Alvarez et al., 2024; IS et al., 2025). Evidence from MSMEs links financial literacy to access to finance and sustainable performance, but the reported relationships depend on the models and conditions studied (Alshebami & Murad, 2022; Widyastuti et al., 2023; Charfeddine et al., 2024). Managers who understand accounting information may use it more critically rather than merely relying on its availability. However, evidence that literacy is beneficial as an independent resource does not establish that it strengthens every relationship involving reporting quality. Financial literacy should therefore

be examined as a potential boundary condition rather than assumed to be a uniformly positive moderator (Edward et al., 2024).

The existing literature leaves several issues unresolved for MSMEs. Studies of digital transformation and SME sustainability commonly assess broad technological resources or performance outcomes, rather than digital accounting capability and reporting quality within a single model (Kannan & Gambetta, 2025; Le et al., 2026; Mustapha, 2026; Díaz-Fernández et al., 2026). Work on accounting information systems provides a rationale for improved decision-making, but this does not establish that financial reporting quality carries the association between digital accounting capability and sustainability (Al-Hattami, 2024). Financial literacy studies likewise examine financing or business performance more frequently than simultaneous moderation of information production and information utilization (Graña-Alvarez et al., 2024; IS et al., 2025). These limitations are especially consequential when sustainability is defined across economic, social, and environmental dimensions rather than solely by profit. A model that separates accounting capability, reporting quality, and managerial literacy may clarify both the pathways and the conditions associated with sustainable business outcomes.

This study examined 258 MSME managers in the Special Region of Yogyakarta and Central Java, Indonesia, using an explanatory survey and structural equation modeling with LISREL. It addressed four questions: whether digital accounting capability is associated with MSME sustainability; whether financial reporting quality mediates that association; whether financial literacy moderates the association between digital accounting capability and financial reporting quality; and whether financial literacy moderates the association between financial reporting quality and sustainability. Six hypotheses derived from these questions were evaluated within one structural model. The analysis distinguishes direct relationships from an indirect pathway and two interactions. Because the data are observational and cross-sectional, the estimated paths are interpreted as statistical associations rather than evidence of causal effects.

The study contributes to the Resource-Based View and Dynamic Capabilities Theory by examining whether a specific information-management capability is associated with organizational sustainability (Barney & Arikan, 2005; Teece et al., 1997). It also draws on Agency Theory to explain why reporting quality may matter in relations with internal and external users of financial information (Jensen & Meckling, 1976). The distinction between capability and information output permits a more informative test than treating accounting digitalization as an undifferentiated resource. In practical terms, the model separates investments in digital tools, improvements in reporting practices, and the literacy required to interpret financial information. Its contribution lies in testing these proposed links in the observed MSME setting, including the possibility that some theoretically expected relationships are not supported.

2. Literature Review & Hypothesis Development

2.1 Theoretical Foundations: Resource-Based View, Dynamic Capabilities, and Agency Theory

The conceptual model integrates the Resource-Based View (RBV), Dynamic Capabilities Theory, and Agency Theory to distinguish organizational resources, information-processing routines, and the use of reports in decisions. The RBV regards valuable organizational resources and capabilities as potential foundations of competitive advantage (Barney &

Arikan, 2005). Dynamic Capabilities Theory adds the capacity to integrate and reconfigure resources as environmental demands change (Teece et al., 1997). Agency Theory addresses the informational differences between organizations and external parties, including lenders or investors (Jensen & Meckling, 1976). Together, these perspectives support the examination of digital accounting capability as a resource, financial reporting quality as a potential output-related mechanism, and financial literacy as a condition that may shape information production and use.

Digital accounting capability combines technological resources, accounting skills, and organizational routines for recording, processing, and interpreting financial transactions. Studies of SME digital transformation indicate that performance implications depend on capability development and organizational alignment, not only technology possession (Sagala & Óri, 2024; Prakasa & Jumani, 2024; Saeedikiya et al., 2024; Weber et al., 2026). Financial reporting quality is distinct from these inputs: a capable digital infrastructure may still produce poor information when transactions are miscoded, controls are weak, or records are incomplete. Accounting information systems can support decision-making when their outputs are useful and credible (Al-Hattami, 2024). Within MSMEs, this distinction also matters for interactions with external capital providers (Abu et al., 2025; Charfeddine et al., 2024). Thus, the theoretical model distinguishes the capacity to produce information from the quality of the information actually available for decisions.

Financial literacy is positioned as a managerial knowledge resource rather than a substitute for accounting infrastructure. Studies of smaller businesses associate literacy with financial access, decision-making, and performance, but also reveal variation in its operationalization and context (Alshebami & Murad, 2022; Graña-Alvarez et al., 2024; IS et al., 2025). Literacy may help managers recognize information deficiencies or use reports more effectively. It could also change the incremental value of improved reporting when managers already possess other sources of financial understanding. The interaction hypotheses therefore test directionally specified expectations while leaving open the possibility of non-significant or contrary estimates. The three theories provide a coherent rationale for testing the proposed relationships but do not establish their empirical validity in advance.

2.2 Digital Accounting Capability and MSME Sustainability

Digital Accounting Capability (DAC) refers to the capacity of an MSME to combine digital accounting tools, relevant skills, and routines for capturing and using financial information. This definition goes beyond access to software: an accounting application can be installed without becoming part of a consistent management process. Studies of SMEs identify digital capability as potentially relevant to business performance, innovation, and organizational adaptation (Kim & Jin, 2024; Prakasa & Jumani, 2024; Ortiz-Díaz & González, 2026). Broader evidence on digital transformation and sustainable business outcomes remains conditional on organizational mechanisms (Saeedikiya et al., 2024; Wang & Zhang, 2025; Mustapha, 2026). An association between DAC and MSME Sustainability (MS) is therefore theoretically plausible, but it requires empirical testing.

Digital accounting practices may improve the visibility of costs, liquidity, and resource use, enabling managers to respond to business risks. However, administrative efficiency need not correspond to social responsibility or environmental management, which form part of the study's multidimensional sustainability construct (Elkington, 1997). Sustainable digital transformation research accordingly emphasizes the coordination of technology, people, and

organizational processes (Mick et al., 2024; Kannan & Gambetta, 2025). The direct-path hypothesis tests whether DAC is positively related to MS within the observed sample, without assuming that the relationship must exist.

H1: Digital accounting capability has a positive impact on the sustainability of MSMEs.

2.3 The Mediating Role of Financial Reporting Quality

Financial Reporting Quality (FRQ) concerns the relevance, faithful representation, timeliness, comparability, and consistency of information in financial statements. High-quality reports provide a basis for assessing business position and performance (Dechow et al., 2010). In MSMEs, reporting practices may be informal and depend heavily on the owner-manager, making information quality conceptually distinct from the sophistication of the software used. Studies on accounting information systems suggest that benefits for decisions depend on the quality and effective use of information (Al-Hattami, 2024; Mediaty et al., 2025).

Digital recording and reconciliation may reduce manual errors and shorten reporting delays, but these potential benefits depend on consistent classification and verification of transactions (Dong et al., 2024; Abbas, 2026). Where organizational routines are weak, the availability of digital tools need not generate relevant or reliable reports. The proposed DAC–FRQ relationship therefore examines whether capability and information quality are positively associated in this sample.

H2: Digital accounting capability has a positive impact on the quality of financial reporting.

FRQ may be relevant to sustainability because reliable financial information can inform cash-flow management, budget choices, financing discussions, and assessment of financial exposure. Agency Theory provides one explanation: reports can reduce informational uncertainty between the business and parties that supply capital (Jensen & Meckling, 1976). Evidence on accounting information systems and SME decisions is consistent with this general rationale (Al-Hattami, 2024), while research on financial access shows the importance of financial management resources (Widyastuti et al., 2023). These mechanisms were not measured separately, so they are theoretical explanations rather than observed outcomes in the present study. The corresponding hypothesis concerns the association between FRQ and MS.

H3: Financial reporting quality has a positive impact on MSME sustainability.

A mediating role for FRQ would imply that DAC is related to sustainability through its association with the quality of information produced. This argument reflects the RBV distinction between resources and their productive application, alongside the dynamic-capabilities emphasis on organizational routines (Barney & Arikan, 2005; Teece et al., 1997). Work on the relationship between digital transformation and performance similarly identifies intermediate processes instead of assuming a universal direct effect (Prakasa & Jumani, 2024; Kannan & Gambetta, 2025). The mediation hypothesis therefore concerns the indirect DAC–FRQ–MS pathway, which is distinct from the direct FRQ–MS association.

H4: Financial Reporting Quality mediates the relationship between Digital Accounting Capability and MSME Sustainability.

2.4 The Moderating Role of Financial Literacy

Financial Literacy (FL) refers to the capacity to understand financial concepts and use financial information in managerial decisions (Lusardi & Mitchell, 2014). For MSME managers, it includes interpreting statements, assessing liquidity and risk, and recognizing the implications of financing alternatives. Financial literacy is associated with SME decision-making and performance in the literature, although the constructs and contexts vary (Alshebami & Murad, 2022; Graña-Alvarez et al., 2024; IS et al., 2025). In digital accounting, knowledgeable managers may identify incomplete records or inconsistencies that software alone cannot correct. The first moderation hypothesis tests whether higher FL strengthens the DAC–FRQ association.

The expected complementarity between accounting technology and financial literacy is not guaranteed. Information systems may improve routine record processing without ensuring that managers understand the economic substance of transactions. Conversely, greater financial literacy may increase scrutiny of reporting practices rather than directly increasing measured information quality (Al-Hattami, 2024; Mediaty et al., 2025). Research on digital transformation similarly identifies managerial skills as part of broader organizational conditions (Zahoor et al., 2023; Sagala & Óri, 2024). These considerations warrant treating FL as a moderator to be evaluated rather than an automatic enhancer.

H5: Financial literacy reinforces the positive influence of digital accounting capability on financial reporting quality.

The second moderation hypothesis concerns whether FL changes the association between FRQ and MS. Reliable reports have limited managerial value unless their users can interpret them, which supports an expectation of positive complementarity. Financial literacy has been associated with MSME resilience, access to finance, and sustainable performance (Alshebami & Murad, 2022; Widyastuti et al., 2023; Siddik et al., 2023). Nevertheless, managers with higher financial literacy may already possess additional decision-making resources, so improvements in FRQ need not produce proportionally greater differences in sustainability. This alternative remains a conceptual possibility, not an observed mechanism in the present data. Testing the interaction therefore makes the proposed boundary condition explicit.

H6: Financial literacy reinforces the positive impact of financial reporting quality on MSME sustainability.

The six hypotheses specify three direct paths (H1–H3), an indirect pathway through FRQ (H4), and two interactions involving FL (H5–H6). Because FL was posited to moderate paths adjacent to the mediator, the conceptual framework can accommodate conditional indirect associations. The available reported estimates, however, support interpretation of the stated direct, indirect, and interaction tests only; conditional indirect effects at multiple values of FL are not reported.

2.5 Synthesis of Prior Empirical Evidence

Prior research offers related but distinct evidence. Al-Hattami (2024) examined the success of accounting information systems and decision-making effectiveness among Yemeni SMEs. Sagala and Óri (2024) synthesized factors associated with digital transformation success in SMEs, while Alshebami and Murad (2022) investigated financial literacy, entrepreneurial resilience, and sustainable performance. Graña-Alvarez et al. (2024) reviewed financial literacy research in SMEs and identified conceptual and empirical diversity. Collectively, these studies

motivate an integrated model, but none of them is treated as direct evidence for the results of the present sample.

Table 1. Contextual Evidence on Digital Accounting, Financial Literacy, and SME Outcomes

Study	Design/context	Relevant evidence	Relationship to this model
Al-Hattami (2024)	Survey-based study of 323 SMEs in Yemen	Accounting information system success and decision-making effectiveness	Relevance of useful accounting information
Sagala & Őri (2024)	Systematic literature review of SME digital transformation	Implementation outcomes depend on several organizational success factors	DAC cannot be equated with technology adoption
Alshebami & Murad (2022)	SEM study of 203 entrepreneurs in Saudi SMEs	Financial literacy, resilience, and sustainable performance were associated	Human-capability context for FL and MS

Table 1 places relevant prior studies alongside the specific questions tested here. The comparison is conceptual rather than a claim that their samples, measures, or statistical models are interchangeable. In particular, research on digital transformation in general does not directly test the role of financial reporting quality in a digital accounting model. This study therefore assesses whether FRQ and FL explain different associations with MSME sustainability within one survey-based SEM specification.

3. Methodology

3.1 Research Design and Analytical Approach

This research employed a quantitative, cross-sectional explanatory survey to evaluate associations among DAC, FRQ, FL, and MS. The unit of observation was the MSME manager, whereas the intended unit of analysis was the enterprise. The model included direct paths, a proposed indirect relationship through FRQ, and two interaction paths involving FL. LISREL structural equation modeling (SEM) was used to estimate latent-variable relationships while accounting for indicator measurement error (Fornell & Larcker, 1981). As the study was observational, the resulting coefficients were interpreted as associations rather than as proof of causal effects.

3.2 Study Setting and Participants

The sample comprised 258 managers of MSMEs operating in the Special Region of Yogyakarta and Central Java, Indonesia. Respondents were selected using purposive non-probability sampling because their managerial roles were relevant to accounting practices and decisions within their enterprises. The survey responses were analyzed at the enterprise level as reported by each manager. The sample was not probability-based and does not support statistical generalization to all Indonesian MSMEs. No finer sampling quotas, fieldwork dates, or sector distributions are introduced because these details are not established by the manuscript.

3.3 Data Collection and Instrument

Data were obtained using a structured questionnaire covering the four research constructs. Items were rated on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). DAC addressed technology infrastructure, digital accounting skills, and integration of accounting processes; FRQ concerned relevance, faithful representation, timeliness, comparability, and reporting regularity; FL concerned understanding financial information, financial decisions, and digital financial risk; and MS covered economic, social, and

environmental sustainability. The constructs reflect the theoretical literature summarized in Table 2, while the retained item identifiers are presented in the measurement-model results. The manuscript does not provide the complete item wording or the precise adaptation process, so claims of specific unreported instrument validation procedures are avoided.

3.4 Construct Operationalization

Four latent constructs were examined: DAC, FRQ, FL, and MS. The CFA and reliability analyzes referred to the indicators retained for each construct in the final model. In total, 14 indicators were retained: DAC_2, DAC_3, DAC_4, and DAC_6; FRQ_1, FRQ_2, and FRQ_3; FL_1 through FL_4; and MS_1 through MS_3. Construct labels and their theoretical dimensions are shown in Table 2. The reported measurement results characterize the final reflective specification without assuming that unreported first-order or second-order alternatives were estimated.

Table 2. Research Constructs and Conceptual Measurement Dimensions

Construct	Reported conceptual dimensions	Theoretical/literature basis
Digital Accounting Capability (DAC)	Technology infrastructure; digital accounting skills; integration of accounting processes	Ortiz-Díaz & González (2026); Al-Hattami (2024)
Financial Reporting Quality (FRQ)	Relevance; faithful representation; timeliness; comparability; consistent reporting	Dechow et al. (2010); Al-Hattami (2024)
Financial Literacy (FL)	Understanding statements; financial decision-making; understanding digital financial risks	Lusardi & Mitchell (2014); IS et al. (2025)
MSME Sustainability (MS)	Economic; social; environmental sustainability	Elkington (1997); Alshebami & Murad (2022)

3.5 Measurement Assessment

Data suitability for factor analysis was examined using the Kaiser–Meyer–Olkin (KMO) statistic and Bartlett’s test of sphericity. The interpretation followed the manuscript’s minimum KMO criterion of 0.60 and a Bartlett significance threshold of $p < 0.05$ (Kaiser, 1974). The indicators were then assessed through CFA in LISREL. Standardized factor loadings, construct reliability (CR), and average variance extracted (AVE) were evaluated, with $CR \geq 0.70$ and $AVE \geq 0.50$ used as reported thresholds (Fornell & Larcker, 1981). The available results establish convergent validity and internal consistency by these criteria but do not provide numerical interconstruct evidence sufficient to evaluate discriminant validity separately.

3.6 Model Fit Evaluation

Structural-model fit was evaluated using the four indices present in the reported results: NNFI, GFI, NFI, and RFI. The thresholds reported for these indices were 0.90. Although other indices such as RMSEA, SRMR, and CFI are useful in covariance-based SEM (Hu & Bentler, 1999), no numerical results for them appear in the available report, so they are not presented as completed tests. Model-fit interpretation was therefore restricted to the published four-index set. The results and limitations distinguish acceptable reported indices from a comprehensive evaluation of every aspect of model adequacy.

3.7 Structural Model and Hypothesis Testing

Six hypotheses were evaluated in LISREL. H1 tested $DAC \rightarrow MS$, H2 tested $DAC \rightarrow FRQ$, and H3 tested $FRQ \rightarrow MS$. H4 concerned the $DAC \rightarrow FRQ \rightarrow MS$ indirect pathway, while H5 and H6 concerned the $DAC \times FL \rightarrow FRQ$ and $FRQ \times FL \rightarrow MS$ interactions. Coefficients and t statistics were assessed using the two-tailed $|t| > 1.96$ criterion at the 5% level. Because

complete estimation specifications, centering decisions, and interval estimates are not reported, the analyzes are described only at the level directly supported by the output presented in the manuscript.

3.8 Interaction Specification

The structural specification includes interaction terms between DAC and FL and between FRQ and FL. These terms indicate whether the estimated slope for one variable varies with the other. The reported results do not establish which latent-interaction estimation approach was applied, so the manuscript does not assert that product-indicator or factor-score procedures were necessarily used. Main-path coefficients in interaction models also depend on variable centering and scaling, which should be considered when interpreting the estimates.

3.9 Direct Effects

The three direct hypotheses were evaluated from the LISREL path estimates and their reported t statistics. A relationship was classified as statistically significant at the 5% level when $|t|$ exceeded 1.96. The direction of an estimate was assessed separately from its statistical significance. Since hypotheses predicted positive associations, a significant interaction in the opposite direction was not counted as support for the originally specified positive hypothesis.

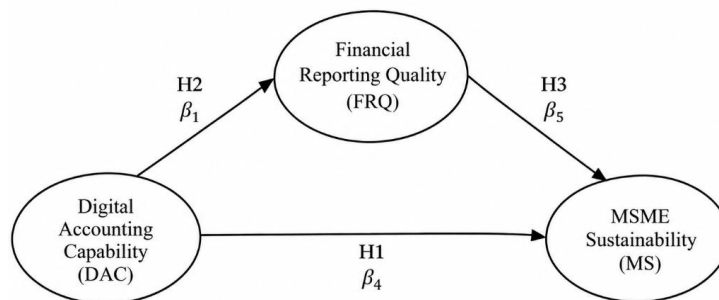


Figure 1. Structural Relationships of Hypotheses

3.10 Indirect Effect

The indirect DAC–FRQ–MS association was assessed using the LISREL indirect-effect estimate and its reported t statistic. Within a mediation model, a significant FRQ–MS path alone does not establish that the indirect DAC–FRQ–MS path is significant. The reported indirect coefficient was interpreted as a sample-based structural estimate, not as proof of a causal mechanism. Conditional indirect effects at different levels of FL were not available in the presented results.

3.11 Interaction Effects

Moderation was evaluated through the $DAC \times FL$ interaction predicting FRQ (H5) and the $FRQ \times FL$ interaction predicting MS (H6). A statistically significant coefficient indicates that the corresponding estimated association depends on the interacting variable, but its substantive direction also depends on scaling and coding. The negative coefficient for H6 is therefore interpreted as a negative interaction rather than a direct negative effect of FL on MS. The manuscript does not supply the estimates required for simple-slope plots or conditional effects at specified FL values.

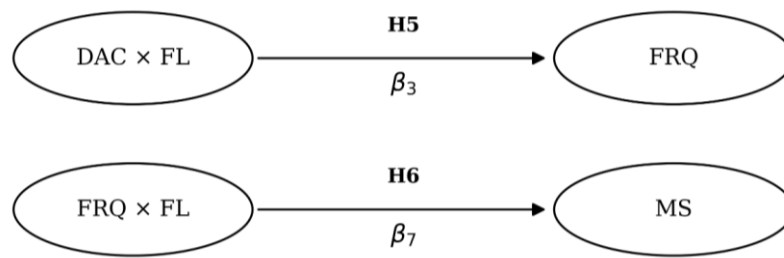


Figure 2. Moderating Effects of Financial Literacy

3.12 Analysis Workflow

The analysis sequence comprised examination of factorability, assessment of measurement quality, evaluation of the reported fit indices, and estimation of the structural hypotheses. Figure 1 presents this sequence as a visual overview. The figure is descriptive of the reported analytical workflow and does not imply that unreported diagnostic tests or bootstrap intervals were performed.

4. Results and Discussion

4.1 Results

4.1.1 Kaiser–Meyer–Olkin (KMO) and Bartlett's Test

Data suitability was evaluated using KMO and Bartlett's test of sphericity for all four constructs based on the 258 survey responses. KMO values were 0.805 for DAC, 0.825 for FRQ, 0.835 for FL, and 0.682 for MS; the corresponding Bartlett tests were statistically significant at $p < 0.001$ (Table 3). Each KMO value exceeded the prespecified 0.60 threshold. These results supported proceeding with the reported factor analysis, without by themselves establishing the validity of the substantive measurement model.

Table 3. KMO and Bartlett's Test Results

Construct	KMO	Bartlett's χ^2	df	p-value
Digital Accounting Capability (DAC)	0.805	425.689	21	< 0.001
Financial Reporting Quality (FRQ)	0.825	672.106	10	< 0.001
Financial Literacy (FL)	0.835	991.396	6	< 0.001
MSME Sustainability (MS)	0.682	243.731	3	< 0.001

Source: Results of research data analysis ($n = 258$). A significance value of 0.000 in the statistical output is written as $p < 0.001$.

Across the four constructs, KMO ranged from 0.682 to 0.835. FL had the highest value and MS the lowest, although both met the study's criterion. The Bartlett chi-square estimates were 425.689 for DAC ($df = 21$), 672.106 for FRQ ($df = 10$), 991.396 for FL ($df = 6$), and 243.731 for MS ($df = 3$), all $p < 0.001$. Thus, the tested item correlation matrices differed from identity matrices. These preliminary results were followed by CFA and reliability assessment.

4.1.2 Measurement Model Assessment: Convergent Validity and Construct Reliability

The initial CFA led to removal of indicators with factor loadings below 0.50, resulting in a final 14-indicator measurement model. The retained indicators were DAC_2, DAC_3, DAC_4, and DAC_6; FRQ_1, FRQ_2, and FRQ_3; FL_1, FL_2, FL_3, and FL_4; and MS_1, MS_2, and MS_3. Standardized factor loadings ranged from 0.67 to 0.79 for DAC, 0.67 to 0.85 for FRQ, 0.86 to 0.96 for FL, and 0.57 to 0.89 for MS. All retained loadings exceeded the stated minimum of 0.50. Figure 2 presents the final CFA model, although the interpretation of individual items remains bounded by the available item documentation.

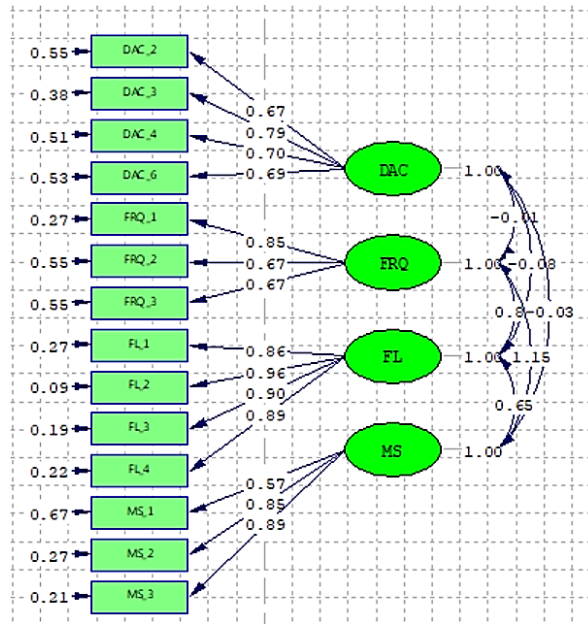


Figure 3. Confirmatory Factor Analysis of the Final Measurement Model.

Construct reliability and convergent validity were evaluated using CR and AVE, respectively. The prespecified minimum values were $CR \geq 0.70$ and $AVE \geq 0.50$. Table 4 presents the four constructs' results.

Table 4. Construct Reliability and Average Variance Extracted

Construct	Number of Indicators	CR	AVE	Decision
Digital Accounting Capability (DAC)	4	0.806	0.510	Acceptable
Financial Reporting Quality (FRQ)	3	0.777	0.540	Acceptable
Financial Literacy (FL)	4	0.946	0.816	Acceptable
MSME Sustainability (MS)	3	0.821	0.613	Acceptable

The reported CR values were 0.806 for DAC, 0.777 for FRQ, 0.946 for FL, and 0.821 for MS; corresponding AVE values were 0.510, 0.540, 0.816, and 0.613. All four constructs exceeded the reported CR and AVE thresholds, indicating acceptable internal consistency and convergent validity under the criteria applied. The higher CR and AVE for FL do not, on their own, establish discriminant validity relative to the other constructs. Consequently, the measurement results support the retained measurement specification within the documented range of tests.

4.1.3 Structural Model Goodness-of-Fit

The reported structural-model fit indices were NNFI, GFI, NFI, and RFI. Values above the prespecified cutoff of 0.90 were classified as acceptable. The numerical results are displayed in Table 5; the absence of other fit measures limits the breadth of the assessment.

Table 5. Reported Structural-Model Goodness-of-Fit Indices

Goodness-of-fit index	Cutoff	Reported value	Interpretation
NNFI	0.90	0.99	Fit
GFI	≥ 0.90	0.92	Fit
NFI	≥ 0.90	0.96	Fit
RFI	≥ 0.90	0.95	Fit

The model yielded NNFI = 0.99, GFI = 0.92, NFI = 0.96, and RFI = 0.95. Each exceeded the 0.90 threshold used in the study, so the model met the reported fit criteria. This result should not

be read as equivalent to a comprehensive assessment of all aspects of fit, because RMSEA, SRMR, and CFI estimates were not supplied. Interpretation of the structural parameters was therefore grounded in the reported fit indices and the accompanying hypothesis tests.

4.1.4 Structural Model and Hypothesis Testing

The LISREL structural analysis estimated direct paths among DAC, FRQ, and MS alongside the $DAC \times FL$ and $FRQ \times FL$ interactions. Figure 4 displays the path coefficient estimates, and Figure 4 displays the corresponding t statistics. These figures and Table 6 describe the same reported hypothesis tests. Associations were assessed using the study's two-tailed critical value of 1.96.

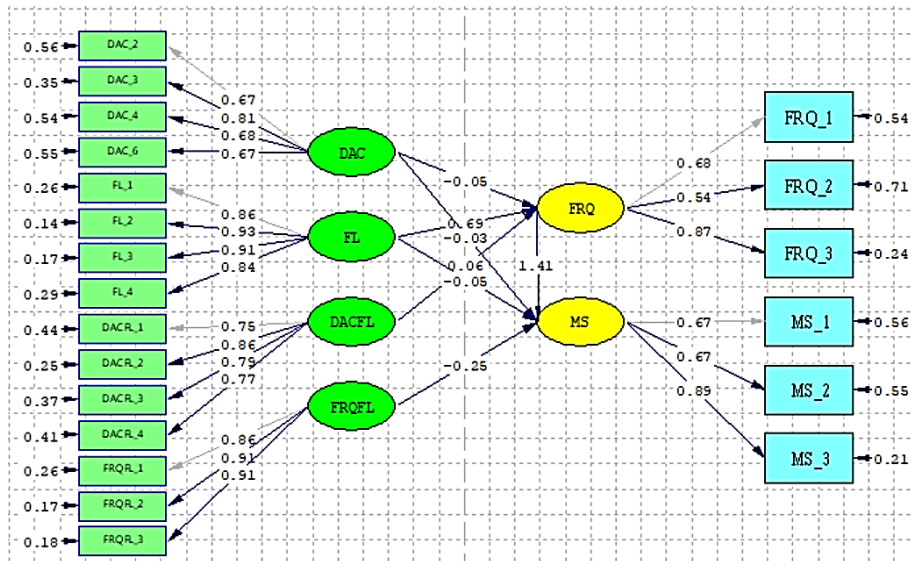


Figure 4. Structural Equation Model: Path Coefficient Estimates.

The structural path estimates differed in direction and strength. DAC was negatively but not significantly associated with FRQ, whereas FRQ had a positive statistically significant association with MS. The two moderation paths also differed: the $DAC \times FL$ coefficient was positive but below the significance criterion, and the $FRQ \times FL$ coefficient was negative and significant. The results are interpreted more fully in Table 6 and the accompanying text.

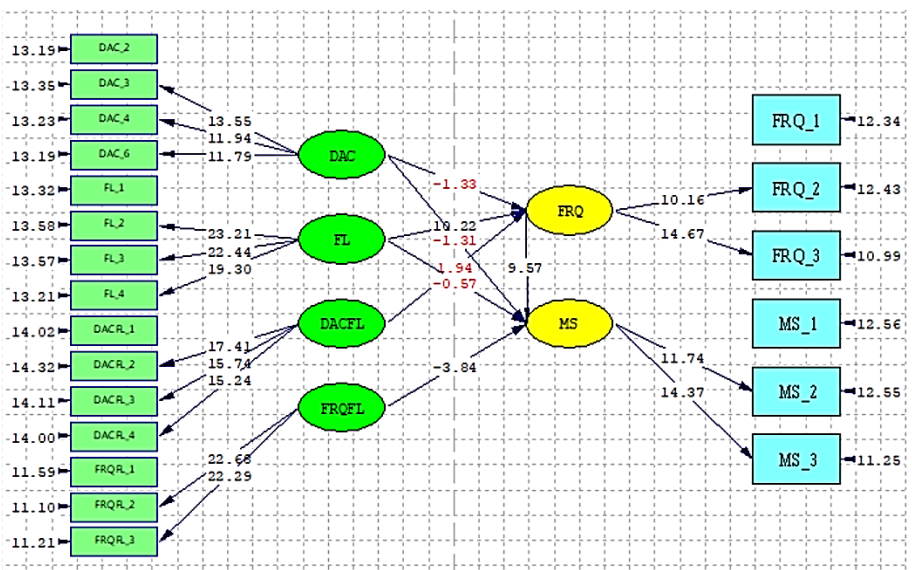


Figure 5. Structural Equation Model: t Statistics for Hypothesized Relationships.

The results did not support H1: the direct DAC–MS path had $t = -1.31$, below the two-tailed significance threshold, and its coefficient was not supplied in the summary table. H2 was also unsupported (DAC $\rightarrow$ FRQ, coefficient = -0.04 , $t = -1.33$). H3 was supported (FRQ $\rightarrow$ MS, coefficient = 1.45 , $t = 9.57$), although the scale of this coefficient should not be mistaken for a percentage change or assumed to be standardized. The reported DAC $\rightarrow$ FRQ $\rightarrow$ MS indirect effect was not significant (H4: coefficient = -0.05 , $t = -1.31$). The DAC $\times$ FL interaction predicting FRQ was positive but not significant (H5: coefficient = 0.01 , $t = 1.94$). Finally, the FRQ $\times$ FL interaction predicting MS was significant and negative (H6: coefficient = -0.02 , $t = -3.84$); because H6 predicted positive moderation, this result was in the opposite direction from the hypothesis. Table 6 preserves the original results and decisions.

Table 6. Summary of Hypothesis Tests

Hypothesis	Structural relationship	Coefficient	t statistic	Decision
H1	DAC $\rightarrow$ MS	Not reported	-1.31	Not supported
H2	DAC $\rightarrow$ FRQ	-0.04	-1.33	Not supported
H3	FRQ $\rightarrow$ MS	1.45	9.57	Supported
H4	DAC $\rightarrow$ FRQ $\rightarrow$ MS	-0.05	-1.31	Not supported
H5	DAC $\times$ FL $\rightarrow$ FRQ	0.01	1.94	Not supported
H6	FRQ $\times$ FL $\rightarrow$ MS	-0.02	-3.84	Significant, opposite direction

Only the positive FRQ–MS path was supported in its predicted direction among the three direct hypotheses. FRQ did not demonstrate a significant mediating role, and the two moderation terms exhibited different outcomes. Specifically, FL did not significantly modify the DAC–FRQ association but interacted negatively with FRQ in the model predicting MS. These results describe estimated relationships for the observed sample; they do not identify the causal mechanisms producing them.

4.2 Discussion

The overall pattern of findings challenges a straightforward account in which accounting digitalization automatically produces sustainable outcomes. DAC was not significantly related to either FRQ or MS, while FRQ showed a positive association with MS. Research on SMEs often reports positive outcomes of digital capability, but also emphasizes complementary organizational mechanisms (Prakasa & Jumani, 2024; Kim & Jin, 2024; Wang & Zhang, 2025). The present results are not directly inconsistent with those studies because they examine a narrower accounting capability and a multidimensional measure of sustainability. From an RBV perspective, a potential resource may remain underutilized unless suitable routines connect it to organizational purposes (Barney & Arikan, 2005). This interpretation is plausible within the observed model, but the survey did not measure the specific routines that might explain the weak DAC paths.

4.2.1 Digital Accounting Capability and MSME Sustainability: The Limits of Digital Capability

The unsupported DAC–MS hypothesis (H1, $t = -1.31$) limits the inference that digital accounting capability, considered on its own, is associated with sustainable business outcomes. Dynamic Capabilities Theory distinguishes the presence of a resource from its reconfiguration and productive use (Teece et al., 1997). Studies of SMEs likewise suggest that transformation is more effective when digital capability is accompanied by organizational integration, innovation, or adaptation (Sagala & Óri, 2024; Saeedikiya et al., 2024; Mustapha,

2026). The three dimensions of sustainability in this study extend beyond recording efficiency and financial management. A positive association may therefore be harder to detect when social and environmental outcomes are combined with economic continuity. Because the dimensions were not modeled separately, this explanation remains a hypothesis for subsequent testing rather than an established reason for the null result.

DAC also showed no significant association with FRQ (H2: -0.04 , $t = -1.33$). Digital software can facilitate processing and storage, but reporting quality additionally depends on complete records, appropriate classification, reconciliation, and review. Research on accounting information systems distinguishes system use from the effective provision of decision-relevant information (Al-Hattami, 2024; Mediaty et al., 2025). This distinction is consistent with the RBV view that resources must be configured within useful organizational processes. It also helps explain why research reporting broader benefits of SME digital transformation does not necessarily predict a positive DAC–FRQ path (Sagala & Óri, 2024; Mick et al., 2024). The present study did not measure accounting controls or data-entry discipline, so these remain possible explanatory factors rather than documented causes of the non-significant association. In contrast, the FRQ–MS pathway was positive and statistically significant (H3: coefficient = 1.45 , $t = 9.57$). Reliable and timely information may help MSME managers identify liquidity pressures, allocate resources, and communicate financial conditions to creditors. Agency Theory provides a rationale for this association by emphasizing the importance of reducing informational uncertainty between contracting parties (Jensen & Meckling, 1976). Studies on accounting information systems and formal credit access support the relevance of information and financial knowledge to small-firm decisions (Al-Hattami, 2024; Widyastuti et al., 2023; Charfeddine et al., 2024). Nevertheless, the model did not test whether better reports actually increased financing or improved particular managerial choices. Nor should the coefficient 1.45 be interpreted as a 145% increase: its substantive magnitude depends on the LISREL estimation scale. The evidence supports an association within this cross-sectional model, not a demonstrated causal effect.

The indirect DAC–FRQ–MS estimate was not significant (H4: -0.05 , $t = -1.31$), even though FRQ was positively associated with sustainability. Mediation requires evidence for the indirect pathway, not merely significance on its second segment. From a dynamic-capabilities perspective, the absent link between DAC and FRQ suggests that the proposed sequence from technological capability to information quality was not supported in this sample (Teece et al., 1997). Studies that identify intermediate capabilities in digital transformation underscore the importance of specifying and testing such mechanisms rather than treating them as automatic (Prakasa & Jumani, 2024; Shatila et al., 2026). The present result does not establish that no mediating mechanism exists in other settings or through other constructs. It establishes only that the reported indirect effect through FRQ did not meet the selected significance criterion; conditional indirect estimates were not reported.

The first moderation test yielded a positive but non-significant $\text{DAC} \times \text{FL}$ coefficient (H5: 0.01 , $t = 1.94$). Financial literacy may equip managers to recognize incomplete records and interpret accounting outputs, which makes positive complementarity conceptually plausible. Reviews of financial literacy research document its relevance to financial decisions while also identifying substantial differences in measures and organizational contexts (Graña-Alvarez et al., 2024; IS et al., 2025). Research on SME digital transformation similarly finds that managerial competencies interact with technological arrangements (Zahoor et al., 2023). Nonetheless, the present estimate fell below the study's two-tailed cutoff of 1.96 , so the

proposed positive moderation was not supported. Given the proximity to that cutoff, the result should be interpreted without converting it into either evidence of an effect or evidence that no association is possible.

The second moderation estimate was negative and significant ($H6: -0.02, t = -3.84$), contrary to the predicted strengthening role of financial literacy. A negative interaction means that the modeled FRQ–MS slope becomes smaller as the moderator increases, assuming the coding and scaling have the stated meaning. It does not indicate that financial literacy directly reduces sustainability. Prior work links financial literacy to sustainable performance and financial resilience (Alshebami & Murad, 2022; Siddik et al., 2023; Nassuna et al., 2023), making the present pattern noteworthy rather than automatically contradictory. One possible interpretation is diminishing marginal informational benefit among managers who already possess greater financial expertise; another is that greater literacy accompanies more cautious evaluation of financial risks. Neither mechanism was measured, and the absence of simple-slope estimates prevents conclusions about the association at specific literacy levels. The contribution of $H6$ is therefore an observed negative interaction that warrants more targeted analysis.

Taken together, the results distinguish digital accounting capability, the quality of its informational outputs, and the literacy with which managers may use those outputs. This distinction extends a capability-based interpretation of SME digital transformation by showing that different stages of the proposed process need not move together (Barney & Arikan, 2005; Teece et al., 1997; Kannan & Gambetta, 2025). FRQ had the strongest supported association with sustainability among the hypothesized direct pathways, whereas the role of FL differed across two interactions. For managers and support organizations, a defensible implication is to assess the reliability and use of financial information alongside investments in accounting technology. Training can distinguish technical software operation from reporting practices and financial interpretation, rather than assuming that one type of competence substitutes for all others (Al-Hattami, 2024; IS et al., 2025). These are practice-oriented implications of associations, not evaluations of intervention effectiveness. Future work with temporal data and conditional-effect estimates could test whether the proposed mechanisms operate consistently across firm types and sustainability dimensions.

4.2.2 Limitations and Future Research

Several limitations bound the conclusions. Purposive sampling of 258 MSME managers from two Indonesian regions does not provide a probability-based representation of Indonesian MSMEs as a whole. Cross-sectional self-reports cannot establish temporal ordering among DAC, FRQ, FL, and MS, and the common respondent source may introduce shared-method variation (Podsakoff et al., 2012). The available results establish convergent validity and reliability according to the reported thresholds but do not supply discriminant-validity coefficients or a fuller set of SEM fit indices. The analysis also does not separately examine the economic, social, and environmental dimensions of sustainability. These limitations do not invalidate the observed associations, but they narrow the claims that the model can support. Future studies could combine survey responses with accounting records, assess the measurement of each sustainability dimension, and use longitudinal data to investigate temporal sequencing. Analyses of simple slopes and conditional indirect effects, supported by appropriate uncertainty intervals, would clarify how the reported interactions vary across literacy levels. Additional theoretically motivated variables, such as internal controls,

reporting routines, or the managerial use of accounting information, could be considered as alternative explanatory mechanisms. Such extensions should be empirically tested rather than presumed to explain the present non-significant results.

5. Conclusion

The analysis of 258 MSME managers in Yogyakarta and Central Java found no statistically significant DAC–MS or DAC–FRQ relationship and no significant indirect DAC–FRQ–MS association. FRQ, however, had a positive and significant association with MS (coefficient = 1.45, $t = 9.57$). Financial literacy did not significantly moderate the DAC–FRQ pathway, whereas its interaction with FRQ in predicting sustainability was significant and negative (coefficient = -0.02 , $t = -3.84$), contrary to the positive hypothesis. The results qualify the assumption that digital accounting capability alone is linked to greater sustainability and suggest that reporting quality merits attention as a distinct organizational attribute. Their theoretical contribution lies in distinguishing capability, information output, and conditional information use within an RBV, dynamic-capabilities, and agency-theory framework. Because these are cross-sectional survey estimates, they establish neither a causal sequence nor the effects of training, software adoption, or reporting interventions.

For MSME managers, the findings support consideration of reporting relevance, accuracy, regularity, and usefulness when assessing digital accounting practices. Assistance programs may address software use, basic financial reporting, and interpretation of financial information as separate but related needs. The negative $FRQ \times FL$ interaction should not be treated as evidence that financial literacy is harmful; it indicates a statistical pattern that requires conditional-effect analysis for clearer interpretation. Implications for policy and management are therefore framed as priorities for further evaluation rather than demonstrated returns from specific interventions.

Declaration of AI and AI-assisted Technologies in the Writing Process

During the preparation of this manuscript, the authors used ChatGPT (OpenAI) to assist with academic writing, language refinement, manuscript organization, and improving the clarity and coherence of the text. After using this tool, the authors reviewed, verified, and edited the content as necessary and take full responsibility for the accuracy, integrity, and final content of the publication.

References

- Abbas, K. (2026). Management accounting and artificial intelligence: A comprehensive literature review and recommendations for future research. *The British Accounting Review*, 58(2), Article 101551. <https://doi.org/10.1016/j.bar.2025.101551>
- Abbas, K., De Santis, F., & Kolbjørnsrud, V. (2026). Artificial intelligence in accounting: A comparative analysis of adoption in accounting and non-accounting firms. *Journal of Accounting and Public Policy*, 57, Article 107433. <https://doi.org/10.1016/j.jaccpubpol.2026.107433>
- Abu, N., da Silva, F. P., & Vieira, P. R. (2025). Government support for SMEs in the fintech era: Enhancing access to finance, survival, and performance. *Digital Business*, 5(1), Article 100099. <https://doi.org/10.1016/j.digbus.2024.100099>
- Al-Hattami, H. M. (2024). Impact of AIS success on decision-making effectiveness among SMEs in less developed countries. *Information Technology for Development*, 30(3), 472–492. <https://doi.org/10.1080/02681102.2022.2073325>

- Alshebami, A. S., & Murad, M. M. (2022). The moderation effect of entrepreneurial resilience on the relationship between financial literacy and sustainable performance. *Frontiers in Psychology*, 13, Article 954841. <https://doi.org/10.3389/fpsyg.2022.954841>
- Aprilia, N., Subroto, W. T., & Sakti, N. C. (2025). The role of small and medium enterprises (SMEs) in supporting the people's economy in Indonesia. *International Journal of Research and Scientific Innovation*, 11(12), 368–376. <https://doi.org/10.51244/IJRSI.2024.11120036>
- Bansal, S., Kumar, S., Ali, S., Singh, S., Nangia, P., & Bamel, U. (2025). Harnessing digital finance for sustainability: An integrative review and research agenda. *Research in International Business and Finance*, 74, Article 102682. <https://doi.org/10.1016/j.ribaf.2024.102682>
- Barney, J. B., & Arikan, A. M. (2005). The resource-based view: Origins and implications. In M. A. Hitt, R. E. Freeman, & J. S. Harrison (Eds.), *The Blackwell handbook of strategic management* (pp. 123–182). Blackwell Publishing. <https://doi.org/10.1111/b.9780631218616.2006.00006.x>
- Charfeddine, L., Umlai, M. I., & El-Masri, M. (2024). Impact of financial literacy, perceived access to finance, ICT use, and digitization on credit constraints: Evidence from Qatari MSME importers. *Financial Innovation*, 10. <https://doi.org/10.1186/s40854-023-00557-4>
- Dechow, P., Ge, W., & Schrand, C. (2010). Understanding earnings quality: A review of the proxies, their determinants and their consequences. *Journal of Accounting and Economics*, 50(2–3), 344–401. <https://doi.org/10.1016/j.jacceco.2010.09.001>
- Díaz-Fernández, M., Rivera-Prieto, J. C., & López-Cabralés, Á. (2026). Digital transformation and social sustainability: The mediating role of employees' digital competencies. *Technovation*, 156, Article 103607. <https://doi.org/10.1016/j.technovation.2026.103607>
- Dong, M. M., Stratopoulos, T. C., & Wang, V. X. (2024). A scoping review of ChatGPT research in accounting and finance. *International Journal of Accounting Information Systems*, 55, Article 100715. <https://doi.org/10.1016/j.accinf.2024.100715>
- Edward, O. T., Mukti, A. H., Misman, F. N., & Sastrodiharjo, I. (2024). Financial literacy and technology adoption for the sustainability of micro small and medium enterprises: Evidence from Indonesia and Malaysia MSMEs. *INSIGHT Journal*, 11(2), 248–265. <https://doi.org/10.24191/ij.v11i2.2089>
- Elkington, J. (1997). The triple bottom line. In M. V. Russo (Ed.), *Environmental management: Readings and cases* (2nd ed., pp. 49–66). SAGE Publications.
- Feng, Y., Meng, M., & Li, G. (2023). Impact of digital finance on the asset allocation of small- and medium-sized enterprises in China: Mediating role of financing constraints. *Journal of Innovation & Knowledge*, 8(3), Article 100405. <https://doi.org/10.1016/j.jik.2023.100405>
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50. <https://doi.org/10.1177/002224378101800104>
- Graña-Alvarez, R., Lopez-Valeiras, E., Gonzalez-Loureiro, M., & Coronado, F. (2024). Financial literacy in SMEs: A systematic literature review and a framework for further inquiry. *Journal of Small Business Management*, 62(1), 331–380. <https://doi.org/10.1080/00472778.2022.2051176>

- Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6(1), 1–55. <https://doi.org/10.1080/10705519909540118>
- Huang, T. L. (2025). Digital transformation and business performance in China. *Asia Pacific Management Review*, 30(4), Article 100400. <https://doi.org/10.1016/j.apmrv.2025.100400>
- IS, R., KV, S., & Hungund, S. (2025). MSME/SME financial literacy: A systematic literature review and bibliometric analysis. *Journal of the Knowledge Economy*, 16(4), 14378–14405. <https://doi.org/10.1007/s13132-024-02472-0>
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305–360. [https://doi.org/10.1016/0304-405X\(76\)90026-X](https://doi.org/10.1016/0304-405X(76)90026-X)
- Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika*, 39(1), 31–36. <https://doi.org/10.1007/BF02291575>
- Kannan, S., & Gambetta, N. (2025). Technology-driven sustainability in small and medium-sized enterprises: A systematic literature review. *Journal of Small Business Strategy*, 35(1), 129–157. <https://doi.org/10.53703/001c.126636>
- Kim, J., & Jin, W. (2024). Impact of digital capabilities on entrepreneurial performance in SMEs. *Journal of Innovation & Knowledge*, 9(4), Article 100609. <https://doi.org/10.1016/j.jik.2024.100609>
- Le, P. G., Chu, D., Domboka, T., & Nguyen, H. (2026). Digital transformation for sustainable development of SMEs: A systematic review of "how we know," "what we know" and research agenda. *Business Strategy and the Environment*. Advance online publication. <https://doi.org/10.1002/bse.71207>
- Lusardi, A., & Mitchell, O. S. (2014). The economic importance of financial literacy: Theory and evidence. *Journal of Economic Literature*, 52(1), 5–44. <https://doi.org/10.1257/jel.52.1.5>
- Mediaty, M., Indrijawati, A., Palureng, R. Z., Surisman, S., & Hariana, H. (2025). Implementation of accounting information systems in SME: A systematic literature review. *Golden Ratio of Finance Management*, 5(1), 52–65. <https://doi.org/10.52970/grfm.v5i1.923>
- Mick, M. M. A. P., Kovalski, J. L., & Chioli, D. M. de G. (2024). Sustainable digital transformation roadmaps for SMEs: A systematic literature review. *Sustainability*, 16(19), Article 8551. <https://doi.org/10.3390/su16198551>
- Mustapha, R. (2026). How digital transformation enhances sustainable performance through dynamic capabilities and open innovation practices in small and medium enterprises. *Discover Sustainability*, 7, Article 1083. <https://doi.org/10.1007/s43621-026-03347-x>
- Nassuna, A. N., Ntamu, D. N., Kikooma, J., Mayanja, S. S., & Basalirwa, E. (2023). Using financial resilience to grow business amidst adversities. *Continuity & Resilience Review*, 5(3), 299–319. <https://doi.org/10.1108/CRR-06-2023-0011>
- Nayak, V., & Paluri, A. R. (2026). An empirical analysis of knowledge gaps and knowledge-based constraints faced by MSMEs. *Journal of the Knowledge Economy*, 17(5), 13375–13398. <https://doi.org/10.1007/s13132-026-03311-0>
- Nordhagen, S., Igbeka, U., Rowlands, H., Shine, R., Heneghan, E., & Tench, J. (2021). COVID-19 and small enterprises in the food supply chain: Early impacts and implications for

- longer-term food system resilience in low- and middle-income countries. *World Development*, 141, Article 105405. <https://doi.org/10.1016/j.worlddev.2021.105405>
- Ortiz-Díaz, L., & González, J. (2026). An adapted model for measuring digital maturity in MSMEs from emerging regions. *Digital Business*, 6(2), Article 100182. <https://doi.org/10.1016/j.digbus.2026.100182>
- Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2012). Sources of method bias in social science research and recommendations on how to control it. *Annual Review of Psychology*, 63, 539–569. <https://doi.org/10.1146/annurev-psych-120710-100452>
- Prakasa, Y., & Jumani, Z. A. (2024). Linking digital capability to small business performance: The mediating role of digital business transformation. *Cogent Business & Management*, 11(1), Article 2342486. <https://doi.org/10.1080/23311975.2024.2342486>
- Saeedikiya, M., Salunke, S., & Kowalkiewicz, M. (2024). Toward a dynamic capability perspective of digital transformation in SMEs: A study of the mobility sector. *Journal of Cleaner Production*, 439, Article 140718. <https://doi.org/10.1016/j.jclepro.2024.140718>
- Sagala, G. H., & Őri, D. (2024). Toward SMEs digital transformation success: A systematic literature review. *Information Systems and e-Business Management*, 22, 667–719. <https://doi.org/10.1007/s10257-024-00682-2>
- Serang, A. E. D., Kalsum, U., Pasagi, Y., & Putri, E. L. H. (2025). The role of financial technology (fintech) in financial inclusion and MSME growth in Indonesia. *Oikonomia: Journal of Management Economics and Accounting*, 2(3), 28–36. <https://doi.org/10.61942/oikonomia.v2i3.339>
- Shatila, K., Aránega, A. Y., & Căpățină, A. (2026). Mediating and moderating mechanisms of the digital bridge between infrastructure and entrepreneurial performance. *Technology in Society*, 88, Article 103432. <https://doi.org/10.1016/j.techsoc.2026.103432>
- Siddik, A. B., Rahman, M. N., & Yong, L. (2023). Do fintech adoption and financial literacy improve corporate sustainability performance? The mediating role of access to finance. *Journal of Cleaner Production*, 421, Article 137658. <https://doi.org/10.1016/j.jclepro.2023.137658>
- Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, 18(7), 509–533. [https://doi.org/10.1002/\(SICI\)1097-0266\(199708\)18:7%3C509::AID-SMJ882%3E3.0.CO;2-Z](https://doi.org/10.1002/(SICI)1097-0266(199708)18:7%3C509::AID-SMJ882%3E3.0.CO;2-Z)
- Wang, S., & Zhang, H. (2025). Enhancing SMEs sustainable innovation and performance through digital transformation: Insights from strategic technology, organizational dynamics, and environmental adaptation. *Socio-Economic Planning Sciences*, 98, Article 102124. <https://doi.org/10.1016/j.seps.2024.102124>
- Weber, J. J., Coronado Mondragon, A. E., & Baumann, L. (2026). Digital transformation strategy alignment and implementation in industrial SMEs: A taxonomy and systematic literature review. *Strategic Business Research*, 2(1), Article 100183. <https://doi.org/10.1016/j.sbr.2026.100183>
- Widyastuti, M., Ferdinand, D. Y. Y., & Hermanto, Y. B. (2023). Strengthening formal credit access and performance through financial literacy and credit terms in micro, small and medium businesses. *Journal of Risk and Financial Management*, 16(1), Article 52. <https://doi.org/10.3390/jrfm16010052>

Zahoor, N., Zopiatis, A., Adomako, S., & Lamprinakos, G. (2023). The micro-foundations of digitally transforming SMEs: How digital literacy and technology interact with managerial attributes. *Journal of Business Research*, 159, Article 113755. <https://doi.org/10.1016/j.jbusres.2023.113755>