



Exploring Technological Factors and Cloud Accounting Adoption in MSMEs: A Comprehensive TAM Framework

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ABSTRACT

The adoption of cloud accounting technology among micro, small, and medium enterprises (MSMEs) is becoming increasingly vital for enhancing corporate efficiency and sustainability. However, the adoption rate requires enhancement due to several obstacles, including insufficient digital literacy (DLC) and technological complexity (CX). This study aims to identify the factors influencing the adoption of cloud accounting in MSMEs using TAM framework. This research encompassed 307 participants from MSMEs in Indonesia, with data gathered via surveys and analyzed with the Structural Equation Model—Partial Least Squares (SEM-PLS). DLC and compatibility (CO) substantially affect the perceived ease of use (PE) and usefulness (PU) of cloud accounting technology. Meanwhile, relative advantage (RA) positively impacts PE but does not significantly influence PU. CX greatly influenced users' intention (INT) to embrace cloud accounting. These findings highlights the crucial role of TAM and indicate that enhancing DLC and CO alongside current business practices is essential to promoting technology adoption. This study provides practical recommendations for policymakers and technology providers to improve the use of digital technologies among MSMEs.

Keywords: Cloud Accounting, Digital Literacy, Small Medium Enterprise, Technology Acceptance Model

JEL Classifications: G40, M10, M90

1. INTRODUCTION

The rapid growth of technological innovation in communication and information has contributed in numerous transformations across various sectors, including the business sector. One of the current technologies that is proliferating is cloud computing. Cloud computing allows companies to carry out business processes online without being limited by place and time. In particular, cloud computing is integrated with the company's financial system, where the transaction process is known to the company in real time. The online system integration is called cloud accounting (Musyaffi et al., 2022). For MSMEs, the adoption of cloud accounting not only offers increased efficiency in financial management but also becomes one of the crucial factors in supporting business

sustainability in the digital era (Mujalli et al., 2024; Musyaffi et al., 2023). This trend is driven by the need for the digitalization of business processes amidst the challenges of an increasingly complex and dynamic business environment.

Despite the potential benefits of cloud accounting, only 20% of SMEs have adopted technology in Indonesia, 30% revealed that SMEs also have no understanding of digitalization and 30% feel they lack the resources to adopt technologies such as cloud accounting (Wibowo, 2023). This condition shows that DLC and limited resources are the main obstacles to implementing cloud accounting among MSMEs. The use of technology, especially digital payments, can improve SME performance (Musyaffi et al., 2024). So, DLC is a crucial element in SMEs' adoption of

technology. According to the data insight center, the level of DLC in Indonesia increased to 69.7 points (on a scale of 0-100) in 2023, which is >66.5 points in 2020 (Santika, 2023). However, based on data from the Institute for Development of Economics and Finance (INDEF), the average digital literacy in ASEN is 70%, while Indonesia has the lowest digital literacy at 62% (Anam, 2023). The existence of high DLC allows a person to clearly understand the desire to choose the right financial technology (Respati et al., 2023).

Another issue that arises is the ability of MSMEs to prepare financial and administrative reports digitally. Based on an analysis by the Parliamentary Analysis Centre of the Expertise Agency of the House of Representatives, many MSMEs in Indonesia have not been able to conduct systematic financial records using digital technology (Lisnawati, 2023). Lack of good accounting understanding is also one of the reasons why 90% of MSMEs in Indonesia are unable to survive in the long term (MRBfinance, 2020). These issues highlight the need to strengthen DLC and accounting skills to support the adoption of technologies such as cloud accounting in MSMEs. In addressing technology adoption issues, the TAM is often used as a theoretical framework to explain user behavior in accepting and using technology. The TAM model highlights two main variables, namely PE and PU, which play an essential role in determining INT to adopt new technology (Al-Fahim et al., 2024; Davis, 1989; Song and Jo, 2023). TAM explains why most MSME players are still reluctant to adopt cloud accounting, even though the cloud offers significant benefits.

This research will explore several variables that are considered to influence cloud accounting adoption, namely DLC, RA, CO, and CX, and how these variables relate to PE and PU. This study will investigate the connection between PE and PU and the desire of MSMEs to utilize cloud accounting sustainably. The existence of financial and privacy risks can reduce perceived usefulness despite the RA offered (Qi et al., 2021). In addition, based on previous literature, several studies show inconsistent results where CX does not have a significant impact on PE (Kumar and Dami, 2021). With this background explanation, this research can make a significant contribution to understanding the factors that influence cloud accounting adoption among MSMEs, as well as provide relevant policy recommendations to encourage wider adoption of this technology in Indonesia. This study also seeks to highlight the importance of increasing DLC and resource support for MSMEs so that they can adapt to rapid technological developments, especially in the aspect of integration with the TAM framework.

2. LITERATURE REVIEW

2.1. Technology Acceptance Model (TAM)

TAM has achieved significant attention and is utilized in numerous studies for its capacity to provide clarity and forecast user behavior about technology adoption (Rouidi et al., 2023). Over time, TAM evolved to become broader beyond the factors of convenience and usefulness. TAM also includes self-efficacy, subjective norms, and facilitating conditions that reflect a complete understanding of technology acceptance (Bizzo, 2022). These evaluations allow researchers to explore complex user behavior in decision-making

related to technology adoption, especially in organizational environments (Musyaffi et al., 2024; Silva et al., 2023). TAM has also emerged as the main theoretical framework used to evaluate the platform adoption of a technology (Badi, 2023; Chatterjee et al., 2021). In addition, TAM has also played an essential role in analyzing technology adoption in MSME, which shows its versatility in various business sectors (Musyaffi et al., 2024; Nurqamarani et al., 2021).

2.2. Digital Literacy (DLC)

DLC shows a person's level of understanding of technology as a whole. DLC also strongly shape individual PE of digital technology in various fields, one of which is digital finance. Research conducted suggests that information literacy and DLC directly impact PE in the workplace to a great extent. Thus highlighting the critical role of literacy skills in technology acceptance. Meanwhile, Lin and Yu (2023) found clear evidence that PE is a significant predictor of positive user attitudes in using technology, so it affects INT in using a particular technology. Huang et al. (2022) emphasize that PE is a crucial variable in technology acceptance and adoption that can strengthen DLC in increasing user interaction with technology. Individuals who have a higher level of literacy show a substantial impact on PE and PEU (AbdulKareem and Oladimeji, 2024). Ullah et al. (2022) and Zhang and Bao (2023) discuss the role of DLC in INT to adopt mobile banking and digital resources, Where DLC is able to bridge the gap between individual skills and their PE and PU, which ultimately affects their adoption intentions. Previous research also reveals the critical role of DLC in PU and PE (Ahmed et al., 2022; Liu et al., 2022; Wulansari et al., 2024). Based on this explanation, this study underlines the vital role of DLC in increasing PE and PU.

H1. DLC has a positive substantial effect on PE
H2. DLC has a positive substantial effect on PU.

2.3. Relative Advantage (RA)

The concept of RA has an essential role in shaping PU, especially in adoption and innovation. RA describes the extent to which an individual recognizes technology components as more beneficial or advantageous compared to existing alternatives (Rawashdeh et al., 2023; Song and Jo, 2023). RA measures the extent to which new technologies are considered superior to alternative existing tools (Deng et al., 2021). RA also refers to an innovation that is considered superior to the previous idea it replaces, which significantly affects user acceptance and user readiness to embrace innovative technology (Chan et al., 2019; Srivastava et al., 2023). These perceptions can take various forms, such as increased efficiency, cost savings, or functionality, which can have an impact on the PU of the technology itself. So, the advantages of technology adoption significantly affect how business institutions value it. The ability to find and understand information quickly has a positive impact on PE, thus showing that RA from efficient information access can increase ease of use (Hakimi et al., 2023; Saghapour et al., 2018; Xia et al., 2023). Users feel a higher RA when the information system can balance these factors optimally, thereby increasing the PU of the technology (Edelmann et al., 2023). Factors such as convenience and security positively influence the INT continuously (Mombeuil and Uhde, 2021). This shows that technology offers clear benefits; users will tend

to think that technology is easy to use. Previous research has also established a strong positive relationship between RA, PE, and PU in technology adoption (Bouaguel and Alsulimani, 2022; Ortiz-López et al., 2024; Song and Jo, 2023).

H3. RA provides a significant beneficial influence on PE

H4. RA provides a significant beneficial influence on PU.

2.4. Compatibility (CO)

CO is assessed when an invention is regarded as congruent and compatible with the requirement and existing practices of potential technology adopters (Géczy et al., 2012; Islam et al., 2024; Nguyen et al., 2022). From an organizational point of view, CO describes important technological characteristics and is considered to be related to the patterns and behavior of users that occur, so it is considered an organizational driver (Nguyen et al., 2022). Meanwhile, according to Alsetoohy et al. (2019), companies tend to adopt innovations that are related to the values and culture of the company with minimal adjustment of changes. CO refers to the extent to which cloud accounting is integrated with a company's existing processes and infrastructure, aligning with its values and long-term vision. When a technology is aligned with existing user practices, it is considered easier to use, thereby increasing its adoption (Al-Fahim et al., 2024; Tan et al., 2024). When the technology tools used are compatible with user needs, they are considered more straightforward to use, thereby increasing greater involvement (Huantiang et al., 2024). When users find digital tools that match their learning styles, they consider the tools used to be easier to use, thereby increasing their involvement (Wahyuni et al., 2023). The fifth and sixth hypotheses in this study confirm that CO has a significant positive impact on PE and PU.

H5. CO provides a significant beneficial influence on PE

H6. CO provides a significant beneficial influence on PU.

2.5. Complexity (CX)

CX is often seen as a barrier for users when adopting a technology. Higher CX can reduce PE and thus inhibit continued engagement with the technology (Huang, 2023), especially in environments where users may not have the necessary skills to navigate complex systems. This relationship is further supported by several previous studies on technology adoption, where PE and PU are necessary predictors for the adoption of technologies that can reduce CX of use (Al-Fraihat et al., 2023). CX associated with DLC and technology anxiety were found to influence PE. This fact suggests that technological features that can reduce CX can increase PE and adoption of these services (Ganjipour and Edrisi, 2023; Sharma et al., 2024; Yap et al., 2023). In addition, users who tend to be open to new technologies will find them more practical, thus suggesting that reducing perceived CX can increase engagement and PU (Wong et al., 2023). Individuals who identify a beneficial system are more inclined to embrace it, regardless of its CX (Jansen-Kosterink et al., 2021). This suggests that while CX can hinder ease of use, the PE of technology can still drive its adoption if users believe it will enhance their performance or problem-solving capabilities (Ponsree, 2024; Porat et al., 2017). The seventh and eighth hypotheses confirm that CO has a significant negative impact on PE and PU.

H7. CX provides a significant beneficial influence on PE

H8. CX provides a significant beneficial influence on PU.

2.6. Perceived Ease of Use (PE)

TAM provides a basic framework for understanding individuals when using technology. One crucial component in understanding technology adoption is PE. PE describes the degree of which a specific system can free users from heavy work (Venkatesh and Bala, 2008) so that the existence of this technology can facilitate users in their daily work. Previous literature reveals that PE and PU are essential determinants in technology adoption (Aurangzeb et al., 2024; Martin, 2022). In the Technology Acceptance framework (TAM), PEOU directly affects PU. When users perceive technology as user-friendly, they are more inclined to regard it as useful (Liesa-Orús et al., 2023; Liu et al., 2022). PEOU also has a direct impact on INT, which describes the willingness or likelihood of users to adopt the technology continuously (Acikgoz and Vega, 2022; Alhumaid et al., 2023; Musyaffi et al., 2022). Therefore, when the employed technology possesses attributes and functions that make it easier, users will be more inclined to use the technology continuously (Abu-Taieh et al., 2022; Musyaffi et al., 2024) so that it also has an impact on INT (Alyoussef, 2022; Chatterjee et al., 2021; Musyaffi et al., 2024; Song and Jo, 2023). Therefore, the ninth and tenth hypotheses in the study confirm that PE has a substantial beneficial influence on INT and PU.

H9. PE provides a significant beneficial influence on INT

H10. PE provides a significant beneficial influence on PU.

2.7. Perceived Usefulness (PU)

PU refers to an individual's opinion toward technology can improve performance effectively and efficiently (Davis, 1989). PU is defined as the level of trust of SMEs in cloud accounting that can improve the overall performance of MSMEs. In the TAM framework, PU is an essential element in influencing user technology adoption (Musyaffi et al., 2024). This suggests that while perceived usefulness is paramount, it is often dependent on the technology being perceived as easy to use, thus reinforcing the need for user-friendly design that can improve the overall adoption experience (Barrett et al., 2023; Li et al., 2024; Saif et al., 2024). The presence of features and benefits that are relevant to daily work is an essential point in adopting new technologies (Dutta, 2024; Liesa-Orús et al., 2023). This finding highlights the significance of showcasing the tangible benefits of technology to enhance Perceived Usefulness (PU), which can subsequently foster a stronger INT (Albastaki, 2023; Chau et al., 2019; Sharma et al., 2024; Sujood et al., 2022; Viet Tam et al., 2024). Therefore, the eleventh hypothesis in this study confirms that PU has substantial beneficial influence on INT.

H11. PU provides a significant beneficial influence on INT.

3. MATERIALS AND METHODS

3.1. Research Design

This study use a quantitative methodology to examine the research hypotheses. Researchers distributed online questionnaires to SMEs that use cloud accounting as a daily transaction tool. The method used uses a non-probability approach through accidental sampling by considering the availability and willingness of SMEs (Gravetter and Forzano, 2018). Researchers use accidental sampling because it is considered suitable for SMEs that use cloud accounting. Moreover, accidental sampling is frequently used in studies about

technology acceptance (Khayer et al., 2020). Researchers got 345 respondents who were willing. However, after a screening process regarding data completeness, the number of eligible respondents was 307-88.47% of respondents.

3.2. Instrument and Measurement

This study has 7 constructs and includes 24 question items. The question items in this questionnaire are adapted from various previous studies that are in accordance with the research problem to support the validity and reliability of the instrument. Table 1 provides a more complete explanation of each question item and questionnaire, summarizing it completely and comprehensively.

3.3. Data Analysis

The data gathered were evaluated with a SEM methodology using SmartPLS version 4. Researchers chose SEM-PLS because it is one of the variant-based SEM methods that have solid and gradual characteristics in predicting endogenous variables. The benefit of using SEM PLS occupies in its capacity to handle complex models while maintaining high predictive validity (Hair and Alamer, 2022; Ringle and Sarstedt, 2016). So, the method is suitable for this research because it requires an in-depth analysis of variable relationships,

especially when developing complex models. The stages in conducting analysis using SEM-PLS consists of several stages, Specifically, the initial step involves evaluating the measurement model to verify data reliability and validity. Data validity is done by testing outer loading and extracting the average variance (AVE).

In contrast, data reliability is done with Cronbach alpha (CA) and Composite reliability (CR) with a recommended value of more than 0.7 (Hair and Alamer, 2022). The author also ensured that there was no multicollinearity by testing VIF with a recommended value below 5 (Hair and Alamer, 2022). The researcher also evaluates R square and Q Square to see the fit and prediction of the research model. In the last stage, the author determines to analyze the bootstrapping output to see the path coefficient and determine the research hypothesis through the P-value.

4. RESULTS

4.1. Common Method Bias (CMB)

Researchers commonly use common methods to ensure that no multicollinearity occurs in the study. The evaluation used is

Table 1: Questioners

Construct	Item	Question	Sources
Digital literacy (DLC)	DLC1	I agree that implementing cloud accounting enhances our company's efficiency.	(Ng, 2012)
	DLC2	I have the necessary skills to use cloud-based accounting.	
	DLC3	I can quickly learn new technologies, such as cloud-based accounting.	
Perceived usefulness (PUC)	PUC1	I concur that utilizing cloud-based accounting enhances our company's productivity.	(Mujalli et al., 2024; Musyaffi et al., 2024; Venkatesh and Bala, 2008)
	PUC2	Cloud-based accounting enhanced productivity	
	PUC3	Utilizing cloud-based accounting enables me to complete my task more efficiently.	
	PUC4	Cloud-based accounting alleviates the burden of our workload.	
Perceived ease of use (PEUC)	PEUC1	The procedure of using cloud-based accounting is clear for me to understand.	(Mujalli et al., 2024; Musyaffi et al., 2024; Venkatesh and Bala, 2008)
	PEUC2	I argue that every employee can rapidly gain expertise in adopting cloud-based accounting.	
	PEUC3	Cloud-based accounting is easy to use.	
	PEUC4	The steps involved in using cloud-based accounting are simple for me to grasp.	
Relative advantage (RA)	RA1	By using cloud-based accounting, I can access information anytime and from anywhere.	(Chatterjee et al., 2021; Mujalli et al., 2024)
	RA2	The use of cloud-based accounting reduces operational costs.	
	RA3	With cloud-based accounting, there is no need to maintain internal IT infrastructure	
Compatibility (CO)	CO1	In situations of compatibility problems, we propose that the cloud service provider provides integrated solutions.	(Chatterjee et al., 2021; Henderson et al., 2012)
	CO2	Cloud-based accounting aligns with my company's current technology architecture.	
	CO3	Cloud-based accounting integrates smoothly with IT infrastructure.	
Complexity (CX)	CX1	Integrating existing workflows with cloud-based accounting services requires assistance.	(Armbrust et al., 2010; Chatterjee et al., 2021)
	CX2	Using cloud-based accounting has made me aware of the potential vulnerability to computer crashes and data loss.	
	CX3	When handling multiple tasks simultaneously, using cloud-based accounting consumed too much of my time.	
Intention to adopt cloud accounting (INC)	INC1	I suggest that employing cloud accounting is advantageous.	(Chatterjee et al., 2021; Mujalli et al., 2024; Musyaffi et al., 2023)
	INC2	I recommend the utilization of cloud- accounting.	
	INC3	I am motivated to optimize the advantages of cloud-based accounting.	
	INC4	I advocate for the adoption of cloud- accounting by others.	

through VIF with a recommended value that should not exceed 5 (Hair and Alamer, 2022). According to the CMB information in Table 2, the VIF value for all constructs is below 5. This fact shows that the results of this research data processing do not cause multicollinearity, so it can be continued with other stages.

4.2. Measurement Model

The initial phase of SEM-PLS is to evaluate the measurement model through validity and reliability. Data validity is carried out by evaluating outer loading, AVE and HTMT, while data reliability is carried out through CA and CR evaluations. Based on Tables 3 and 4, the analysis of construct validity and reliability, all tested constructs showed excellent results. The outer loading value for each item ranges from 0.817 to 0.941. thus showing a solid contribution to each construct. In addition, CA value for all constructs is above 0.8, with the highest value of 0.929 for CX and the lowest of 0.824 for RA. Meanwhile, in terms of CR evaluation,

all constructs are above 0.89, which indicates excellent internal consistency. The AVE evaluation ranges from 0.740 to 0.875, convergent solid validity as its items explain more than 70% of the construct variability.

This evaluation shows that each construct in the research model has good validity and reliability. High outer loading values, as well as adequate CA, CR, and AVE values, confirm that each construct is well measured by its items. Thus, the results of this study can be relied upon to measure the constructs and provide high confidence in the validity and reliability of the obtained data.

Furthermore, construct validity can be measured using HTMT (Henseler et al., 2015). The value is in accordance with the standard discriminant validity criteria with an HTMT value below 0.9 (Hair and Alamer, 2022). The existence of a construct with a value of 0.9 will result in the data validity. The highest HTMT value, according to Table 4, is 0.855 in the PE-INC. The minimum HTMT value is 0.603 in the PU - CX. Thus, based on the HTMT evaluation, all constructs in this study are in accordance with the discriminant validity criteria.

4.3. Structural Model

The structural model in this study showed substantial results, as reflected in the adjusted R-square and Q² predict values. INC has an adjusted R-square value of 0.760 and Q² prediction of 0.606, indicating that this model is able to explain 76% of the variability in the INT, and the prediction of this model is very good with a high Q² predict value (Table 5). PE showed an adjusted R-square of 0.627 and Q² predict of 0.617, indicating that this model explained

Table 2: Common method bias using VIF

Construct	INC	PE	PU
CO		2.272	2.304
CX		1.974	2.094
DLC		2.650	2.982
INC			
PE	2.847		2.717
PU	2.847		
RA		3.081	3.164

Table 3: Data validity and reliability

Construct	Outer loading	CA	CR	AVE
Digital literacy (DLC)		0.875	0.926	0.807
DLC1	0.879			
DLC2	0.891			
DLC3	0.925			
Perceived usefulness (PUC)		0.904	0.933	0.777
PUC1	0.893			
PUC2	0.895			
PUC3	0.899			
PUC4	0.837			
Perceived ease of use (PEUC)		0.832	0.932	0.776
IQ1	0.842			
IQ2	0.896			
IQ3	0.921			
IQ4	0.861			
Relative advantage (RA)		0.824	0.895	0.740
RA1	0.875			
RA2	0.873			
RA3	0.832			
Compatibility (CO)		0.891	0.932	0.822
CO1	0.908			
CO2	0.898			
CO3	0.913			
Complexity (CX)		0.929	0.955	0.875
CX1	0.940			
CX2	0.941			
CX3	0.926			
INT		0.873	0.927	0.761
INC1	0.885			
INC2	0.897			
INC3	0.888			
INC4	0.817			

Table 4: Heterotrait-monotrait ratio

Construct	CO	CX	DLC	INT	PE	PU
CX	0.735					
DLC	0.644	0.517				
INT	0.753	0.708	0.750			
PE	0.689	0.650	0.801	0.855		
PU	0.699	0.603	0.757	0.788	0.827	
RA	0.758	0.668	0.722	0.733	0.743	0.750

Table 5: Structural model

Construct	R-square adjusted	Q ² predict
INT	0.760	0.606
PE	0.627	0.617
PU	0.764	0.653

Table 6: Hypotheses testing

Hypotheses	Path	Path coefficients	P-values	Decision
H1	DLC -> PE	0.350	0.000	Accepted
H2	DLC -> PU	0.285	0.000	Accepted
H3	RA -> PE	0.259	0.000	Accepted
H4	RA -> PU	0.063	0.138	Rejected
H5	CO -> PE	0.108	0.047	Accepted
H6	CO -> PU	0.097	0.029	Accepted
H7	CX -> PE	0.210	0.001	Accepted
H8	CX -> PU	0.003	0.475	Rejected
H9	PE -> INT	0.641	0.000	Accepted
H10	PE -> PU	0.526	0.000	Accepted
H11	PU -> INT	0.263	0.001	Accepted

62.7% of the variability in PE, with excellent predictive ability. PUC has the highest adjusted R-square value of 0.764 and Q^2 predict of 0.653, indicating that this model explains 76.4% of the variability in PU with excellent predictive ability. Overall, these results show that the model used in this study is very effective in explaining and predicting the key variables affecting technology adoption.

4.4. Hypotheses Testing

After evaluating the measurement and structural models, the next step is to evaluate the proposed hypotheses through bootstrapping in smartpls. In addition, the magnitude of the influence between constructs is also evidenced by the path value, as found in Table 6. Hypotheses H1 and H2 show that DLC significantly influences both PE and PU, with the magnitude of the significance influence of each construct of 35% and 28.5%. These results indicate that individuals with high DLC will find technology more accessible and valuable. Similarly, RA significantly affects PUC ($P = 0.000$, path = 0.259). However, RA does not significantly affect PUC (H4, $P = 0.138$). Although users recognize the ease of use due to RA, they do not always find the technology helpful. In addition, CO showed a significant favorable influence on PE (H5, $P = 0.047$) and PU (H6, $P = 0.029$), with the magnitude of influence being 10.8% and 9.7%, respectively. CX has a negative impact on PE by 21% (H7, $P = 0.001$) but does not significantly affect PU (H8, $P = 0.475$). Although increasing CX makes the technology more difficult to use, it still needs to reduce its PU. The strong influence of PE on INT (H9, $P = 0.000$, path = 0.641) and PU (H10, $P = 0.000$, path = 0.526) further confirms the importance of user-friendly technology. PU significantly increases INT (H11, $P = 0.001$, path = 0.263); these results indicate that the more valuable the technology is to users, the more likely users are to adopt the technology.

5. DISCUSSION

The findings suggest that most connection among the variables in the research model are validated. DLC, RA, CO, and CX significantly influence PE and PU. The most substantial relationship is seen in the effect of PE on INT, where PE has a significant influence in determining INT to adopt cloud accounting. However, several hypotheses are rejected, such as RA on PU and CX on PU, which show that not all technological factors have a direct impact on the PU of cloud accounting technology among MSMEs. The results of this study reflect the importance of considering various technological factors in encouraging wider acceptance of cloud accounting in the MSME sector.

The findings of this study indicate that DLC performs a substantial influence on PE. The higher the DLC of users, the easier it is for them to understand and use cloud accounting technology. Ng (2012) confirms that strong DLC allows users to adapt to new technologies quickly. Research conducted by (Ullah et al., 2022) additionally discusses the significant role of DLC in enhancing the PE of technology among users. In addition, (Lin and Yu, 2023) found that DLC contributes directly to PE, as users who have good digital skills are more likely to understand the functions and uses of new technologies more quickly. In addition, DLC not only helps users understand new technologies but also plays a role

in increasing their trust in the technology used, which indirectly increases PE (Zhang and Bao, 2023). With better DLC, users are not only more accessible in operating new technologies but also more confident in integrating them into business practices, thus increasing the chances of successful cloud accounting adoption in SMEs.

In addition to affecting PE, DLC was also shown to impact PU significantly. Users who have higher DLC tend to see and experience the benefits of the technology they use, such as cloud accounting. Users can explore the various features available and realize the benefits more quickly. A deep understanding of technology not only helps users in day-to-day operations but also in maximizing the functionality of technology to achieve business goals. Individuals with higher levels of DLC are better able to understand the practical benefits of the technology they use (Ahmad et al., 2022). Users can more quickly explore relevant features and maximize the usefulness of technology in daily operations. Liu et al. (2022) also found that DLC plays a vital role in increasing the PU of technology in the work environment because tech-savvy users can see that technology can speed up business processes and increase efficiency. Research by Wulansari et al. (2024), he found that DLC significantly strengthens PU through a deeper comprehension of the potential benefits of technology, especially in the context of small and medium businesses.

RA construct was shown to have a significant influence on PE ($P = 0.000$). This means that the greater the perceived RA of using new technology compared to existing alternatives, the easier it will be for users to use it. This result aligns with prior research by Rawashdeh et al. (2023), who found that users tend to be more open to technologies that offer greater benefits, such as operational efficiency or lower operational costs. In addition, other studies also show that more accessible and more efficient access to information, which is one aspect of RA, has a direct impact on users' perceptions of the ease of use of technology (Saghapour et al., 2018). When users see that this system provides tangible benefits in terms of financial management efficiency, they are more likely to find this technology easy to use.

While RA provides a considerable favorable influence on PE, the hypothesis concerning the impact of RA on PU was dismissed in this study ($P = 0.138$). Although users may perceive RA as a new technology, they may see it as less advantageous than existing technology. This finding is in line with Kumar and Dami's (2021) research, which also found that RA does not always influence PUs in using new technology, primarily if the previous technology already fulfills users' needs well enough. Users feel that new technology does not provide a significant increase in productivity or efficiency, so they are reluctant to consider it more useful. So, this research reinforces the idea that PU depends on how much the technology actually brings practical benefits that users want, not just on the perception of its RA.

The study revealed that CO significantly influences PU ($P = 0.047$), indicating that greater compatibility of a technology with users' needs, values, and habits facilitates its usability. This discovery aligns with a research conducted by Alsetoohy et al. (2019), which

shows that when technology matches the values and needs of an organization or individual, users are more likely to find it easy to use. In addition, Géczy et al. (2012) found that technology that is compatible with existing systems will reduce barriers to technology adoption because users do not need to change the way they work significantly. In the context of cloud accounting, this suggests that when the system can be easily integrated with existing financial procedures, users will feel more comfortable and use the technology quickly. In addition, the quality and credibility of user-generated technology content can also increase PU by providing relevant and specific information, thus highlighting the RA of the content (She et al., 2024).

This study also shows that CO has a significant influence on PU. This means that if the technology is compatible with needs, values, and existing systems, users will likely find it more useful. Nguyen et al. (2022) showed that CO of technology with existing organizational structures and procedures has a significant impact on technology adoption, as users do not have to make significant changes to their working practices. Furthermore, Alsetoohy et al. (2019) argued that firms and individuals who feel that new technology is aligned with their practices and needs are more likely to see long-term benefits from using the technology. In the realm of cloud accounting, effective integration with existing systems facilitates user comprehension and feel the usefulness of this technology in improving operational efficiency and financial management.

In the subsequent hypothesis, CO provides a substantial negative impact on PE ($P = 0.001$) but not on PU ($P = 0.475$). The more complex a technology is, the more difficult it is for users to use, which directly decreases PE. This finding is consistent with Huang (2023), research, which shows that complex technology tends to be a significant barrier in the adoption process because it increases the difficulty of operation. However, there is no significant relationship between CO and PU. Even if the technology is challenging to use, this does not necessarily affect the user's perception of the technology's usefulness. Users may still perceive the technology as applicable if the technology is able to deliver significant results, as shown by Wong et al. (2023), who found that even though the system is complex, users are still willing to use it if the long-term benefits are clear.

The results demonstrate that both PE and PU significantly influence INT, hence corroborating the core principles of the TAM model. The findings indicate that PE exerts a highly significant direct effect on INT ($P = 0.000$). This suggests that when users find the technology user-friendly, they are more inclined to persist in its adoption. Additionally, the results indicated that PU has a beneficial effect on INT ($P = 0.001$). When users recognize the concrete advantages of the technology, they are more likely to employ it sustainably.

This study demonstrates that PE substantially affects PU. This implies that the PE not only influences the INT but also shapes the perceptions of technology usability among users. These results are equivalent previous studies that emphasize the importance of ease of use and perceived benefits of technology in increasing sustainable adoption (Chatterjee et al., 2021; Musyaffi et al., 2024).

6. CONCLUSION

This study provides novel insights into the determinants affecting the adoption of cloud accounting technology among MSMEs through the utilization of TAM. The results indicate that DLC, RA, and CO play a substantial role in shaping users' perceptions of PE and PU. The primary finding is that DLC exerts a profound influence on users' perceptions of technology's ease of use and usefulness. Users with a higher level of DLC demonstrate superior abilities to comprehend technology interfaces and features, thereby accelerating the adoption of cloud accounting in daily business operations. Despite exerting a favorable influence on the perception of ease of use, RA does not demonstrate a notable effect on the perception of technology usefulness. This suggests that, while users perceive the potential benefits of new technology, such as increased efficiency or cost savings, they do not necessarily find it more valuable than existing technology. Another factor that has been demonstrated to influence the adoption of technology is CO, which affects both PE and PU. Users are more inclined to embrace and apply technology effectively when it is regarded as compatible with current corporate needs and practices.

CX of the technology was identified as a significant obstacle to the PE. The more intricate the technology, the lower the PE. However, CX did not have a significant effect on the PU of the technology, which suggests that even if the technology is challenging to use, it does not necessarily result in a reduction in PU if users believe that the technology produces the desired results. Furthermore, this study corroborates the assertion that PE and PU are pivotal determinants of INT. PE directly affects INT the technology.

Furthermore, PE affects PU, indicating that technologies that are easier to use are perceived as more beneficial. In turn, PU makes a significant contribution to INT, indicating that the higher users' perceptions of the benefits of technology, the more likely they are to adopt and continue to use the technology. This research makes a significant contribution to both theoretical and practical knowledge. From a theoretical standpoint, this study reinforces the applicability of TAM in MSMEs, particularly in the domain of cloud accounting adoption. It does so by elucidating the role of DLC, RA, CO, and CX in shaping users' perceptions of technology. In practical terms, this research offers insights for policymakers and technology providers to prioritize enhancing DLC and guaranteeing CO with business requirements. The enhancement of DLC can be achieved through the implementation of training and educational initiatives.

Conversely, technology providers must ensure the seamless integration of cloud accounting systems with existing financial procedures. Consequently, DLC and compatibility in facilitating technology adoption among MSMEs while elucidating the challenges associated with managing technological complexity. These findings provide a robust foundation for the formulation of effective policy strategies.

6.1. Implications

This study aims to validate and expand the application of TAM within the realm of cloud-based accounting technology for

MSMEs. DLC, RA, and CO were found to be essential factors influencing technology adoption, with PE and PU as the main predictors of INT. From a practical perspective, this study provides insights for policymakers and technology providers to focus on improving DLC and CO with the needs of MSMEs to maximize the adoption of cloud accounting. Technology providers can further emphasize the aspects of usability and CO to improve the user experience and accelerate the adoption of this technology on a broader scale.

6.2. Limitations

This study possesses multiple limitations requiring consideration. Firstly, the research sample, which was limited to MSMEs in one region, may only be partially representative of some MSMEs in Indonesia, so generalizing the results should be done with caution. Secondly, this study only focused on a few key variables, such as DLC, RA, CO, and complexity, while other relevant factors, such as external conditions or psychological factors, were not further explored. Therefore, future research is recommended to expand the sample to a broader area and to explore other variables that may affect technology adoption, such as social factors or policy support.

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