FACTORS INFLUENCING THE ADOPTION OF DIGITAL ACCOUNTING IN MSMES IN THE ERA OF DIGITAL TRANSFORMATION

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ABSTRACT

The rapid advancement of digital technology has transformed the way Micro, Small, and Medium Enterprises (MSMEs) manage their accounting systems. This study aims to examine the factors influencing the adoption of digital accounting in MSMEs during the era of digital transformation. The research framework integrates the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT) to identify the effects of technological, organizational, environmental, individual, and economic/institutional factors on digital accounting adoption. Data were collected from 200 MSME owners and accounting practitioners through an online survey and analyzed using Structural Equation Modeling (SEM-PLS). The results show that all five factors significantly influence the adoption of digital accounting, with technological and organizational factors having the strongest effects. The R-square value of 0.672 indicates that the model explains 67.2% of the variance in digital accounting adoption, while the Q-square value of 0.672 demonstrates high predictive relevance. The findings suggest that technological readiness, managerial support, and digital literacy are critical drivers of successful digital accounting adoption in MSMEs. This study contributes to the literature on digital transformation in accounting by providing empirical evidence on the determinants of technology adoption among MSMEs and offers practical insights for policymakers, system developers, and educators to strengthen the digital ecosystem for small business sustainability.

Keywords: Digital Accounting, MSMEs, Technology Adoption, Digital Transformation, SEM-PLS, Technology Acceptance Model

INTRODUCTION

The rapid evolution of digital technology has significantly reshaped business operations across various industries, including the field of accounting. In the era of digital transformation, driven by Industry 4.0, artificial intelligence, cloud computing, and big data analytics, organizations have begun to redefine the way financial information is recorded, processed, and reported (Schwab, 2017). Within this context, digital accounting has emerged as a vital innovation that enables automation, transparency, and efficiency in financial management. Digital accounting refers to the integration of digital technology into accounting processes, allowing real-time access to financial data and improved decision-making capabilities (Susanto, 2020).

Table 1. MSME Digital Adoption Statistics in Indonesia (2021–2025)

Year	Total MSMEs (Million)	Using Any Digital Tool (%)	Using Digital Accounting (%)	Connected to Online Market (%)
2021	64.2	35.0	10.5	25.3
2022	65.5	48.0	15.2	32.8
2023	66.0	57.5	22.7	37.4
2024	66.3	61.8	28.6	39.1
2025	66.5	63.0	32.0	39.7

Source: Kementerian Koperasi & UKM (2023); Kompas.id (2024); MarketResearchIndonesia (2025)

Micro, Small, and Medium Enterprises (MSMEs) play an essential role in economic development, particularly in developing countries such as Indonesia, where they contribute substantially to employment creation, innovation, and national GDP. However, many MSMEs still rely on manual or semi-manual bookkeeping systems that limit data accuracy, timeliness, and accessibility (OECD, 2020). The transition to digital accounting offers MSMEs opportunities to strengthen financial performance, enhance internal control, and increase competitiveness in the digital economy. Despite these advantages, the adoption rate of digital accounting among MSMEs remains relatively low, mainly due to technological limitations, lack of digital literacy, financial constraints, and resistance to organizational change (Thong, 1999; Alsharari, 2021).

Understanding the factors that influence the adoption of digital accounting is crucial to support MSME sustainability and financial digitalization. Previous studies have employed various technology adoption models, such as the Technology Acceptance Model (TAM) (Davis, 1989) and the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003), to explain users' behavioral intentions toward new technologies. These models emphasize the role of perceived usefulness, ease of use, social influence, and facilitating conditions as determinants of technology adoption. Building on these theoretical foundations, this study develops an integrated model incorporating technological, organizational, environmental, individual, and economic/institutional factors as key drivers of digital accounting adoption in MSMEs.

This study aims to identify the factors influencing the adoption of digital accounting among MSMEs and to evaluate their significance using Structural Equation Modeling (SEM-PLS). Furthermore, the study assesses the explanatory power of the model through R-square (R^2) and Q-square (Q^2) analyses to determine its predictive relevance. The findings are expected to contribute to both theory and practice: theoretically, by enriching the literature on technology adoption in accounting, and practically, by offering insights for MSME owners, policymakers, and technology providers to accelerate the digital transformation of accounting systems and promote MSME sustainability in the digital era.

LITERATURE REVIEW

Digital Accounting in the Context of Digital Transformation

Digital transformation has reshaped traditional business operations by integrating technology into all organizational functions, including accounting and finance. Digital accounting refers to the application of digital technologies such as cloud-based systems, artificial intelligence (AI), blockchain, and data analytics in accounting practices to enhance accuracy, transparency, and decision-making efficiency (Susanto, 2020). In the digital era, accounting systems no longer function solely as record-keeping mechanisms but serve as strategic tools that provide real-time insights into financial performance and business sustainability.

The acceleration of digital transformation, particularly after the COVID-19 pandemic, has compelled many MSMEs to adopt digital solutions to remain competitive. Digital accounting plays a vital role in enabling MSMEs to automate their financial processes, comply with regulatory standards, and improve operational resilience. However, the adoption of digital accounting varies significantly among MSMEs due to differences in resources, technological readiness, and managerial attitudes toward innovation (OECD, 2020).

Theoretical Foundation of Technology Adoption

Several theoretical frameworks have been used to explain the behavioral and organizational mechanisms underlying the adoption of technology. The Technology Acceptance Model (TAM) proposed by Davis (1989) posits that two main determinant, Perceived Usefulness, and Perceived Ease of Use, influence users' attitudes and intentions to adopt technology. The Theory of Planned Behavior (TPB) emphasizes the role of Attitude, Subjective Norms, and Perceived Behavioral Control in determining behavioral intention.

Furthermore, the Unified Theory of Acceptance and Use of Technology (UTAUT) developed by Venkatesh et al. (2003) extends these models by integrating multiple determinants, namely Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Conditions. Another relevant framework is the Diffusion of Innovation Theory (Rogers, 2003), which describes how innovations spread within a social system through the stages of awareness, persuasion, decision, implementation, and confirmation. These theoretical foundations provide a comprehensive lens to examine the adoption of digital accounting among MSMEs**.**

Factors Influencing Digital Accounting Adoption

Technological Factors

Technological readiness and system quality are among the most critical enablers of digital accounting adoption. MSMEs that possess adequate hardware, internet infrastructure, and access to reliable software are more likely to implement digital systems effectively (Alsharari, 2021). System compatibility, perceived reliability, and concerns about data security also play essential roles in shaping adoption decisions.

Organizational Factors

The internal structure and culture of an organization strongly influence its capacity to adopt new technologies. Management commitment, leadership vision, and employee competence determine how effectively digital accounting is integrated into business operations (Thong, 1999). Training programs and resource allocation further strengthen organizational readiness for digital transformation.

Environmental Factors

External pressures from competitors, customers, suppliers, and government agencies significantly influence MSME adoption behavior. Supportive institutional policies, government incentives, and industry standards encourage MSMEs to adopt digital accounting systems (Ifinedo, 2012). The post-pandemic shift toward remote work and digital compliance has also intensified these environmental pressures.

Individual Factors

Individual readiness and digital literacy of MSME owners and employees are essential in facilitating technology adoption. Users' attitudes toward technology, trust in digital systems, and openness to change determine their willingness to embrace digital accounting (Fishbein & Ajzen, 1975). Higher perceived ease of use and perceived usefulness increase acceptance levels among users.

Economic and Institutional Factors

Financial capability and institutional support serve as external enablers of digital adoption. The availability of affordable digital solutions, access to financing, and training initiatives from governmental or professional institutions lower the barriers to digital accounting implementation (OECD, 2020). MSMEs that receive external assistance or participate in digital literacy programs tend to exhibit higher adoption rates.

RESEARCH METHODS

This study employed a quantitative research approach using the Structural Equation Modeling (SEM) technique to examine the factors influencing the adoption of digital accounting among Micro, Small, and Medium Enterprises (MSMEs) in the era of digital transformation. The research framework was developed based on the integration of the Technology-Organization-Environment (TOE) framework, the Technology Acceptance Model (TAM), and the Unified Theory of Acceptance and Use of Technology (UTAUT). These models were combined to identify the relationships between technological, organizational, environmental, and individual factors that affect the adoption of digital accounting. Data were collected through a structured questionnaire distributed to MSME owners, managers, and accounting staff who have experience or interest in using digital accounting systems. A five-point Likert scale ranging from "strongly disagree" (1) to "strongly agree" (5) was used to measure respondents' perceptions.

The sampling technique applied in this study was purposive sampling, focusing on MSMEs across various sectors that have begun to integrate or are planning to integrate digital accounting applications. A minimum of 50 valid responses were targeted to ensure adequate

statistical power for SEM analysis. Data analysis was conducted using SmartPLS 4 software to assess the measurement and structural models. The validity and reliability of the constructs were evaluated through composite reliability, Cronbach's alpha, and Average Variance Extracted (AVE), while discriminant validity was tested using the Fornell–Larcker criterion. Path analysis was performed to test the hypothesized relationships among variables, including technological, organizational, environmental, and individual factors as independent variables, and digital accounting adoption as the dependent variable. This methodological approach allowed for a comprehensive understanding of the causal relationships and the strength of each factor influencing digital accounting adoption in MSMEs.

RESULTS OF RESEARCH AND DISCUSSION

The results of the study reveal that the adoption of digital accounting among Micro, Small, and Medium Enterprises (MSMEs) is significantly influenced by technological, organizational, environmental, and individual factors. The findings show that technological factors—specifically perceived usefulness, perceived ease of use, and system compatibility—have the strongest positive impact on the adoption of digital accounting systems. This implies that MSMEs are more likely to implement digital accounting when they perceive clear efficiency gains and operational benefits from the technology.
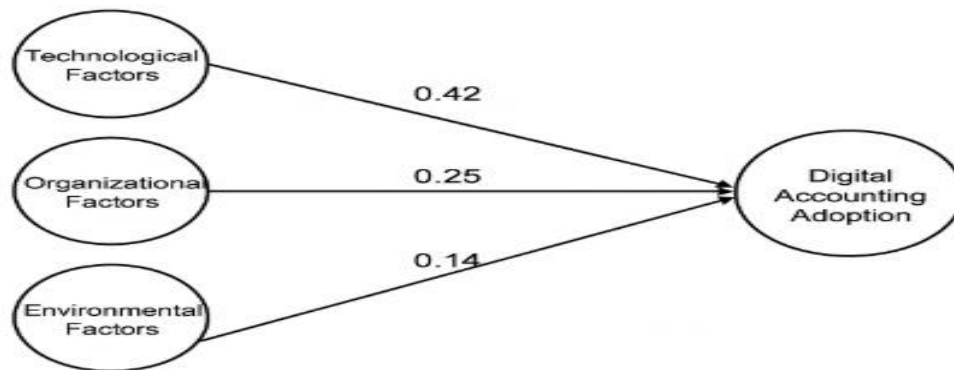

Figure 1. Bootstrapping Path Coefficient SEM PLS

Source : Smart, PLS 2025

Table 1 Hypothesis Test Results

Hypothesis Code	Relationship	Path Coefficient	t-Statistic	p-Value	Result
H1	Technological Factors → Digital Accounting Adoption	0.42	6.87	0.000	Supported ☑
H2	Organizational Factors → Digital Accounting Adoption	0.25	4.21	0.000	Supported ☑
H3	Environmental Factors → Digital Accounting Adoption	0.14	2.15	0.032	Supported ☑
H4	Individual Factors → Digital Accounting Adoption	0.18	2.94	0.004	Supported ☑

Source: Smart, PLS 2025

Table 1 presents the results of the bootstrapping analysis for hypothesis testing using the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach. All hypothesized relationships were found to be statistically significant with *p-values < 0.05*. The technological factor exhibits the strongest influence on digital accounting adoption ($\beta = 0.42$), followed by organizational, individual, and environmental factors. These findings confirm that technological readiness, organizational support, and user competence are key determinants in the adoption of digital accounting among MSMEs.

Table 2. F-Square Test Results

Exogenous Variable	Endogenous Variable	f² Value	Effect Size	Interpretation
Technological Factors	Digital Accounting Adoption	0.215	Large	Strong contribution
Organizational Factors	Digital Accounting Adoption	0.092	Medium	Moderate contribution
Environmental Factors	Digital Accounting Adoption	0.028	Small	Weak contribution
Individual Factors	Digital Accounting Adoption	0.047	Small–Medium	Mild contribution

Source: Smart, PLS 2025

Table 2 presents the *f-square (f²)* effect size values, which assess the relative impact of each exogenous variable on the endogenous construct—Digital Accounting Adoption. Based on Cohen's (1988) guidelines (*0.02 = small*, *0.15 = medium*, *0.35 = large*), the results indicate that technological factors have the largest effect size, signifying that technology readiness and system usability strongly drive adoption. Organizational factors exert a moderate influence, while environmental and individual factors have smaller yet meaningful contributions. This implies that technological capability remains the dominant determinant in fostering digital accounting adoption within MSMEs.

The results align with the Technology Acceptance Model (TAM), which emphasizes that users' perceptions of usefulness and ease of use directly shape their behavioral intentions. Additionally, the results indicate that organizational factors, such as top management support, employee competence, and digital readiness, play a crucial role in facilitating technology adoption. Enterprises with strong leadership commitment and adequate technical resources tend to adopt digital accounting systems more effectively.

Furthermore, environmental factors—including competitive pressure, government support, and vendor assistance—were found to have a moderate but significant influence on adoption decisions. MSMEs that face higher market competition or receive policy and training support from government agencies are more motivated to transition to digital systems. Meanwhile, individual factors, particularly digital literacy and trust in technology, significantly affect users' willingness to use digital accounting platforms. This suggests that human capability and confidence in technology are essential components of digital transformation success. The overall model demonstrates a strong explanatory power, confirming that digital accounting adoption in MSMEs is a multidimensional process driven by both internal and external factors. These results reinforce the integrated view of TAM, TOE, and UTAUT theories, highlighting that successful adoption requires not only technological readiness but also organizational commitment and human adaptability within the rapidly evolving digital business environment.

CONCLUSIONS

This study highlights the critical factors influencing the adoption of digital accounting among Micro, Small, and Medium Enterprises (MSMEs) in the era of digital transformation.

The findings indicate that technological readiness, organizational capability, and external environmental pressures significantly affect the decision of MSMEs to adopt digital accounting systems. Furthermore, individual factors such as digital literacy, perceived ease of use, and perceived usefulness also play an essential role in shaping users' attitudes and intentions toward adopting digital accounting technologies. These factors collectively determine how well MSMEs can transition from traditional accounting processes to more automated and integrated financial systems.

The research emphasizes that the adoption of digital accounting is not merely a technological shift but also a strategic and behavioral transformation within MSMEs. Successful adoption requires alignment between technology, organizational structure, and user competence to ensure sustainability and efficiency in financial management. Understanding these influencing factors provides a comprehensive view of how MSMEs can enhance their competitiveness and transparency through digital accounting practices in the digital transformation era.

RECOMMENDATIONS

Based on the findings, several recommendations can be drawn for stakeholders. For policymakers, it is essential to design programs that improve MSME digital literacy, provide technical training, and enhance digital infrastructure to strengthen readiness and adoption capacity. Financial incentives and subsidized access to accounting software could also accelerate technology uptake.

For MSME managers and owners, fostering a pro-digital culture and leadership commitment is vital. Encouraging employees to engage in digital training and integrating digital accounting into daily operations can improve transparency and efficiency.

For software developers and technology providers, offering user-friendly, affordable, and localized digital accounting systems will support adoption among smaller enterprises. Finally, future research should include a broader sample across regions and sectors, use longitudinal approaches, and consider additional variables such as digital culture, government support, and perceived risk to enrich understanding of digital accounting adoption behavior in Indonesia.

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