

Accounting System Integration and Control Outcomes in Indonesian Micro, Small, and Medium Enterprises

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Abstract

Research Originality: The novelty of this study lies in linking digital accounting integration, beyond mere system adoption, to two distinct managerial control outcomes, namely decision quality and cost control, in Indonesian MSMEs.

Research Objectives: This study examines how behavioral and organizational factors influence the adoption and integration of management accounting information systems and how these processes affect managerial control outcomes in Indonesian MSMEs.

Research Method: This study employs a cross-sectional survey of 580 Indonesian MSMEs and analyzes the data using partial least squares structural equation modeling.

Empirical Results: Government Support and Compatibility are the strongest predictors of Behavioral Intention. Behavioral Intention significantly influences both system adoption and system integration. System adoption improves Cost Control Effectiveness, whereas system integration has a stronger effect on Decision Quality. The findings also demonstrate that Behavioral Intention mediates the effects of key antecedent factors on both managerial outcomes.

Implications: The findings imply that MSME digitalization policies should prioritize implementation support, process-system fit, staged module integration, and practical training to strengthen routine system use and improve managerial control.

Keywords:

behavioral intention; system integration; digital accounting; decision quality; cost control.

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INTRODUCTION

Digital transformation has shifted from a strategic aspiration to an operational necessity, and Management Accounting Information Systems (MAIS) have become increasingly important in this transition because they support planning, control, and managerial decision-making through timely, decision-relevant information (Jona & Soderstrom, 2023). For micro, small, and medium-sized enterprises (MSMEs), such systems are particularly important because they improve managerial discipline, strengthen cost monitoring, and enable faster and more accurate responses to business uncertainty. This issue is highly relevant in Indonesia, where MSMEs make a major contribution to national economic activity but still frequently depend on manual processes, limited technological capability, and fragmented accounting practices, all of which constrain digital transformation and weaken managerial control (Bucaro et al., 2024; Buchetti et al., 2022; Qohar & Darmawan, 2024; Rawashdeh, 2023). Prior evidence from Indonesia also suggests that technology usage can strengthen MSMEs' performance, indicating that digital capability is increasingly tied to organizational resilience and continuity (Faisol et al., 2021).

Despite its growing importance, the role of Management Accounting Information Systems (MAIS) in improving organizational outcomes remains debated. Some studies show that digital accounting systems can improve data quality, organizational responsiveness, and managerial effectiveness when supported by adequate capabilities and aligned with organizational processes (Carranza et al., 2020; Jans et al., 2022; Oyewo, 2021; Yigitbasioglu et al., 2022). However, other studies argue that adoption alone does not guarantee meaningful benefits, particularly when system use is limited, irregular, or poorly integrated into daily management activities (Maroufkhani et al., 2022; Velayutham et al., 2021). Therefore, the key issue is not simply whether firms adopt MAIS, but whether they integrate it into budgeting, costing, forecasting, variance analysis, and performance monitoring (Jemine et al., 2023).

Previous studies commonly use the Unified Theory of Acceptance and Use of Technology (UTAUT) and the Technology–Organization–Environment (TOE) framework to explain technology adoption. UTAUT focuses on users' beliefs and perceptions, while TOE emphasizes technological fit, organizational capability, and environmental support (Ghita & Maas, 2024; Leoni & Parker, 2019; Maroufkhani et al., 2022). Indonesian studies also show that technology adoption depends on both technological conditions and user-related factors (Hendratama & Huang, 2021; Nugraha et al., 2024; Velayutham et al., 2021). However, most research focuses on digital technology in general rather than MAIS, leaving limited evidence on how accounting digitalization creates organizational value.

Several gaps remain. First, few studies use UTAUT and TOE to explain MAIS adoption in MSMEs. Second, many studies focus only on behavioral intention or adoption and do not examine outcomes such as decision quality and cost control. Third, system integration is rarely examined as a separate factor, even though it may explain how adoption creates benefits (Al-Eisawi et al., 2020; Chung et al., 2024; Toldbod & Kolk, 2020). Fourth, evidence from Indonesian MSMEs is still limited, especially across firm

sizes and sectors. This study addresses these gaps by linking behavioral and organizational factors to MAIS adoption and integration, and then examining their effects on decision quality and cost control in Indonesian MSMEs.

METHODS

This study used a cross-sectional survey to examine the adoption and integration of Management Accounting Information Systems (MAIS) and their effects on managerial control in Indonesian MSMEs. The research framework combines the Unified Theory of Acceptance and Use of Technology (UTAUT) and the Technology–Organization–Environment (TOE) framework. UTAUT includes Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Conditions, while TOE includes Compatibility, Top Management Support, IT Competence, Competitive Pressure, and Government Support. These factors were examined as antecedents of Behavioral Intention, which was linked to system adoption and use and system integration. These outcomes were then linked to Decision Quality and Cost Control Effectiveness. UTAUT and TOE are widely used to explain technology adoption in organizations (Marikyan et al., 2023; Maroufkhani et al., 2022). Figure 1 shows the conceptual framework.

The population consisted of Indonesian MSMEs in the manufacturing and service sectors. Purposive sampling was used, with owners or general managers selected as respondents because they understood their firms' accounting practices, system use, and managerial decisions. Firms were required to have operated for at least two years, maintained accounting processes, and had access to a computer or internet. Data were collected through an online self-administered questionnaire distributed via business associations, government incubators, and digital business communities. We obtained 580 valid responses. Based on the ten-times rule for PLS-SEM, the minimum sample was 90 respondents, calculated from the nine paths leading to the most complex endogenous construct (9×10). Thus, the sample of 580 was sufficient for structural and subgroup analysis.

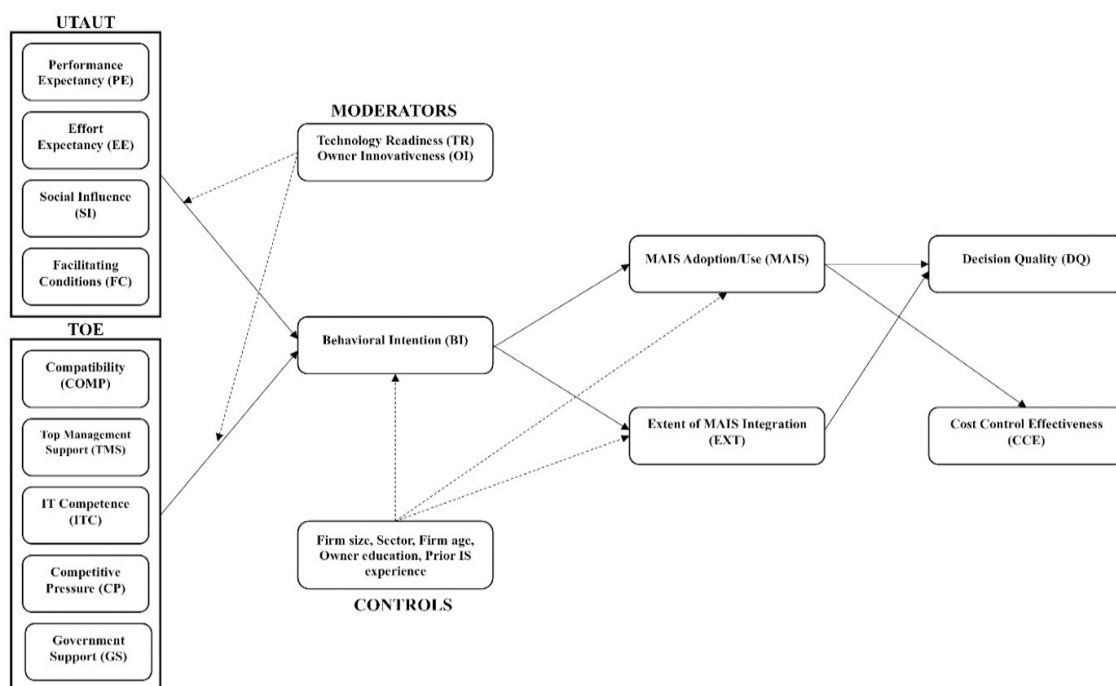
All constructs were measured using multi-item scales adapted from prior studies and assessed on a five-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. UTAUT constructs were adapted from Bettiol et al. (2023), Ghazali et al. (2020), and Zheng et al. (2022). TOE constructs were adapted from Bonakdeh et al. (2024), Dallasega et al. (2022), Hashimy et al. (2022), Malik & Abdallah (2020), and Maroufkhani et al. (2022). Behavioral intention measured willingness to adopt the system; adoption/use reflected routinized use; and system integration was specified as a formative construct covering budgeting, costing, variance analysis, forecasting, dashboards, and reporting/analytics. Outcome variables included Decision Quality and Cost Control Effectiveness, following Gong et al. (2019).

Data were analyzed using Partial Least Squares Structural Equation Modeling with SmartPLS 4. This method was selected because the model includes reflective and formative constructs and is suitable for predictive and explanatory analysis (Hair et al.,

2024). Measurement-model assessment included indicator reliability, internal consistency, convergent validity, and discriminant validity. For the formative construct, we evaluated collinearity, outer weights, and significance. Structural-model assessment included path coefficients, bootstrapping with 5,000 subsamples, coefficient of determination, effect size, and predictive relevance (Hair et al., 2024; Henseler & Schuberth, 2025).

To minimize common-method bias, we applied procedural remedies through anonymity, neutral wording, and randomized item order. Robustness was strengthened through MICOM-based invariance testing and multi-group analysis across firm size and sector (Henseler & Schuberth, 2025).

Figure 1. Conceptual Framework



RESULTS AND DISCUSSION

This study maps three main findings. First, Government Support and Compatibility are the strongest predictors of Behavioral Intention, indicating that external support and process–system fit are more influential than most other UTAUT and TOE factors in shaping adoption-related behavior. Second, Behavioral Intention strongly drives both system adoption/use and the extent of system integration, confirming its central role as the key conduit linking antecedent conditions to post-adoption behavior. Third, the two downstream outcomes are differentiated: system adoption/use contributes more strongly to Cost Control Effectiveness, whereas system integration has a stronger effect on Decision Quality. These findings suggest that the value of Management Accounting Information Systems lies not only in their adoption, but also in the extent to which they are embedded in routine managerial control activities.

The analytical sample comprises 580 MSMEs. Manufacturing firms slightly outnumber service firms, and respondents vary in firm age, education, and prior experience with information systems, indicating sufficient heterogeneity to test the proposed model and compare subgroup patterns. This sample profile is appropriate because it reflects the uneven digital readiness that characterizes MSMEs in emerging-economy settings. Table 2 shows that the reflective measurement model meets the recommended reliability and convergent validity criteria. Indicator loadings are generally high, with all constructs reporting Composite Reliability above 0.70 and Average Variance Extracted above 0.50. These results indicate that the reflective constructs are internally consistent and adequately capture their intended latent variables. Overall, the findings confirm that the measurement model is acceptable for subsequent structural model analysis.

Table 1. Attributes of Review Respondents

Respondent Attributes	Categories	Frequency (N)	Percentage (%)
Gender (Owner)	Male	325	56,04
	Female	255	43,96
Firm size	Micro	348	60
	Small	232	40
Sector	Manufacturing	318	54,83
	Services	262	45,17
Firm age (years)	≤5 years	102	17,59
	6–10 years	93	16,03
	11–15 years	106	18,28
	16–20 years	92	15,86
	21–25 years	78	13,45
	26–30 years	109	18,79
	>30 years	0	0
	Diploma	197	33,96
Owner education	S1 (Bachelor)	178	30,69
	S2+ (Postgraduate)	61	10,52
	Senior High School	144	24,83
	Advanced	60	10,34
Prior IS experience	Basic	234	40,34
	Intermediate	105	18,1
	None	181	31,22

Source(s): Authors

Table 3 evaluates the formative construct, Extent of MAIS Integration. Variance analysis and budgeting/planning emerge as the strongest contributors, while forecasting, dashboards, and reporting/analytics also contribute positively. Costing/ABC, however,

does not show a significant unique weight once the other modules are considered. This indicates that, in MSMEs, accounting system integration is driven more by routine control functions than by advanced costing applications, which is consistent with the resource-constrained nature of many MSMEs.

Table 4 indicates that discriminant validity is generally satisfactory, as most diagonal values exceed the inter-construct correlations. Only one borderline case appears between Technology Readiness and Owner Innovativeness. Overall, the results support the distinctiveness of the constructs, although the closeness between these two owner-related variables should be interpreted cautiously.

This study yields three main findings. First, Government Support and Compatibility are the strongest predictors of Behavioral Intention. Second, Behavioral Intention strongly influences both system adoption/use and the extent of system integration. Third, the two downstream outcomes are differentiated: system adoption/use contributes more strongly to Cost Control Effectiveness, whereas system integration has a stronger effect on Decision Quality. These findings indicate that the value of Management Accounting Information Systems lies not only in their adoption, but also in the extent to which they are embedded in routine managerial control activities.

Table 2. Reflective Measurement Model Assessment

Construct	Loading Range	Cronbach's Alpha	rho_A	Composite Reliability	AVE
Behavioral Intention (BI)	0.861–0.918	0.879	0.879	0.926	0.806
Compatibility (COMP)	0.831–0.893	0.830	0.834	0.899	0.747
Competitive Pressure (CP)	0.863–0.886	0.851	0.854	0.909	0.770
Cost Control Effectiveness (CCE)	0.778–0.860	0.841	0.844	0.894	0.678
Decision Quality (DQ)	0.777–0.841	0.809	0.810	0.875	0.636
Effort Expectancy (EE)	0.839–0.865	0.873	0.885	0.913	0.723
Facilitating Conditions (FC)	0.822–0.885	0.889	0.904	0.922	0.748
Government Support (GS)	0.857–0.923	0.882	0.890	0.927	0.810
IT Competence (ITC)	0.888–0.934	0.906	0.907	0.941	0.843
MAIS Adoption/Use (MAIS)	0.799–0.861	0.757	0.759	0.861	0.674
Owner Innovativeness (OI)	0.812–0.884	0.824	0.828	0.894	0.739
Performance Expectancy (PE)	0.888–0.936	0.940	0.945	0.957	0.848
Social Influence (SI)	0.785–0.924	0.907	0.911	0.936	0.785
Technology Readiness (TR)	0.735–0.862	0.847	0.853	0.897	0.686
Top Management Support (TMS)	0.883–0.935	0.900	0.900	0.937	0.833

Source(s): Authors

Table 3. Formative Measurement of the Extent of MAIS Integration (EXT)

Indicator	Weight (β)	t	p	BCa 95% CI	Loading	VIF
EXT1 (e.g., Budgeting/Planning)	0.311	5.731	0.000	[0.212, 0.426]	0.792	1.649
EXT2 (e.g., Costing/ABC)	-0.082	0.781	0.435	[-0.289, 0.126]	0.760	8.750
EXT3 (e.g., Variance analysis)	0.503	8.068	0.000	[0.379, 0.622]	0.861	1.580
EXT4 (e.g., Forecasting)	0.212	2.241	0.025	[0.030, 0.397]	0.746	7.756
EXT5 (e.g., KPI/Dashboards)	0.156	2.594	0.010	[0.057, 0.301]	0.746	3.183
EXT6 (e.g., Reporting/Analytics)	0.148	2.973	0.003	[0.060, 0.259]	0.728	2.074

Source(s): Authors

Table 4. Result of Discriminant Validity

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	0,898														
2	0,638	0,864													
3	0,798	0,619	0,878												
4	0,559	0,716	0,623	0,823											
5	0,811	0,720	0,777	0,712	0,798										
6	0,586	0,652	0,613	0,648	0,591	0,850									
7	0,591	0,731	0,517	0,550	0,686	0,649	0,865								
8	0,811	0,478	0,846	0,555	0,743	0,607	0,539	0,900							
9	0,600	0,688	0,666	0,765	0,716	0,424	0,477	0,552	0,918						
10	0,729	0,703	0,766	0,737	0,735	0,669	0,591	0,659	0,779	0,821					
11	0,525	0,716	0,578	0,851	0,648	0,691	0,592	0,532	0,690	0,706	0,860				
12	0,448	0,665	0,495	0,709	0,515	0,831	0,606	0,497	0,505	0,603	0,814	0,921			
13	0,600	0,776	0,572	0,548	0,709	0,677	0,900	0,540	0,505	0,599	0,590	0,615	0,886		
14	0,560	0,686	0,623	0,862	0,664	0,802	0,588	0,586	0,653	0,727	0,885	0,828	0,597	0,828	
15	0,597	0,787	0,622	0,774	0,710	0,515	0,552	0,509	0,838	0,727	0,696	0,564	0,574	0,704	0,913

Notes: The numbered variables correspond to the following constructs: 1—Behavioral Intention (BI), 2—Compatibility (COMP), 3—Competitive Pressure (CP), 4—Cost Control Effectiveness (CCE), 5—Decision Quality (DQ), 6—Effort Expectancy (EE), 7—Facilitating Conditions (FC), 8—Government Support (GS), 9—IT Competence (ITC), 10—MAIS Adoption/Use (MAIS), 11—Owner Innovativeness (OI), 12—Performance Expectancy (PE), 13—Social Influence (SI), 14—Technology Readiness (TR), and 15—Top Management Support (TMS).

Table 5 further shows that the model has substantial explanatory and predictive power, with meaningful R^2 and Q^2 values across the main endogenous constructs. Behavioral Intention, in particular, plays a pivotal role in linking antecedent conditions to downstream managerial outcomes.

Figure 2 and Table 6 show that Government Support and Compatibility are the strongest positive predictors of Behavioral Intention. In contrast, Effort Expectancy has

a smaller positive effect, and Performance Expectancy has a significant negative effect. Social Influence, Facilitating Conditions, Top Management Support, IT Competence, and Competitive Pressure are not significant. These findings suggest that MSMEs adopt digital accounting systems primarily when the systems align with existing processes and when external support is available. This pattern is consistent with Maroufkhani et al. (2022), who show that organizational fit and environmental support are decisive for digital assimilation in SMEs, and with Jans et al. (2022), who emphasize that the benefits of digitalization in accounting depend on organizational readiness rather than technology availability alone.

Table 5. Coefficient of Effect Size (f^2), Determination (R^2) and Predictive Relevance (Q^2)

Variable	f^2					R^2	Q^2
	1	4	5	7	11		
1. BI				1,752	1,129	0,791	0,625
2. COMP	0,118						
3. CP	0,004						
4. CCE						0,542	0,364
5. DQ						0,731	0,458
6. EE	0,021						
7. EXT			0,719			0,638	0,363
8. FC	0,003						
9. GS	0,234						
10. ITC	0,006						
11. MAIS		1,188	0,059			0,531	0,354
12. OI	0,001						
13. PE	0,071						
14. SI	0,003						
15. TR	0,000						
16. TMS	0,000						

Source(s): Authors' own work

The negative coefficient of Performance Expectancy suggests an expectation–implementation gap. Owners may recognize the potential benefits of digital systems but hesitate to accelerate adoption when implementation demands exceed available organizational capabilities and resources. This interpretation aligns with Buchetti et al. (2022) and Velayutham et al. (2021), both of which show that technology benefits depend on operational support, process alignment, and organizational preparedness.

Figure 2. Bootstrapping Results

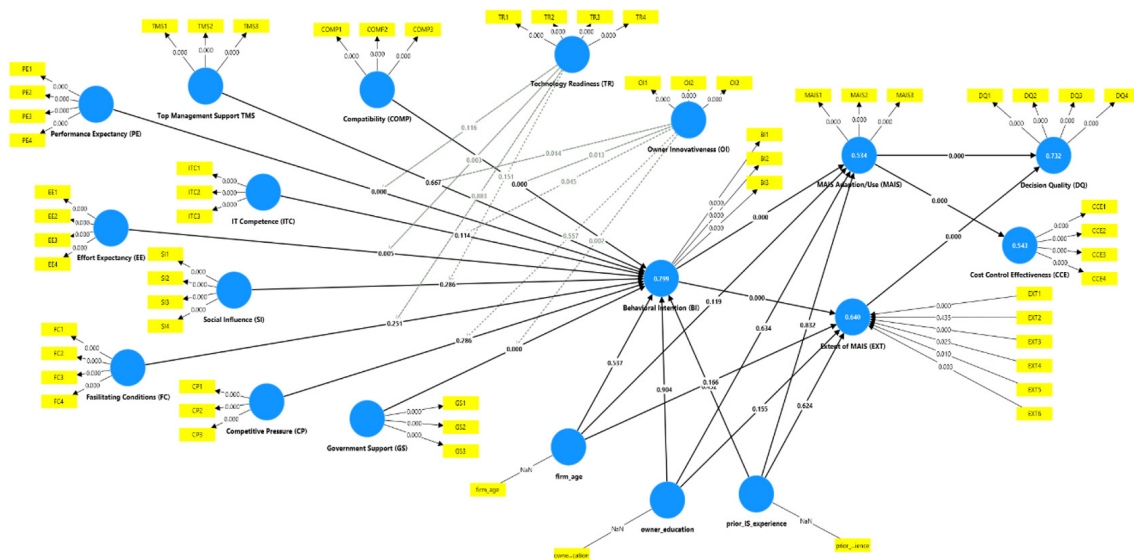


Table 6. (Structural Model: Main Effects, n=580)

UTAUT → Behavioral Intention (BI) (H1–H4)					
Hypothesis	Path	β	t	p	Decision
H1	PE → BI	−0.308	5.496	0.000	Not supported (sign opposite)
H2	EE → BI	0.163	2.823	0.005	Supported
H3	SI → BI	−0.068	1.067	0.286	Not supported
H4	FC → BI	0.072	1.148	0.251	Not supported
TOE → Behavioral Intention (BI) (H5–H9)					
Hypothesis	Path	β	t	p	Decision
H5	COMP → BI	0.381	5.639	0.000	Supported
H6	TMS → BI	0.022	0.430	0.667	Not supported
H7	ITC → BI	0.083	1.583	0.114	Not supported
H8	CP → BI	0.075	1.066	0.286	Not supported
H9	GS → BI	0.511	7.845	0.000	Supported
Adoption/Integration (H10–H11)					
Hypothesis	Path	β	t	p	Decision
H10	BI → MAIS	0.727	24.819	0.000	Supported
H11	BI → EXT	0.795	41.758	0.000	Supported
MAIS/EXT → Decision Outcomes (H12–H15)					
Hypothesis	Path	β	t	p	Decision
H12	MAIS → DQ	0.198	4.607	0.000	Supported
H13	MAIS → CCE	0.737	28.885	0.000	Supported
H14	EXT → DQ	0.693	16.973	0.000	Supported

Source(s): Authors' own work

Behavioral intention strongly predicts adoption, use, and integration. This finding extends prior UTAUT-based studies by showing that intention is not only a precursor to initial adoption but also a driver of deeper accounting system integration. The downstream paths also show a differentiated pattern. Adoption/use has the strongest effect on Cost Control Effectiveness, whereas integration has a stronger effect on Decision Quality. This distinction is theoretically important because it demonstrates that digital accounting value is not uniform across outcomes: routine use supports tighter cost discipline, while broader integration across modules improves managerial judgment under uncertainty. This result complements Jona & Soderstrom (2023) and Oyewo (2021), who suggest that accounting innovations create greater value when embedded in managerial routines rather than treated as stand-alone tools.

Table 7 confirms that Behavioral Intention mediates the effects of Compatibility, Government Support, and Effort Expectancy on adoption, use, and integration. Performance Expectancy again shows a significant negative indirect effect. These mediation results reinforce the argument that policy support and organizational fit are the most actionable levers for strengthening effective system use in MSMEs.

Table 8 shows selective moderation effects. Technology Readiness weakens the effect of Effort Expectancy on Behavioral Intention, suggesting that more technologically prepared owners rely less on ease-of-use considerations. Owner Innovativeness also changes the strength of several TOE relationships. In practical terms, less innovative and less technologically ready firms depend more heavily on simplicity and external support. In contrast, more innovative firms are better able to convert internal capability into adoption.

Table 7. Significant Indirect Effects via Behavioral Intention

Predictor	Indirect Effect	t	p	95% BCa CI	Outcome
Compatibility (COMP)	0.277	5.579	0.000	[0.189, 0.382]	MAIS Adoption/Use
Effort Expectancy (EE)	0.118	2.773	0.006	[0.042, 0.208]	MAIS Adoption/Use
Government Support (GS)	0.371	8.089	0.000	[0.280, 0.461]	MAIS Adoption/Use
Performance Expectancy (PE)	-0.224	5.452	0.000	[-0.309, -0.146]	MAIS Adoption/Use
Compatibility (COMP)	0.303	5.690	0.000	[0.206, 0.414]	MAIS Integration
Effort Expectancy (EE)	0.129	2.802	0.005	[0.045, 0.228]	MAIS Integration
Government Support (GS)	0.406	7.592	0.000	[0.296, 0.507]	MAIS Integration
Performance Expectancy (PE)	-0.245	5.477	0.000	[-0.336, -0.159]	MAIS Integration

Notes: Only significant indirect effects are reported. All remaining indirect paths were not significant.

Finally, Table 9 shows that several relationships differ across firm size and sector. Competitive Pressure matters more in manufacturing, while Government Support is

stronger in services. These subgroup differences indicate that the pathway to digital accounting adoption is context-specific, consistent with prior multi-group findings showing that technology-adoption mechanisms vary across organizational settings and user groups (Carranza et al., 2020; Ghazali et al., 2020).

Table 8. Moderation (H16–H17)

Hypothesis	Interaction term	β	t	p	95% CI (BCa)	$\Delta R^2(BI)$	Decision
H16a	TR $\times$ EE $\rightarrow$ BI	-0.146	2.928	0.003	[-0.247, -0.052]	0.004	Supported
H16b	TR $\times$ PE $\rightarrow$ BI	0.087	1.570	0.116	[-0.016, 0.201]	0.002	Not supported
H16c	TR $\times$ FC $\rightarrow$ BI	0.008	0.148	0.883	[-0.104, 0.102]	0.000	Not supported
H16d	TR $\times$ SI $\rightarrow$ BI	0.077	1.437	0.151	[-0.027, 0.182]	0.001	Not supported
H17a	OI $\times$ COMP $\rightarrow$ BI	-0.111	2.474	0.013	[-0.198, -0.025]	0.004	Supported
H17b	OI $\times$ TMS $\rightarrow$ BI	0.133	2.455	0.014	[0.035, 0.253]	0.003	Supported
H17c	OI $\times$ CP $\rightarrow$ BI	0.029	0.587	0.557	[-0.065, 0.129]	0.000	Not supported
H17d	OI $\times$ GS $\rightarrow$ BI	-0.142	3.069	0.002	[-0.220, -0.042]	0.006	Supported
H17e	OI $\times$ ITC $\rightarrow$ BI	0.103	2.008	0.045	[0.004, 0.204]	0.002	Supported

Source(s): Authors' own work

Table 9. Multigroup Analysis (MGA)

Panel A – Size: Small vs Micro (H18)						
Path	β_{Small}	β_{Micro}	Diff (Small–Micro)	p(MGA)	p(Permutation)	Decision
OI $\times$ ITC $\rightarrow$ BI	0.233	0.030	0.204	0.041	0.064	Partial
TR $\times$ SI $\rightarrow$ BI	0.173	0.012	0.161	0.090	0.151	No
Panel B – Sector: Manufacturing vs Services (H19)						
CP $\rightarrow$ BI	0.255	-0.114	0.370	0.011	0.014	Different
GS $\rightarrow$ BI	0.344	0.714	-0.370	0.992	0.006	Different
TR $\times$ EE $\rightarrow$ BI	-0.084	-0.299	0.215	0.026	0.038	Different
OI $\times$ COMP $\rightarrow$ BI	0.015	-0.178	0.193	0.015	0.043	Different
OI $\times$ TMS $\rightarrow$ BI	0.211	0.014	0.197	0.035	0.084	Partial

Source(s): Authors

The findings show that Management Accounting Information Systems (MAIS) can serve as an important management-control tool for MSMEs. First, Effort Expectancy positively affects behavioral intention, showing that ease of use is important for encouraging system adoption. This is consistent with previous studies indicating that user-friendly systems and proper training can reduce barriers to digital adoption (Jans et

al., 2022; Yigitbasioglu et al., 2022). In contrast, Performance Expectancy has a negative effect when Technology–Organization–Environment (TOE) factors are considered. This suggests that perceived usefulness alone does not guarantee adoption when firms have limited technological readiness, financial resources, or implementation capabilities. Digital technologies create value only when appropriate processes and organizational preparedness support their benefits (Buchetti et al., 2022; Faisol et al., 2021).

Second, Government Support and Compatibility are the strongest drivers of Behavioral Intention. This indicates that MSMEs are influenced more by the practical feasibility of implementation than by expectations about technology. Government support can reduce external barriers, while compatibility makes the system easier to integrate into budgeting, costing, and performance-monitoring activities. This finding supports Maroufkhani et al. (2022), who highlight the importance of environmental support and organizational fit, and Jemine et al. (2023), who emphasize that system compatibility encourages routine use.

Third, Behavioral Intention is the main link between adoption factors and post-adoption outcomes. However, the benefits differ by outcome. Adoption and regular use have a stronger effect on Cost Control Effectiveness, while system integration has a stronger effect on Decision Quality. This means that routine use can improve cost monitoring and discipline, but better managerial decisions require deeper integration with budgeting, variance analysis, forecasting, dashboards, and reporting. This extends the findings of Jona and Soderstrom (2023) and Oyewo (2021) by showing that the value of accounting innovation depends not only on system use but also on its integration into managerial routines.

Finally, the moderation and multi-group results show that adoption depends on organizational context. Less technologically ready and less innovative firms rely more on ease of use and external support, while manufacturing and service firms respond differently to adoption factors. Overall, government support, system compatibility, and meaningful integration are the key levers for improving managerial control in Indonesian MSMEs.

CONCLUSION

This study examined how behavioral and organizational factors shape the adoption and integration of Management Accounting Information Systems and how these processes affect managerial control outcomes in Indonesian MSMEs. The findings confirm that Government Support and Compatibility are the most influential drivers of Behavioral Intention, and that Behavioral Intention strongly encourages both system adoption and system integration. The results further show that system adoption/use contributes more strongly to Cost Control Effectiveness, whereas deeper system integration has a greater effect on Decision Quality. These findings indicate that the value of Management Accounting Information Systems depends not only on adoption, but also on the extent to which the system is embedded in managerial routines.

From a policy perspective, the empirical results suggest that MSME digitalization programs should move beyond general technology promotion and focus more on implementation support, process–system fit, and staged system integration. Public agencies, incubators, and MSME-support institutions should provide practical assistance, including technical guidance, training, and adoption facilitation so that firms can translate intentions into effective use. In addition, policies should encourage gradual integration of accounting modules rather than one-time system installation, as deeper integration is more strongly associated with better decision quality. Future research may extend this work through longitudinal designs and actual system-usage data.

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