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TECHNOLOGICAL-ORGANISATIONAL-ENVIRONMENTAL DETERMINANTS OF CLOUD ACCOUNTING SYSTEM USAGE IN INDONESIAN SMEs

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ABSTRACT

Background and Purpose: Small and medium-sized enterprises (SMEs) refer to small-scale businesses operated by individuals or business entities. Cloud accounting systems offer a practical solution to improve SME business performance by combining computer technology and internet connectivity, allowing users to access the system anytime and from any location. According to the Technological-Organisational-Environmental (TOE) framework, various factors within technological, organisational, and environmental contexts influence the adoption of cloud accounting systems in SMEs. This study targets SMEs registered with Indonesia's Ministry of Cooperatives and SMEs, along with members of crowdfunding platforms.

Methodology: The study collected 233 samples over a six-month period and employed SEM-PLS analysis, a method that reduces errors across all endogenous latent variables.

Findings: The study revealed that technology readiness, representing the technological context, along with all variables within the organisational context, influence SMEs' adoption of cloud accounting

systems. Conversely, security concerns—also part of the technological context—and all variables from the environmental context do not significantly determine SMEs' use of cloud accounting systems.

Contributions: The study broadens the application of the TOE framework within the context of a developing country, specifically Indonesia.

Keywords: Small and medium-sized enterprises (SMEs), technological-organisational-environmental framework, cloud accounting.

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1.0 INTRODUCTION

Small and medium enterprises (SMEs), which are commercial entities managed on a small or micro-scale, play an important role in the economy as they make up the majority of businesses in countries like Indonesia. Not only are SMEs the backbone of the local economy, but they also function as the primary source of inclusive growth of economics and job creation (Umami et al., 2020). Evidence of this can be seen through their contribution to the country's economy, where SMEs are responsible for absorbing 96% of the workforce and contributing 60% to Gross Domestic Income (Wicaksono et al., 2020). By providing employment opportunities for millions of people and expanding economic activity in various regions, SMEs have a significant impact on strengthening Indonesia's economic stability.

SMEs are important contributors to Indonesian economic growth. However, these businesses encounter various obstacles, particularly regarding access to technology and information (Novitasari, 2022). Despite the importance of modern technology, many SMEs still struggle to adopt it due to limited access or insufficient awareness of its benefits. This shortfall can impede SMEs' performance in terms of operational efficiency, inventory management, and product marketing (Indrawati et al., 2020). Moreover, the quality of financial reports in the financial segment can be jeopardised due to inadequate use of information technology (Owolabi et al., 2020). Nonetheless, maintaining proper financial records has several advantages for organisations, such as financial planning, tax calculation, and a better understanding of financial position (Meyere et al., 2018).

Cloud accounting systems have emerged as a promising solution for SMEs to tackle challenges related to technology and information management. According to Yusuf (2020), cloud accounting technology is a computer-based accounting system that simplifies the accounting process by automating it. This technology, also referred to as online accounting software, integrates computer technology with internet-based advancements, allowing users to run applications or programs on internet-connected devices concurrently (Darren et al., 2021). SMEs can benefit from cloud-based platforms as they can access and use accounting applications online without the need for significant investments in technology infrastructure (Al-Okaily et al., 2022). This system not only increases efficiency in financial management and reporting but also provides business owners with easier and more flexible access to monitor their financial performance from anywhere and at any time.

According to Hamundu et al. (2020), the usage of cloud accounting systems in SMEs in Indonesia is still comparatively low. The low adoption rate can be associated with the SMEs' lack of comprehension of the technology and concerns about data security issues (Senarathna et al., 2018). Utilising the Technological-Organisational-Environmental (TOE) framework allows for an effective analysis of cloud accounting systems in Indonesian SMEs. The unique environment of Indonesia, with its large population and vast areas, may offer another perspective within the TOE framework. This framework facilitates a thorough comprehension of the interaction between technological, organisational, and environmental factors. It is vital to understand how they influence SMEs' decision-making process in adopting cloud accounting systems. This study aims to offer an in-depth analysis of the factors influencing the acceptance of cloud accounting technology among SMEs in Indonesia. The purpose of this study is to provide a profound insight into the factors that impact the acceptance of cloud accounting technology among SMEs in Indonesia. By employing the TOE framework, this study intends to shed light on the critical determinants that identify SMEs' attitudes towards the use of cloud accounting systems from the Indonesian perspective.

2.0 LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

The adoption of cloud accounting systems among SMEs has garnered significant attention in recent years due to their potential to revolutionise financial management practices. To understand the determinants influencing the adoption of this technology, this section reviews existing literature and identifies relevant factors using the Technological-Organisational-Environmental (TOE) framework. The TOE framework provides a structured approach to examining how technological characteristics, organisational dynamics, and environmental

pressures shape SMEs' decisions to adopt cloud accounting systems (Tornatzky et al., 1990). This literature review serves as the foundation for developing hypotheses that guide the empirical investigation.

2.1 Cloud Accounting

Cloud accounting is an accounting service that can be controlled remotely using the internet (Darren et al., 2021). It is often called "online accounting" or "web accounting" because it allows users to access financial data and accounting software via a web browser (Rawashdeh & Rawashdeh, 2023). Cloud accounting greatly benefits its users, including SMEs, by enhancing their financial performance. This system can be accessed anywhere and anytime with an internet connection, making it highly convenient for managing all business financial transactions and financial management (Yusuf, 2020). According to Tawfik et al. (2022), cloud accounting systems help in preparing accounts more effectively, efficiently, and in greater detail. This is different from traditional accounting systems, which require data and software to be installed on a local computer.

Another benefit of applying a cloud accounting system is its ability to reduce the workload in the accounting or finance department by streamlining all financial transaction processes that occur within the organisation (Dimitriu & Matei, 2015). In this system, data is saved in the cloud, allowing business owners and accountants to access financial reports and other important information in real-time from various devices. In addition, the use of cloud accounting can reduce hardware and system maintenance costs, as the service provider is responsible for software updates and data security (Lutfi & Arabia, 2022). This results in more efficient and cost-effective business operations.

In general, cloud accounting systems require vendor assistance for implementation, which includes providing training, guiding the usage process, and ensuring system security. The customisation provided by cloud accounting systems can provide benefits to all companies, including SMEs, as the software can be tailored to meet specific needs (Tawfik et al., 2022). In addition, cloud accounting service suppliers should provide a high level of security, to provide better protection compared to traditional systems. This is because data saved in the cloud is susceptible to hacking (Lutfi & Arabia, 2022). Currently, several cloud accounting software options have emerged in Indonesia, such as Jurnal by Mekari, Zahir Accounting, Accurate Online, Paper.id, Kledo, and HashMicro. These solutions are designed to meet the business needs in Indonesia, including compliance with local tax regulations and financial standards. It is hoped that the availability of these cloud accounting systems will enhance the

effectiveness of financial administration for SMEs in Indonesia, considering the lack of financial literacy among the Indonesian society (Sumani & Roziq, 2020). Thus, the cloud accounting system provides an effective and efficient solution for companies to manage their finances in Indonesia. With the increasing application of cloud accounting systems and diverse facility suppliers, companies in Indonesia can take advantage of this technology to enhance their financial performance and competitiveness in the market.

2.2 Technological, Organisational, Environmental (TOE) Framework

The Technological, Organisational, Environmental (TOE) framework is a broadly recognised theoretical framework developed to comprehend the determinants of the acceptance and utilisation of information technology or information systems within an organisation (Tornatzky et al., 1990). The TOE framework is generally employed in studies examining the implementation and use of technology in companies (Rawashdeh & Rawashdeh, 2023). According to Lutfi's empirical research, the TOE model is a strong conceptual model, and it has extensive applicability to investigate the application and use of information systems in SMEs. In the specific context of cloud accounting systems, the TOE framework offers a thorough understanding of the various determinants that shape SMEs' decisions to adopt this technology, as highlighted in Eldalabeeh et al. (2021). There are three contexts used in this framework to influence the use and implementation of technology in organisations: technological, organisational, and environmental. Each of these contexts includes various elements that can affect the decision to adopt new technology. By applying the TOE framework, organisations can comprehensively analyse the factors that improve the technology implementation process, thereby assisting in planning and implementing more effective technology strategies. The following is an explanation of these three contexts:

2.3 Technological

The technological context is a significant aspect that encompasses both internal and external technology that can potentially impact an organisation (Oliveira et al., 2014). Additionally, the technological element focuses on the technological characteristics which modify the use and implementation decisions of new technologies in organisations. One important factor in the technological context is technological complexity (Tawfik et al., 2022). The degree to which a new technology is perceived as difficult to comprehend and implement is referred to as complexity. These complex technologies require additional training and greater customisation of business processes, which can be a barrier to implementing new technology systems (Khayer

et al., 2021). It comprises various factors that are crucial to consider, such as the availability and reliability of technological infrastructure, including internet access and cloud services. Additionally, the features and functionality of the cloud accounting system are also integral to this context. Furthermore, data privacy and security are crucial deliberations when utilising cloud accounting technology. These factors assist organisations in evaluating the potential for the successful adoption of new technology. By understanding the characteristics of these technologies, organisations can design more effective implementation strategies, ensuring that the new technology can provide maximum benefits and is implemented well in the existing business environment. This study employs the use of technology readiness and security apprehensions as metrics to evaluate this context.

2.4 Organisational

Organisational context signifies the internal factors that affect the adoption and implementation of new technology in an organisation. That context is a significant factor that influences an organisation's ability to use cloud accounting systems effectively. Chen et al. (2023) describe organisational characteristics such as resource availability, centralisation, and relationships among employees, as well as internal policies, culture, structure, and human resource skills as significant organisational factors. In addition, Tawfik et al. (2022) argue that an organisation's readiness to change its existing business processes is vital for successful use of cloud accounting systems. The resources available in an organisation, both financial and non-financial, are an important factor in the organisational context (Wicaksono et al., 2020). Adequate financial resources enable organisations to purchase, implement, and maintain new technologies. Support from top management is crucial in shaping organisational culture to support technology implementation (Oliveira et al., 2014). Management that provides clear direction and support for the application of new technology can significantly enhance the successful implementation of the technology within the organisation (Rawashdeh & Rawashdeh, 2023). Furthermore, organisational size can influence a company's ability to adopt new technology, as larger companies usually have more financial and human resources (Oliveira et al., 2014). In addition, organisational structure is a critical factor in implementing new technologies; organisations with more flexible structures and open communication tend to adopt new technology more quickly. The present study measures the organisational context by examining top management support, financial costs, and firm size.

2.5 Environmental Context

The utilisation of technology in organisations is influenced by external factors, as defined by the environmental context (Lutfi & Arabia, 2022). Such factors include government regulations, industry support, and market dynamics that shape the acceptance of technology. Additionally, market trends, government policies, and industry competition can impact SMEs' decisions to adopt cloud accounting systems (Chen et al., 2023). The external environment can influence a business's decision to adopt new technology, as changes in the environment can create opportunities or threats that the organisation must respond to (Tawfik et al., 2022). The existence of competitive pressure from competitors is a significant factor in the environmental context. Companies adopt new technologies to keep their businesses competitive in the industry. Pressure from competitors who are already using advanced technology can encourage companies to innovate so as not to be left behind (Kumar et al., 2017). Apart from that, the regulatory environment can also influence the decision to use technology. Strict regulations regarding data security, privacy, and financial reporting standards are driving companies to adopt technologies that can help them remain compliant (Khayer et al., 2021). Therefore, by understanding environmental factors, organisations can be better prepared to implement technology strategies to suit changing external conditions. The environmental context is gauged in this study through the measurement of competitive pressure and the regulatory environment.

2.6 Technology Readiness

According to Oliveira et al. (2014), technology readiness denotes an organisation's ability to utilise the technological features available to them. Technology readiness includes the readiness and capability to adopt and utilise new technology (Khayer et al., 2021). This readiness involves various aspects, including existing technological infrastructure, employee competence and attitudes towards technology, and management support. Cloud accounting is a novel technology based on cloud computing that facilitates the storage and processing of accounting data online. This feature enables users to access their financial information in real-time, as highlighted by Al-Okaily et al. (2022). Therefore, SMEs intending to use this system must have strong technological readiness to facilitate its integration and application in their business processes. The integration of cloud accounting into an organisation's operations can be considered a vital step in its development, especially if the organisation has employees who possess expertise in cloud-based systems and they are ready to use available internet technologies. This is because cloud accounting enables the projection of financial information

in a computerised and integrated manner (Oliveira et al., 2014; Ouaadi & Haddad, 2020). In addition, high technological readiness in SMEs can accelerate the adoption of cloud accounting systems, as technology-ready organisations are better equipped to overcome challenges during the adoption process (Khayer et al., 2021). Therefore:

H1: Technology readiness positively influences cloud accounting usage.

2.7 Security Concern

The perception of security vulnerabilities and concerns related to data privacy are critical factors that can affect the usage of cloud systems (Kinuthia, 2015). SMEs often face concerns regarding data manipulation and the use of private company information when using cloud systems (Chen et al., 2023). The security risks that arise from such vulnerabilities can have far-reaching impacts, potentially leading to financial losses and damaging the reputation and trust of customers (Zhang et al., 2021). To enhance the implementation of cloud accounting systems, Khayer et al. (2021) suggest that a high level of transaction data security is necessary. This can instil confidence in organisations that their data is protected from vulnerabilities or theft. Therefore, if the security level of a cloud accounting system is low, SMEs may be hesitant to use it. Furthermore, security concerns significantly affect the use of cloud accounting systems in organisations, including SMEs. Data security is one of the main factors to consider when deciding to use cloud-based technology. This is because financial data is sensitive and very important for business continuity. If the data is not properly protected, the risk of data theft, loss, or manipulation can become a serious threat (Khayer et al., 2021). Therefore, security concerns can hinder the use of cloud accounting systems if not handled properly. It is hypothesised as follows:

H_2: Security concerns negatively influence cloud accounting usage.

2.8 Top Management Support

Top management support can influence the implementation of cloud accounting technology in SMEs. This is because top management has the authority to establish policies and allocate resources for the adoption of information and communication technology (Chen et al., 2023). This support covers various aspects, starting from providing resource commitments, creating an environment that supports change, managing risks, increasing employee involvement, actively monitoring results, and other support provided by top management for business

continuity in SMEs. In the absence of strong support from top management, the likelihood of SMEs to adopt new technologies is reduced (Alshamaila et al., 2013). In addition, when top management actively supports cloud accounting systems usage, the implementation process tends to be smoother and more successful, and can produce maximum benefits for the organisation. Therefore, SMEs must receive adequate support from top management to effectively utilise cloud accounting technology. These findings highlight the significance of understanding the top management's role in the technology adoption process and its implications for SMEs. Hence, it is hypothesised that:

H_3: Top management positively influences cloud accounting usage.

2.9 Firm Size

The measurement of firm size in SMEs is based on the number of employees. A higher number of employees typically leads to a classification of the SME as a larger company. SMEs with a greater number of employees have an edge over smaller companies, as they possess more resources and can undertake bigger risks associated with the use of new information technology (Oliveira et al., 2014). Additionally, large companies tend to have more resources, more complex needs, and favourable economies of scale when deciding to use a new system in their business processes. They have larger budgets to invest in new technology, including cloud accounting. This allows large companies to use cloud accounting systems more quickly and overcome technical obstacles that may arise during the implementation process (Tawfik et al., 2022). In contrast, small companies will usually face budget constraints and a lack of skilled personnel, which can slow or obstruct the use of cloud accounting systems. Accordingly:

H_4: Firm size positively influences cloud accounting usage.

2.10 Financial Costs

According to Kuan and Chau (2001), organisations incur financial costs in utilising a cloud accounting system, but the benefits derived from it outweigh the expenses. Financial costs are a vital determinant which affects the choice to adopt a cloud accounting system. Although there are initial and operational costs to consider, the potential for cost savings, financial flexibility, and significant long-term benefits can make cloud accounting systems a worthwhile investment for many companies, including SMEs (Haleem, 2020). For SMEs, adopting cloud accounting can result in reduced costs as they are no longer required to hire accountants to manage their

day-to-day transactions (Wicaksono et al., 2020). Cloud accounting systems can improve operational efficiency and employee productivity by automating many manual accounting tasks, which can ultimately reduce labour costs and increase profitability. In addition, the application of cloud-based systems enables companies to decrease the need for infrastructure, such as servers and other hardware, as well as the costs associated with maintaining and updating that hardware. Haleem (2020) argues that the financial and non-financial benefits of cloud accounting, including lower hardware and software costs, timely reporting, and enhanced operational efficiency, make it a lucrative option for SME owners. Therefore, it is hypothesised that:

H_5: Financial costs have a positive effect on cloud accounting usage.

2.11 Competitive Pressure

The business world is rife with competitive pressure, referring to the pressure deployed on an organisation by its competitors within the same industry (Kinuthia, 2015). Pressure from competitors already using cloud accounting technology can encourage other companies to do the same (Rawashdeh & Rawashdeh, 2023). When major competitors adopt this technology and demonstrate improvements in efficiency, accuracy, and speed in financial reporting, other companies will feel compelled to follow suit to avoid being left behind. Cloud accounting allows companies to decrease costs and enhance their business processes (Tawfik et al., 2022). Furthermore, to maintain relevance and gain a competitive advantage, companies often adopt the best strategies employed by their rivals (Khayer et al., 2021). In the realm of information technology, research has shown that pressure from competitors is a vital determinant driving the adoption of new technology (Tawfik et al., 2022). Consequently, implementing cloud accounting can offer substantial benefits, such as enhanced operational efficiency and improved accuracy in data collection. Accordingly:

H6: Competitive pressure positively influences cloud accounting usage.

2.12 Regulatory Environment

Governmental backing is an essential aspect of promoting innovation and the implementation of information technology in companies' operations. It is a form of support provided by the government to encourage the growth of strategic initiatives and operational activities (Chen et al., 2023). In Indonesia, the government's support for SMEs is evident in the presence of

Financial Accounting Standards for Micro, Small, and Medium Enterprises (SAK EMKM). This measure is aimed at helping SMEs manage their accounting information and comply with the set standards. Additionally, the government's support for cloud accounting systems usage is manifested through the presence of several cloud accounting system vendors in Indonesia. This move is intended to enable companies, including SMEs, to leverage cloud accounting systems for their operations. A good cloud accounting system is designed to adhere to the accounting standards of a country, enabling companies to produce accurate financial reports, avoid reporting errors, and comply with applicable regulations. Even though financial accounting standards for SMEs are still voluntary in Indonesia, the cloud accounting systems used must comply with these standards as well as the applicable tax regulations. Apart from that, several cloud accounting system vendors are emerging in Indonesia, supported by government initiatives, allowing all companies, including SMEs, to adopt cloud accounting systems for financial management. The hypothesis is as follows:

H_7: The regulatory environment positively influences cloud accounting usage.

3.0 METHODOLOGY

The focus of this research is on SMEs that are registered with the Ministry of Cooperatives and SMEs of the Republic of Indonesia and are members of crowdfunding companies. SMEs that are members of crowdfunding companies typically have a business prospectus and thus pay closer attention to detailed financial performance and records. Data collection for this research was conducted using a survey method, where questionnaires were distributed to SME owners over a six-month period. As a result, 233 samples were obtained. A 5-point Likert scale method was used for the questionnaires, as outlined in Table 1.

Furthermore, this study utilises SEM-PLS analysis to examine all hypotheses, as this technique aims to minimise errors in all endogenous latent variables. This method can mitigate issues related to uncertain factors and unacceptable solutions in the research results (Hair et al., 2019).

Table 1: Measurement of variables

Variable	Indicator	Scale
Cloud Accounting	1. Evaluation stage for cloud accounting usage. 2. Time of cloud accounting usage. (Oliveira et al., 2014)	Likert scale 1-5
Technology Readiness	1. The percentage of employees with internet access. 2. Company knowledge in using cloud accounting. 3. Skills to implement cloud accounting. (Oliveira et al., 2014)	Likert scale 1-5
Security Concern	1. Cloud accounting system usage is consistent with our business strategy. 2. Our organisation is very satisfied with the cloud accounting system security environment. 3. In a cloud accounting system, data is protected from unauthorised changes or use. 4. In a cloud accounting system, sensitive data is protected from unauthorised parties accessing it. (Kinuthia, 2015)	Likert scale 1-5
Top Management Support	1. Management of SMEs supports the use of cloud accounting. 2. Management of SMEs are involved in the cloud accounting process. 3. Management of SMEs is ready to take risks in implementing cloud accounting. (Oliveira et al., 2014)	Likert scale 1-5
Firm Size	The number of company employees. (Oliveira et al., 2014)	Ratio scale
Financial Cost	1. High set-up costs. 2. High operational costs.	Likert scale 1-5

Variable	Indicator	Scale
	3. High training costs. (Kuan & Chau, 2001)	
Competitive Pressure	1. The company believes that cloud accounting has an impact on competition in its industry. 2. Our company is under competitor pressure to use cloud accounting. 3. Some of our competitors have started using cloud accounting. (Oliveira et al., 2014)	Likert scale 1-5
Regulatory Environment	1. There is legal protection when using cloud accounting. 2. Current laws and regulations are sufficient to protect the use of cloud accounting. 3. Existing business laws support cloud accounting systems. 4. The government strongly supports the use of cloud in accounting in SMEs. (Oliveira et al., 2014)	Likert scale 1-5

4.0 DATA ANALYSIS

4.1 Description of Respondents

Respondents in this research are SMEs registered with the Ministry of Cooperatives and SMEs of the Republic of Indonesia and are members of crowdfunding companies. As shown in Table 2, most of the respondents were male, totalling 145 (62%). Furthermore, the highest level of education among respondents is a Bachelor's degree, with 160 (68%) holding this qualification. This indicates that SME owners are well-educated, which can facilitate decision-making and the acceptance of new information technology systems.

Table 2: Respondent demographics

Information	
Gender:	
Male	145
Female	88
Level of education:	
Senior High School	45
Diploma	9
Bachelor	160
Master	19
Firm Size:	
Less than five employees	105
6-10 employees	55
11-15 employees	37
16-20 employees	9
More than 20 employees	27

4.2 Data Quality Test

This research examined the data quality by looking at the results of reliability, convergent validity and discriminant validity. Additionally, this research tested reliability using Composite Reliability (CR) and Cronbach's Alpha values, with the recommended thresholds being CR > 0.7 and Cronbach's Alpha > 0.6 (Hair et al., 2021). As displayed in Table 3, the CR and Cronbach's Alpha values exceed the recommended thresholds, indicating that the research data is reliable. Next, the Loading Factor and Average Variance Extracted (AVE) values were used for the convergent validity test. According to Chin (1998), the recommended values are a loading factor > 0.6 and AVE > 0.5. Table 4 shows that the loading factor and AVE values in this study meet the recommended criteria. Discriminant validity is also a mandatory requirement for data to be declared valid. One recommended test for assessing discriminant validity is the Heterotrait–Monotrait Ratio (HTMT) (Hair et al., 2021). A good HTMT value must be below 0.9 to indicate that there are no discriminant validity problems. Table 5 reveals that the HTMT value for all constructs in this study is below 0.9. Thus, the analysis concluded that the data in this study is both reliable and valid.

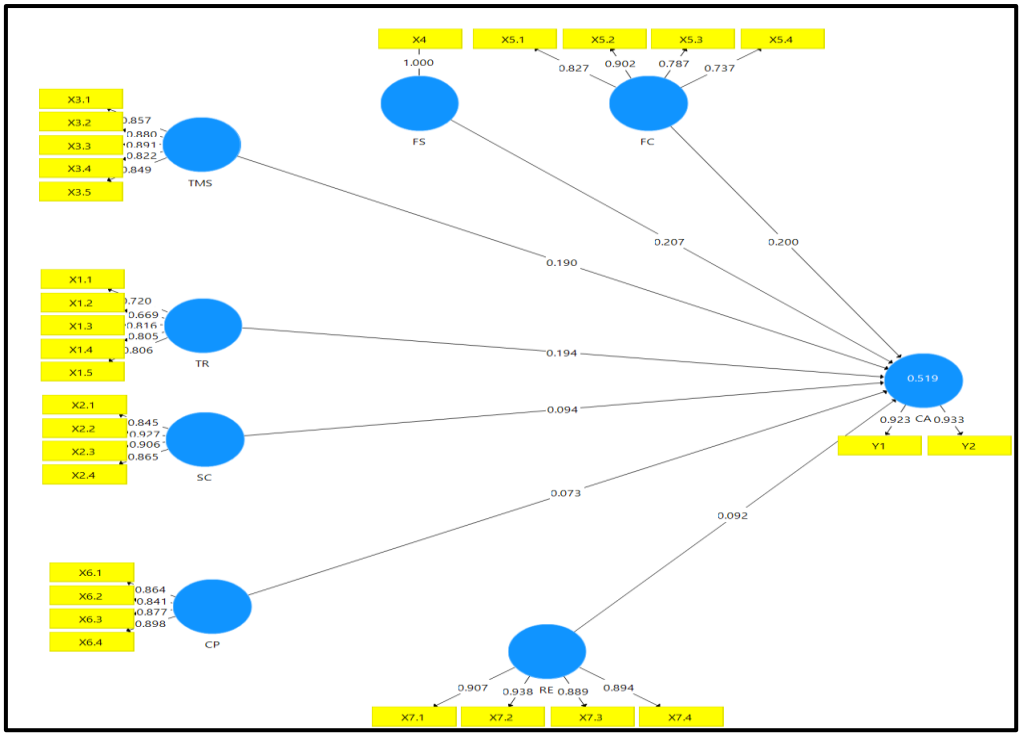

Figure 1: Measurement model

Table 3: Reliability test

Variable	Cronbach's Alpha	Composite Reliability
Cloud accounting	0.839	0.926
Competitive pressure	0.894	0.926
Financial cost	0.832	0.888
Firm size	1.000	1.000
Regulatory environment	0.929	0.946
Security concern	0.908	0.936
Top management support	0.912	0.934
Technology readiness	0.825	0.876

Table 4: Convergent validity

Variable		Loading	AVE
Technology Readiness	X1.1	0.720	0.586
	X1.2	0.669	
	X1.3	0.816	
	X1.5	0.805	
	X1.6	0.806	
Security Concern	X2.1	0.845	0.785
	X2.2	0.927	
	X2.3	0.906	
	X2.4	0.865	
Top Management Support	X3.1	0.857	0.739
	X3.2	0.880	
	X3.3	0.891	
	X3.4	0.822	
	X3.5	0.849	
Firm Size	X4	1.000	1.000
Financial Cost	X5.1	0.827	0.665
	X5.2	0.902	
	X5.3	0.787	
	X5.4	0.737	
Competitive Pressure	X6.1	0.864	0.758
	X6.2	0.841	
	X6.3	0.877	
	X6.4	0.898	
Regulatory Environment	X7.1	0.907	0.823
	X7.2	0.938	
	X7.3	0.889	
	X7.4	0.894	
Cloud Accounting	Y1	0.923	0.861
	Y2	0.933	

Table 5: Discriminant validity

Variable	1	2	3	4	5	6	7	8
1. Cloud accounting								
2. Competitive pressure	**0.680**							
3. Financial cost	0.625	**0.759**						
4. Firm size	0.238	0.086	**0.096**					
5. Regulatory environment	0.616	0.780	0.560	**0.090**				
6. Security concern	0.706	0.837	0.661	0.032	**0.793**			
7. Top management support	0.693	0.803	0.642	0.051	0.782	**0.815**		
8. Technology readiness	0.600	0.594	0.423	0.141	0.664	0.700	**0.583**	

4.3 SEM-PLS Analysis Test

Figure 2 shows the structural model, revealing that the T-value for the technology readiness, top management support, firm size and financial cost variables is greater than 1.645. This indicates that these variables influence the use of cloud accounting systems. Meanwhile, the security concern, competitive pressure, and regulatory environment variables have a T-value less than 1.645, indicating that these variables do not affect the use of cloud accounting systems.

In the hypothesis testing table, all variables have a VIF value less than 5, indicating no collinearity problem. Furthermore, apart from examining the T-value, the test results show that the variables technology readiness, top management support, firm size, and financial cost have a P-value less than 0.05, with a positive standardised beta value. This illustrates that there is a positive and significant influence between these variables and the use of cloud accounting systems. Meanwhile, the security concern, competitive pressure, and regulatory environment variables show a P-value greater than 0.05, which means there is no significant influence between these variables on the use of cloud accounting systems.

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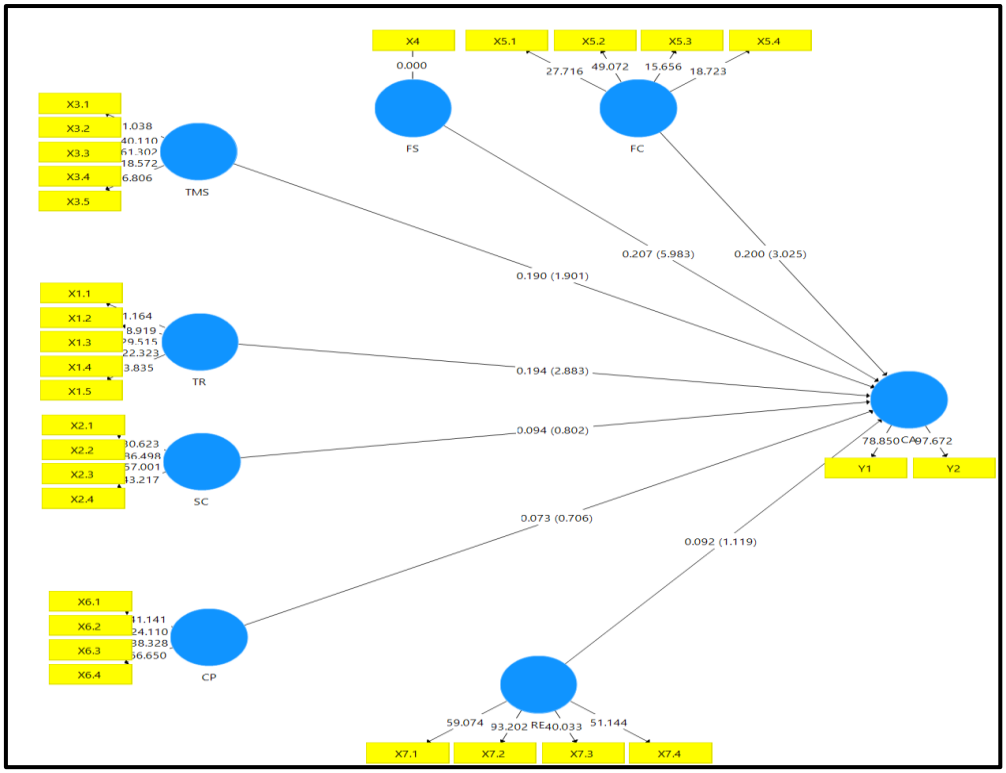

Figure 2: Structural model

Table 6: Hypotheses testing

Hypothesis	Relationship	Std Beta	T-Value	P values	F^2	VIF	Decision
H_1	Technology Readiness → Cloud Accounting	0.194	2.921	0.002	0.043	1.832	Supported
H_2	Security Concern → Cloud Accounting	0.094	0.789	0.215	0.004	4.512	Not Supported
H_3	Top Management Support → Cloud Accounting	0.190	1.883	0.030	0.020	3.851	Supported
H_4	Firm Size → Cloud Accounting	0.207	5.952	0.000	0.085	1.048	Supported
H_5	Financial Cost → Cloud Accounting	0.200	2.979	0.001	0.045	1.826	Supported
H_6	Competitive Pressure → Cloud Accounting	0.073	0.715	0.237	0.003	3.224	Not Supported
H_7	Regulatory Environment → Cloud Accounting	0.092	1.136	0.128	0.006	2.915	Not Supported

4.4 Discussion

According to the SEM-PLS analysis test in the explanation above, there are four hypotheses supported in this study: H_1, H_3, H_4, and H_5. Meanwhile, H_2, H_6, and H_7 are not supported. Technology readiness is the level of organisational readiness in accepting and using new technology (Senyo et al., 2016). Based on the test results in this research, SMEs in Indonesia are ready to accept and use cloud accounting systems, a new technology. Moreover, we have now entered the Industrial Revolution 4.0 era, which will indirectly compel business owners, including SMEs, to adopt new technologies that can improve their performance. In line with the studies by Senyo et al. (2016) and Alkhater et al. (2018), a high level of organisational readiness to use new technology will make businesses more willing to implement it in their activities.

Security concerns refer to issues related to the security of systems, data, or information within an organisation or technological environment (Wicaksono et al., 2020). The study's hypothesis does not support the influence of security concerns on the usage of cloud accounting systems. SME's readiness to accept new technology allows them to utilise cloud accounting systems to their full potential because these services allow organisations to better control network access (Kinuthia, 2015). Apart from that, vendors providing technical expertise and guaranteeing data security and system availability alleviate security concerns, encouraging SME's to implement the system regardless (Chen et al., 2023).

The hypothesis regarding the influence of top management support on the use of cloud accounting systems in this research is supported. In centralised SMEs, top management support is critical for the implementation of technology, as they typically make the final decisions concerning information and communication technology strategies and investments (Kumar et al., 2017). As top managers realise the benefits of cloud accounting systems, they can allocate the necessary resources to use the system (Chen et al., 2023).

Firm size in this study also influences the use of cloud accounting systems in SMEs. The findings of this study align with previous research, confirming that company scale or size is a significant factor in the adoption of information technology (Oliveira et al., 2014). Larger companies have sufficient resources to allocate to technology investments, as well as organisational flexibility that allows experimentation with new technology (Ouaadi & Haddad, 2020). Financial costs reflect the expenses incurred in using new technology compared to the benefits obtained. SMEs' readiness to accept a new system, coupled with support from top management, makes them willing to invest in the new system. These costs are directly

proportional to the advantages obtained from using a cloud accounting system, such as timely reports and increased performance competency of SMEs (Haleem, 2020).

The results of this research show that competitive pressure and the regulatory environment, which are the two (2) variables in the environmental context, do not determine the use of cloud accounting systems. Consistent with findings by Oliveira et al. (2014) and Khayer et al. (2021), competitive pressure is not one of the factors causing SMEs to utilise cloud accounting systems to process their business transactions. The level of pressure felt by the majority of SMEs in Indonesia remains low, as they do not perceive the utilisation of cloud accounting systems as a means to gain their competitive advantage. The SMEs in Indonesia typically use this system solely to record financial transactions and provide timely financial reports (Indrawati et al., 2020). Furthermore, the regulatory environment was also found not to affect the usage of cloud accounting systems in Indonesian SMEs. Consistent with the research by Oliveira et al. (2014), Senyo et al. (2016), and Wicaksono et al. (2020), the existence of regulations from the government does not influence SMEs in adopting cloud accounting systems. This occurs because technological developments progress rapidly, while regulations made by the government lag behind these advancements (Senyo et al., 2016).

5.0 CONCLUSION

This study examined the determinants of cloud accounting system usage among SMEs based on the Technological, Organisational, Environmental (TOE) framework. This framework identifies three contexts that may influence SMEs' decision to use cloud accounting systems: technological (i.e., technology readiness and security concerns), organisational (i.e., top management support, firm size, and financial costs), and environmental (i.e., competitive pressure and regulatory environment) factors. Our research findings imply that technology readiness, top management support, firm size, and financial costs are significant determinants of cloud accounting systems usage among SMEs. The technological readiness of SMEs makes them confident in using cloud accounting systems to help manage financial transactions. The readiness of SMEs to accept new technology, employees who understand the use of technology and the internet, as well as the technological facilities owned by SMEs, contribute to their preparedness for technology adoption. This readiness facilitates the acceptance of new systems, such as cloud accounting. Apart from that, support from top management is crucial, as it makes SMEs willing to invest in cloud accounting systems, recognising the many benefits for business progress. Top management support is vital for SMEs' adoption of new systems because they will support, receive, and prepare all forms of facilities in SMEs for the use of the new system.

Furthermore, the size of SMEs, which is determined by the number of employees, also has a significant influence on SMEs using cloud accounting systems, due to sufficient resources to finance the use of a new system for business continuity. However, security concerns, competitive pressure, and regulatory environment are not significant factors. In Indonesia, the cloud accounting systems for SMEs are still relatively new, and vendors provide robust security measures. SMEs trust that vendors can guarantee the security of all data and transactions stored in the system, mitigating security concerns. Regarding environmental factors, SMEs in Indonesia do not feel pressured by competitors to adopt cloud accounting systems. This is because the system is still relatively new, and SMEs are not yet leveraging it for their competitive advantage. Apart from that, the lack of specific government regulations addressing cloud accounting systems mean that SMEs are hesitant to decide on their adoption. Future studies may expand the TOE framework to include additional variables. Future research may also consider applying the Technology Acceptance Model (TAM) and Unified Theory of Acceptance and Use of Technology (UTAUT) to further clarify the research findings.

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