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The role of cognitive psychology, internal conditions, and technology utilization in shaping accounting behavior of SMEs

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ABSTRACT

This study aims to investigate the influence of intrapersonal (cognitive) factors, internal business conditions, and technology integration in operations on accounting behavior among MSMEs. This study uses a two-phase sequential quantitative design, comprising two tests: the Binary Logistic Regression Test to determine the relationship between internal condition factors and accounting adoption, and the SEM-PLS Test to examine the influence of cognitive ease on the utilization of accounting information, including IMR as a control variable. Initial data were obtained through distributing questionnaires to 250 MSMEs in Mataram City, selected using purposive sampling. The results of this study indicate that there is a relationship between the variables of third-party credit and digital payments on the preparation of accounting information. Meanwhile, the variables of business age, business form, and accounting training have no relationship with the preparation of accounting information. Furthermore, it is known that there is a positive influence between repeated experience and the utilization of accounting information. In contrast, the variable of avoiding strain has no effect on the utilization of accounting information in the MSMEs studied.

Introduction

Micro, Small, and Medium Enterprises (MSMEs) play a central role in the Indonesian economy, contributing 61.07% to the Gross Domestic Product (GDP) or around Rp8,573.89 trillion, and absorbing up to 119 million workers or 97% of the total business workforce (Supriyanto, 2024; Sinha et al., 2024; Fauziah et al., 2024). This strategic role makes MSMEs a driving force for economic growth, particularly in areas not dominated by large-scale industries. However, the majority of MSMEs face challenges in preparing financial reports. A common perception is that financial reports are only necessary to meet loan or regulatory requirements, not as a crucial instrument for strategic decision-making (Biduri et al., 2021; Hidayatullah et al., 2023; Suryantara et al., 2024; Perdana et al., 2024). In fact, accurate accounting information can help with business planning, cost control, and resource allocation more effectively (Kusumawati & Animah, 2024).

To address reporting complexity, the Financial Accounting Standards for Micro, Small, and Medium Entities (SAK EMKM) were implemented in 2018. However, the level of implementation of these standards remains low, especially among micro and small MSMEs (MSEs). Factors such as lack of accounting knowledge, business size, limited relationships with external parties, accounting complexity, and minimal training are key obstacles. (Suryantara & Ridhawati, 2023). Meanwhile, the development of digital technology, such as digital payments and cloud accounting, offers opportunities to simplify transaction recording and increase the accuracy of financial reports. (Tawfik et al., 2023; Thottoli & Ahmed, 2022). The use of this technology has been proven to reduce the administrative and cognitive barriers faced by MSMEs

Internal business conditions such as age, legal form, access to credit, and financial management training also play a significant role. According to the Resource-Based View, unique internal resources can create competitive advantage and influence organizational performance. Longer-established businesses tend to have more mature administrative systems, legal form provides formal legitimacy, access to credit increases investment capacity, and training strengthens financial management capabilities (Latif et al., 2022).

In addition to technological factors and internal conditions, the cognitive ease approach can provide a deeper understanding of MSME accounting behavior. The concept of repeated experience explains that regular involvement in preparing financial statements can improve perceived ease and accounting skills. Conversely, avoidance strain reflects the tendency to avoid activities perceived as burdensome, which can hinder the adoption

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of accounting practices (Ridhawati et al., 2024). Based on the Theory of Planned Behavior, perceived ease of use (perceived behavioral control) influences intentions and actual behavior, so these two concepts are relevant to explaining accounting behavior in MSMEs.

Previous research on accounting behavior in MSMEs has focused on both internal and external factors within the business. For example, studies conducted by Biduri et al. (2021), Dewi (2020), and Efriyenty (2020) demonstrate that demographic factors, including business age, business entity type, and education level, influence the adoption rate of accounting systems. Meanwhile, Dewi (2020) and Efriyenty (2020) found that accounting training plays a significant role in influencing the use of accounting information. However, these studies generally analyze these factors separately without considering the psychological mechanisms that drive MSMEs not only to adopt but also to utilize accounting information for business decision-making actively. Therefore, research integrating cognitive psychology perspectives in the context of MSME accounting behavior is still very limited.

Although the concepts of repeated experience and avoidance strain have been discussed in the behavioral accounting literature, their application to understanding the accounting behavior of Indonesian MSMEs, particularly in their interaction with internal business conditions and technology adoption, remains a significant research gap. Research by Ridhawati et al. (2024) provides an initial contribution in this regard, but has not fully explored the simultaneous relationship between external accountability pressures, such as credit access and digital technology integration, such as digital payments, and cognitive ease factors.

This study aims to fill a gap in previous research. Previous studies often treat internal factors, technology adoption, and cognitive processes as independent phenomena. This study integrates these three dimensions into a comprehensive analytical framework, recognizing that MSME accounting behavior cannot be understood through a single-factor or two-factor model. Furthermore, previous studies have emphasized the level of AIS adoption, but research on the next phase, utilization, is limited. The distinction between adoption and utilization is crucial, as they represent different behavioral outcomes and require different explanatory mechanisms. Therefore, this study's two-stage research design was designed to separately analyze the factors driving adoption (Stage 1: Binary Logistic Regression) and the factors driving information utilization (Stage 2: SEM-PLS). Furthermore, unlike previous studies that generally prioritize demographic and structural variables, this study emphasizes the importance of external accountability mechanisms (credit access) and technology integration (digital payments) as key drivers of adoption, while emphasizing repeated experiential engagement as a mechanism that maintains utilization. These findings suggest a more nuanced understanding of how psychological barriers can be mitigated through the design of technology and institutional support.

This research contributes to the theoretical, methodological, and practical aspects of the field. Theoretically, this research integrates cognitive ease theory with the Theory of Planned Behavior and the Technology-Organization-Environment (TOE) framework, offering a more comprehensive explanation of MSME accounting behavior. Methodologically, the two-stage sequential design with control for selection bias (using the Inverse Probability of Treatment Weighting) represents an important methodological advancement in distinguishing between adoption decisions and utilization patterns. Practically, the research findings are expected to provide policymakers, financial institutions, and MSME development organizations with evidence-based guidance on which interventions are most effective in encouraging the sustainable and meaningful use of accounting information.

Literature Review

Theory of Planned Behavior (TPB)

The Theory of Planned Behavior (TPB) introduced by Ajzen in 1991 (Ajzen, 1991) offers a strong conceptual framework in explaining why individuals make decisions to display certain behaviors (Ajzen, 1985, 1991; Fishbein & Ajzen, 1975) including in the context of accounting in MSMEs. The three main determinants in the SDGs—attitude toward behavior, subjective norms, and perceived behavioral control—can be viewed as reflections of internal conditions, the external environment, and the cognitive capacity of business actors. Attitudes toward behavior are shaped by beliefs about the benefits of accounting, such as the perception that financial reports enhance business credibility and facilitate access to funding sources. Subjective norms function through pressure or social support from external parties, including the government, financial institutions, and business partners, which encourage the implementation of accounting practices. Meanwhile, perceived behavioral control is closely linked to cognitive aspects, which include accounting literacy levels, repeated experience, and confidence in utilizing supporting technology.

Within the framework of this research, internal conditions of business actors, such as motivation, self-confidence, and long-term orientation, play a role in strengthening positive attitudes toward the use of accounting information. The use of digital accounting technology can be positioned as an external factor that functions to encourage subjective norms, as pressure and support from the business environment make technology a new standard in modern accounting practices. Cognitive factors, including accounting literacy, the ability to avoid mental strain, and experience in financial record-keeping, are directly correlated with perceived behavioral control,

which ultimately determines the extent to which MSMEs feel capable of using and optimizing accounting information. The integration of these three factors aligns with the motivational assumption of the TPB, that a combination of attitudes, social pressures, and perceived self-efficacy determines behavioral decisions. With this perspective, the research not only examines the influence of these variables on the use of accounting information but also provides a theoretical basis for understanding how MSMEs can maximize the use of accounting information as a strategic decision-making instrument in facing increasingly competitive market dynamics.

The influence of internal conditions on the preparation of accounting information

Internal organizational factors play an important role in determining whether MSMEs will adopt accounting information systems. However, the relationship between these factors and adoption is more complex than initially assumed. Structural variables like business form and age have received considerable attention in the literature, yet empirical findings remain mixed (González-Varona et al., 2021; Latif et al., 2022).

Business maturity itself is commonly associated with organizational readiness for information systems. Longer-established firms often develop more structured administrative practices and have greater accumulated resources to invest in technology. Yet the relationship is not straightforward, some newer businesses show equal or greater willingness to adopt digital tools from the outset, lacking the organizational inertia that can slow innovation adoption (González-Varona et al., 2021). Within the Theory of Planned Behavior framework, business experience shapes beliefs about the utility of accounting systems, influencing perceived behavioral control. This hypothesis examines whether business longevity translates into practical adoption of AIS.

H_1: Business age is related to the use of AIS among MSMEs in Mataram City.

The legal structure of a business determines its formal standing and, traditionally, has been associated with the rigor of accounting practices. Firms registered as limited companies face stronger regulatory pressures than sole proprietorships, potentially driving AIS adoption. However, regulatory requirements alone may not explain adoption in an era where cloud accounting tools are increasingly affordable and user-friendly for all business types. The question remains whether formalization genuinely influences technological adoption or whether this relationship has weakened as technology democratizes (Latif et al., 2022).

H_2: Business type is related to the use of AIS among MSMEs in Mataram City

Credit relationships create direct accountability pressures that fundamentally shape financial reporting behavior. When MSMEs borrow from banks, microfinance institutions, or cooperatives, they encounter non-negotiable demands for regular financial reporting and proof of sound financial management (Purwati et al., 2014). These external pressures function as a powerful driver for AIS adoption, as manual bookkeeping becomes insufficient for creditor requirements. Unlike structural variables, credit access represents a concrete external incentive that makes accounting information systems not just desirable but necessary. This mechanism aligns closely with the Theory of Planned Behavior's emphasis on subjective norms and environmental pressures.

H_3: Third-party credit is related to the use of AIS among MSMEs in Mataram City

Training initiatives aim to build accounting competency and comfort with financial systems. However, the effectiveness of formal training depends critically on its alignment with participants' actual operational needs and learning styles. Traditional classroom or workshop-based training often teaches abstract concepts without sufficient hands-on practice or post-training support, limiting its impact on actual adoption behavior (Dewi, 2020; Efriyenty, 2020). Behavioral research suggests that problem-driven learning, where MSMEs adopt systems to solve specific business challenges, outperforms conventional capacity-building in terms of sustained behavioral change (Nuijten et al., 2020). Nonetheless, this hypothesis tests whether exposure to accounting training, regardless of its specific design, correlates with AIS adoption among Mataram MSMEs.

H_4: Accounting and financial management training is related to the use of AIS among MSMEs in Mataram City

The influence of technology utilization on the preparation of accounting information

One of the factors that is often mentioned as influencing accounting behavior in MSMEs today is the use of technology (Lutfi et al., 2016). Since the massive e-commerce and digital payment technology has penetrated the business world, including MSMEs, it has made it easier for business actors to run their businesses. This is because every transaction that occurs in the digital platform will be recorded automatically, making it possible for MSME actors to reduce the complexity of the accounting cycle (Putra, 2019), especially when recording initial transactions. So by utilizing technology in their business, it increases the possibility of MSMEs in preparing accounting reports (Achadiyah, 2019; Ritchi et al., 2020). o the hypothesis proposed from the technology utilization variable is as follows:

H5: The use of digital payments has a positive impact on the preparation of accounting information for MSMEs in Mataram City.

The influence of cognitive psychology on the accounting behavior of MSME actors

The basic concept of cognitive ease holds that when humans hear and do something repeatedly, the brain begins to form connections around it, making it easier to process it later. Repetitive information becomes more familiar to the human brain as a repeated experience. Similarly, the use and preparation of accounting information are both highly dependent on the experience of MSMEs. The more frequently MSMEs use and prepare accounting information, the more familiar these two activities become. At this point, MSMEs have come to believe that the use and preparation of accounting information is a profitable activity for them.

In contrast, the use and preparation of accounting information is often considered unfamiliar and challenging for most MSMEs. This is also illustrated in the theory of planned behavior (TPB), which states that Perceived Behavior Control, also known as behavioral control, is a person's feelings about the ease or difficulty of performing a particular behavior (Ajzen & Fishbein, 2005). This makes the incentive for MSME actors not to prepare financial reports (to avoid strain) stronger than the incentive for the benefits they will obtain.

Therefore, the hypothesis proposed from the cognitive psychology variables is as follows:

H6: Repeated Experience has a positive influence on the utilization of accounting information by MSMEs in Mataram City

H7: Avoid Strain has a negative effect on the use of accounting information by MSMEs in Mataram City

For further clarity, we present the hypothesis design and research framework in Figure 1.

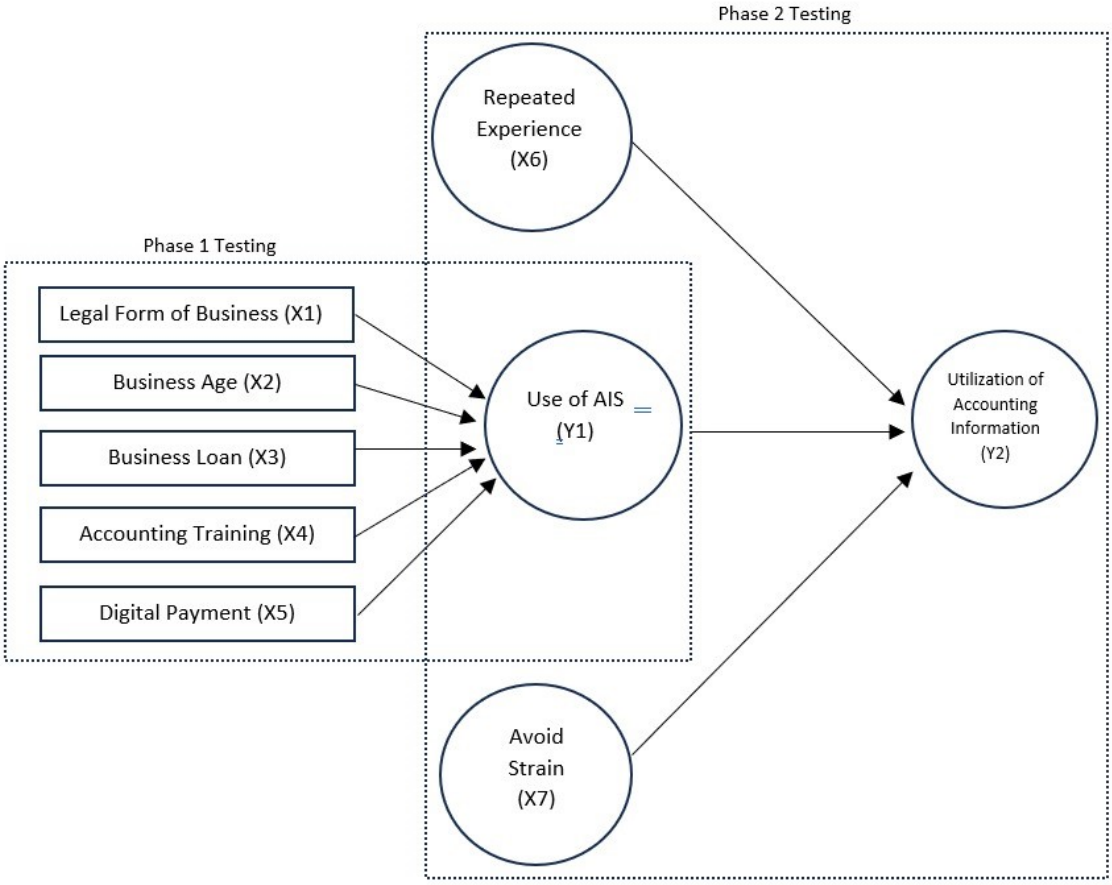

Figure 1. Research Framework

Research Method

This research is an associative quantitative study with a positivist paradigm, examining the relationships between variables to determine the factors influencing accounting behavior in micro and small businesses in Mataram City, West Nusa Tenggara. The study sample consisted of 250 micro and small businesses, selected using the GPower 3.1 application and a purposive sampling technique.

Primary data were collected through a four-point Likert-based questionnaire for the variables of repeated experience (X6), avoiding strain (X7), and utilization of accounting information (Y2). Meanwhile, nominal (dummy)

scales were applied to business age (X1), business type (X2), third-party financing (X3), accounting and financial management training (X4), digital payments (X5), and use of AIS (Y1).

This study employed a two-phase sequential quantitative design with two-phase sampling. In the first stage, we estimated the probability of AIS adoption using binary logistic regression and chi-square regression on 250 MSMEs based on internal factors. The second stage analyzed accounting utilization among a subsample of AIS users (reduced to 156 samples) using PLS-SEM to test the influence of cognitive psychology constructs on accounting information utilization.

Because the second stage only included AIS users, we controlled for potential sample selection bias through a Heckman-style approach by deriving the Inverse Mills Ratio (IMR) from the first-stage probit model and including it as a control variable in the PLS structural model. In the second-stage testing, inference was conducted using bootstrapping, and predictive ability was examined using PLSpredict.

Result and Discussion

Data Analysis Result

A total of 250 questionnaires were distributed to micro and small businesses that met the criteria. Based on eligibility and completeness of data entry, 247 questionnaires proceeded to the processing and testing stage. Three questionnaires were not completed with the required data. Furthermore, chi-square tests and binary logistic regression tests were conducted on the 247 questionnaires that proceeded to the first data processing stage. The results of these tests revealed the following:

Table 1. Research Respondent Description Statistics

Variable	Total	Criteria	
		Using AIS	Not Using AIS
Legal Form of Business:			
a. Sole Proprietorship	179	107	72
b. CV (Limited Partnership)	19	12	7
c. PT (Limited Liability Company)	49	37	12
Business age:			
a. 3 – 5 years	103	68	35
b. > 5 years	144	88	56
Business Loan:			
a. Borrower	86	65	21
b. Non-Borrower	161	91	70
Accounting Training:			
a. Attended	47	33	14
b. Never Attended	200	123	77
Digital Payment:			
a. Using	215	150	65
b. Not Using	32	6	26

Source: Research Data, 2025

Table 2. Chi Square Test Results of Dummy Variables on the Use of AIS

Variables	Pearson Chi-Square (Asymp. Sig.)
Legal Form of Business	0, 129
Business Age	0,621
Business Loan	0,030
Accounting Training	0,265
Digital Payment	0,000

Source: Research Data, 2025

Referring to the descriptive statistics in Table 1 and the Chi-Square test results in Table 2, the Asymp Sig result is 0.129, greater than 0.05 for the relationship between the business form variable and the AIS usage variable. This means there is no relationship between the business form and the use of AIS. Based on the frequency of the data, the majority of the MSME samples use AIS (156 use, 91 do not use). In addition, it is known that the use of AIS in Sole Proprietorships (PP), which is suspected to be more retentive to AIS, is not proven. This can be seen from 179 PP, 107 PP use AIS, while 72 do not use AIS.

Furthermore, for the business age variable, the Asymp Sig result was 0.621, greater than 0.05, indicating no significant relationship between business age and the use of AIS. Based on the frequency of the data, the majority of the MSME samples have been operating for more than 5 years, namely 144 MSMEs, and 61% of these MSMEs (88 MSMEs) have applied AIS. In addition, it is known that the use of AIS in companies that are still under 5 years old is quite massive. So far, business age is often associated with lower AIS utilization, where the younger the business age, the less massive the use of AIS. From the data, it is known that 103 MSMEs are under 5 years old. Of these, it is known that 68 MSMEs (66%) have applied AIS in their businesses.

Likewise, for testing the relationship between accounting training variables and the use of AIS. The test results show an Asymp Sig of 0.265, greater than 0.05, indicating no significant relationship between accounting training and the use of AIS. Based on the frequency table, it is known that as many as 200 MSMEs have never attended accounting training, and only 47 MSMEs have attended accounting training. However, despite this, as many as 123 MSMEs that have never attended accounting training still use AIS. Referring to the qualitative measures of the MSME sample, it is estimated that the use of AIS emerged organically (the use of AIS due to the needs of the Company) such as due to the increasing complexity of the business, which can be symbolized by the majority of MSME samples having been operating for more than 5 years or also due to existing needs such as the need for digital payments and demands from credit providers because MSMEs access third-party credit..

Different results were obtained from the Chi-Square test for the business loan variable. The Asymp Sig. was 0.003, less than 0.05, indicating a relationship between third-party credit and the use of AIS. Based on the frequency of the data, the majority of the MSME samples did not have business loans from third parties (Banks, LKM, Cooperatives), namely 161 MSMEs (65%), compared to 86 MSMEs (35%) that had access to business credit from third parties. From the data, a pattern emerged showing that the proportion of AIS utilization in MSMEs with credit was higher than that without credit. Of the 86 MSMEs that had credit, 65 MSMEs (75%) used AIS, and 21 MSMEs (25%) did not use it. Meanwhile, of the 161 MSMEs that did not have credit, 91 MSMEs (56%) used AIS, and 70 MSMEs (44%) did not use it.

In line with these results, from testing the relationship between digital payment variables and the use of AIS, the Asymp Sig result was 0.000, smaller than 0.05, which means there is an absolute relationship between digital payments and the use of AIS. Based on the frequency table, it is known that of the 247 MSE samples, 215 MSEs use digital payments, and of the 215 MSEs, 150 MSEs (69%) have adopted AIS.

Furthermore, the results of the binary logistic testing of 247 questionnaires in stage 1 revealed the following:

Table 3. Fit Test Results and Determination Coefficient

Step	Chi-Square	df	Sig.	2 log likelihood	Nagelkerke R Square
1	11.619	8	.169	285.705[a]	.201

Source: Research Data, 2025

Referring to Table 3, the fit test results using the Hosmer and Lemeshow test yielded a Sig. value of 0.169, greater than 0.05. This means the binary logistic regression model is suitable for further analysis. Similarly, the coefficient of determination test yielded a Nagelkerke R-Square value of 0.201, or 20%. It means that the five independent variables have a 20% influence on the dependent variable. The remaining 80% is influenced by other variables not examined in this study.

Table 4. F Test Results

		Chi-square	df	Sig.
Step 1	Step	39.402	7	.000
	Block	39.402	7	.000
	Model	39.402	7	.000

Source: Research Data, 2025

Then, for the results of simultaneous testing (F Test) and partial (t Test), based on data processing, it is known that the results of the F Test produce a Sig. Model value of 0.000, smaller than 0.05 as stated in Table 4. This means that together, the five independent variables influence the use of AIS. In other words, if the five conditions of the independent variables are met, the encouragement for MSMEs to use AIS can be greater. Meanwhile, the results of the t-test, from table 5, indicate that only the Business Credit variable (X3) and the Digital Payment variable (X5) have a partial influence (Sig. <0.05) on the use of AIS. Meanwhile, the other variables show a weak influence. This means that the Business Credit and Digital Payment variables are very closely related in terms of relationship (chi-square) and influence (t-test) to the encouragement for MSMEs to use AIS.

Table 5. t-Test Results

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	BU			1.774	2	.412	
	BU(1)	-.148	.517	.082	1	.774	.862
	BU(2)	.513	.412	1.554	1	.213	1.671
	UU			2.303	2	.316	
	UU(1)	-.512	.591	.750	1	.386	.599
	UU(2)	-.797	.572	1.944	1	.163	.451
	KU	.628	.335	3.523	1	.041	1.874
	PA	.043	.384	.012	1	.911	1.044
	PD	2.181	.488	19.979	1	.000	8.852
	Constant	-1.012	.666	2.311	1	.128	.363

Source: Research Data, 2025

Finally, the classification accuracy test. Based on Table 6, the number of MSMEs that do not use AIS is 91. Of the 91 MSMEs, it is predicted that 65 MSMEs will have the opportunity to use AIS in the future, with a prediction accuracy percentage of 28.6% (low). Conversely, the number of MSMEs currently using AIS is 156, of which it is predicted that 6 MSMEs will stop using AIS in the future, with a prediction accuracy percentage of 96% (high).

Table 6. Classification Accuracy Test Results

			Predicted		
		Observed	Use of AIS		Percentage
			Not using	Using	Correct
Step 1	Use of AIS	Not Using	26	65	28.6
		Using	6	150	96.2
	Overall Percentage				71.3

Source: Research Data, 2025

Next, after testing the relationship between Internal Variables and AIS Use, the data processing entered phase 2 testing. In this phase 2 testing, 91 MSMEs that did not use AIS were eliminated, and only reflective questionnaires from 156 MSMEs that did use AIS were processed. This was done because the phase 2 testing aimed to determine the influence of cognitive ease factors on the utilization of accounting information. In this phase 2 testing, as part of the two-step Heckman correction approach, the researcher first calculated the Inverse Mills Ratio (IMR), which was then entered into the PLS model as a control variable. The purpose of this step was to detect and correct potential sample selection bias that could occur because only a portion of respondents (156 of 250 MSMEs) used an accounting information system, and was then analyzed in the next phase.

After testing, based on the results of the convergent validity test, it was found that several indicators had loading factor values lower than 0.5, so it was necessary to evaluate the model before further processing (Ghozali, 2014). So the post-elimination research model is visualized in Figure 2.

After the research model meets the minimum loading factor value, a discriminant validity test is conducted to determine whether each indicator in a variable differs from the indicators in other variables. Simultaneously, validity and reliability tests are conducted to ensure that the latent construct is accurately measured by its indicators. Validity in this study is measured by the Average Variance Extracted (AVE) value. If the AVE value is above 0.5, a variable is considered valid. Reliability in this study is measured by the composite reliability (CR) value. A variable is considered reliable if the composite reliability value is greater than 0.7 (Latan & Ghozali, 2015). The results of the discriminant validity, validity, and reliability tests are shown in Table 7.

Table 7 shows that the cross-loading value indicates good discriminant validity due to the higher correlation value of the indicator compared to the other variables. Cross-loading testing should demonstrate a higher indicator value for each variable compared to the indicators in the other variables. Likewise, validity and reliability meet the minimum threshold of above 0.7 for reliability (CR) and above 0.5 for validity (AVE).

Finally, hypothesis testing was conducted using the bootstrapping function in SmartPLS. The results of the hypothesis testing showed that the repeated experience (RE) variable had a positive effect on the accounting information utilization variable ($p = 0.000$, $0 = 0.52$), so that H6, which stated that there was a positive effect between repeated experience and accounting information utilization, was accepted. Meanwhile, the avoid strain (AS) variable did not affect the accounting information utilization variable with a negative direction of influence ($p = 0.060$, $0 = -0.097$), so that H7, which stated that avoid strain had an adverse effect on accounting information utilization, was rejected. Likewise, with the IMR control variable, the estimation results showed that the IMR path

coefficient on the Accounting Information Utilization construct was positive but not statistically significant. This finding indicates that there is no evidence of sample selection bias in the research model. In other words, the estimated relationship between the main variables (Repeated Experience, Avoid Strain, and Accounting Information Utilization) can be interpreted directly without any distortion due to sample selection problems.

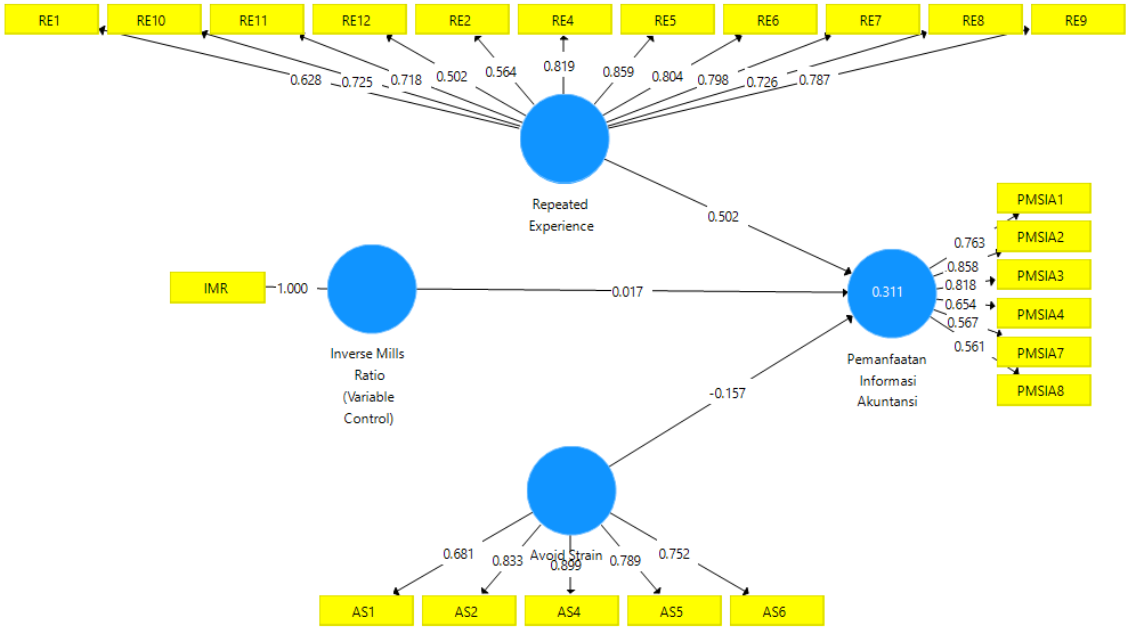

Figure 2. Structural Model

Table 7. Results of Validity, Reliability, and Discriminant Tests

	CR	AVE	AS	PIA	RE
Avoid Strain (AS)	0.894	0.631	0,794		
Utilization of Accounting Information (PIA)	0.858	0.509	-0,262	0,713	
Repeated Experience (RE)	0.924	0.531	-0,214	0,536	0,729

Source: Research Data, 2025

Table 8 shows the hypothesis testing result of the study. The test results also show that the R^2 value for the accounting information utilization variable is 0.487, indicating that this research model is at a moderate level. It means that 48.7% of the variation in accounting information utilization can be explained by cognitive constructs and control variables (IMR), while factors outside the research model influence the remaining 51.3%.

Table 8. Hypothesis Testing Results

	R Square	Original Sample (O)	SD	T Statistics	P Values
AS - PIA	0,487	-0.097	0.051	1.887	0.060
IMR - PIA		0.017	0.068	0.257	0.797
RE - PIA		0.369	0.070	7.179	0.000

Source: Research Data, 2025

The influence of internal factors on the adoption of accounting information systems among SMEs

The analysis reveals that not all internal factors significantly influence the adoption of Accounting Information Systems (AIS) among SMEs. First, the legal form of business (sole proprietorship, partnership, corporation) does not significantly affect AIS adoption ($p = 0.129$). Descriptively, sole proprietors even show relatively high adoption rates. This finding suggests that accounting digitalization is no longer limited to legally formalized firms but is also embraced by micro-enterprises operating as individual businesses. The availability of affordable and accessible cloud-based tools plays a crucial role in lowering structural barriers (González-Varona et al., 2021). From a cognitive psychology perspective, adoption decisions are often shaped more by heuristic biases, perceived usefulness, and personal experience than by institutional arrangements (Abatecola et al., 2018; Nuijten et al., 2020).

Second, firm age is also not significantly related to AIS adoption ($p = 0.621$). Interestingly, younger firms (<5 years) show a higher proportion of adoption compared to older ones. This challenges the classical assumption that organizational maturity translates into readiness for information systems. Instead, new ventures tend to be more agile, adaptive, and open to technology from the outset (González-Varona et al., 2021). Cognitive perspectives explain this through the absence of status quo bias, which often prevents older firms from adopting innovations (Nuijten et al., 2020). Empirical studies further highlight that demographic variables such as firm age are less relevant than factors like perceived usefulness and trust in driving digital adoption (Susanty et al., 2025).

In contrast, credit access demonstrates a significant relationship with AIS use ($p = 0.003$). SMEs with access to credit from financial institutions show greater discipline in using AIS, reflecting accountability demands and regular reporting obligations to creditors (Purwati et al., 2014). Psychologically, debt obligations create pressures that stimulate more systematic financial management behavior (Nuijten et al., 2020). Within the TOE framework, credit functions not only as a financial resource but also as an environmental driver of digital transformation (Al-Hattami & Almaqtari, 2023; Wang et al., 2024).

Meanwhile, accounting training does not exhibit a significant effect ($p = 0.265$). Although training participants show slightly higher adoption rates, the influence is not statistically strong. This suggests that conventional training programs may not adequately match SMEs' practical needs. Prior research highlights that effectiveness depends on practice-based approaches and hands-on mentoring rather than the mere transfer of conceptual knowledge (Dewi, 2020; Efriyenty, 2020). Thus, behavioral change in AIS adoption is more effectively triggered by problem-driven learning than by one-off training sessions (Nuijten et al., 2020).

Finally, digital payment usage emerges as a highly significant predictor ($p < 0.001$). The data show a clear contrast between users and non-users, reinforcing the argument that fintech integration accelerates the demand for more accurate and real-time accounting records (Al-Hattami & Almaqtari, 2023; Susanty et al., 2025). From a technology behavior perspective, the adoption of front-end systems such as e-wallets and QR-based payments drives the internalization of back-end systems, including digital accounting solutions (Pappas et al., 2021). Digital payments thus act as a primary gateway toward financial system transformation among SMEs (Wang et al., 2024). Overall, the findings emphasize that structural attributes (legal form, firm age) and formal capacity-building (training) have limited influence on AIS adoption. By contrast, external accountability pressures (credit) and technological integration (digital payments) play a far more decisive role

Cognitive ease and the utilization of accounting information

The empirical results of this study highlight the role of cognitive ease factors, namely repeated experience and avoid strain, in shaping the utilization of accounting information among MSMEs. The findings demonstrate that repeated experience exerts a positive and significant influence on the use of accounting information, as evidenced by the strong statistical support ($t = 9.634$, $p < 0.001$). This result aligns with cognitive psychology perspectives that emphasize the critical role of experience in structuring thought patterns and behavioral routines (Nuijten et al., 2020). Repeated engagement with accounting systems fosters a form of learning by doing, allowing MSME actors to progressively strengthen their practical skills in recording, compiling, and interpreting financial data. As this iterative cycle of action and reflection continues, accounting behavior becomes more standardized and systematic.

Notably, the positive effect of repeated experience was found to be stronger on the dimension of information utilization than on the technical process of information preparation. This suggests that MSMEs, through recurrent exposure, are more inclined to use financial information as a basis for decision-making, even when the technical preparation has been partly automated. Similar insights are offered by Al-Hattami & Almaqtari (2023), who observed that frequent interaction with accounting systems enhances users perceived usefulness of financial information, irrespective of whether report preparation is system-driven. Complementing this, González-Varona et al. (2021) highlight that the sustainability of system use and the frequency of user engagement, rather than one-off training, determine the depth of accounting digitalization within MSMEs. From a practical standpoint, these findings imply that MSME capacity-building programs should not rely solely on one-time training, but rather encourage recurrent practices such as weekly bookkeeping, monthly reporting, and the integration of accounting with digital transaction platforms, thereby embedding positive routines and strengthening confidence in accounting systems.

Conversely, the avoid strain variable does not exhibit a significant influence on the utilization of accounting information. Although conceptually the tendency to avoid activities that are cognitively demanding or mentally taxing should reduce utilization, the findings of this study indicate that such psychological barriers are not sufficiently strong to impede the stage of use. This outcome can be explained through the framework of the Theory of Planned Behavior (TPB), wherein perceived behavioral control enables individuals to continue using available accounting information despite perceiving its preparation as burdensome. In other words, avoid strain appears to be more relevant in influencing the input phase (preparation) rather than the output phase (utilization).

The development of cloud-based accounting technologies further reinforces this phenomenon. Intuitive interfaces, integration with digital payments, and automated recording processes reduce users' cognitive load and make accounting information more easily accessible. Studies by Pappas et al. (2021) and Susanty et al. (2025) emphasize that facilitating conditions and perceived ease of use exert a stronger influence on system utilization than initial psychological resistance. From a cognitive psychology perspective, this condition can also be understood through the concept of bounded rationality, wherein individuals tend to select solutions that minimize cognitive effort. Accordingly, while SME actors may be reluctant to manually prepare accounting reports, the availability of accounting information through digital systems continues to encourage its utilization in business management. This implies that avoidance behavior in accounting can be compensated for by technological affordances and external pressures, thereby diminishing its significance in the stage of information utilization.

Overall, these findings reaffirm the importance of cognitive ease in accounting behavior. While repeated experience strengthens accounting utilization through iterative engagement, the role of avoid strain highlights the necessity of designing technologies and training programs that alleviate perceived burdens. Together, these insights suggest that sustained usage and cognitive facilitation are pivotal in enhancing MSME reliance on accounting information for decision-making.

Conclusion

The findings of this study underscore that the adoption and utilization of Accounting Information Systems (AIS) among SMEs cannot be fully explained by structural attributes or formal capacity-building efforts alone. While internal factors such as legal form, firm age, and participation in accounting training exhibit limited or insignificant influence, the analysis demonstrates that external accountability pressures and technological integration serve as more decisive drivers of digital adoption. In particular, access to credit stimulates disciplined financial reporting behavior, reflecting the role of creditor demands as both a financial and institutional catalyst for system use. Similarly, the pervasive integration of digital payments operates as a gateway toward broader digital transformation, reinforcing the behavioral link between front-end financial technologies and back-end accounting practices.

From a cognitive perspective, the study provides evidence that repeated experience strongly reinforces the utilization of accounting information, highlighting the cumulative power of practice-based engagement in shaping behavioral routines. This finding illustrates that accounting adoption is not merely a product of structural readiness but also of experiential learning, whereby iterative interactions foster confidence and perceived usefulness. Conversely, avoid strain reflects the psychological and cognitive burdens associated with accounting tasks, yet its weak statistical effect suggests that technology-enabled automation and external support can mitigate these barriers, ensuring that information continues to be used even in the presence of perceived complexity.

Taken together, the results reveal that AIS adoption and accounting information utilization among SMEs are shaped less by demographic or formal structural factors and more by the interplay of environmental pressures, technological integration, and cognitive processes. This integrative insight showing that adoption is driven simultaneously by contextual imperatives and by the ease with which actors engage with accounting practices. Practically, the findings suggest that policy interventions and capacity-building programs should move beyond traditional training toward fostering repeated, contextually embedded practices, while technological design should prioritize lowering cognitive and technical burdens. Ultimately, sustainable digital transformation in SME accounting depends on aligning external drivers with user-centered cognitive facilitation, thereby ensuring that accounting systems are not only adopted but meaningfully utilized to inform decision-making.

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