

UNIVERSITI TEKNOLOGI MARA

**TECHNOLOGY-ORGANISATION-
ENVIRONMENT DETERMINANTS
OF CLOUD ACCOUNTING USAGE
AND QUALITY OF FINANCIAL
REPORTS IN INDONESIAN SMES**

DEVI PERMATASARI

PhD

May 2026

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DEVI PERMATASARI

Thesis submitted in fulfilment
of the requirements for the degree of
**Doctor of Philosophy
(Financial Criminology)**

Accounting Research Institute

May 2026

CONFIRMATION BY PANEL OF EXAMINERS

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ABSTRACT

Small and Medium Enterprises (SMEs) play a crucial role in Indonesia's economic growth. Although the number of SMEs continues to increase, most still face limitations in accounting literacy and in the use of digital technology, resulting in suboptimal financial reporting quality. This condition is reflected in the fact that only around 30% of SMEs are capable of preparing financial reports independently. In this context, cloud accounting offers a practical solution to help SMEs produce more structured and high-quality financial reports. However, the use of cloud accounting by SMEs in Indonesia is influenced by various interacting technological, organizational, and environmental factors. This study aims to analyse the factors influencing cloud accounting adoption and its role in improving the quality of financial reports by SMEs in Indonesia using the Technological, Organizational, and Environmental (TOE) framework. This study examined nine variables: technology readiness, perceived benefits, security concerns, top management support, firm size, financial costs, competitive pressure, regulatory environment, and vendor support. The study respondents were SMEs in Indonesia registered as active members of the crowdfunding platform santara.co.id. Data from 216 respondents were analysed using Partial Least Squares–Structural Equation Modelling (PLS-SEM). The results showed that technology readiness, top management support, firm size, financial cost, and the regulatory environment directly influenced cloud accounting adoption, while vendor support exhibited a negative effect, contradicting the initial hypothesis. Furthermore, cloud accounting served as a mediating variable linking most TOE factors to the quality of financial reports, except for perceived benefits, security concerns, and competitive pressure. These findings suggest that in the context of Indonesian SMEs, which are still in the early stages of technology usage, internal readiness and institutional support are more important than perceived benefits or competitive market pressure. Unlike previous TOE framework-based technology usage studies, which tended to position technology, organization, and environment dimensions as equal determinants, this study reveals an asymmetric TOE configuration, where organizational factors play a more dominant role in driving cloud accounting usage. By positioning cloud accounting as a mediating mechanism between organizational readiness and the quality of financial reports, this study extends the application of the TOE framework beyond simply studying technology use to its implications for accounting information quality in the context of SMEs in a developing country, namely Indonesia. Practically, these findings provide implications for SMEs, cloud accounting service providers, and the government in designing technology-use strategies that better align with the characteristics and limitations of Indonesian SMEs. However, this study has several limitations. The sample was limited to SMEs registered on a single crowdfunding platform, which limits the generalizability of the findings to the broader population of SMEs in Indonesia. Furthermore, the cross-sectional design limits the ability to observe changes in technology usage behavior over time. Future research should expand the analysis by using more complex methods, including mixed-methods approaches, engaging SMEs from various sectors and platforms, and adding other theories and variables to enrich the research.

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TABLE OF CONTENTS

	Page
CONFIRMATION BY PANEL OF EXAMINERS	ii
AUTHOR’S DECLARATION	iii
ABSTRACT	iv
ACKNOWLEDGEMENT	v
TABLE OF CONTENTS	vi
LIST OF TABLES	xiii
LIST OF FIGURES	xv
LIST OF ABBREVIATIONS	xvi
CHAPTER 1 INTRODUCTION	1
1.1 Chapter Overview	1
1.2 Research Background	1
1.3 Research Problem	4
1.4 Research Questions	7
1.5 Research Objectives	8
1.6 Significance of Study	9
1.7 Scope and Limitations	10
1.8 Definition of Terms	11
CHAPTER 2 LITERATURE REVIEW	12
2.1 Chapter Overview	12
2.2 SMEs in a Global Perspective	12
2.2.1 SME Statistics	14
2.3 The Economics and Social Contribution of SMEs	17
2.4 SMEs in Indonesia	22
2.5 Contribution of SMEs in the Indonesian Context	30
2.5.1 Contribution to the National Economy	30
2.5.2 Social Empowerment of Communities	32

2.5.3	Innovation	33
2.6	Financial Reporting for SMEs	36
2.7	Users of SMEs Financial Reports	40
2.8	Uses of Financial Reports of SMEs	43
2.9	IFRS for SMEs	47
2.10	Accounting for SMEs in Other Countries	52
2.11	Accounting Regulations for SMEs in Indonesia	58
2.11.1	History of the Development of SME Accounting Regulations in Indonesia	58
2.11.2	Comparison of SAK EMKM with IFRS for SMEs	60
2.11.3	Level of SAK EMKM Implementation in SMEs	65
2.11.4	Challenges and Obstacles in the Implementation of SAK EMKM	66
2.12	Quality of Financial Reports in SMEs	71
2.12.1	Impact of Quality of Financial Report	78
2.13	Cloud Computing	80
2.13.1	Cloud Computing Services	83
2.13.2	Benefits of Cloud Computing	83
2.13.3	Characteristics of Cloud Computing	85
2.14	Cloud Accounting	87
2.15	Chapter Summary	95
CHAPTER 3 THEORETICAL UNDERPINNING, CONCEPTUAL FRAMEWORK, AND HYPOTHESIS DEVELOPMENT		96
3.1	Chapter Overview	96
3.2	Theoretical Underpinning	96
3.2.1	Technological, Organisational, Environmental (TOE) Framework	98
3.3	Previous Research	109
3.4	Conceptual Framework and Model Development	114
3.4.1	The Effect of Technological Context on Cloud Accounting Usage of SMEs	115
3.4.2	The Effect of Organisational Context on Cloud Accounting Usage of SMEs	118
3.4.3	The Effect of Environmental Context on Cloud Accounting Usage of SMEs	121

3.4.4	The Effect of Cloud Accounting System Usage on the Quality of Financial Reports of SMEs	124
3.4.5	Cloud Accounting Mediates the Relationship of Technological, Organizational and Environmental Factors with Quality of Financial Reports of SMEs	125
3.5	Chapter Summary	132
CHAPTER 4 RESEARCH METHODOLOGY		136
4.1	Chapter Overview	136
4.2	Research Paradigm	136
4.3	Research Design	137
4.4	Population	138
4.5	Sample and Sampling Technique	139
4.6	Data Measurement Scale	141
4.7	Operationalisation of Variables and Measurement	141
4.7.1	Dependent Variable - Quality of Financial Reports	141
4.7.2	Mediating Variable - Cloud Accounting	142
4.7.3	Independent Variable - Technology Readiness	142
4.7.4	Independent Variable - Perceived Benefits	143
4.7.5	Independent Variable - Security Concern	143
4.7.6	Independent Variable - Top Management Support	144
4.7.7	Independent Variable - Firm Size	144
4.7.8	Independent Variable - Financial Cost	144
4.7.9	Independent Variable - Competitive Pressure	145
4.7.10	Independent Variable - Regulatory Environment	145
4.7.11	Independent Variable - Vendor Support	145
4.8	Pilot Test	147
4.9	Preliminary Analysis	150
4.9.1	Data Screening	150
4.9.2	Common Method Bias Test	150
4.9.3	Non-Response Bias	151
4.10	Descriptive Analysis	152
4.11	PLS-SEM Analysis	152
4.11.1	Measurement Evaluation	153

4.11.2	Assessment of The Measurement Model (Outer Model)	154
4.11.3	Structural Model	156
4.12	Chapter Summary	158
CHAPTER 5 FINDINGS ANALYSIS		160
5.1	Chapter Overview	160
5.2	Response Rate	160
5.3	Preliminary Analysis	161
5.3.1	Data Screening	161
5.3.2	Common Method Bias Test	162
5.3.3	Non-Response Bias Test	164
5.3.4	Description of Respondents	165
5.4	Descriptive Statistics for Items on Variables	167
5.4.1	Quality of Financial Reports	167
5.4.2	Cloud Accounting	168
5.4.3	Technology Readiness	169
5.4.4	Perceived Benefits	170
5.4.5	Security Concerns	171
5.4.6	Top Management Support	172
5.4.7	Firm Size	173
5.4.8	Financial Costs	174
5.4.9	Competitive Pressure	174
5.4.10	Regulatory Environment	175
5.4.11	Vendor Support	176
5.5	Measurement Model Analysis	177
5.5.1	Measurement Model Analysis – Stage 1	178
5.5.2	Assessment of Loading Factor – Stage 1	179
5.5.3	Assessment of Construct Reliability and Validity – Stage 1	179
5.5.4	Assessment of Discriminant Validity – Stage 1	180
5.5.5	Measurement Model Analysis – Stage 2	187
5.5.6	Assessment of Loading Factor – Stage 2	187
5.5.7	Assessment of Construct Reliability and Validity – Stage 2	188
5.5.8	Assessment of Discriminant Validity – Stage 2	189
5.5.9	The Overall Measurement Model Evaluation	194

5.6	Structural Model Analysis	195
5.6.1	Assessment of Collinearity	195
5.6.2	Assessment of Path Coefficient	196
5.6.3	Assessment of Coefficient of Determination (R^2)	198
5.6.4	Assessment of Effect Size (f^2)	198
5.6.5	Assessment of Predictive Relevance (Q^2)	199
5.7	Evaluation of Mediation Effect	200
5.8	Summary of Findings	202
CHAPTER 6 RESULTS AND DISCUSSIONS		205
6.1	Chapter Overview	205
6.2	The Direct Effect of Independent Variables on Dependent Variables	205
6.2.1	The Effect of Technology Readiness on Cloud Accounting Usage of SMEs	205
6.2.2	The Effect of Perceived Benefits on Cloud Accounting Usage of SMEs	207
6.2.3	The Effect of Security Concern on Cloud Accounting Usage of SMEs	209
6.2.4	The Effect of Top Management on Cloud Accounting Usage of SMEs	210
6.2.5	The Effect of Firm Size on Cloud Accounting Usage of SMEs	212
6.2.6	The Effect of Financial Cost on Cloud Accounting Usage of SMEs	214
6.2.7	The Effect of Competitive Pressure on Cloud Accounting Usage of SMEs	215
6.2.8	The Effect of Regulatory Environment on Cloud Accounting Usage of SMEs	217
6.2.9	The Effect of Vendor Support on Cloud Accounting Usage of SMEs	218
6.2.10	The Effect of Cloud Accounting System Usage on the Quality of Financial Reports of SMEs	220
6.3	Indirect Effect Between Independent Variables on Dependent Variables	222
6.3.1	Cloud Accounting Mediates the Relationship of Technology Readiness with Quality of Financial Reports of SMEs	222

6.3.2	Cloud Accounting Mediates the Relationship of Perceived Benefits with Quality of Financial Reports of SMEs	224
6.3.3	Cloud Accounting Mediates the Relationship of Security Concern with Quality of Financial Reports of SMEs	225
6.3.4	Cloud Accounting Mediates the Relationship of Top Management Support with Quality of Financial Reports of SMEs	227
6.3.5	Cloud Accounting Mediates the Relationship of Firm Size with Quality of Financial Reports of SMEs	230
6.3.6	Cloud Accounting Mediates the Relationship of Financial Cost with Quality of Financial Reports of SMEs	232
6.3.7	Cloud Accounting Mediates the Relationship of Competitive Pressure with Quality of Financial Reports of SMEs	234
6.3.8	Cloud Accounting Mediates the Relationship of Regulatory Environment with Quality of Financial Reports of SMEs	236
6.3.9	Cloud Accounting Mediates the Relationship of Vendor Support with Quality of Financial Reports of SMEs	238
6.4	Chapter Summary	239

CHAPTER 7 CONCLUSION, IMPLICATION, LIMITATION, AND FUTURE RESEARCH 241

7.1	Chapter Overview	241
7.2	Summary of Findings	241
7.2.1	To examine the relationship between technological factors (technology readiness, perceived benefits, and security concern) and cloud accounting usage of SMEs	242
7.2.2	To examine the relationship between organizational factors (top management support, firm size, and financial cost) and cloud accounting usage of SMEs	242
7.2.3	To examine the relationship between environmental factors (competitive pressure, regulatory environment, and vendor support) and cloud accounting usage of SMEs	243
7.2.4	To examine the relationship between cloud accounting usage and the quality of financial reports of SMEs	244

7.2.5	To examine whether cloud accounting usage mediates the relationships of technological factors (technology readiness, perceived benefits, and security concern) with the quality of financial reports of SMEs	244
7.2.6	To examine whether cloud accounting usage mediates the relationships of organisational factors (top management support, firm size, and financial cost) with the quality of financial reports of SMEs	245
7.2.7	To examine whether cloud accounting usage mediates the relationships of environmental factors (competitive pressure, regulatory environment, and vendor support) with the quality of financial reports of SMEs	246
7.3	Implications of the Findings	247
7.3.1	Theoretical Implications	247
7.3.2	Practical Implications	248
7.4	Limitations and Suggestions for Future Research	250
7.5	Chapter Summary	251
REFERENCES		253
APPENDICES		294
AUTHOR'S PROFILE		309

LIST OF TABLES

Tables	Title	Page
Table 2.1	Comparison Between SAK EMKM and IFRS for SMEs	61
Table 3.1	Prior Research	110
Table 3.2	Summary of Research Question, Research Objectives, and Hypotheses	133
Table 4.1	Table to Determine Sample Size of a Known Population	140
Table 4.2	Measurement of Variables	146
Table 4.3	Validity Test for Pilot Test	148
Table 4.4	Reliability Test for Pilot Test	149
Table 4.5	Measurement Model Indicators	155
Table 5.1	Response Rate	161
Table 5.2	Harman's Single Factor Test	163
Table 5.3	Full Collinearity Test	164
Table 5.4	Independent Sample T-test	165
Table 5.5	Respondent Profile	165
Table 5.6	Mean Values of Measures Indicators – Quality of Financial Reports	168
Table 5.7	Mean Values of Measures Indicators – Cloud Accounting	169
Table 5.8	Mean Values of Measures Indicators – Technology Readiness	169
Table 5.9	Mean Values of Measures Indicators – Perceived Benefits	171
Table 5.10	Mean Values of Measures Indicators – Security Concern	172
Table 5.11	Mean Values of Measures Indicators – Top Management Support	173
Table 5.12	Mean Values of Measures Indicators – Firm Size	173
Table 5.13	Mean Values of Measures Indicators – Financial Cost	174
Table 5.14	Mean Values of Measures Indicators – Competitive Pressure	175
Table 5.15	Mean Values of Measures Indicators – Regulatory Environment	176
Table 5.16	Mean Values of Measures Indicators – Vendor Support	177
Table 5.17	Construct Reliability and Validity – Stage 1	180

Table 5.18	Fornell and Larcker – Stage 1	182
Table 5.19	Cross-Loading – Stage 1	183
Table 5.20	Heterotrait–monotrait ratio (HTMT) – Stage 1	186
Table 5.21	Construct Reliability and Validity – Stage 2	189
Table 5.22	Fornell and Larcker – Stage 2	190
Table 5.23	Cross-Loading – Stage 2	191
Table 5.24	Heterotrait–monotrait ratio (HTMT) – Stage 2	194
Table 5.25	Collinearity Assessment	195
Table 5.26	Path Coefficients for Hypotheses – Direct Effect	197
Table 5.27	Coefficient of Determination (R^2)	198
Table 5.28	Effect Size (f^2)	199
Table 5.29	Predictive Relevance (Q^2)	200
Table 5.30	Mediation Effect	202
Table 5.31	Summary Results of All Hypotheses	203

LIST OF FIGURES

Figures	Title	Page
Figure 2.1	Data on the Number of SMEs in Indonesia	23
Figure 3.1	A Research Model of TOE, Cloud Accounting, and Quality of Financial Reports	115
Figure 5.1	Test for outliers with Boxplot	162
Figure 5.2	Measurement Model Stage 1	178
Figure 5.3	Measurement Model Stage 2	187
Figure 5.4	The Structural Model	197

LIST OF ABBREVIATIONS

Abbreviations

CA	Cloud Accounting
CP	Competitive Pressure
FC	Financial Cost
FRQ	Quality of Financial Report
FS	Firm Size
PB	Perceived Benefits
RE	Regulatory Environment
SC	Security Concern
TMS	Top Management Support
TOE	Technology-Organisation-Environment
TR	Technology Readiness
VS	Vendor Support

CHAPTER 1

INTRODUCTION

1.1 Chapter Overview

This chapter provides an overview of this study. It consists of eight subchapters, beginning with subchapter 1.1, which provides an overview of this chapter. Subchapter 1.2 presents the background of the study. Subchapter 1.3 discusses the research problem, which addresses the issues raised in this study. Subchapter 1.4 presents the research questions. Subchapter 1.5 provides the research objectives. Subchapter 1.6 describes the significance of the study, which is followed by subchapter 1.7, which discusses the scope and limitations of this study. Finally, subchapter 1.8 contains the definitions of terms used in this study.

1.2 Research Background

The era of the Industrial Revolution 4.0 has led to rapid developments in information technology that have penetrated all sectors, including SMEs. Although SMEs are classified as small and medium-scale industries, information technology plays a crucial role in their development. Small and Medium Enterprises (SMEs) are small- to medium-scale commercial enterprises, managed by individuals or business units. In addition, SMEs also have several advantages, including more flexible and dynamic working methods and an informal, less bureaucratic culture compared to larger organizations (Abdulla et al., 2024).

The growth and development of SMEs play an important role in national economies worldwide by contributing to employment. In the European Union, SMEs employ approximately 63–65% of the total workforce in the non-financial sector (Bella et al., 2023). Meanwhile, in Australia, SMEs employ two-thirds of the private sector workforce, or approximately 66%, or more than 4.7 million private sector workers (Jones, 2024). Furthermore, in the United States, SMEs absorb approximately 47.1% of the private sector workforce (World Economic Forum, 2023). Meanwhile, SMEs in Kazakhstan provide nearly 50% of jobs (Syzydykova & Azretbergenova, 2025), and in Africa, SMEs contribute to more than 50% of the total workforce (Owolabi & Izang,

2020). Furthermore, in Southeast Asian, such as Malaysia, SMEs absorb 47.8% of the total workforce (Al-Sharafi et al., 2023), and in Indonesia, SMEs are able to absorb more than 97% of the total workforce (Kurniasari et al., 2025).

SMEs are the dominant type of business in Indonesia as compared to large businesses. Where, every year the number of SMEs in Indonesia always increases, as evidenced by data on the number of formal SMEs registered with the Ministry of Cooperatives and SMEs in Indonesia that in 2015 the number of SMEs was 740,000, and continues to increase every year until in 2021, the number of SMEs in Indonesia was recorded at 843,000 (Waluyo, 2024). Therefore, the effectiveness of SME's operations is critical for a country's economic growth (Wicaksono et al., 2020). Nevertheless, according to data from the Ministry of Cooperatives and SMEs in Indonesia, almost 70% of SMEs have not been able to prepare their own financial reports, despite their importance (Hasanah et al., 2021). Financial reports are essential for business operations' effectiveness and decision-making, and the process of producing financial statements include financial planning, calculating taxes, assessing the financial position, and calculating costs. Thus, it is essential for SMEs to have high quality financial reports (Sari et al., 2020).

The quality of financial reports is a condition in which the company has good, complete information, and the reports are prepared in accordance with applicable financial standards (Klish et al., 2021). Hasanah et al. (2021) stated that the quality of financial reports represents a financial report that is prepared based on SMEs applicable accounting standards, and these financial reports are able to help SMEs in their businesses. In accordance with the statement of Klish et al. (2021), the adoption of approved accounting standards in financial statements improves the quality of financial reports. The quality of financial reports helps in making decisions regarding the allocation of resources within the organization, prospects for cash inflows, and the management of the entity's economic resources (Kaawaase et al., 2021).

The quality of financial reports is not only demanded by large companies but also by small companies such as SMEs. In general, SMEs need high-quality financial reports to increase the amount of credit available from banks (Sari et al., 2020). Financial reports are also needed by SME owners for decision-making, future financial planning and control (Mesioye & Bakare, 2024). Basha et al. (2025) explain that financial information is used to understand finances better and manage companies to avoid failure in their business. In addition, financial reports owned by SMEs can also

be used to calculate the amount of taxes (Sumiok, 2023). According to the research by Sari et al. (2020), the quality of financial reports can enable creditors to approve loans for SMEs. Thus, the better the quality of SMEs' financial reports, the higher the chances of the credit given by banks. In addition, SMEs with high-quality financial reports are less likely to use trade credit from their suppliers (Palacín et al., 2021). Therefore, the quality of financial reports is critically needed by SMEs for business continuity. Furthermore, Piartrini and Putri (2024) stated that the quality of financial reports can increase the amount of investment. The quality of financial reports will provide clear information to investors, so that they are willing to put their capital in the business.

In recent years, cloud accounting has been employed to ease the preparation of financial reports for SMEs by eliminating the need for computer hard drives, instead the use of internet access and drive. Since then, previous research on cloud accounting has started to investigate the adoption and implementation of cloud accounting in SMEs. Research conducted by Hamundu et al. (2020) explains the factors that influence the use of cloud accounting based on the Technological, Organizational, Environmental (TOE) Framework (Tornatzky & Fleischer, 1990), including perceived benefits that exceed costs, perceived compatibility, perceived complexity, owner-manager knowledge of accounting, organizational size, competitive pressures, and informal networks. Research from Wicaksono et al. (2020) also explains the use of cloud accounting based on the TOE framework, where the results are that relative advantage, observability, security and ease of use significantly affect cloud accounting usage, but firm size, global scope, and regulatory environment do not affect the use of cloud accounting in SMEs. Furthermore, research conducted by Sastararuji et al. (2021) explains how the relative advantage, firm characteristics, technology competence, and coercive pressure, which are the measuring tools of the TOE framework, affect the use of cloud accounting in SME. Meanwhile, research conducted by Owolabi and Izang (2020) explains that to obtain quality financial reports, support from management is needed in providing the necessary resources to use cloud accounting.

Starting in 2016, Indonesia has been an active member of the ASEAN Economic Community (AEC), which indirectly requires SMEs to compete in the international markets (Cahya et al., 2023). The success of SMEs in facing global competition is demonstrated by their sound financial management and the quality of their financial reports (Komala & Firdaus, 2023). Given the important role of SMEs in Indonesia as providers of employment and economic growth, it is appropriate to examine the

relationship between cloud accounting use and the quality of financial reports in SMEs. Therefore, the purpose of this study is to analyse the role of cloud accounting usage in improving the quality of financial reports in SMEs. Research in this area is essential in contributing to the development of SME businesses in terms of finance, particularly in maintaining business continuity with good financial management through the use of cloud accounting (Khayer et al., 2021).

1.3 Research Problem

SMEs in Indonesia are a rapidly growing business sector. According to data from the Indonesian Ministry of Cooperatives and SMEs, the number of registered formal SMEs is increasing by 1.5% to 2% annually (Kemenkop, 2022), currently reaching over 843,000 (Waluyo, 2024). Nevertheless, only 30% of the total SMEs are able to make their own financial reports (Hasanah et al., 2021). The fact is worrying because, financial statements are financial information that is very useful for SMEs, to do financial planning, calculating taxes, and knowing financial position (Meyere et al., 2018). These tasks are essential for better decision making. Without proper planning based on quality financial reports, SMEs may not be performing well (Basha et al., 2025). Moreover, SMEs have a role in the economy in Indonesia, which can be seen from the increase in gross domestic product (GDP) which has currently reached more than 60% (Kurniadi et al., 2024).

The lack of knowledge about financial management is the basic reason for SMEs in producing less quality of financial reports (Kulathunga et al., 2020). Sumani and Roziq (2020) stated that the level of financial literacy among Indonesians is still relatively low, reaching only 38.03% in 2019, and experiencing a slight increase in 2022 to 45.93% (Kurniasari et al., 2025). Reinforced by research conducted by Nida et al. (2024), which found that many SMEs in Indonesia have not kept records or bookkeeping properly and organised, resulting in SMEs finding it difficult to monitor their business development.

Financial reports in SMEs are essential for business continuity, they are useful for increasing the amount of credit in banks (Palazuelos et al., 2018) and can be used to gain a better understanding of the financial aspects, risk profile, and investment path of their business (Akhtar & Liu, 2018). The capital investment in SMEs are able to be increased, because quality financial reports will provide transparent information to

investors, which they are willing to provide capital (Shahzad et al., 2019). If SMEs do not produce quality financial reports, SMEs will have difficulty in determining future business projections (Komala & Firdaus, 2023). In addition, quality financial reports assist SMEs in increasing the amount of credit obtained for capital, providing larger loans with lower loan interest rates (Sari et al., 2020). The amount of credit will enable SMEs to grow.

In the midst of technological advancement, cloud accounting offers some solutions to help ease the preparation of financial reports, thereby assisting SMEs in making strategic financial decisions. Cloud accounting is an accounting-based technology that helps users in carrying out the process of computerized accounting records (Darren, 2021). Based on the results of a survey conducted by the Thales survey agency in 2021, as many as 80% of respondents, consisting of SMEs, as well as large companies in Indonesia, use cloud computing in various forms, including cloud accounting usage (Kominfo, 2022), and by 2024, as many as 65% of SMEs will have used cloud systems in running their businesses (Syairudin & Nabila, 2024). On the other hand, in 2017, the number of SMEs in Indonesia that have made financial reports was only 20% (Mahrizal, 2017) and will increase in 2021 by 30% (Hasanah, 2021). Although the use of cloud accounting in the era of technological advances really helps SMEs to improve the quality of financial reports (Owolabi & Izang, 2020), it is also a way for SMEs to manage their business well from a financial point of view. However, it is easy to generate financial reports with cloud accounting; there are still obstacles that need to be considered in using cloud accounting, such as security issues.

Currently, there is an increase in security issues due to the complexity of computer networks, such as security risks in the form of data interception, viruses, and hacking which have become a major concern when running an online business (Lutfi, 2022), resulting in the security of cloud accounting is often questioned by potential users. Based on survey results from security insiders, these security issues can be caused by misconfigurations on cloud platforms causing data leaks by 68%, insecure access data that could be manipulated by 58%, and 52% of problems in the Application Programming Interface (API), 50% caused by account hijacking, service, and traffic, then, 43% due to shared data, 36% malicious insiders, 33% caused by hackers, and 28% due to denial-of-service attacks in the cloud (CBN, 2022). Therefore, to gain user trust, cloud accounting system developers try to make their security system based on certain

standards (Wicaksono et al., 2020). With this issue, there are still concern on the quality of financial reports produced by cloud accounting in Indonesia (Wahhab et al., 2024).

Concerns about the security and quality of accounting information have become increasingly significant as the use of cloud accounting systems is no longer optional but has been accelerated by changes in the business environment caused by the COVID-19 pandemic. The COVID-19 pandemic has accelerated the adoption of digital technology among SMEs in response to restrictions on physical activity, business continuity pressures, and the need to manage businesses remotely (Ramon et al., 2023; Holl & Rama, 2024). Various studies have shown that the pandemic has encouraged SMEs to adopt digital solutions, including cloud-based systems, to maintain operational continuity and access real-time financial information (Khayer et al., 2021; Singh et al., 2024). However, this accelerated adoption of technology is not always accompanied by adequate organizational readiness, technological literacy, and accounting understanding, raising questions about the extent to which cloud accounting can truly improve the quality of SME financial reports in a developing country like Indonesia.

Prior studies on the quality of financial reports mainly focus on public listed companies, for example, in relation to accounting conservatism, earnings management, and value relevance. There is a lack of studies that examine the quality of financial reports in relation to SMEs. Recent studies such as Hasanah et al (2021) highlight the crucial role of the quality of financial reports for the survival of SMEs. Research conducted by Wiralestari and Riski (2020), Abed et al. (2022), and Mesioye and Bakare (2024) explains the determinants of the quality of financial reports in SMEs. Meanwhile, other research conducted by Palazuelos et al. (2018), Sari et al. (2020), and Palacín et al, (2021), explain the usefulness of having quality of financial reports for SMEs to increase the amount of credit in banks. From the above, previous studies regarding the quality of financial reports in SMEs were only limited to the determinant of quality of financial reports and the benefits of quality of financial reports. However, to the researcher's knowledge, there is limited prior research on the quality of financial reports derived from the Technology-Organization-Environment (TOE) framework factors associated with cloud accounting. The use of a framework allows comprehensive factors to be examined directly and indirectly with quality of financial reports. Some prior studies use TOE framework to explain the new adoption and its impact such on e-business value in Singh et al. (2024) and internet financial reporting in Lihniash et al. (2019). This current study posits that the framework is useful to

explain the factors on cloud accounting adoption which in turn affects the quality of financial reports of SMEs.

Based on the problem discussed above, this study intends to examine the role of cloud accounting usage in improving the quality of financial reports with the help of the TOE framework to explain the research framework. To summarize, this study addresses the following problems namely: 1. Lack of quality of financial reports produced by SMEs in Indonesia (Hasanah et al., 2021); 2. In the midst of technology development, cloud accounting usage offers to ease the preparation of quality of financial reports. Nevertheless, the benefits of cloud accounting usage remains a puzzle, for example regarding the security issues (Lutfi, 2022) and the quality of reports produced (Wahhab et al., 2024); 3. Most prior studies on the benefit of cloud accounting usage are in descriptive form (Hamundu et al., 2020; Wicaksono et al., 2020; Yau-Yeung et al., 2020; Owolabi & Izang, 2020; Sastararuji et al., 2021; and Ogunsola, 2021), while this current study attempts to provide empirical evidence, particularly in the context of Indonesia, a developing country; 4. Lack of studies on quality of financial reports of SMEs as prior studies focus more on public listed companies (Elnagar et al., 2024; Johri, 2024; Wahhab et al., 2024; Hsiao et al., 2025); and 5. Prior study on the quality of financial reports in SMEs are still relatively limited and do not yet show a consistent conceptual framework, where the measurement approaches and determinants used are also diverse and often adopt methods from large companies that are not necessarily appropriate for the characteristics of SMEs (Budai et al., 2022). Therefore, this study aims to examine the factors and effect on the quality of financial reports of SMEs, with the adoption of cloud accounting, by utilizing the TOE Framework (Tornatzky & Fleischer, 1990) in explaining the research framework. The findings from this research are essential as they contribute to the new perspective of the TOE framework, and offer insights to regulators, industry and government to provide better environment for SMEs to prosper, namely by providing support for the use of new technology systems that can improve business performance of SMEs, including financial reports.

1.4 Research Questions

Based on the problem statement above, the following research questions are formulated:

Main Research Questions:

- a) What are the determinants of cloud accounting usage in SMEs?
- b) Does cloud accounting usage mediate the relationship between technological, organisational and environmental contexts and quality of financial reports of SMEs?

In answering the main research question the following sub-research questions are developed:

- RQ1: To what extent do technological factors (technology readiness, perceived benefits, and security concerns) have a relationship with cloud accounting usage of SMEs?
- RQ2: To what extent do organisational factors (top management support, firm size, and financial cost) have a relationship with cloud accounting usage of SMEs?
- RQ3: To what extent do environmental factors (competitive pressure, regulatory environment, and vendor support) have a relationship with cloud accounting usage of SMEs?
- RQ4: To what extent does cloud accounting usage have a relationship with the quality of financial reports of SMEs
- RQ5: To what extent does cloud accounting usage mediate the relationship of technological factors (technology readiness, perceived benefits, and security concerns) with the quality of financial reports?
- RQ6: To what extent does cloud accounting usage mediate the relationship of organisational factors (top management support, firm size, and financial cost) with the quality of financial reports?
- RQ7: To what extent does cloud accounting mediate the relationship of environmental factors (competitive pressure, regulatory environment, and vendor support) with the quality of financial reports?

1.5 Research Objectives

The main research objectives are:

- a) To examine the determinants of cloud accounting usage.
- b) To examine whether cloud accounting usage improves the quality of financial reports in SMEs.

In achieving this main objective, the following sub-research objectives are established:

- RO1: To examine the relationship between technological factors (technology readiness, perceived benefits, and security concern) and cloud accounting usage of SMEs.
- RO2: To examine the relationship between organizational factors (top management support, firm size, and financial cost) and cloud accounting usage of SMEs.
- RO3: To examine the relationship between environmental factors (competitive pressure, regulatory environment, and vendor support) and cloud accounting usage of SMEs.
- RO4: To examine the relationship between cloud accounting usage and the quality of financial reports of SMEs.
- RO5: To examine whether cloud accounting usage mediates the relationships of technological factors (technology readiness, perceived benefits, and security concern) with the quality of financial reports of SMEs.
- RO6: To examine whether cloud accounting usage mediates the relationships of organisational factors (top management support, firm size, and financial cost) with the quality of financial reports of SMEs.
- RO7: To examine whether cloud accounting usage mediates the relationships of environmental factors (competitive pressure, regulatory environment, and vendor support) with the quality of financial reports of SMEs.

1.6 Significance of Study

This study aims to examine whether cloud accounting usage improves the quality of SME financial reports in Indonesia. However, the use of cloud accounting in SME is also influenced by several factors that can be taken from the TOE framework, namely from the technological, organizational, and environmental context. Therefore, this research offers another perspective of the TOE framework, where it extends the discussion into the benefit of cloud accounting usage, that is, the quality of financial reports. The quality of financial reports is essential for SMEs to read business projections in the future, for SMEs to maintain and improve their business. One way is by using cloud accounting to make records for all financial transactions more organised and efficient.

The TOE framework provides an explanation of the use of cloud accounting in SMEs, which can explain the quality of financial reports. Technology, which is the first context in the TOE framework, explains the use of relevant internal and external technologies for organizations in increasing organizational productivity (Yau-Yeung et al., 2020). Furthermore, the second context in the TOE framework is organizational, which explains the characteristics of organizations in using cloud accounting, such as size, business scope, formalization, managerial structure, centralization, number of resources, and relationships between employees (Hamundu et al., 2020). The last context in the TOE framework is environmental, which explains the influence of pressure from the external environment on organizational technology adoption (Lutfi, 2022).

Furthermore, this research can also be used by regulators, because this research is expected to provide information about the condition of financial statements in SMEs, and the use of cloud accounting, which helps SMEs in preparing financial reports in accordance with accounting standards applicable in Indonesia. The findings from this research offer insights for regulators in Indonesia, such as the Directorate General of Taxes (DJP) and the Financial Services Authority (OJK), to monitor the quality of financial reports, for example, through the use of regulations, standards and guidelines on the use of cloud accounting.

In addition, for the SME industry, this research is expected to assist the industry and government in the introduction of cloud accounting and the factors that need to be known in the process of adopting cloud accounting. The factors are useful for SMEs to be well prepared, so that they can adopt cloud accounting to the fullest. Furthermore, by identifying the factors of cloud accounting usage, the government may take some initiatives to give aid and create an environment for SMEs to use cloud accounting, if it is empirically evidenced that the use of cloud accounting provides benefits in the process of making higher-quality financial reports.

1.7 Scope and Limitations

The research focuses on SMEs in all sectors in Indonesia who are members of santara.co.id, because these SMEs have projections to increase their business in the future. Santara.co.id is an equity crowdfunding company in Indonesia that connects SMEs who want to develop their business with people who want to become investors.

SMEs that are members of santara.co.id must have a business prospectus consisting of a business profile and financial statements. However, to achieve the research objectives, this research is limited to SMEs that use cloud accounting, in order to be able to answer these objectives.

1.8 Definition of Terms

The quality of financial reports is a condition where financial reports must be accurate, complete, and useful in predicting or confirming a company's economic performance (Hsiao et al., 2025).

Cloud accounting is referred to as online accounting software, which combines the use of computer technology in a network with internet-based development that has the function to run programs or applications through internet-connected devices at the same time (Mujalli et al., 2024).

The Technological, Organizational, Environmental (TOE) framework was developed by Tornatzky (1990), which identifies three aspects that influence the adoption of information technology/information systems in organizations.

The technology context in the Technological, Organizational, Environmental (TOE) framework highlights internal and external technologies within the organization that are able to increase organizational productivity (Eldalabeeh et al., 2021).

The organizational context in the TOE framework is organizational characteristics which include top management support, firm size, change management ability, and business characteristics (Sastararuji et al., 2021).

The environmental context in the TOE framework is to explain the influence of pressure from the external environment on the use of technology within the organization (Lutfi, 2022)

CHAPTER 2

LITERATURE REVIEW

2.1 Chapter Overview

This chapter discusses the literature review of this study. This chapter discusses literature related to SMEs, both globally and in Indonesia, as well as the contributions of SMEs. In addition, this study discusses the use of cloud accounting systems that can affect the quality of financial reporting in SMEs in Indonesia. Therefore, this chapter also explains several literatures on cloud computing systems, that is the starting point for the formation of cloud accounting systems. Furthermore, this chapter discusses several literature reviews on financial statements in SMEs, including accounting standards in SMEs, both international and Indonesian, such as the use of IFRS for SMEs and Financial Accounting Standards for Micro, Small, and Medium Entities for Indonesia, hereinafter referred to as SAK EMKM. Additionally, there is a discussion on the conceptual framework of the IASB and the qualitative characteristics of the IASB to demonstrate that financial statements can have good quality, not only in compliance with accounting standards but also in alignment with qualitative traits.

2.2 SMEs in a Global Perspective

Small and medium-sized enterprises (SMEs) play an essential role in the growth and development of national economies worldwide. Various countries and international organizations have set different lower and upper thresholds to define SMEs, depending on factors such as the number of employees, annual turnover, capital assets, input use, production capacity, level of technology adoption, management practices and the specific characteristics of the sector, region and country (Prasanna et al., 2019). SME definitions are often tailored to each country depending on the role of SMEs in its economy and the policies and programmes designed by the organizations or institutions responsible for SME development. However, most countries use three parameters, namely capital investment, production volume and business turnover (Olaniyi & Adekanmbi, 2022).

The definition of SMEs varies by country, but is typically based on quantifiable characteristics such as employment levels, capital, sales revenue and assets (Sastararuji et al., 2021). SMEs are generally considered capable of driving economic growth, competitiveness and innovation within a country. In most countries, SMEs account for around 90% of all private sector businesses, over 50% of private sector employment and up to 40% of private sector turnover (Sastararuji et al., 2022). SMEs are businesses owned or managed by individuals or business entities. They are a source of innovations that must be developed to improve the economy (Hasanah et al., 2021).

Although there is no uniform global definition of SMEs, the most logical basis for defining them is the number of employees (Al-Hattami, 2022). In Australia, for example, SMEs employ around 70% of the workforce, whereas in the United Kingdom, this figure is around 59% (Catto, 2016). In Turkey, meanwhile, SMEs employ around 72.7% of the total workforce and are defined as organizations with 1–500 employees and an annual revenue of less than 125 million Turkish lira (8.8 million US dollars) (Ulas, 2019). In Africa, SMEs account for over 50% of the total workforce (Owolabi & Izang, 2020). Furthermore, SMEs represent 99.9% of all businesses in the US and employ nearly half (47.5%) of the workforce (Shields & Shelleman, 2020). In Canada, SMEs have fewer than 20 employees (Pelletier & Cloutier, 2019). In Pakistan, SMEs contribute 70% to the gross domestic product, absorbing 95% of the labour force (Zafar, 2017). In the United Kingdom (UK), SMEs are defined as businesses with fewer than 250 employees. Small businesses are categorised as having 10 to 49 employees, and medium-sized companies as having at least 50 to 249 employees (Sidek et al., 2020).

Furthermore, in high-income Asian countries such as Japan, SMEs are defined as manufacturing companies with fewer than 300 employees or a capital of less than JPY 300 million (USD 3 million), and retail and service companies with fewer than 100 employees or a capital of less than JPY ¥100 million (USD 1 million) (Tamio, 2024). In Southeast Asia, SMEs play a vital role in Malaysia's economy, accounting for 97.2% of all companies and employing 47.8% of the total workforce, which underscores their substantial contribution to the country's economic prosperity (Al-Sharafi et al., 2023). In Indonesia, SMEs contributed 60.34% of the gross domestic product (GDP) over the past five years and employed 97.22% of the workforce during the same period (Wiralestari & Riski, 2020).

SMEs can be categorised as formal or informal, depending on whether or not the company is registered with the relevant government authorities. The characteristics

of SMEs in the formal and informal sectors also differ in terms of productivity, wages and product quality (Singh et al., 2021). According to Prasanna et al. (2019), employees in SMEs often report inferior working conditions, stability and security compared to those in large companies. They also report wage gaps and lower productivity due to their inability to benefit from economies of scale in production operations, among other reasons.

Taken together, SMEs are the backbone of the economy in various countries due to their significant role in creating jobs, driving innovation, and supporting national economic growth (Hossin et al., 2023). Although there is no uniform global definition, SMEs are generally defined based on measurable quantitative indicators, such as the number of workers, capital levels, turnover, and assets, with variations tailored to the economic structure and policies of each country (Sastararuji et al., 2021). However, the number of workers remains the most commonly used indicator because it reflects the scale of the business and operational capacity (Al-Hattami, 2022). Empirically, SMEs dominate the business structure in many countries, both developed and developing, including in Southeast Asia and Indonesia, with a significant contribution to GDP and employment absorption (Budiarto et al., 2022). On the other hand, SMEs also face significant structural challenges, particularly related to differences between the formal and informal sectors, relatively lower productivity levels, wage disparities, and limitations in achieving economies of scale compared to large companies (Singh et al., 2021). These structural constraints often result in limited operational efficiency and managerial capability (Gherghina et al., 2020). Therefore, strengthening internal capacity, improving managerial practices, and enhancing access to technological and financial resources are crucial aspects in supporting the sustainable development of SMEs (Owolabi & Izang, 2020).

2.2.1 SME Statistics

According to the World Bank (2023), SMEs play a crucial role in the global economy. They account for approximately 90% of all businesses worldwide and provide between 50% and 60% of global employment. In developing countries, SMEs contribute up to 40% of the national gross domestic product, demonstrating their strategic role in driving economic growth. Furthermore, SMEs are responsible for over 90% of job growth in these countries (Corporation, 2022). However, despite their

significant contribution, SMEs still face many challenges. Only around 25% of SMEs in developing countries have access to formal loans or credit lines, hindering their ability to grow. Furthermore, approximately 43% of formal SMEs in these countries have unmet financing needs totalling nearly \$4.1 trillion. This limited access to finance could therefore pose a significant barrier to the growth and digitalisation of SMEs (Corporation, 2022).

According to the latest data from Statista, the number of small and medium-sized enterprises (SMEs) worldwide is estimated to reach around 358 million in 2023. This represents a significant increase compared to 2020, when the number of global SMEs was estimated at around 328 million, reflecting growth of around 9.15% over three years (Dyvik, 2024). Based on this data, Asia has the largest number of SMEs. It is estimated that in 2023, Asia will have over 200 million SMEs, Africa will have over 67 million, and Europe will have over 34 million (Dyvik, 2024).

In Southeast Asia, SMEs form the backbone of the economy, playing a crucial role in developing a competitive, diverse and resilient economic landscape and navigating global trends (ERIA/OECD, 2024). The region also demonstrates strong SME growth, primarily driven by digitalisation and cross-border exports. According to eBay (2022), 99% of online SMEs in Indonesia, Malaysia, the Philippines, Singapore, Thailand and Vietnam use e-commerce platforms to export their products, reaching an average of 25 international markets each year.

Meanwhile, SMEs account for around 99% of all businesses and provide two-thirds of private sector employment in Europe. However, SME growth in this region tends to be stagnant. The main challenges include access to finance and the adoption of digital technologies. Therefore, policy innovations are required to support SME growth in Europe (OECD, 2024). In the United States, SMEs account for 99.9% of all businesses and employ around 47.1% of the private sector workforce. Although SME growth in this region is driven by innovation and digital technology adoption, challenges such as limited access to capital and complex regulations continue to hinder their growth (World Economic Forum, 2023).

SMEs also account for approximately 98% of all businesses and employ approximately 66% of the private sector workforce in Australia, where the growth of SMEs in this country is driven by internationalization and innovation strategies (Jones, 2024). However, challenges such as accessing international markets and adopting digital technology remain key priorities for the development of SMEs in Australia

(Abdulhak et al., 2022). In Africa, SMEs account for around 80% of businesses and employ approximately 60% of the formal sector workforce. SME growth in this region faces significant challenges, including limited access to financing and infrastructure, and an unsupportive business environment. Nevertheless, SMEs in Africa demonstrate considerable potential for driving economic growth and job creation (Muriithi, 2017).

Statistics on SMEs emphasise their crucial contribution to economic growth, job creation and innovation (Sastararuji et al., 2021). They make a significant contribution to Gross Domestic Product and employment, particularly in developing countries (Al-Hattami, 2022). Despite their importance, SMEs often face challenges such as limited access to finance, a lack of managerial skills and inadequate social infrastructure (Brixiová et al., 2020). However, previous research has shown that SMEs can overcome these challenges by leveraging their capabilities effectively, implementing proactive corporate social responsibility (CSR) strategies, and integrating sustainability management into their business activities (Shields & Shelleman, 2020).

In this regard, SMEs play a highly strategic role in the global economy, as reflected in their dominance in terms of the number of business entities and their significant contributions to employment generation and GDP, particularly in developing countries (Al-Hattami, 2022). Globally, the number of SMEs has consistently increased, with Asia being the largest contributor, followed by Africa and Europe (World Bank, 2023). Across various regions—including Southeast Asia, Europe, the United States, Australia, and Africa—SMEs serve as key drivers of economic activity through exports, innovation, and the adoption of digital technologies (Hossin et al., 2023). However, despite their significant contributions, SMEs generally continue to face similar structural challenges, particularly limited access to finance, constraints in digital technology adoption, and suboptimal managerial and institutional capacities (Gherghina et al., 2020). These constraints suggest that the dominant economic role of SMEs has not been fully supported by adequate financial access, technological infrastructure, and ecosystem development (Abdulla et al., 2024). Therefore, strengthening financial inclusion, enhancing internal capabilities, and promoting the effective utilization of technology are crucial aspects in supporting the sustainability and growth of SMEs across different regional contexts.

2.3 The Economics and Social Contribution of SMEs

SMEs play a significant role in the economic and social development of various regions, particularly in developing countries (Ali et al., 2023). Al-Hattami et al. (2021) also state that SMEs can make significant economic and social contributions in all countries, particularly in developing and less developed countries. These contributions include job creation, the utilization of local resources, improved income distribution, increased exports, poverty reduction, the promotion of economic development, and the fostering of innovation—factors that are essential for sustainable economic growth. SMEs are the primary drivers of global economic development, contributing significantly to economic progress, employment opportunities and sustainable growth (Ali et al., 2023). Consequently, SMEs form the backbone of many economies, particularly in developing countries and emerging markets (Budiarto et al., 2022). Therefore, governments worldwide prioritize SME development as a strategic means of stimulating economic growth (Al-Hattami, 2022).

SMEs play a significant role in job creation, contributing a large proportion of global job growth. In developing countries, for example, SMEs are responsible for creating more than 50% of jobs and contribute around 40% of national income (Hossin et al., 2023). By creating various types of jobs, SMEs absorb a large workforce and serve as a means of developing or honing skills, thereby playing a crucial role in alleviating poverty (Weldeslassie et al., 2019). In Indonesia, for example, SMEs account for 99% of all businesses and employ over 97% of the workforce, playing a vital role in maintaining economic stability and growth (Hamdani et al., 2020). SMEs also contribute to economic diversification and industrialisation, creating new jobs (Marughu & Akintoye, 2023), reducing poverty, enhancing entrepreneurial skills and promoting the development of local technology. They also improve the internal efficiency of resource utilisation (Mujahid et al., 2019). According to World Bank projections, around 600 million jobs will be required by 2030 to accommodate growth in the global workforce, so SME development is a key priority for many governments worldwide (Al-Hattami, 2022).

In addition to creating jobs, SMEs play a significant role in the economy, contributing to Gross Domestic Product and employment in many countries (Mujahid et al., 2019; Hossin et al., 2023). They are also responsible for absorbing more than 60% of GDP and employing over 90% of the workforce in many countries (Budiarto et al.,

2022; Ali et al., 2023). This contribution is particularly evident in sectors such as agriculture and services, where SMEs often form the backbone of the local economy (Sastararuji et al., 2022). For instance, in developing countries, SMEs account for up to 45% of total employment and 33% of GDP (Budiarto et al., 2022). In some countries, SMEs contribute over 60% of total GDP and employ more than 90% of the workforce (Hossin et al., 2023). In Thailand, for instance, SMEs employ over 7 million people each year, accounting for more than 73% of private-sector employment and contributing almost 38% to GDP (Sastararuji et al., 2022). This trend is also observed in various other countries where SMEs are recognised as being important in reducing unemployment and promoting equal employment opportunities (Al-Hattami, 2022).

Furthermore, SMEs contribute to income growth, poverty alleviation and local community development (Ali et al., 2023). They often provide employment opportunities for marginalised groups, such as women and young people, thereby promoting social inclusion and reducing income inequality (Marughu & Akintoye, 2023). Additionally, SMEs play a vital role in optimising local resources, which is especially crucial in areas with limited resources (Hossin et al., 2023). By utilising all available resources, SMEs can innovate and diversify their offerings, thereby increasing their competitiveness and sustainability (Haddad et al., 2020). For instance, in Indonesia's creative economy sector, successful local governments have fostered SME growth, thereby invigorating the local economy and championing cultural heritage (Budiarto et al., 2022). Additionally, SMEs tend to be more responsive to the needs of their communities, enabling them to implement socially responsible practices that directly benefit local residents (Hamdani et al., 2020).

SMEs also play a key role in driving innovation and competitiveness. Innovation is a key factor in the success of SMEs as it directly impacts their competitive advantage and overall performance (Prasanna et al., 2019). Studies show that SMEs that adopt innovative strategies are better able to respond to market demands and improve their business models (Hamdani et al., 2020). For instance, Indriastuti and Kartika (2022) recommend the adoption of information technology by SMEs to improve their financial performance. Effective innovation, such as the adoption of technology, can facilitate SME participation in market competition and enable them to maintain business continuity (Prasanna et al., 2019).

Although SMEs contribute significantly to economic and social development, they face many challenges, including financial constraints, a lack of technological

support and inadequate government policies (Gul & Khan, 2021). According to research by Yoshino and Taghizadeh-Hesary (2016), Muriithi (2017), and Gherghina et al. (2020), SMEs frequently encounter several key challenges, including:

a) Difficulty in Accessing Financing

Many SMEs experience difficulties in raising funds, compared to large companies (Gherghina et al., 2020). Many financial institutions prefer to allocate their resources to large companies rather than SMEs, as large companies have lower default risks and more explicit financial statements. Conversely, SMEs are considered riskier, particularly from the lenders' perspective, and they lack clear accounting information (Yoshino & Taghizadeh-Hesary, 2016). Thus, the lack of funding affects SME growth, particularly financial constraints, thereby negatively impacting the survival and performance prospects of SMEs (Gherghina et al., 2020). Companies facing financial constraints generate low income and job growth in an economy (Ongbali et al., 2024). On the other hand, SMEs are profit-maximising rather than expansion-oriented, and they will use their own assets to finance their businesses, prioritising profits over investment (Baker et al., 2020). Finance can be a determining factor in innovation in SMEs, which often lack internal funds to carry out innovation projects and find it much more difficult to obtain external funding than large companies (Gul & Khan, 2021). Therefore, limited capital can prevent SMEs from increasing the quantity of goods produced, resulting in suboptimal profits (Hernita et al., 2021).

b) Lack of information infrastructure

Information infrastructure encompasses the hardware, software, networks, data management systems and human resources necessary for the efficient collection, storage, processing and dissemination of information (Kalumendo, 2022). In many developing countries, inadequate information infrastructure constitutes a major challenge for SMEs (Yoshino & Taghizadeh-Hesary, 2016). These limitations include limited internet access, high costs of hardware and software, and limited trust in locally developed technological solutions. As a result, SMEs face difficulties in adopting information systems that could enhance their operational efficiency, productivity, and competitiveness (Faisal et al., 2023).

c) Low Level of Business Research and Development (R&D) and High Competitiveness

Innovation is the process of placing a specific product (goods or services), whether new or significantly improved, on the market, focusing on cooperation between research and industry, due to the need to complete research through practical results related to technical and technological development (Gherghina et al., 2020). Innovation aims to improve company performance by gaining a competitive advantage (or simply maintaining competitiveness) by shifting the demand curve for the company's products (e.g., improving product quality, offering new products, or opening new markets or customer groups) or the company's cost curve (e.g., reducing unit production, purchasing, distribution, or transaction costs), or by enhancing the company's ability to innovate (e.g., improving the ability to develop new products or processes (OECD, 2024). One specific innovation activity that companies can use to develop or acquire innovation is the implementation of research and development (R&D). However, many SMEs have limitations in allocating funds and resources for research and development (R&D) activities, as R&D is considered a high-cost burden that does not generate short-term profits, and is therefore often neglected (World Economic Forum, 2023). Low R&D investment leads to slow product and service innovation, making it difficult for SMEs to compete with larger companies with higher innovation capacity (Gherghina et al., 2020).

d) Lack of Utilization of Information Technology

The Industrial Revolution 4.0 has made information technology develop rapidly. Ownership of mobile phones, smartphones, tablet computers, and the availability of internet networks in households have also spread rapidly in recent years. Therefore, more and more consumers prefer selling via the Internet to direct sales, and the electronic commerce (e-commerce) market for individuals is also expanding. However, it turns out that many SMEs are still unable to take advantage of these opportunities adequately (Yoshino & Taghizadeh-Hesary, 2016). For example, in Indonesia, the results of research by Cahyono et al. (2022) stated that although the growth in the number of SMEs in Indonesia reached 90%, there are still SMEs that have not been able to implement technology optimally. Research by Hernita et al. (2021) found that the weak mastery of technology by SMEs is influenced by several factors, including the

ability and skills of the workforce are still relatively low, product marketing is still focused on meeting local needs, access to information and product marketing through online media is still limited, the types of products marketed are still limited about business diversification, and products are less competitive in regional and global markets. Information technology (IT) is an essential factor in driving innovation and encouraging expansion in entrepreneurial companies. In the contemporary digital era, it is very important for entrepreneurs to effectively utilize information technology to accelerate product development, improve operational efficiency, expand market penetration, and stimulate business (Thottoli & Ahmed, 2022). Entrepreneurs can also gain competitive advantages, adapt to market fluctuations, and build lasting value by using the right information technology solutions (Kuraesin, 2023).

Strategies to overcome challenges in SMEs include encouraging collaboration among various stakeholders, such as government agencies, financial institutions, and educational organizations. This collaborative approach can facilitate access to resources, knowledge, and networks that are essential for promoting innovation in SMEs. The utilization of resources and expertise from these sectors enables SMEs to improve their access to funding, technology, and market information, which ultimately leads to better performance and sustainability (Abdulla et al., 2024).

Furthermore, SMEs play a crucial role in economic and social development, particularly in developing countries and emerging markets (Hossin et al., 2023). SMEs contribute significantly to job creation, income generation, poverty alleviation, and local economic development through the utilization of local resources, innovation, and business diversification (Budiarto et al., 2022). This role positions SMEs as the backbone of the economy in many countries, including Indonesia, both in terms of the number of business units, workforce absorption, and contribution to GDP (Hossin et al., 2023). However, despite these substantial contributions, SMEs continue to face structural challenges, including limited access to financing, inadequate information infrastructure, low investment in research and development, and suboptimal utilization of information technology (Faisal et al., 2023). These constraints limit their ability to enhance productivity, competitiveness, and long-term sustainability. Therefore, strengthening internal capabilities through innovation, effective technology utilization, and collaborative ecosystem support involving government, financial institutions, and educational institutions is essential to sustain the strategic role of SMEs in achieving sustainable economic growth (Abdulla et al., 2024).

2.4 SMEs in Indonesia

SMEs are small- to medium-scale business activities managed by a group of people or individuals with the aim of growing and developing a business (Wiralestari & Riski, 2020). According to Law No. 20 of 2008 of the Republic of Indonesia, SMEs are commercial enterprises of a small or medium scale, managed by individuals or business units and distinguished by asset and income criteria, namely:

- a) Small business is an independent economic enterprise run by an individual or business entity that is not a subsidiary of a medium-sized or large business, with the criteria of having business capital of 50 million rupiah to 500 million rupiah (approximately USD 3,000 to USD 29,000, based on the 2025 exchange rate), excluding land and buildings for business premises, or having annual revenue of 300 million rupiah to 2 billion rupiah (approximately USD 18,000 to USD 118,000, based on the 2025 exchange rate).
- b) Medium-sized businesses are independent economic enterprises run by individuals or business entities that are not subsidiaries of small businesses or large businesses, with the criteria of having net assets of 500 million rupiah to 10 billion rupiah (approximately USD 30,000 to USD 592,000, based on the 2025 exchange rate), excluding land and buildings where the business is located, or having annual revenues of more than 2 billion rupiah to 50 billion rupiah (approximately USD 118,000 to USD 3,000,000, based on the 2025 exchange rate).

In terms of the number of workers required, Law No. 20 of 2008 also distinguishes between small and medium enterprises. Small enterprises require between 5 and 19 workers, while medium enterprises require between 20 and 99 workers (Maksum et al., 2020).

SMEs play a significant role in Indonesia's economy. The number of SMEs has grown by approximately 6 percent annually, indicating that they constitute one of the main pillars of the national economy (Yusuf et al., 2020). Even during periods of economic crisis, SMEs have demonstrated greater resilience compared to many larger firms that experienced bankruptcy. It is evident that SMEs make a substantial contribution to Indonesia's economic performance, accounting for more than 60% of

GDP and absorbing over 97% of the national workforce (Kurniadi et al., 2024). This contribution is closely linked to the continuous increase in the number of SMEs across the country. According to data from the Ministry of Cooperatives and SMEs of the Republic of Indonesia, the number of registered formal SMEs continues to increase every year. This upward trend is illustrated in Graph 1 below.

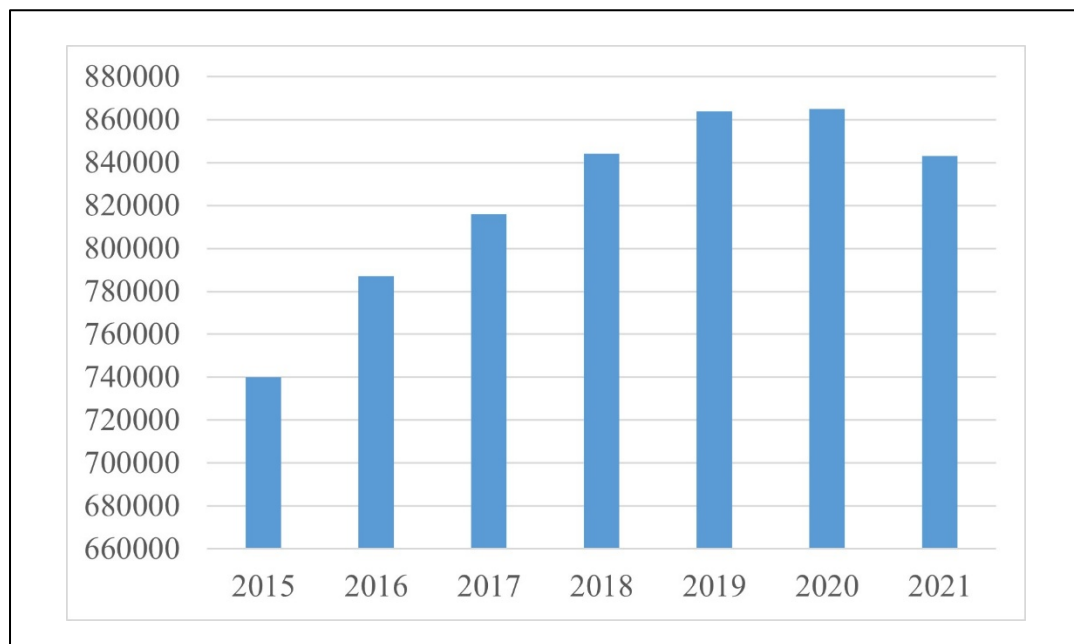


Figure 2.1 Data on the Number of SMEs in Indonesia

Figure 2.1 above illustrates that the number of formal SMEs registered with the Ministry of Cooperatives and SMEs of the Republic of Indonesia, in 2015, was 740,000, then increased to 787,000 in 2016. In 2017, SMEs in Indonesia experienced an increase again to 816,000. In 2018, the number of SMEs in Indonesia experienced an increase of 28,000 from the previous year. Furthermore, in 2019, the number of SMEs increased to 864,000, and stagnated in 2020. In 2021, the number of SMEs decreased due to the COVID-19 pandemic to 843,000. These SMEs are spread across several sectors, namely the culinary sector, fashion industry, handicrafts, and digital technology (Waluyo, 2024).

The role of SMEs as drivers of economic growth has been widely documented. Wahyuni (2018) revealed that SMEs contribute more than 50% to economic growth in Indonesia, indicating that government policies should also focus on fostering the creation and sustainability of companies that fall into the SME category. This finding is consistent with Raya et al. (2021), who emphasize the importance of empowering

SMEs through strategic models such as franchising, which can enhance their growth potential and resilience. Furthermore, the integration of information technology has been shown to positively influence SME economic development and improve organizational performance (Yusuf et al., 2020).

Although SMEs contribute positively to the Indonesian economy, they also face significant challenges that hinder their growth and international competitiveness. Access to financial services remains a significant barrier, as many SMEs struggle to obtain financing from formal financial institutions, which often prioritise financing for large companies (Hasibuan & Marliyah, 2024). Other issues, such as inadequate access to financial services, limited infrastructure, and a lack of strategic planning, are also widespread challenges for SMEs in Indonesia (Hamdani et al., 2020). In addition to financial constraints, SMEs in Indonesia also face other challenges, such as limited export participation (Revindo & Devianto, 2019) and low levels of innovation and competitiveness (Panjaitan et al., 2021). Furthermore, Junita et al. (2023) describe several challenges for SMEs in Indonesia, including:

a) Limitations in technology and digitalisation.

Although there has been an increase in digital SMEs from 14% to 25% in 2020, only 12% of SMEs have successfully integrated digital technology optimally into their business operations, resulting in SMEs facing limitations in participating in global competition (Istamarina et al., 2025). Limitations in the use of technology and digitalisation can arise due to the costs associated with using technology, such as purchasing devices, paying for software, or training, which are still considered expensive by most SMEs (Yusuf et al., 2020).

b) Complex regulations.

The business licensing process for SMEs is still considered complicated and time-consuming. Many SMEs are required to obtain various permits from different agencies, such as local governments and relevant ministries, which increases operational costs and slows down the business legalisation process. These regulatory burdens may hinder their growth and formalisation. Although the government has provided some concessions, many SMEs still face these obstacles (Polly et al., 2024).

c) Managerial and expertise limitations.

Although many SMEs have technical and production expertise, they still face limitations or obstacles in areas such as financial management, marketing and business planning. Sumani and Roziq (2020) stated that the financial literacy level of the Indonesian population was relatively low, reaching only 29.66% in 2016 and 38.03% in 2019. This value increased slightly in 2022 to 45.93% (Kurniasari et al., 2025).

d) Intense market competition.

SMEs in Indonesia still face difficulties competing with companies that already have greater resources and are expanding their reach more quickly. Imported products from foreign countries, such as China and Vietnam, often offer lower prices due to mass production and high efficiency. In addition, large or multinational companies also have advantages in terms of capital, technology, and strong brands, so SMEs often lose out in terms of price, production scale, distribution, and marketing (Rizky et al., 2024)

e) Limited access to financing.

Many SMEs in Indonesia face difficulties in applying for financing from financial institutions due to a lack of collateral or guarantees that meet the requirements of financial institutions. In addition, some SME operators have low financial literacy and limited business management skills, making it difficult for them to prepare the financial reports required by financial institutions as a condition for credit applications (Hasibuan & Marliyah, 2024).

In addition to the challenges described above, SMEs in Indonesia also have a significant environmental impact. The environmental impact of SMEs has other important considerations, as they are responsible for most of the industrial pollution in Indonesia (Susanto & Meiryani, 2019). Research by Susanto and Meiryani (2019) also states that most SMEs do not understand the importance of good environmental management. The lack of socialisation and education regarding environmental accounting has resulted in minimal attention to the environmental impact of their business activities. Therefore, efforts and solutions that can be taken to reduce the environmental impact of SMEs include:

a) Implementing environmental accounting standards

Adopting environmental accounting standards can help SMEs identify and manage the environmental impact of their operations. This step can also improve resource efficiency and reduce operating costs (Pratama et al., 2024). Furthermore, through structured recording of energy, raw material, waste, and emission usage, SMEs can increase environmental transparency and accountability in their business processes, as environmental management accounting practices enable systematic monitoring of material flows and environmental costs that support cost control and operational efficiency improvements (Mukwarami & Poll, 2024).

b) Creating environmentally friendly products

Recently, some SMEs have begun to implement more environmentally friendly production techniques, such as eco-printing using natural dyes. This innovation not only reduces environmental impact but also increases product value and competitiveness in the market (Putri et al., 2024). This technique is known as green product innovation. According to Achmad and Inrawan (2025), green product innovation is an important way for SMEs to differentiate their products and adapt to changing market preferences. More environmentally friendly products can strengthen a business's reputation, attract new customers, and increase competitiveness. However, the success of this innovation is highly dependent on internal factors, such as business actor knowledge, innovation capabilities, and management support. Fleith et al. (2022) emphasize that green product innovation is a crucial part of sustainable product innovation and requires market orientation and organizational support. Therefore, green product innovation is not merely a marketing strategy but represents a strategic pathway for SMEs to integrate sustainability into their core business model while enhancing long-term competitiveness.

c) Conducting environmental training and education.

Governments and relevant institutions need to strengthen training and educational programs for SMEs to enhance their understanding of sustainable environmental management. Such initiatives can increase awareness and build the capacity of SMEs to adopt environmentally responsible business practices (Pratama et al., 2024). Imtiaz et al. (2025) emphasize that environmental knowledge—including

system knowledge, action-related knowledge, and effectiveness knowledge—plays a significant role in driving sustainability practices within SMEs, particularly through influencing employee behavior and organizational resource commitment. This suggests that well-designed education and training programs that develop relevant and practical knowledge can strengthen SMEs' ability to consistently implement environmental practices. Therefore, training and education can be positioned as strategic capacity-building mechanisms that bridge the gap between environmental awareness and the effective implementation of sustainability practices at the operational level (Jamil et al., 2025).

Based on the challenges faced by SMEs, several solutions can be implemented, including:

a) Improving Access to Financing and Financial Literacy

According to Nugroho (2023), many SMEs in Indonesia have difficulty accessing formal financial services due to low financial literacy and high collateral requirements. Solutions that can be implemented include:

- i) Implementing financial education and literacy programmes. These programmes provide training on financial management, credit management, and investment to enhance the knowledge and skills of SME owners.
- ii) Introducing alternative financial services, such as developing microfinance services and peer-to-peer lending platforms that offer loans without requiring collateral.
- iii) Government support through tax incentives, grants, and subsidies, as well as collaborating with financial institutions to develop financial education and literacy programmes.

b) Digital transformation and technology adoption

According to Prihandono et al. (2024), digitalisation has become an important requirement for SMEs to survive in an increasingly competitive environment. The implementation of digital transformation can improve operational efficiency, revenue,

and transform organisational culture to be more adaptive to change. Strategies that can be applied include:

- i) Digital technology adoption, which involves adopting digital technologies such as the internet, mobile technology, and e-commerce platforms to enhance competitiveness, performance, and productivity.
- ii) Risk management, which involves conducting thorough planning to identify and mitigate risks that could threaten services and business continuity.

c) Strengthening managerial capacity and human resources

Digital transformation enhances organisational transparency and governance mechanisms through improved information flows and system integration (Verhoef et al., 2021). The integration of digital systems, including cloud accounting, enables SMEs to systematically record transactions and generate more reliable financial reports, thereby improving accounting information quality (Al-Hattami, 2022). Thus, digital transformation should not be viewed merely as technological usage, but as an enabling mechanism that strengthens accountability and reporting practices within SMEs (Khayer et al., 2021).

According to Irjayanti and Azis (2012), limitations in managerial capacity and human resources are obstacles for SMEs in facing business challenges. Therefore, solutions that can be applied include:

- i) Training and capacity building, by conducting business management, marketing, and technical skills training to improve the competencies of SME owners and employees.
- ii) Coaching and mentoring, by providing coaching programmes by experts or business practitioners to assist SMEs in formulating strategies and overcoming operational problems.

d) Government support and policies that support SMEs

According to Irawan (2020), the role of the government is very important in creating an ecosystem that supports the growth of SMEs. Several strategic steps that can be taken include:

- i) Simplification of regulations, namely by reducing bureaucracy and simplifying the licensing process to make it easier for SMEs to start and develop their businesses.
- ii) Incentives and subsidies, such as providing tax incentives, subsidies, and financial assistance to encourage innovation and expansion of SMEs.
- iii) Facilitating market access, such as helping SMEs access domestic and international markets through trade fairs, promotions, and strategic partnerships.

Additionally, SMEs in Indonesia are the backbone of the national economy in terms of the number of business units, contribution to Gross Domestic Product, and employment absorption (Kurniadi et al., 2024). SMEs have demonstrated relative resilience during times of crisis and play a crucial role in driving economic growth, income equality, and local economic development across various sectors (Hamdani et al., 2020). However, this significant contribution is accompanied by structural challenges, including limited access to financing, low financial literacy and managerial capacity, limited information infrastructure, suboptimal utilization of digital technology, and increasing competitive pressure (Hasibuan & Marliyah, 2024). In addition to economic and institutional constraints, SMEs also contribute to environmental pressures, while systematic environmental management practices remain relatively limited (Budiarto et al., 2022). These conditions indicate that the sustainability and competitiveness of SMEs in Indonesia depend not only on increasing the number of enterprises but also on strengthening internal capabilities, improving financial and managerial practices, enhancing technological adoption, and developing supportive regulatory and institutional ecosystems (Abdulla et al., 2024).

In this regard, the TOE (Technology–Organization–Environment) framework developed by Tornatzky & Fleischer (1990) is relevant for analysing the factors influencing the adoption of cloud accounting systems among SMEs in Indonesia. Previous studies applying TOE in the SME context highlight the importance of technological readiness, management support, competitive pressure, regulatory environment, and vendor support in shaping technology adoption decisions (Hamundu et al., 2020; Wicaksono et al., 2020; Sastararuji et al., 2022; Lutfi, 2022). By employing this framework, the present study seeks to identify effective adoption strategies that enable cloud accounting to enhance transparency, accuracy, and financial reporting

quality, thereby strengthening the competitiveness and sustainability of SMEs in the digital era.

2.5 Contribution of SMEs in the Indonesian Context

The contribution of SMEs in Indonesia is significant in various aspects of the country's economic, social and cultural life (Raya et al., 2021). The role of SMEs is very important in driving economic growth, creating jobs, reducing poverty and contributing to regional development (Budiarto et al., 2022). The following are some of the main contributions of SMEs in Indonesia:

2.5.1 Contribution to the National Economy

SMEs play an important role in national development by contributing to economic growth (Wahyuda et al., 2023). Economic development serves as an indicator of a country's overall economic performance and provides a foundation for formulating policies aimed at expanding employment opportunities. The successful implementation of such development policies requires the active involvement of all segments of society (Tarigan et al., 2024).

Strategically, SMEs play an important role in national economic development by contributing to economic growth, maximising the utilisation of human resources, and ensuring that the benefits of development are felt by all parties (Budiarto et al., 2022). SMEs have been the main focus of private sector development efforts since the global financial crisis. The creative economy is an economic activity that originates from creative intellectual wealth derived from cultural heritage, science, and technology (Wisnumurti, 2023). SMEs also play a role in improving the welfare of a country, especially in developing countries, including Indonesia. The existence of SMEs has the potential to create jobs and increase income. SMEs have proven capable of contributing up to 60.34% to the gross domestic product, making this business sector a pillar of national economic development (Wiralestari & Riski, 2020). SMEs in Indonesia also contributed 8,573.9 trillion rupiah (USD 535.8 million) to Indonesia's GDP from 2015 to 2018. The GDP of Indonesia in 2018 was 14,838.3 trillion rupiah (USD 927.4 million), with SMEs contributing 57.8% of the total GDP. Additionally, SMEs employed 116,978,631 people, accounting for 97% of the total workforce in Indonesia

(Halik et al., 2024). There must be a significant relationship between increases and changes in unemployment rates, reflecting the link between unemployment and economic growth. SMEs play a vital role in enhancing the labour sector, and empowering SMEs is the primary solution to create new job opportunities for a large portion of the population (Al-Tamimi & Jaradat, 2019).

SMEs play a significant role in generating economic activities and absorbing a large proportion of the workforce across various skill levels. As such, they contribute to reducing unemployment and supporting the sustainability of economic development (Al-Tamimi & Jaradat, 2019). Strengthening human resource capacity is therefore essential to ensure the long-term sustainability of SMEs, as high-quality human capital enhances productivity and overall economic performance (Hernita et al., 2021). The high unemployment rate in Indonesia requires serious attention from the government to reduce unemployment by providing more jobs to absorb the workforce. Furthermore, as part of efforts to reduce unemployment, economic activity must be increased, one of which is by maximising the function of SMEs. Therefore, it is hoped that unemployment in Indonesia will continue to decrease (Faizal et al., 2023). Furthermore, companies will experience improved performance and even become large companies if their employees are able to solve problems, so that such employees are considered productive employees (Halik et al., 2024). Research by Rotar et al. (2019) states that job opportunities in the SME services sector can increase GDP per capita. Thus, SMEs contribute to advancing the national economy through the creation of job opportunities in the services and industrial sectors.

Based on the foregoing discussion, SMEs can be understood as strategic actors in strengthening the national economy through their contributions to GDP growth, employment generation, and the effective utilization of human resources. Their impact extends beyond the production and trade sectors to the services sector, which has been shown to contribute to increases in GDP per capita. In Indonesia, the dominance of SMEs in absorbing 97% of the workforce shows their great potential as an instrument for alleviating unemployment and driving inclusive economic development. In the context of this research model, the economic and social role of SMEs reflects the importance of technological readiness, regulatory support, and strengthening human resource capacity as driving factors for business sustainability and competitiveness. Thus, empowering SMEs through innovation, digitalization, and strengthening governance is key to ensuring the sector's contribution remains optimal in the long term.

2.5.2 Social Empowerment of Communities

SMEs not only have an impact on economic growth, but they are also a strategic tool for community empowerment through skills enhancement, job creation, and strengthening local economic independence (Maksum et al., 2020). Social empowerment of communities through SMEs in Indonesia is an important process in improving the welfare, participation, and independence of local communities. SMEs not only act as economic drivers but also as a means of social empowerment through job creation, individual capacity development, and strengthening social networks (Wahyuda et al., 2023).

In addition, SMEs also have a social responsibility towards poverty alleviation programmes (Nyoman et al., 2013). As enterprises capable of generating employment opportunities, SMEs are expected to contribute to reducing poverty rates (Wahyuda et al., 2023). Furthermore, by considering environmental, social, and economic aspects in every operational stage, SMEs can also create sustainable value for all stakeholders involved, such as through the innovative use of environmentally friendly raw materials and the implementation of energy-efficient manufacturing practices, or active involvement (Putri et al., 2024). The innovation of using environmentally friendly raw materials can add value to SMEs, as the products are competitive and do not pollute the surrounding environment. A study by Wahyuda et al. (2023) emphasises that sharing knowledge and product innovation significantly improve the business performance of SMEs in Indonesia. Through collaboration and information exchange, SMEs can develop skills and knowledge that empower them socially and economically.

In Indonesia, Law No. 24 of 2019 on the Creative Economy has been enacted, whereby the government and SMEs collaborate to develop SMEs through job creation and community empowerment in the surrounding areas. Government assistance is provided in terms of taking responsibility for creating and developing a creative economy ecosystem, thereby improving the quality of life of the community and contributing to the national economy to achieve sustainable development goals (Maksum et al., 2020).

In terms of women's empowerment, at least 64% of SMEs in Indonesia are run by women (Hendratmi et al., 2022), and this number continues to increase every year (Aravik et al., 2025). Women's empowerment in SMEs is an effective solution to enhance the skills and capabilities of Indonesian women, thereby improving their

standard of living (Setyaningsih et al., 2012). Knowledge, skills, and other incentives that promote women's empowerment are essential (Setyaningrum et al., 2023). Women's empowerment is a necessity for Indonesia to improve the economic status of its people. One way to enhance women's empowerment is by establishing small and medium-sized enterprises that can absorb unemployed women. Additionally, reducing unemployment can be achieved by improving the skills or competencies of these women (Setyaningsih et al., 2012). In Indonesia, women play a crucial role, from the family unit to the broader national context (Kadiyono & Cahyono, 2023). Data from the Indonesian Central Statistics Agency (BPS) over the years show that female entrepreneurship in Indonesia has existed and continued to grow since the 1980s, when the country experienced rapid economic growth, leading to a significant increase in per capita income (Tambunan, 2022).

2.5.3 Innovation

SMEs in Indonesia play an important role in driving innovation that contributes significantly to economic growth and community empowerment. Innovation in SMEs covers various aspects, ranging from product development to the adoption of digital technology. The following is an in-depth explanation of the contribution of Indonesian SMEs in terms of innovation, based on findings from various international journals and articles (Abdulloh et al., 2024).

SMEs in Indonesia have demonstrated remarkable capabilities in developing product innovations that meet local and global market needs. According to research by Permana et al. (2023), product innovation is a key factor in enhancing the competitiveness of SMEs across various industrial sectors. The study highlights the importance of knowledge exploitation and interactive processes in driving innovation among SMEs. Additionally, SMEs leverage creativity to develop unique products with high added value. SME product innovation not only improves product quality but also expands market share (Putri et al., 2024). As a result, SMEs contribute to national product diversification and the strengthening of local cultural identity. However, challenges such as limited resources and access to technology remain significant barriers to the innovation process. Therefore, support from various parties is needed to overcome these challenges. Collaboration between SMEs, the government, and educational institutions can accelerate the innovation process (Maksum et al., 2020).

With the right approach, SMEs can continue to innovate and contribute to sustainable economic growth.

In addition to product innovation, SMEs in Indonesia are increasingly developing innovative marketing strategies to reach a wider range of consumers. Research by Wahyuda et al. (2023) demonstrate that the use of social media as a marketing channel is effective in increasing sales and brand image for SMEs. Digital marketing strategies also enable SMEs to compete with large companies in reaching global markets. However, the adoption of digital technologies continues facing challenges, particularly in terms of limited digital literacy and inadequate infrastructure (Istamarina et al., 2025). To address these constraints, governments and relevant institutions should provide targeted training programs and technical support to enhance SMEs' digital capabilities. Such initiatives would enable SMEs to utilize technology more effectively and improve their competitiveness. In addition, collaboration with e-commerce platforms can open up new opportunities for SMEs to market their products (Juanda et al., 2025). Innovation in marketing also includes the use of data analytics to understand consumer behaviour (Wahyuda et al., 2023). With this approach, SMEs can design more effective and efficient marketing strategies. Overall, innovation in marketing is key for SMEs to survive and thrive in the digital era.

SMEs also play an important role in driving local economic growth through job creation and increased community income. According to research conducted by Devita et al. (2024), SMEs are the main drivers in strengthening the regional economy through product and service innovation. The innovations made by SMEs not only increase productivity but also encourage growth in related sectors. For example, the development of new products by SMEs can create demand for local raw materials, thereby supporting local farmers and producers to participate in the manufacture of these products (Mamduh & Pratikto, 2024). In addition, SMEs also contribute to increasing regional income through tax and levy payments (Permatasari et al., 2021). Thus, SMEs play a strategic role in inclusive and sustainable economic development. However, to maximise this contribution, policies that support SME development are needed, including access to financing and training (Maksum et al., 2020). Local governments can play an active role in creating an ecosystem conducive to SME growth. With the right support, SMEs can become a mainstay of local economic development. Therefore, investment in SME development is a strategic step towards improving community welfare.

Although SMEs possess substantial innovation potential, they continue to face various challenges that may hinder their growth. A study conducted by Juanda et al. (2023) identified that limited access to financing and technology are the main obstacles for SMEs in developing innovation (Nugroho, 2023). In addition, the lack of managerial skills and skilled human resources is also an obstacle (Iriyanti & Azis, 2012). However, these challenges also create opportunities for various parties to provide support. For example, financial institutions can develop financing products that are tailored to the needs of SMEs. Meanwhile, educational and training institutions can provide capacity building programmes for SME actors. The government can also play an important role in creating policies that support SME innovation (Maksum et al., 2020). Through coordinated collaboration among these stakeholders, the barriers faced by SMEs can be mitigated, thereby enabling them to sustain innovation and strengthen their contribution to economic growth. Consequently, a holistic and inclusive approach is essential to foster a resilient and sustainable SME innovation ecosystem.

To strengthen innovation in SMEs, a comprehensive and sustainable strategy is needed. One effective approach is through improving financial literacy and entrepreneurial orientation, as stated by Mamduh & Pratikto (2024). Training and mentoring programmes can help SMEs develop their innovative capabilities (Wahyuda et al., 2023). In addition, strengthening networks and collaboration among SMEs can also encourage the exchange of ideas and best practices. The government and relevant institutions need to provide platforms to facilitate this collaboration. The use of digital technology should also be optimised to support the innovation process (Prihandono et al., 2024). For example, the use of e-commerce and social media can expand the market reach of SMEs. In addition, access to market data and information can help SMEs design appropriate business strategies (Wahyuda et al., 2023). Through an integrated and coordinated approach encompassing financial capability, entrepreneurial orientation, collaboration, and digitalization, SMEs can significantly enhance their innovation capacity. Ultimately, this will contribute to more inclusive and sustainable economic growth in Indonesia.

Viewed holistically, the contribution of SMEs in Indonesia is reflected not only in their economic role as major contributors to GDP and employment, but also in their interconnected social and innovative functions (Al-Hattami, 2022). From an economic perspective, SMEs act as drivers of national growth and mechanisms for equitable distribution of development benefits through widespread employment absorption

(Hamdani et al., 2020). From a social perspective, SMEs contribute to community empowerment, including the participation of women entrepreneurs and local business owners, thereby supporting social inclusion and poverty alleviation (Budiarto et al., 2022). Meanwhile, from an innovation perspective, SMEs demonstrate the ability to develop value-added products, utilize local creativity, and adopt digital marketing and technological solutions as sources of competitive advantage (Junita et al., 2023). However, the integration of these economic, social, and innovative roles continues to face structural limitations, including limited access to financing, suboptimal managerial and human resource capacity, infrastructure gaps, and low levels of digital literacy (Hamdani et al., 2020). These constraints indicate that strengthening SMEs cannot rely solely on increasing the number of enterprises but requires internal capability development, innovation support, and collaborative ecosystem engagement among government, financial institutions, and educational stakeholders (Abdulla et al., 2024). Within this context, the TOE framework (Tornatzky & Fleischer, 1990) provides a relevant analytical lens to identify the technological, organisational, and environmental drivers that may enable cloud accounting adoption to act as a synergistic catalyst across economic, social, and innovation dimensions (Hamundu et al., 2020).

2.6 Financial Reporting for SMEs

Financial reporting is an important aspect for SMEs as it facilitates effective decision-making and enhances credibility with stakeholders, including banks and investors (Lackson & Muba, 2021). Accurate financial reporting is especially important for SMEs, which often face unique challenges compared to large companies (Nkwinika & Akinola, 2023). Reliable and timely financial information not only supports transparency and informed decision-making but also improves access to external financing (Bello et al., 2024).

External factors, such as the impact of the 2020 pandemic, can influence the financial reporting landscape for SMEs. The pandemic has highlighted the vulnerability of SMEs across various sectors and necessitated a re-evaluation of financial practices. These conditions highlight the importance of robust and adaptive financial reporting systems to help SMEs navigate economic uncertainty and enhance organizational resilience (Indriastuti & Kartika, 2022).

One of the main benefits of financial reporting for SMEs is its role in improving decision-making processes (Vanauken et al., 2016). Additionally, other important reasons for the importance of financial statements for SMEs include business planning, understanding the financial position each month, facilitating cost control, making it easier to obtain loans from banks, calculating taxes owed, and serving as information and tools for decision-making (Meyere et al., 2018; Klish et al., 2021). According to Rahayuningsih and Utami (2022), poor financial reports cause banks to be reluctant to provide capital loans to SMEs. This is because banks cannot assess their creditworthiness. SMEs must possess accounting skills and knowledge in accordance with accounting standards to produce financial statements that meet these standards. Good financial statements can be used by banks to assess SME performance and serve as a guideline for banks when granting loans to SMEs (Meyere et al., 2018).

Furthermore, financial statements provide important information to help owners and managers understand their companies' financial health, risk profiles and investment opportunities (Wiralestari & Riski, 2020). While many SME owners lack the skills needed to interpret these documents effectively, effective use of financial statements can significantly improve their decision-making ability (Al-Hattami, 2022). Preparing financial statements in accordance with established standards, such as the IFRS for SMEs, improves the reliability and comparability of financial information. Standardized reporting practices foster transparency and strengthen stakeholders' trust, including that of creditors and investors (Al-Okaily et al., 2022). However, SMEs often face unique challenges when it comes to implementing the complex financial reporting standards that are designed for larger companies. To address this, the IASB developed the IFRS for SMEs, which is tailored to the needs and capacities of SMEs. These standards aim to simplify the financial reporting process without compromising the quality of the information presented (Peppas & Dimitras, 2020). For instance, IFRS for SMEs typically permits only one accounting method for specific transactions, thereby simplifying accounting decision-making and helping SMEs to prepare financial statements that are easier to understand and apply (Sassi & Damak-Ayadi, 2023).

The implementation of IFRS for SMEs has shown positive impacts on the quality of financial reporting and access to financing (Klish et al., 2021). A study conducted by Hellman et al. (2022) in Sweden found that the adoption of these standards increased the transparency of financial reports and reduced debt costs for private companies. Additionally, research conducted by Akpan et al. (2023) showed that IFRS

for SMEs improved the comparability of financial reports between companies, facilitating decision-making by investors and creditors.

Overall, IFRS for SMEs is a significant step toward improving the quality of financial reporting for SMEs globally. By simplifying standards tailored to the needs of SMEs, these standards help enhance transparency, accountability, and access to financing. However, the success of their implementation depends heavily on adequate training and resource support. Therefore, collaboration between governments, financial institutions, and professional organizations is crucial to ensure that SMEs can fully benefit from IFRS for SMEs (Sassi & Damak-Ayadi, 2023).

However, some SMEs still do not use accounting standards when preparing their financial statements. For instance, a study in Uganda revealed that, of the 398 SMEs surveyed, around 35% had fully adopted the IFRS for SMEs, 54% had adopted them partially, and 11% had not adopted them at all (Balikuddembe, 2024). While efforts are being made to improve financial reporting among SMEs, this indicates that the level of full adoption remains relatively low in some developing countries (Zahid & Simga-Mugan, 2019).

Globally, the adoption of IFRS for SMEs also varies. According to data from the IASB (2025), as of 2014, approximately 70 jurisdictions had adopted or announced their intention to adopt IFRS for SMEs. However, this does not necessarily mean that all SMEs in those jurisdictions have prepared financial statements in accordance with these standards. Internal capacity, understanding of accounting standards and support from government and financial institutions significantly impact the level of financial reporting adoption by SMEs (Peppas & Dimitras, 2020). In many developing countries, limited resources and a lack of training pose significant barriers to SMEs preparing financial statements in accordance with international standards (Astutie & Fanani, 2016). According to Schaper (2020), there are more than 70 million SMEs in Southeast Asia, accounting for around 99% of businesses in the region and employing over 140 million people. However, the report also indicates that many SMEs, especially micro-enterprises, operate informally, making it difficult to determine the number of SMEs that have adopted accounting standards in their financial reporting.

Furthermore, a study by Bleach (2023) involving 977 SMEs in Indonesia, Malaysia, Singapore, Thailand and Vietnam indicates that many SMEs still rely on traditional financial management methods, such as cash payments and manual record keeping. This finding indicates that the adoption of formal and digital financial

reporting systems remains at an early stage for many SMEs in the region. The continued dependence on conventional methods may limit transparency, efficiency, and the ability of SMEs to generate reliable financial information for strategic decision-making and external stakeholders. Additionally, a report from the World Economic Forum (2023) highlights that many SMEs in Southeast Asia face barriers in accessing and using digital technology, including financial reporting systems. The main challenges are factors such as limited internet infrastructure, low digital literacy, and restricted access to formal financial services.

Meanwhile, in Indonesia, the Indonesian government has developed Financial Accounting Standards for Micro, Small, and Medium Entities, hereinafter referred to as SAK EMKM, to assist SMEs in preparing financial statements that are appropriate to their capacity. However, adoption of these standards is still limited, and many SMEs are unaware of or do not understand their application. This can be seen from the percentage of SMEs that have prepared financial statements. According to Mahrizal (2017), 80% of SMEs in Indonesia are unable to prepare their financial statements. Hasanah et al. (2021) also state that only around 30% of SMEs are able to prepare their own financial statements. Lack of financial literacy is one of the reasons why SMEs have not prepared financial statements (Sumani & Roziq, 2020). Furthermore, the majority of SMEs in Indonesia only record financial transactions in a simple manner, such as income and expenses, without preparing formal financial statements like balance sheets or income statements (Wiralestari & Riski, 2020). These limitations stem from several interrelated factors, including inadequate accounting knowledge, limited human resource capacity, and restricted access to training or professional guidance in financial reporting.

Overall, although SMEs are the backbone of the economy in Southeast Asia, including Indonesia, the adoption of formal financial reporting among SMEs remains limited. Efforts to improve financial literacy, provide training, and expand access to digital technology and formal financial services are essential to encourage more SMEs to prepare financial statements that comply with standards.

Furthermore, financial reporting is a crucial element for SMEs because it serves as the basis for managerial decision-making, increases transparency, and strengthens business credibility in the eyes of external stakeholders, particularly financial institutions and investors. Accurate and timely financial reports help SME owners and managers understand their financial condition, manage costs, assess risks, and plan

business development. They are also an essential prerequisite for accessing formal financing, as financial statements influence lenders' judgement and credit decisions (DeZoort et al., 2017). Although various financial reporting standards, including IFRS for SMEs and national standards in Indonesia such as SAK EMKM, have been developed to adapt to the capacities and characteristics of SMEs, the adoption rate of these standards remains relatively limited, particularly in developing countries and Southeast Asia. Empirical evidence indicates that the implementation of accounting standards is closely associated with improvements in reporting quality, yet adoption challenges remain significant in emerging economies (Klish et al., 2021). Limited financial literacy, human resource capacity, the perceived complexity of standards, and the low utilization of technology and digital systems are major obstacles to the preparation of formal and reliable financial reports (Komala & Firdaus, 2023). This situation indicates that the existence of financial reporting standards alone is not sufficient to improve the quality of SMEs' financial reporting without adequate training, continuous mentoring, and access to appropriate accounting technology. In the context of this research, cloud accounting is viewed as a potential solution that can simplify financial reporting processes, improve data accuracy and comparability, and enhance financial reporting quality among SMEs (Alagbe & Yinus, 2025). The use of cloud accounting systems is therefore analysed based on the technological, organizational, and environmental factors embedded in the TOE framework.

2.7 Users of SMEs Financial Reports

SMEs' financial reports serve many users and purposes, reflecting the diverse needs of stakeholders involved in the SMEs ecosystem, which significantly influence decision-making processes among various stakeholders (Jayawardane & Gamlath, 2020). Jayawardane and Gamlath (2020) also state that the primary users of financial reports of SMEs include SME owners, managers, potential investors, creditors, financial institutions or banks, tax authorities, regulatory authorities, and employees, each of whom relies on financial information to assess business performance and sustainability. Understanding the needs and perceptions of these users is crucial for enhancing the relevance and usefulness of financial reporting in the SME sector.

SME owners are the primary users of the most significant financial statements, as they rely on this information for internal decision-making and strategic planning

regarding their business operations (Wijekoon et al., 2023). In many cases, the majority of SMEs are managed by their owners, where ownership and management are closely intertwined, thereby reducing the relevance of financial statements for non-managerial owners and external governance objectives, as well as diminishing the need for management reporting typically required in larger organizations where ownership and management are separated (Jayawardane & Gamlath, 2020). This observation is supported by Wijekoon et al. (2023), who found that non-managerial owners of SMEs in Sri Lanka are not considered significant users of financial information due to the lack of separation between ownership and control. Therefore, SME owners utilise financial statements to make informed decisions regarding capital allocation, operational adjustments, and strategic planning, which are crucial for maintaining and growing their businesses (Vanauken et al., 2016).

In addition, external stakeholders such as financial institutions, particularly banks, also play an important role as users of SMEs' financial statements. Research conducted by Guti and Cheresai (2022) emphasises that strong financial reporting practices are essential for improving creditworthiness in SMEs, thereby facilitating access to finance. Similarly, a study conducted by Thein et al. (2023) also shows that effective financial reporting positively influences SMEs' ability to obtain bank loans, highlighting the important role of financial statements in the financing landscape. They utilise SMEs' financial statement information to assess creditworthiness and make appropriate lending decisions. IASB (2025) highlights that the IFRS for SMEs aims to provide a consistent framework that meets the reporting needs of various entities, including financial institutions. This standardisation is important for banks when evaluating loan applications, as they require reliable financial data to assess risks and make appropriate lending decisions (Palazuelos et al., 2018). Additionally, as bank lending practices modernise, they increasingly rely on qualitative aspects of financial statements, such as cash flow and project viability, rather than solely on traditional collateral-based loans (Meyere et al., 2018). This shift highlights the importance of producing high-quality financial statements that effectively communicate the financial position and performance of SMEs.

According to Ifada et al. (2022), tax authorities are another important group of users of SME financial statements. They require accurate and timely financial information to ensure compliance with tax regulations and to assess the tax liabilities of SMEs. Tax authorities rely on accurate financial reporting to ensure compliance and

accurate tax assessment (Ifada et al., 2022). Nawi (2010) explains that many SMEs struggle with outdated information and limited disclosure in their financial statements. This situation can pose challenges in tax assessment and compliance, highlighting the need for SMEs to improve their financial reporting practices.

Furthermore, potential investors are also key users of SMEs' financial statements, as they seek to evaluate the financial viability and growth potential of these companies before making investment decisions (Vanauken et al., 2016). High-quality financial statements that are relevant, reliable, and easy to understand can significantly enhance the attractiveness of SMEs to investors (Hoti & Krasniqi, 2022). Moreover, the relevance of financial statements extends to potential investors who wish to understand the financial health and performance of SMEs before providing capital. Relevant, reliable, and easily understandable financial statements facilitate better investment decisions as they provide insights into the financial position, performance, and cash flow of the business (Christanty et al., 2023). SMEs' ability to present clear financial information can significantly enhance their attractiveness to investors, thereby increasing their chances of securing funding for growth and expansion (Musah et al., 2018). Furthermore, creditors and investors analyse these reports to evaluate creditworthiness and investment potential, thereby influencing SMEs' ability to secure funding (Guti & Cherasai, 2022). Therefore, improving financial literacy and reporting practices is crucial for SMEs to attract external funding and support their growth ambitions. Additionally, regulatory bodies and market analysts also utilise SMEs' financial reports to monitor compliance and assess market trends (Hoti & Krasniqi, 2022).

When considered collectively, SME financial reports serve as a primary source of information for various user groups with different needs and interests, both internal and external. For owners and managers, financial reports serve as an important basis for operational decision-making, resource allocation, and strategic planning, particularly in the context of SMEs, which generally have a close relationship between ownership and business management (Al-Hattami, 2022). Meanwhile, for external stakeholders such as financial institutions, banks, creditors, and investors, financial reports serve as a primary instrument for assessing business performance, risk, creditworthiness, and growth potential (Palacín-Sánchez et al., 2021). Furthermore, tax authorities and regulators utilize SME financial reports to ensure regulatory compliance and accurately assess fiscal obligations. This diversity of users demonstrates that SME financial reports

are not only required to meet internal needs but also must possess an adequate level of quality, reliability, and comparability for effective use by external parties (Komala & Firdaus, 2023). Therefore, understanding the needs of financial report users is crucial for increasing the relevance and usefulness of SME financial reporting, while simultaneously strengthening access to financing, regulatory compliance, and business sustainability.

2.8 Uses of Financial Reports of SMEs

The relevance of these reports extends to the broader economic context, where better financial reporting can contribute to the development of capital markets by providing reliable information that is trusted by investors and regulators (Williams & Hussein, 2018). Thus, the diverse uses of financial reports underscore their important role in the operational and strategic frameworks of SMEs, highlighting the need for continuous improvement in financial reporting practices (Nkwinika & Akinola, 2023).

The perception of financial information as a tool to improve business operations and assist SMEs in their growth and transition to larger entities (Kelly et al., 2023). The dual role of financial statements as a management tool and growth facilitator emphasises the importance of financial statements for owners and managers (Akpan et al., 2023). The importance of financial reporting practices in SMEs is to facilitate transparency and reduce information asymmetry between companies and their stakeholders (Nkwinika & Akinola, 2023). By complying with standardised reporting practices, SMEs can enhance their credibility and attract investment, both domestically and internationally (Jayawardane & Gamlath, 2020). For example, the implementation of accounting standards in Indonesia (SAK EMKM) has been proven to improve the quality of financial reporting among SMEs, thereby fostering better stakeholder relations and enhancing the overall performance of these entities (Ifada et al., 2022). However, this progress remains constrained by persistent challenges, particularly low financial literacy levels and the perceived complexity of accounting standards (Maelani et al., 2024).

In addition, financial reports produced by SMEs play an important role in supporting strategic financial management. These reports provide important insights into cash flow, profitability, and operational efficiency, which are essential for making strategic decisions (Karadag, 2015). Since SMEs often operate with limited resources,

the ability to prepare accurate financial reports can significantly affect their operational performance and sustainability (Kamilan & Nurcholisah, 2022). For example, research has shown that SMEs with strong financial reporting practices are better positioned to address financial challenges and attract external funding, which is vital for their growth and innovation (Guti & Cherasai, 2022).

Furthermore, the financial statements of SMEs have many important functions that significantly influence operational success and growth potential, whereby these statements are important for effective financial management, strategic decision-making, and attracting investment (Akhtar & Liu, 2018). SME owners and managers primarily use financial statements for internal decision-making, as these reports provide valuable insights into the financial health of the business, enabling owners to make informed decisions regarding operations, budgeting, and strategic planning (DeZoort et al., 2017). According to Wijekoon et al. (2023), financial statements are very important for SMEs, as they help assess performance and guide future actions. Well-prepared financial statements enable SMEs to obtain important information that helps in managing various aspects of the business, such as financial planning, tax calculations, and transaction recording (Meyere et al., 2018). Additionally, these financial statements are also crucial for improving operational efficiency and ensuring sustainable growth.

Next, financial statements also play an important role in communicating with external stakeholders, including investors, creditors, and suppliers (Hoti & Krasniqi, 2022). These statements provide a transparent view of the financial position and performance of SMEs, which is important for building trust and credibility with external parties. IASB (2025) highlights that compliance with IFRS for SMEs improves the quality of financial reporting, making it more useful for external stakeholders. For example, investors will rely on accurate financial reports to evaluate the viability of their investments, while creditors will use this information to assess creditworthiness and determine loan terms (Perera et al., 2023). Thus, effective financial reporting is crucial for attracting investment and securing favourable financing options (Palacín-Sánchez et al., 2021).

Another important use of financial statements is to comply with regulatory and tax obligations. SMEs are required to keep accurate financial records and submit financial statements to tax authorities (Nuryanah et al., 2021). Financial statements provide the necessary information about the financial position, performance, and cash flow of SMEs, which are important for tax assessment and compliance (Ifada et al.,

2022). This compliance helps SMEs avoid legal issues and fosters a culture of accountability and transparency within the organisation.

For SMEs, financial statements also play an important role in overcoming barriers to access to finance. Financial institutions often require detailed financial statements to evaluate loan applications. SMEs that maintain high-quality financial records are more likely to obtain financing, as these records provide lenders with the information they need to assess risk and make appropriate lending decisions (Meyere et al., 2018). Furthermore, the ability to present well-organised financial reports can increase SMEs' bargaining power when seeking funding, as this demonstrates financial competence and reliability (Vander et al., 2015).

Therefore, the preparation of financial reports in SMEs must be balanced with good financial literacy among those involved. Financial literacy among SME owners and managers is crucial for preparing and interpreting financial statements. Mihardjo and Ningtyas (2023) emphasise that improving financial literacy through training can empower SME managers to make appropriate financial decisions, enhancing their strategic investment choices and overall financial performance. This statement is supported by Christanty et al. (2023), who note that quality financial statements facilitate stakeholder monitoring and attract investment opportunities, which are crucial for SMEs seeking to improve their performance through additional capital. Furthermore, Jayawardane and Gamlath (2020) also stated that good financial reporting practices play an important role in increasing capital for investment, thereby underscoring the role of financial reports in the decision-making process within SMEs.

Furthermore, financial reporting is not merely a matter of organisational compliance (SMEs) in reporting all financial transactions, but also plays a vital role in the growth and sustainability of SMEs. As stated by Musah et al. (2018), proper financial management practices, including careful bookkeeping and financial reporting, are fundamental to the survival of SMEs. However, the challenges faced by SMEs in adopting effective financial reporting practices highlight the importance of addressing these challenges to improve their financial performance (Ezeagba, 2017). The importance of financial statements is not limited to internal management; these reports must also provide insights to external stakeholders about the organisation's performance, enabling them to attract investors and secure financing from creditors (Jayawardane & Gamlath, 2020; Christanty et al., 2023).

In addition to financial reporting, integrating non-financial performance indicators is becoming increasingly relevant. Non-financial reporting complements financial reporting and provides a more holistic view of SME performance, facilitating better decision-making (Lisi et al., 2023). This integrated reporting approach can enhance transparency and accountability, crucial for building trust with investors and stakeholders. Non-financial performance indicators cover various dimensions that cannot always be measured with numbers but have a significant impact on the long-term success of an organisation. Krawczyk (2021) mentions several types of non-financial reporting, namely sustainability reports and corporate social responsibility (CSR) reports. Lisi et al. (2023) show that public awareness of social and environmental issues has prompted companies to report non-financial information in response to stakeholder needs. This finding aligns with Krawczyk (2021), who emphasises the importance of establishing standards for non-financial reporting for SMEs to enhance stakeholder trust, such as investors, customers, and business partners.

Thus, financial statements are critical for SMEs to prepare, not only financial statements but also non-financial reporting (Krawczyk, 2021). This integrations happen because these reports can build trust with investors and other stakeholders (Lisi et al., 2023). Furthermore, financial statements that comply with accounting standards are important for SMEs operating in various markets. Implementing IFRS designed explicitly for SMEs can improve the comparability and reliability of financial reports, thereby increasing access to international capital markets (Akpan et al., 2023). Not only that, high-quality SME financial reports that comply with accounting standards can also be used in local markets to attract local investors (Sassi & Damak-Ayadi, 2023).

To this note, financial reporting in SMEs has a strategic role that goes beyond mere administrative functions, as it directly contributes to business management, strategic decision-making, and strengthening relationships with internal and external stakeholders. For owners and managers, financial reporting is a key tool for understanding financial conditions, managing cash flow, improving operational efficiency, and planning sustainable business growth (Meyere et al., 2018). Meanwhile, for external stakeholders such as investors, creditors, financial institutions, tax authorities, and regulators, financial reporting serves as a means of evaluating performance, compliance, and financing eligibility, thus influencing SMEs' access to capital and investment opportunities. Compliance with accounting standards, both international standards such as IFRS for SMEs and national standards, has been shown

to increase the transparency, credibility, and comparability of financial information. However, its implementation still faces challenges in financial literacy, human resource capacity, and reporting complexity (Klish et al., 2021). Furthermore, the integration of non-financial reporting is increasingly relevant in complementing financial information, as it can provide a more holistic picture of SMEs' performance, sustainability, and social and environmental responsibility. This condition shows that improving the quality of financial and non-financial reporting depends not only on the existence of standards, but also on strengthening financial literacy, technological support, and the internal capacity of SMEs so that reporting truly functions as a foundation for growth, access to financing, and business sustainability.

2.9 IFRS for SMEs

International Financial Reporting Standards (IFRS) are international financial reporting standards developed by the International Accounting Standards Board (IASB) to harmonise financial reporting practices worldwide so that companies' financial statements can be compared globally (GeeksforGeeks, 2025). IFRS is used by companies listed on global capital markets and aims to improve transparency, accountability, and efficiency in international financial markets (Akpan et al., 2023).

IFRS for SMEs is a financial reporting standard specifically designed by the IASB for SMEs that are not publicly accountable (Marina, 2022). These standards were first published in 2009 and have undergone revisions, with the latest edition published in February 2025 (IASB, 2025). The primary objective of IFRS for SMEs is to provide a simple, relevant, and cost-effective financial reporting framework for entities that do not require the full complexity of the complete IFRS (IASPlus, 2023). These standards cover the principles of recognition, measurement, presentation, and disclosure of financial information tailored to the needs and capabilities of SMEs (IASB, 2025). With the adoption of IFRS for SMEs, it is expected that SMEs' financial statements will become more internationally comparable and improve transparency (Lackson & Muba, 2021). These standards also aim to reduce the administrative burden and reporting costs for SMEs. Furthermore, IFRS for SMEs is designed to be easily understood and applied by users with diverse accounting backgrounds. These standards also enable SMEs to improve their access to capital markets and other sources of funding. As such, IFRS for

SMEs plays a crucial role in supporting the growth and sustainability of SMEs across various countries (Marina, 2022).

IFRS for SMEs is a simplified version of IFRS as a whole, designed to make it easier for SMEs to prepare financial statements and consider cost-benefit analysis. The following are five major changes in IFRS for SMEs that are easier to understand than the overall IFRS standards, according to Vendy & Sucahyati (2022):

- a) Topics that are not relevant to private entities have been removed.
- b) Unlike full IFRS, which offers several accounting treatment options in a given situation, IFRS for SMEs provides only one option.
- c) The recognition and measurement principles for assets, liabilities, income, and expenses have been simplified.
- d) All disclosures in IFRS have been removed, and the required presentation has been simplified.
- e) The entire content of the standard has been rewritten in English to improve clarity.

According to the Foundation (2025), IFRS for SMEs has several characteristics that distinguish it from full IFRS, namely:

- a) IFRS for SMEs standards omit topics that are not relevant to SMEs, such as segment reporting and interim financial statements.
- b) IFRS for SMEs simplifies the principles for recognising and measuring assets, liabilities, revenue, and expenses. For example, borrowing costs and development costs are recognised as expenses in the period in which they are incurred, and goodwill is amortised over its useful life.
- c) Disclosure requirements in IFRS for SMEs are significantly fewer than in full IFRS, reducing the reporting burden for SMEs.
- d) The language used in this standard is simpler and easier to understand, facilitating its application across different jurisdictions.
- e) Revisions to IFRS for SMEs are made periodically, typically every three years, to ensure relevance and consistency with developments in full IFRS. This standard also provides implementation guidance and supporting materials to

assist users in its application.

With these characteristics, IFRS for SMEs is the right choice for SMEs that want to improve the quality of their financial reporting. IFRS for SMEs is an important initiative in simplifying financial reporting for small and medium-sized entities.

IFRS for SMEs is intended for entities that do not have public accountability and publish financial statements for external users (Fanani et al., 2024). Therefore, entities with public accountability, such as companies listed on a stock exchange or financial institutions that manage public funds, are not eligible to use these standards (Akpan et al., 2023). However, the definition of SMEs may vary across jurisdictions, depending on local regulations and the size of the entity. Some countries set limits based on the number of employees, annual revenue, or total assets to determine whether an entity falls under the SME category (Prasanna et al., 2019). The application of IFRS for SMEs is optional and depends on the decision of the regulator or accounting standard-setter in each country. In some countries, the adoption of IFRS for SMEs is mandatory for SMEs, while in others, its application is voluntary. Entities that choose to adopt IFRS for SMEs must apply them in full and are not permitted to choose between full IFRS and IFRS for SMEs. These standards are designed to provide a consistent and reliable framework for SMEs worldwide. As such, IFRS for SMEs helps improve the quality and consistency of SME financial reporting globally (Alduneinat, 2024).

Furthermore, the adoption of IFRS for SMEs will provide various benefits for small and medium-sized entities. According to ACCA Global (2025), some of these benefits include:

- a) IFRS for SMEs standards will improve the transparency and quality of financial reports, enabling stakeholders to make more informed decisions.
- b) With consistent reporting standards, SMEs can increase the trust of investors, creditors, and business partners.
- c) IFRS for SMEs facilitates access to capital markets and other sources of funding, as financial statements prepared in accordance with international standards are easier to understand by global investors.
- d) IFRS for SMEs will help SMEs in more effective financial planning and management, as it provides a clear framework for financial reporting.

- e) Adoption of IFRS for SMEs can improve operational efficiency by reducing complexity and administrative burdens in financial reporting.
- f) IFRS for SMEs standards enable comparison of financial performance between entities in different countries, supporting global economic integration.
- g) IFRS for SMEs provides clear and accessible guidance, helping SMEs understand and apply financial reporting standards.
- h) With the adoption of these standards, SMEs can enhance their reputation and credibility in the eyes of stakeholders.
- i) IFRS for SMEs supports the growth and sustainability of SMEs by providing a financial reporting framework tailored to their needs.

In addition, the implementation of IFRS for SMEs can increase confidence in their financial statements (Samujh & Devi, 2015). By adopting these standards, SMEs will produce better financial reporting, improve the comparability of business results at the national level, and open wider access to capital (Johri, 2024). Access to capital is crucial because ‘the boundaries between the economy and financial markets have disappeared, and interdependence is increasing’. As these barriers are reduced, a better understanding of financial accountability requirements becomes essential. Furthermore, this increased accountability will help SMEs achieve their potential as ‘engines of growth’ for the national economy (Marina, 2022). For developing countries that do not yet have solid accounting standard-setting mechanisms, IFRS for SMEs offers a set of ready-to-use standards. The adoption of these standards is expected to reduce costs associated with maintaining national accounting standards. While the arguments for global accounting standards are compelling, the implications of adopting these standards need to be analysed further.

Although IFRS for SMEs offers various benefits, its implementation also faces a number of challenges. According to Alduneinat (2024), the challenges faced by these standards include:

- a) Lack of understanding and training regarding these standards among accounting professionals can hinder their implementation.
- b) The costs of training and adjusting accounting systems to meet the requirements of IFRS for SMEs can be a burden for SMEs.

- c) Differences between IFRS for SMEs and local accounting standards can cause confusion and require additional adjustments.
- d) In some cases, regulators or local accounting standard setters may not fully support the adoption of IFRS for SMEs, creating uncertainty for entities wishing to adopt it.
- e) Lack of adequate resources and infrastructure, especially in developing countries, can hinder the implementation of these standards.
- f) Resistance to change among management and accounting staff can slow down the adoption of IFRS for SMEs.
- g) The need to adapt accounting and reporting systems may require additional investment.
- h) SMEs may face difficulties in interpreting and applying certain technical aspects of these standards.
- i) Lack of support and guidance from external parties, such as auditors and consultants, may exacerbate implementation challenges.

Many SMEs report that compliance with international standards can enhance their credibility in the eyes of banks and investors, thereby increasing their chances of obtaining financing (Wijekoon et al., 2023). This holds particular significance for SMEs seeking to expand their operations or attract foreign investment, as international financial institutions often favour entities that comply with globally recognised reporting standards (Tawiah & Gyapong, 2023). However, the actual implementation of IFRS for SMEs may face various challenges, including a lack of awareness and understanding of the standards among SME owners and accountants, as well as the costs associated with transitioning to a new reporting framework (Mawutor et al., 2019).

Furthermore, the existence of IFRS and IFRS for SMEs demonstrates a global effort to balance the need for transparency, comparability, and accountability in financial reporting with the varying capacities and characteristics of entities (IASB, 2025). IFRS for SMEs is specifically designed as a simpler and more cost-effective reporting framework for entities without public accountability, simplifying the principles of recognition, measurement, and disclosure without sacrificing the quality of financial information (Fanani et al., 2024). This standard provides opportunities for SMEs to improve the credibility of financial reports, expand access to financing, and strengthen investor and creditor confidence, both nationally and internationally.

(Hellman et al., 2022). However, these benefits are not automatic, as the successful implementation of IFRS for SMEs depends heavily on the entity's internal readiness, level of accounting literacy and competence, regulatory support, and the availability of supporting resources and infrastructure (Lackson & Muba, 2021). Challenges such as transition costs, limited training, resistance to change, and differences from local standards indicate that adopting IFRS for SMEs requires a contextual and phased approach (Marina, 2022). Thus, IFRS for SMEs can be understood not only as a set of technical standards but also as a financial governance instrument that has the potential to strengthen the role of SMEs as drivers of economic growth, provided it is supported by appropriate policies, mentoring, and reporting systems aligned with SMEs' operational needs (Gherghina et al., 2020).

2.10 Accounting for SMEs in Other Countries

SMEs play an important role in the global economy, contributing significantly to job creation and GDP in many countries, including developing countries (Ali et al., 2023). However, SMEs often face challenges in managing their accounting practices due to limited resources and access to professional expertise (Abdulla et al., 2024). Effective accounting practices are essential for SMEs to ensure financial transparency, meet tax obligations, and attract potential investors (Akpan et al., 2023). Across countries, approaches to SMEs accounting vary depending on local regulations, the level of adoption of international standards, and technological readiness (Faisal et al., 2023). For example, some countries have adopted IFRS for SMEs, while others have developed local standards tailored to their needs. The application of appropriate accounting standards helps SMEs prepare financial statements that are comparable and reliable to stakeholders. However, the implementation of these standards often faces obstacles such as a lack of training and understanding among SME practitioners. In addition, the cost of adopting an appropriate accounting system can be a burden for SMEs with limited resources (Yusuf et al., 2020). Therefore, the government and relevant institutions need to provide adequate support and training. As a result, SMEs can improve the quality of their financial reporting and contribute more effectively to economic growth.

The IASB designed IFRS for SMEs to meet the financial reporting needs of entities without public accountability (Akpan et al., 2023). These standards aim to

simplify financial reporting for SMEs by reducing complexity compared to full IFRS. Some countries have fully adopted IFRS for SMEs, while others have adapted it to local needs. For example, Nigeria adopted IFRS for SMEs in 2014, thereby improving transparency and access to financing for SMEs (Awolo, 2023). However, the implementation of these standards faces challenges such as a lack of understanding and training among SME managers. Meanwhile, in Ghana, it was found that the adoption of IFRS for SMEs can improve the quality of financial reporting and investor confidence (Amoako, 2013). However, they also emphasised the need for support from the government and training institutions to facilitate effective adoption. Furthermore, research conducted by Srinivasarao et al. (2020) highlighted the importance of good accounting practices in improving the performance of SMEs in India. The study shows that SMEs that implement systematic accounting practices tend to have better financial performance. Additionally, access to accurate financial information enables SME management to make more informed decisions. Therefore, strengthening accounting practices in the SME sector is a priority in efforts to enhance competitiveness and business sustainability. Collaborative efforts between the government, educational institutions, and the private sector are necessary to achieve these objectives.

Meanwhile, in many African countries, SMEs are the backbone of the economy, but they often operate in the informal sector with limited accounting practices. Research conducted by Awolo (2023) reveals that most SMEs in Nigeria use basic accounting practices, primarily to meet tax obligations. A lack of understanding of the importance of accurate financial reporting hinders SMEs' ability to access financing and grow. Additionally, limited resources and access to accounting training are major challenges. Furthermore, Awolo (2023) also shows that the implementation of effective accounting systems can significantly improve the performance of SMEs in Nigeria. However, many SMEs in the country still rely on manual record-keeping and lack adequate accounting information systems. As a result, their ability to manage cash flow and make well-informed business decisions is significantly restricted. Therefore, governments and financial institutions in several African countries have begun to recognise the importance of supporting SMEs in improving their accounting practices (Awolo, 2023). Training programmes and the provision of simple accounting software are initial steps that can be taken (Stephen et al., 2025). However, the success of these programmes depends on the active participation of SMEs and continued support from the government. In addition, technological adaptation and digitalisation are important

factors in the modernisation of SME accounting practices (Darren, 2021). With increased access to technology, SMEs can more easily implement efficient accounting systems. Research conducted by Madurapperuma (2016) in Sri Lanka shows that the use of accounting software improves the accuracy and efficiency of SMEs' financial reporting. This experience can serve as a reference for African countries in developing strategies to improve SMEs' accounting practices. With an integrated approach, SMEs in Africa can improve their financial transparency and competitiveness in the global market.

Meanwhile, in South Africa, approximately 98.5% of the country's economy consists of SMEs, which contribute 28% of total available employment. SMEs provide opportunities for individuals to be creative in finding innovative solutions to social problems, creating jobs, reducing social inequality, and promoting economic development. However, the survival rate of SMEs is very low, especially in the first five years of operation. In fact, five out of seven small businesses started in South Africa fail in their first year. Some factors contributing to this low survival rate include poor accounting skills and a lack of financial awareness (Klish et al., 2021). SME owners in South Africa lack the financial skills necessary to reduce losses, understand basic accounting, and make informed managerial decisions, all of which are essential skills for business success (Msomi & Olarewaju, 2021). More training or awareness-raising in bookkeeping is needed. Such training will equip SME owners with the necessary skills to ensure accurate recording of transactions, which is crucial when SMEs seek financial assistance from banks. Furthermore, the SMEs sector has been identified as a strategic sector important in achieving the Government of Sri Lanka's policy objectives. This sector is seen as a key driver in accelerating economic growth, regional development, job creation, and poverty reduction. SMEs are expected to contribute to transforming underdeveloped areas into prosperous and developed regions. However, most SMEs in Sri Lanka do not maintain proper accounting records due to a lack of accounting knowledge and the absence of clear accounting regulations (Madurapperuma, 2016). As a result, the use of accounting information does not sufficiently support financial performance in SMEs.

Accounting practices in SMEs in Ethiopia also still face several challenges. Zelig et al. (2020) state that many SMEs in the country are still unable to record their accounts properly. However, accurate recording of business activities and transactions

can help SMEs obtain financing, support financial planning and tax calculation, enable savings, and support decision-making (Akpın et al., 2023).

In several Southeast Asian countries, accounting practices for SMEs have also been carried out effectively and in accordance with applicable accounting standards. Singapore, for example, has a business environment that supports SMEs, including in terms of accounting practices. The Singaporean government has adopted IFRS for SMEs and provides various training programmes to help SMEs implement these standards. In addition, the use of information technology in accounting is strongly encouraged, with many SMEs adopting accounting software to improve the efficiency and accuracy of financial reporting. Research conducted by Mendoza and Tadeo (2023) shows that SMEs in Singapore have a high level of technology adoption in their accounting practices. However, the implementation of technology adoption still faces several challenges, especially for smaller SMEs with limited resources. Therefore, the Singaporean government continues to provide training and incentives to encourage SMEs to adopt good accounting practices. With a supportive environment and access to technology, SMEs in Singapore are well-positioned to improve their financial transparency and competitiveness in global markets (Mendoza & Tadeo, 2023).

Malaysia has adopted IFRS for SMEs as the financial reporting standard for SMEs. The Malaysian Private Entities Reporting Standard (MPERS) is a standard issued by the Malaysian Accounting Standards Board (MASB) and applies to entities that meet the definition of private entities under the Malaysian accounting framework (Rosli & Jamil, 2022). However, the implementation of these standards faces several challenges, particularly among SMEs that do not yet fully understand their benefits. Ahmad (2017) shows that the implementation of effective management accounting practices can improve the performance of SMEs in Malaysia. However, many SMEs still face constraints in terms of human resources and technology (Azudin & Mansor, 2018). The Malaysian government has provided various training and socialisation programmes to ensure that accounting practices among SMEs run smoothly (Ahmad, 2017). In addition, the use of information technology in accounting, such as accounting software, is increasingly being encouraged to improve the efficiency and accuracy of financial reporting. Collaboration between the public and private sectors is also important in supporting SMEs in improving their accounting practices.

Furthermore, in the Philippines, SMEs are the backbone of the economy, but many still face challenges in accounting practices. Mendoza and Tadeo (2023) indicate

that SMEs in the Philippines often experience difficulties in accessing financing due to a lack of accurate and reliable financial reports. In addition, many SMEs still use manual recording methods, which can lead to inaccuracies in financial reports. The Philippine government has provided support by developing various programmes to improve financial literacy and accounting practices among SMEs. However, the adoption of information technology in accounting is still limited. The use of accounting software should help SMEs improve the efficiency and accuracy of financial reporting (Mendoza & Tadeo, 2023). Therefore, support from the government and financial institutions in providing access to technology and training would be highly beneficial, enabling SMEs in the Philippines to improve financial transparency and access to financing.

Thailand has also adopted IFRS for SMEs as its financial reporting standard for SMEs. However, as in the Philippines, SMEs in Thailand often face difficulties in accessing financing due to the poor quality of financial reports that can be used in the financing process (Mendoza & Tadeo, 2023). Additionally, the use of information technology in accounting, such as accounting software, is increasingly encouraged to enhance the efficiency and accuracy of financial reporting. Collaboration between the public and private sectors is also important in supporting SMEs in improving their accounting practices. Meanwhile, Vietnam is in the process of adopting IFRS for SMEs as part of its efforts to improve financial transparency and accountability among SMEs. However, many SMEs in Vietnam still use traditional methods that can affect the accuracy of their financial statements. A study by Mendoza and Tadeo (2023) shows that SMEs in Vietnam often face challenges in accessing technology and obtaining accounting training. The Vietnamese government provides support by improving financial literacy, providing access to technology, and promoting accounting practices among SMEs, so that the use of accounting software can help SMEs improve the efficiency and accuracy of their financial reporting.

In Europe, several countries, such as the United Kingdom and Germany, have adopted IFRS for SMEs with certain modifications to suit national needs. The United Kingdom did not directly adopt IFRS for SMEs published by the IASB. However, the United Kingdom developed its own financial reporting standard, FRS 102, based on IFRS for SMEs with some modifications to align with national requirements (Collis et al., 2017). FRS 102 applies to entities in the United Kingdom and the Republic of Ireland and is designed to replace various previous accounting standards by simplifying financial reporting for entities without public accountability. The modifications in FRS

102 include adjustments to terminology, measurement, and disclosure to reflect local practices and legal requirements. In Germany, IFRS for SMEs has not been officially adopted. Instead, Germany reformed the German Commercial Code (Handelsgesetzbuch or HGB) in 2009 through the Bilanzrechtsmodernisierungsgesetz (BilMoG) to provide a more appropriate financial reporting framework for SMEs. This reform aims to simplify reporting requirements and enhance transparency while maintaining the distinctive characteristics of the German accounting system. The revised HGB offers a preferred alternative to IFRS for many SMEs in Germany, as it better suits local needs and is easier to implement (Vito et al., 2023). The adoption of IFRS for SMEs helps harmonise financial reporting and facilitates comparisons between companies across countries. However, differences in the interpretation and application of standards can pose challenges to reporting consistency. Therefore, it is important for countries to provide clear guidance and training in implementing IFRS for SMEs.

Viewed collectively, accounting practices in SMEs show diverse patterns across countries but face relatively similar structural challenges (Awolo, 2023). In many developing countries, SMEs play a dominant economic role but remain constrained by rudimentary accounting practices, low financial literacy, limited resources, and limited adoption of accounting technology and information systems (Gurendrawati et al., 2024). Cross-context studies spanning Africa, South Asia, and Southeast Asia show that weaknesses in financial recording and reporting directly affect the quality of managerial decision-making, access to financing, and business sustainability (Jayawardane & Gamlath, 2020; Gutu & Cherasai, 2022; Msomi & Olarewaju, 2021). Conversely, jurisdictions supported by clearer accounting standards frameworks, structured institutional environments, and more mature accounting technology adoption—such as Singapore, Malaysia, and several European countries—demonstrate more systematic and credible SME financial reporting practices (Mendoza & Tadeo, 2023). These cross-country findings confirm that appropriate accounting standards, institutional support, and the adoption of digital technologies are key factors in strengthening SME accounting practices (Iswari et al., 2025). Therefore, improving the quality of SME accounting practices cannot be understood solely as a technical compliance issue but should be viewed as part of a broader capacity-building strategy to enhance SME competitiveness, sustainability, and integration into the formal economic system (Hernita et al., 2021).

2.11 Accounting Regulations for SMEs in Indonesia

SMEs are the backbone of the Indonesian economy, contributing significantly to employment and GDP (Wiralestari & Riski, 2020). Although there are many SMEs and their number is increasing every year, their financial management practices are generally still simple and unstructured. Mahrizal (2017) revealed that approximately 80% of SMEs in Indonesia are unable to prepare their own financial statements. Many SMEs do not prepare formal financial statements or merely record cash inflows and outflows without following standard accounting principles (Hasanah et al., 2021). This prompted the Indonesian Institute of Accountants to issue the SAK EMKM, effective as of 1 January 2018 (Janie et al., 2020). SAK EMKM is designed as a simplified accounting standard (tier-3) for micro, small, and medium-sized entities without public accountability, featuring simplified accounting policies, minimal disclosures, and the use of historical costs (without fair value measurement) (KPMG, 2017). The objective is to facilitate SMEs in preparing reliable financial statements, thereby improving their access to capital and business management. Thus, the implementation of SAK EMKM is expected to be a practical solution for SMEs to improve the quality of financial reports, strengthen transparency, and encourage more sustainable business growth.

2.11.1 History of the Development of SME Accounting Regulations in Indonesia

Efforts to develop specific accounting standards for SMEs in Indonesia are closely linked to the development of international standards. In 2009, the IASB issued the IFRS for SMEs as a global financial reporting framework for entities without public accountability (IASB, 2025). In Indonesia, the Indonesian Institute of Accountants responded to the need for SME standards by issuing the Accounting Standards for Entities Without Public Accountability (hereinafter referred to as SAK ETAP) in 2009, which was developed using the Exposure Draft of IFRS for SMEs as one of its references (Janie et al., 2020). SAK ETAP is intended for entities without public accountability, enabling them to present general-purpose financial statements in accordance with simpler standards than the Indonesian Financial Accounting Standards (Maelani et al., 2024). SAK ETAP became effective on 1 January 2011 (with early adoption permitted in 2010) and marked the establishment of separate standards for SMEs in Indonesia (Janie et al., 2020).

Over time, IFRS for SMEs itself was updated (issued in 2015 and onwards), and Indonesian Institute of Accountants conducted a post-implementation review of SAK ETAP to adjust it to the latest developments. As a result, Indonesian Institute of Accountants decided to replace SAK ETAP with a new standard called SAK Entitas Privat (SAK EP) which is convergent with IFRS for SMEs (IFRS, 2024). SAK EP will be effective on January 1, 2025, marking the adoption of the substance of IFRS for SMEs for private entities in Indonesia (Nur et al., 2025). However, before reaching that stage, Indonesian Institute of Accountants sees the need for an even simpler accounting framework for micro and small business units, because many of the smallest SMEs have difficulty complying with SAK ETAP which is still considered complex (Janie et al., 2020). Therefore, on October 26, 2016, the IAI Financial Accounting Standards Board officially issued SAK EMKM. This standard is effective from January 1, 2018 (with the option of early implementation allowed) and becomes the fourth layer in the hierarchy of Indonesian financial accounting standards (Tier 4), specifically for micro, small, and medium entities according to the definition of Law No. 20 of 2008 concerning SMEs (IFRS, 2024).

Law No. 20 of 2008 (as amended) defines SMEs based on quantitative limits on assets and turnover. For example, small businesses have net assets of USD 3,000 to USD 29,000 (excluding land and business premises), or annual income of USD 18,000 to USD 118,000; and medium-sized enterprises have net assets of USD 30,000 to USD 592,000 (excluding land and buildings used for business operations), or annual revenue of USD 118,000 to USD 3 million. Qualitative criteria include the entity not being a subsidiary or branch of a non-SME entity and not having controlling ownership in another entity (Janie et al., 2020). Based on these criteria, SAK EMKM is intended for SMEs in this category, enabling them to use it as the basis for their financial reporting. This reflects the evolution of SME accounting regulations in Indonesia, which are becoming increasingly tiered: starting with PSAK (based on full IFRS) for public companies; second-tier SAK for entities with significant public accountability; SAK ETAP/EP for private entities; and SAK EMKM for micro, small, and medium-sized business units.

The SAK EMKM was developed with reference to several existing international guidelines and standards but adapted to the local context. The Indonesian Institute of Accountants Standards Board used the “A Guide for Micro-sized Entities Applying the 2009 IFRS for SMEs” (IFRS micro guide), IFRS 105 (Financial Reporting Standards for

Micro-entities in the United Kingdom), and the ISAR UNCTAD guide for micro-level SMEs as references in designing SAK EMKM (Wijaya, 2017). With these references, SAK EMKM is expected to adopt international best practices while remaining relevant to the conditions of Indonesian SMEs.

Overall, the SAK EMKM is a very concise standard. In practice, the Indonesian Institute of Accountants has published an SAK EMKM book that is much thinner than other standards. This is in line with the intention that the SAK EMKM is simpler than the SAK ETAP and is specifically intended for SMEs (Hernawati et al., 2020). Hernawati et al. (2020) also state that this standard is expected to help SMEs prepare financial statements for important purposes such as business accountability, performance evaluation, and business planning, as well as facilitating access to financing (e.g., bank loans). The availability of an easy-to-follow accounting framework is expected to encourage more SMEs to move from haphazard bookkeeping to more structured financial reporting.

2.11.2 Comparison of SAK EMKM with IFRS for SMEs

SAK EMKM is often compared with IFRS for SMEs, as both are intended for entities without public accountability but with different scopes. IFRS for SMEs is a global standard issued by the IASB in 2009 (with amendments in 2015 and 2022) for small and medium-sized entities worldwide (IASB, 2025). This standard covers 35 sections on accounting topics, simplifying many of the full IFRS principles while remaining sufficiently comprehensive to ensure that SMEs' financial statements meet the needs of a wide range of stakeholders (such as banks, creditors, or international business partners). Meanwhile, SAK EMKM is an Indonesian local standard primarily intended for micro and small entities, with further simplifications compared to IFRS for SMEs (Janie et al., 2020). According to Wijaya (2017) and IFRS (2024), the main differences between SAK EMKM and IFRS for SMEs include:

Table 2.1
Comparison Between SAK EMKM and IFRS for SMEs

Aspects	SAK EMKM	IFRS for SMEs
Publisher and Status	Issued by DSAK IAI (Indonesia) in 2016; mandatory for micro, small, medium entities in accordance with the UMKM Law since 2018.	Published by the IASB in 2009 (latest edition 2015/2022); voluntary/mandatory adoption varies by jurisdiction. Indonesia has only converged with IFRS for SMEs through SAK for Private Entities (2025).
Scope of Target Entity	Micro, small and medium enterprises without public accountability (Tier 4 in Indonesia). SMEs are categorised according to Law No. 20 of 2008 as small businesses with net assets of USD 3,000 to USD 29,000 (excluding land and buildings), or annual revenues of US\$ 18,000 to USD 118,000; and medium-sized businesses with net assets of USD 30,000 to US\$ 592,000 (excluding land and buildings), or annual revenues of US\$ 118,000 to US\$ 3 million. Aimed at entities with very limited scale (often individual or family businesses).	Entities without public accountability, typically small to medium-sized SMEs. Does not set a global quantitative threshold, but in principle entities that do not issue financial statements to the public and are not fiduciaries of public funds (e.g. not banks, not listed companies).
Complexity & Scope	Very simple, in that the standard only covers basic principles (revenue, expenses, current/fixed assets, liabilities, equity, etc.) that are <i>relevant</i> to small businesses. Complex topics (e.g., derivatives, restructuring, post-employment benefits, etc.) are not addressed as they are rare	Medium, which covers a wide range of transactions that larger SMEs may face, such as financial assets, long-term liabilities, deferred taxes, simple business combinations, asset impairment, and so on. IFRS for SMEs is designed as a one-stop standard for SMEs of all sizes in various industries.

Aspects	SAK EMKM	IFRS for SMEs
	in SMEs.	
Accounting policy choice	Limited, i.e., no complicated alternative method options. For example, all fixed assets are measured at cost (no revaluation option), and all inventories use the historical cost method (FIFO or simple average). The standard seeks to provide one treatment that is easiest to apply.	There are still some options, where, compared to full IFRS, the options are reduced, but IFRS for SMEs still allows limited options. For example, for investment property, IFRS for SMEs allows fair value or cost models; for depreciation, the methods are mostly similar (FIFO or Average). IFRS for SMEs also allows the use of the historical cost method for most simple financial instruments.
Measurement Base	Historical cost only, i.e., no use of fair value except perhaps in very simple circumstances. This conservative approach avoids the complexity of valuation.	Historical cost is dominant, with some use of fair value. Whereas IFRS for SMEs essentially uses historical cost, it requires or permits fair value in certain circumstances, e.g., for certain financial instruments, for the fair value valuation of investment properties (optional), and for fair value disclosures of financial assets.
Required Financial Statements	Minimalist, which only requires a Balance Sheet, Profit and Loss, and Notes to the financial statements. The Statements of Cash Flows and Changes in Equity are not mandatory (optional) causing the reduction of the number of reports that SMEs must prepare.	Complete, which requires the presentation of the Balance Sheet/Financial Position, Statement of Profit or Loss and Comprehensive Income, Statement of Changes in Equity, Statement of Cash Flows, and Notes to the financial statements. IFRS for SMEs allows for simplification of form (e.g., combining income statement and changes in equity into income statement and retained earnings in certain circumstances), but, in principle, all components of the standard statements are presented.
Disclosure	Very limited, with no list of	Limited (compared to full IFRS), but

Aspects	SAK EMKM	IFRS for SMEs
	specific disclosures. It is only stipulated that the notes contain information essential for understanding the statements (basic accounting policies and simple supplementary information). For example, SAK EMKM does not require detailed disclosures of financial instruments, commitments, or related parties, unlike IFRS.	broader than SAK EMKM. Where IFRS for SMEs has a dedicated chapter on disclosures for each topic. Many complex disclosures are omitted, but SMEs still have to disclose important information such as bad debts, debt schedules, related party transactions, taxes, and so on. So, the disclosure burden of IFRS for SMEs is higher than SAK EMKM, although much lower than the general IFRS.
Adjustment/Convergence	Purely Indonesian local standards. It is not literally identical to IFRS but takes inspiration from micro IFRS guidance and other countries' practices. SAK EMKM is designed to align with the legal framework and capacity of Indonesian SMEs.	International standards that can be adopted as-is or adapted by the country. Indonesia chose to adapt gradually (through SAK ETAP and later SAK EP). IFRS for SMEs became a global benchmark, i.e., many countries adopted it for SMEs reporting, although some also created similar localised versions.

Source: (Wijaya, 2017) and (IFRS, 2024)

As shown in the table above, SAK EMKM is simpler than IFRS for SMEs. As IFRS for SMEs is designed for a broad range of SMEs, including medium-sized enterprises, it still contains accounting elements that could be considered too complex for small businesses. Conversely, SAK EMKM is entirely focused on the needs of SMEs, eliminating elements that are deemed irrelevant to the majority of SMEs in Indonesia. For instance, IFRS for SMEs requires the calculation and presentation of deferred taxes on temporary differences; however, SAK EMKM likely does not address deferred taxes, as micro entities generally use a cash basis for SME tax reporting and typically lack significant deferred tax provisions (Janie et al., 2020). Similarly, concepts such as goodwill impairment, government grant accounting, and derivative instruments are regulated under IFRS for SMEs but not under SAK EMKM.

Another difference is that IFRS for SMEs applies as a single integrated standard. Meanwhile, SAK EMKM is part of Indonesia's segmented financial reporting framework (Wijaya, 2017). Following the implementation of SAK Entitas Privat (SAK

EP) for larger private entities in 2025, Indonesia will have two SME standards: SAK EP, which is convergent with IFRS for SMEs for medium-sized SMEs and more complex private entities, and SAK EMKM for micro and small SMEs. This ensures that entities can transition to more complex standards as their businesses grow. Essentially, SAK EMKM complements IFRS for SMEs by providing a very simple baseline at the micro level, an approach that is in line with international trends, such as in the United Kingdom, which has FRS 105 for micro entities, separate from FRS 102 or IFRS for SMEs (Janie et al., 2020).

However, despite the availability of these standards, the adoption rate of SAK EMKM by SMEs remains relatively low. Various studies indicate that the majority of SMEs have not effectively implemented SAK EMKM in their accounting practices (Hasanah et al., 2021). Various challenges arise in its implementation, ranging from technical barriers and limited understanding among business actors to insufficient institutional support and other factors such as business motives and culture (Nur et al., 2025). This report will conduct an in-depth analysis of accounting practices among SMEs in Indonesia, focusing on the extent to which SAK EMKM has been implemented and outlining the main challenges affecting the effectiveness of its implementation.

From a comparative regulatory standpoint, the differences between SAK EMKM and IFRS for SMEs demonstrate a differentiated approach to accounting standards tailored to the entity's business scale and administrative capacity. IFRS for SMEs was designed as a relatively comprehensive global standard for entities without public accountability, with a broader transaction scope and orientation toward the needs of external stakeholders (Fanani et al., 2024). In contrast, SAK EMKM was developed as a simpler and more contextual local standard, focusing primarily on the needs of micro and small businesses in Indonesia and omitting accounting topics considered too complex for most business actors (Ifada et al., 2022). These differences are reflected in the scope of transactions, the dominant use of historical cost measurement, limited accounting policy options, and minimal reporting and disclosure requirements in SAK EMKM (Janie et al., 2020). Within Indonesia's tiered financial reporting framework, SAK EMKM complements IFRS for SMEs, adopted through SAK EP, by providing an accounting baseline for micro and small entities while allowing them to adopt higher-tier standards as they expand (IASB, 2025). However, despite its simplified design, the adoption rate of SAK EMKM remains relatively low, indicating that simplified

standards alone are insufficient without adequate accounting literacy, institutional support, and an enabling ecosystem for implementation (Maelani et al., 2024).

2.11.3 Level of SAK EMKM Implementation in SMEs

Since the enactment of SAK EMKM in 2018, adoption of the standard by SMEs has been limited. Empirical studies in various regions show that only around 20–30% of SMEs prepare financial statements in accordance with SAK EMKM, while the rest still use simple bookkeeping (Mahrizal, 2017). For example, a study in Sambeng District, East Java, found that around 73% of SMEs have not implemented financial statements based on SAK EMKM, meaning that only around 27% of respondents (out of 95 SMEs sampled) have prepared reports in accordance with the standards, while the rest have not yet followed the SAK EMKM provisions (Kartikasari et al., 2024). Similar findings were reported in Bengkalis District, Riau, where only 24.1% of SMEs used accounting records based on applications compliant with SAK EMKM standards, while 75.9% still recorded transactions manually. Additionally, SMEs that had not adopted SAK EMKM generally only recorded cash inflows and outflows and performed simple profit and loss calculations for internal purposes (Rosmida et al., 2024). These research findings indicate that they have not prepared financial statements in accordance with standard formats, such as balance sheets, cash flow statements, or notes to the financial statements.

In other words, many SMEs in Indonesia are still at the basic bookkeeping stage and have not yet reached the stage of formal financial reporting. This reflects the low level of utilisation of accounting standards in the small business sector. Not only is the use of accounting standards low, but the legal aspects of businesses are also lacking, as shown by research in Sambeng Village, where only around 3.02% of SMEs have formal business licences (Kartikasari et al., 2024). This situation can lead to poor-quality financial information for SMEs, thereby limiting the potential use of financial statements for decision-making and access to formal financing. Although the SME Accounting Standards (SAK EMKM) are available and can serve as a guide, the level of awareness and implementation in practice remains far from satisfactory (Janie et al., 2020).

Considering these findings, since the enactment of SAK EMKM in 2018, the adoption rate among SMEs in Indonesia has remained far from optimal. Data from

several regions show that only about a quarter of business actors have prepared financial reports in accordance with standards, while the majority still use manual recording limited to cash transactions and simple profit-and-loss calculations (Mahrizal, 2017; Kartikasari et al., 2024; Rosmida et al., 2024). This low level of adoption indicates obstacles in the dimensions of technology readiness, top management support, and the regulatory environment within the TOE framework, given the still minimal socialization, limited accounting competency, and low business legality, which in some regions only reaches 3.02% (Kartikasari et al., 2024). Within the framework of this study, these conditions indicate that the mere existence of accounting standards is insufficient to improve the quality of SMEs' financial reports. Strategic support is needed through the use of a cloud accounting system that not only simplifies the recording and reporting process in accordance with the EMKM SAK, but is also able to encourage technology integration and expand business actors' access to financing and market opportunities, so that the benefits can be felt in real terms by the small business sector in Indonesia (Janie et al., 2020).

2.11.4 Challenges and Obstacles in the Implementation of SAK EMKM

SAK EMKM are accounting standards intended for SMEs in Indonesia. However, the implementation of these accounting standards faces various structural and cultural obstacles. According to Rosmida et al. (2024), Gurendrawati et al. (2024), and Kartikasari et al. (2024), the following are the main challenges in implementing SAK EMKM: technical aspects, business owners' understanding, institutional support, and other factors that affect implementation effectiveness.

a) Understanding and Awareness of Business Owners

The first and most fundamental challenge is the limited understanding of SMEs regarding accounting and financial reporting standards. Many SME owners lack a background in accounting, so the concept of formal financial reporting remains unfamiliar (Sumani & Roziq, 2020). A study shows that many SMEs still consider formal bookkeeping unimportant, such as recording finances in a very simple manner (single-entry) and not following standard rules (Elim et al., 2023). As a result, the understanding of accounting standards such as SAK EMKM is also limited, as business

actors do not yet have a good understanding of accounting concepts and financial management (Elim et al., 2023).

This statement is supported by a study of a group of SMEs in the tofu industry in Bandung, which found that only 27.7% of respondents understood how to prepare financial statements in accordance with SAK EMKM. Meanwhile, 72.3% did not understand how to prepare financial statements in accordance with accounting standards (Hernawati et al., 2020). The study also revealed that around 25% of respondents understood basic bookkeeping, while the remaining 74% were unable to keep daily financial records. Furthermore, the same research found that understanding basic accounting terms such as assets, liabilities, equity, income, and expenses was also very low: only 15% of respondents understood these terms, while the remaining 84–89% did not. These findings highlight a significant knowledge gap: the majority of SME operators are unfamiliar with basic accounting concepts and financial reporting standards in Indonesia.

The low level of awareness and understanding directly impacts compliance with standards. A study in Tangerang City, Banten, found that approximately 80.4% of SMEs did not prepare financial reports in accordance with SAK EMKM provisions (Rosmida et al., 2024). The main reasons identified were the low quality of human resources and the educational background of SME operators, which made it difficult for them to meet formal accounting requirements. Furthermore, many SME operators have never received information or awareness campaigns regarding SAK EMKM. In other words, some small business owners are unaware that accounting standards for SMEs have been in place since 1 January 2018, as implemented by the Indonesian Institute of Accountants. The slow adoption of these standards among the broader population is partly due to a lack of awareness and information reaching grassroots SMEs (Rosmida et al., 2024). Besides the lack of technical knowledge, there are also cultural and behavioural challenges. Many SMEs have not yet strictly separated their business and personal finances, meaning business funds are used for personal expenses and vice versa (Hernawati et al., 2020). As the result, it is difficult to implement proper accounting, as the boundaries of record-keeping become unclear. Until business owners change their mindset and habits, this will remain a barrier to implementing accounting standards such as SAK EMKM (Rosmida et al., 2024).

b) Limited Resources and Technical Capabilities

Most SMEs have limited resources, both in terms of finances and competent accounting personnel. Not all small businesses can afford hiring accountants or financial consultants (Wicaksono et al., 2020).

As a result, financial reporting is often seen as an additional burden that is time-consuming and costly. Therefore, under limited conditions, the primary focus of SMEs is typically on daily operations and ensuring business continuity, while detailed bookkeeping is considered less important (Gurendrawati et al., 2024). This internal capacity limitation is evident in the low quality of financial records in the field. As previously mentioned, the majority of SMEs use very simple recording systems that are often irregular (Rosmida et al., 2024). The use of accounting technology, such as simple accounting software, is also minimally used in the micro SMEs segment, where most businesses still record transactions manually in books or basic Excel spreadsheets (Kartikasari et al., 2024). A study in Kupang examined the factors influencing technology use and found that the adoption of accounting IT did not have a significant partial effect on the implementation of SAK EMKM. This means that even though technology is available, such as accounting applications for SMEs, factors such as understanding, perception, and education must still be possessed by SME operators (Elim et al., 2023).

Furthermore, from a cost perspective, although SAK EMKM is simple, SMEs are reluctant to allocate funds for accounting training or to use the services of an accountant (Rosmida et al., 2024). For micro SMEs with small profit margins, managing and maintaining formal accounting records may not be worth the effort unless required by external parties, such as banks, which use financial statements as a prerequisite for loan applications (Kartikasari et al., 2024).

c) Institutional Support and Regulation

Institutional support includes the roles of government, authorities, and associations in encouraging and facilitating the implementation of SAK EMKM; challenges in this regard include a lack of widespread socialisation, the absence of strong legal requirements, and limited assistance for SMEs. So far, the implementation of SAK EMKM has been voluntary (recommended but not mandatory) for SMEs in Indonesia, as capital market regulators do not supervise non-public entities, and there

are no direct sanctions for SMEs that do not implement SAK EMKM (Rosmida et al., 2024). Unlike public companies, which are audited and supervised by the Financial Services Authority, SMEs generally deal only with tax reporting, which often uses simple calculation norms (Janie et al., 2020). Without incentives or regulations that compel compliance, such as subsidies for training or specific administrative requirements mandating financial statements in accordance with standards, many SMEs opt for minimal bookkeeping.

Therefore, government and educational institutions have begun to play a role in supporting SME digital capacity building programmes by incorporating financial literacy components (Rosmida et al., 2024). Several universities and institutions, such as polytechnics and universities, also provide accounting assistance to nearby SMEs through incubation programmes or community service (Rosmida et al., 2024). These efforts are helpful, but their scope remains limited compared to the total SME population in Indonesia (Rosmida et al., 2024). Research also shows that the dissemination of SAK EMKM by the IAI and related agencies has a positive effect on implementation in the field (Elim et al., 2023).

This means that in areas where there is socialisation, training, or workshops on SAK EMKM, the level of implementation tends to be better. Socialisation increases SME actors' awareness and knowledge, which, in turn, improves their perception of the importance of standard financial reporting (Rosmida et al., 2024). Therefore, more proactive institutional support is needed, such as SME accounting training programmes, the dissemination of easily understandable SAK EMKM guidelines, and incentives for SMEs that implement them, such as easier access to credit for SMEs with standardised financial statements. Local governments can collaborate with local IAI to reach SMEs in communities (Gunawan et al., 2021).

In addition, coordination with financing institutions is also important. If banks and credit institutions begin to require financial reports in accordance with standards, such as SAK EMKM, for loans above a certain amount, this will encourage SMEs to improve their accounting (Sululing & Naida, 2022). On the other hand, banks can also provide relaxation or assistance so that SMEs are able to prepare these reports. Such institutional support will create an ecosystem in which the implementation of SAK EMKM becomes part of normal small business governance, rather than merely a mandate on paper (Rosmida et al., 2024).

d) Other Specific Barriers

Several additional barriers were identified in this study. First, limited access to credit and bureaucracy. Although not directly related to accounting standards, classic problems such as the difficulty of SMEs in obtaining capital and the complexity of business bureaucracy can distract actors from improving financial aspects (Elim et al., 2023). Business owners tend to focus on addressing daily funding and regulatory issues, thereby delaying initiatives to improve financial bookkeeping. Similarly, sudden or inconsistent policy changes can make SMEs reluctant to invest in specific reporting systems, as they fear that policies may change again. Second, the lack of formal training is a significant barrier, as accounting training or education for SMEs is typically sporadic and has not reached a wide audience. Many SMEs end up learning on their own or through acquaintances, such as relatives who have some understanding of accounting, which does not always yield accurate results. Without continuous training, it is difficult to expect small SMEs to immediately understand and implement SAK EMKM correctly. Finally, the COVID-19 pandemic (which began in 2020) is also likely to have an impact on the implementation of SAK EMKM. During the pandemic, SMEs have prioritised survival, making the adoption of new standards a low priority. However, the pandemic has accelerated digitalisation, which could present an opportunity to improve digital financial record-keeping. Post-pandemic economic recovery programmes could be integrated with efforts to enhance SMEs' accounting capacity (Rosmida et al., 2024).

In light of these implementation dynamics, the challenges of implementing SAK EMKM for SMEs in Indonesia indicate that the main obstacles are not merely technical but also structural and cultural (Kartikasari et al., 2024). Business actors' low understanding and awareness of basic accounting concepts, limited resources and technical capabilities, and weak institutional support are dominant factors hindering the effective adoption of this standard (Lackson & Muba, 2021). Very rudimentary financial record-keeping practices, the habit of mixing personal and business finances, and the perception that formal bookkeeping does not provide direct benefits reinforce resistance to the implementation of SAK EMKM (Nida et al., 2024). Furthermore, the voluntary nature of implementation, minimal regulatory incentives, and limited outreach and mentoring have prevented this standard from being internalized as part of daily business governance (Gurendrawati et al., 2024). Additional barriers, such as limited access to financing, sporadic training, and the pressures of crises like the

COVID-19 pandemic, further weaken the priority of improving financial reporting (Hasibuan & Marliyah, 2024). This condition shows that the successful implementation of SAK EMKM is highly dependent on an integrated ecosystem approach, in which the simplification of standards must be accompanied by increased accounting literacy, strengthened institutional support, and clearer linkage between reporting compliance and tangible economic benefits for SMEs.

2.12 Quality of Financial Reports in SMEs

Financial reports are financial information presented by company management to its users, namely shareholders, government, creditors, investors, and so on. In general, financial reports are prepared differently depending on the nature of business activities and the accounting standards that govern each country (Boonvut, 2017). One of the benefits of financial reports is to assist in expanding the business. Financial reports consist of more detailed financial information about assets owned and used, liabilities to be settled, invested capital, profits, operational costs and others matters that enable companies to make decisions regarding the company's future strategies (Hasanah et al., 2021). Therefore, companies must produce high-quality financial reports that comply with applicable accounting standards (Klish et al., 2021).

The quality of financial reports is a condition in which a company maintains good, complete financial records and complies with applicable financial standards (Meyere et al., 2018). According to Boonvut (2017), the quality of financial reports consists of 4 characteristics, namely, standability, decision-making, reliability, and comparability.

Several previous studies have used technical measurements to assess the quality of financial reports, such as research conducted by (Vander et al., 2015; Dashtbayaz et al., 2019; Tran et al., 2021). However, measuring the quality of financial reports can rely on fundamental and qualitative characteristics, such as the relevance and accuracy of information presented (Al-Dmour et al., 2018). According to the IASB (2018), qualitative characteristics are used to assess the quality of financial reports, which consist of:

a) Relevance

Relevance is the ability of information produced to influence the decision-making of users of financial reports, so that the existence of the information is able to change or support the results or consequences of the actions taken (Beest et al., 2009). Information is relevant if it benefits users of financial reports, namely by enabling them to evaluate past, present, and future events (Ghozali & Chariri, 2014).

b) Faithful Representation

Faithful representation is the quality of information that causes users of accounting information to be highly dependent on the truth of the information produced (Ghozali & Chariri, 2014). The reliability of information is highly dependent on its ability to be described in accordance with actual conditions; namely, it must be complete, accurate, and free from bias and errors (Al-Dmour et al., 2018).

c) Understandability

Understandability explains that the information presented in the financial statements must be easy to understand by its users, clear, and concise (Boonvut, 2017). In general, users of financial statements have knowledge of accounting, business, and economic activities.

d) Comparability

Comparability requires that financial statement information must be comparable over time (between time periods). Information is considered to be useful if there is consistency in the presentation process, namely, showing the use of the same method by the company throughout the period (Boonvut, 2017).

e) Timeliness

The information generated from financial statements must be timely for decision makers before they lose their capacity to influence decisions (Al-Dmour et al., 2018).

f) Verifiability

Verifiability explains that accounting information presented in financial statements is considered verifiable if two independent accountants, namely auditors,

can reasonably conclude, based on their verification, that the transactions and circumstances are in accordance with the evidence (Pelger, 2020).

Financial reports are different from financial reporting. Financial reports are financial information presented by company management and consist of a balance sheet, a comprehensive income statement, a statement of changes in equity, a cash flow statement, and notes to the financial statements. Meanwhile, financial reporting describes the overall condition of the organisation, including both financial conditions and other information that can be used by stakeholders for decision making (Pitenoei et al., 2020). The information obtained in financial reporting is broader, as it includes not only financial information but also other information, such as the organisation's performance during the period. In this study, we focus solely on financial reports to determine whether those prepared by SMEs comply with applicable accounting standards.

Financial reports are not only used by large companies, but small businesses such as SMEs also need financial reports as a reflection of their financial information in order to be able to project their business in the future. In accordance with the statement by Wiralestari and Riski (2020), SMEs must be able to prepare financial reports to provide information on financial status, business results, and changes in financial status. Therefore, SMEs must also be able to produce high-quality financial reports, as they are a key factor in business, investment, and credit decisions (Palacín-Sánchez et al., 2021). (DeZoort et al., 2017; Palazuelos et al., 2018) argue that the quality of SMEs' financial reports plays a critical role in increasing banks' willingness to extend credit, thereby enabling SMEs to expand and develop their businesses. Meanwhile, Shahzad et al. (2019) stated that the quality of financial reports can provide information for making investment decisions. Thus, SMEs with high-quality financial reports can attract more investors to support their business development.

In Indonesia, the preparation of financial reports for SMEs has been regulated by the SAK EMKM. According to the SAK EMKM, the financial reports prepared by SMEs consist of only 3 parts: the Balance Sheet, Income Statement, and Notes to the Financial Statements. The quality of financial reports can be seen in the level of understanding of financial reports by SMEs, based on accounting standards, in helping them develop their businesses (Hasanah et al., 2021).

The quality of financial reports in SMEs refers to how well the report presents relevant and reliable financial information to their users, namely owners, management, creditors, investors, and others (Budai et al., 2022). High-quality financial reports meet fundamental qualitative characteristics, such as relevance, which is useful for informing decisions, and faithful representation, as well as supporting characteristics such as verifiability, timeliness, understandability, and comparability (Budai et al., 2022). Financial information is considered relevant if it helps decision-making, for example, by providing insight into past events and predicting future conditions or actions to be taken. Meanwhile, reliability means that information is presented completely, neutrally, and free from material errors, so that it truly reflects the company's financial condition (Budai et al., 2022).

In the context of SMEs, the quality of financial reports is often interpreted as the extent to which the reports comply with applicable accounting standards and are understood and used by SME owners or management. The results of research from (Hasanah et al., 2021), state that the quality of SMEs' financial reports is the understanding of SME owners in preparing reports based on applicable Financial Accounting Standards, which is measured through indicators such as whether SMEs carry out formal accounting records, the existence of special units or staff to manage bookkeeping, the use of accounting guidelines, and an understanding of accounting principles. In other words, SMEs' financial reports are considered of high quality if they are prepared according to standards, are complete, include financial position reports (balance sheets), income statements, and notes to the financial statements, and can be trusted by users for business decision-making.

In light of the preceding discussion, the quality of financial reports in SMEs is a key factor in determining the usefulness of financial information to various parties, including owners, management, creditors, and investors. This quality is measured not only by the completeness and accuracy of presentation in accordance with accounting standards, but also by the report's ability to meet fundamental qualitative characteristics such as relevance and faithful representation, as well as supporting characteristics such as understandability, comparability, timeliness, and verifiability (Boonvut, 2017; Budai et al., 2022). In the context of this research model, this confirms that understanding and implementing appropriate accounting standards, such as the SAK EMKM, is the foundation for SMEs to produce financial reports that are not only regulatory compliant but also capable of providing a credible basis for strategic decision-making (Hasanah et

al., 2021; Palacín-Sánchez et al., 2021). Therefore, improving the quality of SMEs' financial reports requires synergy between standards compliance, technical understanding of business actors, and consistent implementation of accounting practices. This ensures that the resulting information truly strengthens the business's position and appeal to stakeholders. Therefore, the assistance of a cloud accounting system makes it easier for SMEs to produce high-quality financial reports that comply with accounting standards.

Furthermore, based on several previous studies, several factors can affect the quality of financial reports in SMEs, namely:

a) Financial Literacy

The level of financial and accounting literacy of SME owners or management greatly influences the quality of financial reports. SMEs managed by people with poor accounting understanding tend not to prepare adequate financial reports or to make many recording errors (Hasanah et al., 2021). Financial literacy is a person's ability to manage information about the economy, make financial plans, and make better decisions for the development of their business (Sumani & Roziq, 2020). In Indonesia, there are still many SMEs that do not have a formal educational background in accounting or management, so they are less aware of the importance of financial reports and feel that their preparation is too complicated (Hasanah et al., 2021). This low understanding makes the financial reports made incomplete or not up to standard.

In accordance with the results of research by Budianto et al. (2024), which indicate that the financial literacy of SMEs can affect the quality of the financial reports prepared. Therefore, SMEs who understand bookkeeping better will be better able to present good financial reports. However, the level of formal education of SMEs actors does not always guarantee that the financial reports they make will be better. Hasanah et al. (2021) stated that formal education does not have a significant effect if the SMEs owners do not understand the importance of financial reports. In the sense that, even though SMEs owners are highly educated, the quality of financial reports can still be low if they consider that financial reports are not a priority or important. Therefore, financial literacy here is not just a diploma, but a real, practical understanding and awareness of the importance of orderly financial management. Thus, SME owners who are concerned about their own self-development in understanding financial information

will try to produce high-quality financial reports so they can be used as material for making business decisions.

b) Firm Size

Firm size is the size of a company as assessed by its total assets. Firm size is often thought to affect the quality of financial reports. Larger SMEs usually have more complex transactions and higher information demands, so they are often encouraged to adopt better accounting systems. The measurement of firm size in SMEs usually uses the number of employees working. The more employees, the larger the company. Firm size can influence entrepreneurs' thinking regarding their responsibilities to investors and creditors regarding financial information in their business (Palazuelos et al., 2018). Therefore, larger SMEs are usually required by stakeholders to present financial reports and have more resources to employ accounting staff. However, this factor must be accompanied by the intention and effort of the SME owners or management to improve the accounting process. This is because, without awareness of how to improve the accounting process, a company of any size or age can still produce low-quality reports.

c) Accounting Socialization

Accounting socialization is one of the efforts made to introduce transaction recording, financial reporting, and accounting standards to SMEs (Hasanah et al., 2021). Thus, accounting socialization can increase the understanding and knowledge of SMEs on the importance of making good financial reports of all transactions that occur.

d) Information Technology

Currently, the use of information technology is very important in improving business, including for SMEs. The presence of information technology can reduce recording errors and speed up the preparation of financial reports. The benefits of using information technology can also be enjoyed by SMEs, namely, they can produce high-quality financial reports that are useful to the organization, as the processes of recording, processing, and reporting financial data become more accurate, efficient, and real-time (Wicaksono et al., 2020).

e) Regulatory

Financial reports are usually prepared based on accounting standards applicable in each country. In Indonesia, the regulatory body that creates accounting standards is the Indonesian Institute of Accountants (IAI), which includes accounting standards specifically for SMEs, namely SAK EMKM. These standards are created so that SMEs have quality financial reports that can be accounted for by their users, and can be used for making business decisions (Astutie & Fanani, 2016). The quality of financial reports is defined as compliance with applicable accounting standards (Hasanah et al., 2021).

f) Top Management Support

Support from top management to create quality financial reports is very much needed and is an important determinant of the quality of financial reports, namely based on the personality characteristics of top management and how they make company financial decisions (D. Zhang, 2019). If SMEs actors, as top management, do not care about the process of good accounting recording, then the financial reports made will also be of low quality.

g) Competitive Pressure

Competitive pressure arises because the business environment is dynamic, so companies will choose the best strategy to survive and gain a competitive advantage (Khayer et al., 2021). New technology adopted from successful competitors is part of competitive pressure (Martins et al., 2016). The use of new technology can increase competitive advantage, one of which is helping accountants in creating quality financial reports (Dimitriu & Matei, 2015).

h) Cloud Accounting

The use of accounting information technology is another important factor that affects the quality of SMEs' financial reports. Technology enables the process of recording transactions and preparing reports to be more accurate, faster, and more structured. Hasanah et al. (2021) stated that the use of information technology has a significant positive effect on the quality of SMEs' financial reports, because by using accounting software, bookkeeping work becomes more efficient and effective, so that

financial data can be processed with minimal errors, and the reports produced are more timely.

Cloud accounting is an accounting system-based technology that makes it easier for users to process accounting because it has been computerized (Yusuf et al., 2020). The use of cloud accounting will help organizations, including SMEs, in creating high-quality financial reports, as it makes it easier for organizations to record accounting transactions, and can be accessed via the internet at any time (Owolabi & Izang, 2020). Thus, the better the adoption of accounting technology, the higher the quality of reports that SMEs can prepare. On the other hand, SMEs that are reluctant to adopt technology and continue with manual bookkeeping may struggle to maintain the accuracy and consistency of reports, especially as transaction volumes increase.

Within this analytical framework, it can be understood that the quality of financial reports of SMEs in Indonesia is influenced by a combination of internal and external factors that align with the TOE framework in this research model. Internal factors include the level of financial literacy (Sumani & Roziq, 2020; Kurniasari et al., 2025), company size related to transaction complexity and information demands (Palazuelos et al., 2018), and top management support in prioritizing good accounting processes (Zhang, 2019). External factors include accounting socialization that increases understanding of the importance of reporting (Hasanah et al., 2021), competitive pressures that drive technology adoption (Khayer et al., 2021), and the influence of regulations that establish accounting standards such as SAK EMKM (Astutie & Fanani, 2016). On the technology side, the use of accounting information systems, particularly cloud accounting, has been shown to improve the accuracy, efficiency, and timeliness of reports (Owolabi & Izang, 2020; Putri et al., 2025). This shows that improving the quality of financial reports cannot depend solely on compliance with standards but also requires integration among technological readiness, institutional support, and human resource capacity so that cloud accounting can be adopted effectively as a bridge to more reliable and competitive reporting in a dynamic business environment.

2.12.1 Impact of Quality of Financial Report

Accurate and informative financial reports are a vital tool for SMEs in assessing their business performance and formulating strategies (Palacín-Sánchez et al., 2021).

Financial reports provide objective data on the financial position, namely assets, liabilities, capital, and company performance, namely revenue, profit, and cash flow (Meyere et al., 2018). Relevant and reliable financial information helps companies, including SMEs, in making more rational business decisions, such as decisions to increase working capital, open new branches, and improve efficiency (Vanauken et al., 2016). According to the IFRS conceptual framework, the relevance of financial information lies in its ability to help predict the future or evaluate past performance as a basis for future actions (Budai et al., 2022). Therefore, with quality reports, SMEs can measure their business growth and sustainability more measurably (Hasanah et al., 2021). On the other hand, if the quality of the report is low, such as a lot of incorrect or incomplete data, it can result in errors in business decision-making, because the decision is based on incorrect information (Rejison, 2025).

Furthermore, the quality of financial reports in SMEs can also be a determinant of trust for creditors and investors (Palacín-Sánchez et al., 2021). This is because well-prepared financial reports increase the transparency of business conditions, so that banks or investors can assess business health more easily (Palacín-Sánchez et al., 2021). SMEs with high-quality financial reports tend to get loans or investments more easily because lenders feel more confident about the prospects and accountability of the business. Conversely, if SMEs' financial reports are of low quality or unavailable, it can result in difficulties in obtaining access to capital. Banks are often reluctant to provide loans to SMEs that cannot show convincing financial reports (Palacín-Sánchez et al., 2021). In Indonesia, this condition has proven to be an obstacle to credit distribution in SMEs, because many bankers stated that the lack of reliable financial information from SMEs made them very careful in providing credit (Sari et al., 2020).

The majority of SMEs in Indonesia are unable to provide complete financial reports on their business conditions, so banks have difficulty assessing creditworthiness and tend to ask for high collateral or reject applications. According to Sari et al. (2020), the quality of SMEs' financial reports, which are generally still low, causes banks to doubt the relevance and reliability of the information, so that the amount of credit disbursed is not influenced by SMEs' financial reports but is rather determined by other factors such as collateral and business age. This means that when financial reports are not trusted, banks will ignore them and rely on physical collateral (assets) or track records of business age in credit decisions. This creates a less-than-ideal situation for

SMEs that do not have proper financial reports and do not have much collateral, so they end up having difficulty getting loans even though their businesses are actually viable.

Conversely, if SMEs succeed in improving the quality of their financial reports, it will facilitate SMEs in the decision-making process and enable them to participate in government credit programmes, such as Kredit Usaha Rakyat (KUR) in Indonesia, because banks will be more confident in disbursing funds without hesitation (Sari et al., 2020). Investors are also more interested in SMEs with neat bookkeeping, as this indicates accountable management. In short, the quality of financial reports is directly proportional to the ease with which SMEs can obtain funding. With transparent and reliable reports, SMEs have financial credibility in the eyes of lenders, enabling them to accelerate their business growth through external capital injections. Therefore, efforts to improve the quality of financial reports are not only for internal purposes but also for investment purposes, enabling SMEs to move up the ladder and access greater business opportunities.

From a decision-usefulness perspective, the quality of financial reports plays a strategic role in supporting internal decision-making in SMEs while building credibility with external parties, such as creditors and investors (Palacín-Sánchez et al., 2021). Relevant and reliable reports enable business actors to formulate appropriate business strategies and provide confidence to funders regarding the prospects of their businesses (Meyere et al., 2018). Conversely, low-quality financial reports result in the information presented being distrusted, leading financial institutions to rely more on collateral or the age of the business when granting credit, ultimately limiting access to financing for potential SMEs without adequate reporting (Sari et al., 2020). In the context of this research model, improving the quality of financial reports can be facilitated by using cloud accounting systems, which not only help ensure compliance with accounting standards but also enhance the accuracy, transparency, and reliability of financial information. By leveraging this technology, SMEs can strengthen their bargaining position with creditors and investors, thereby increasing their opportunities to obtain external funding.

2.13 Cloud Computing

Cloud computing is generally defined as a computing model in which data storage, management, and processing are performed on remote servers via an internet

connection, rather than on the user's local computer (Al-Sharafi et al., 2023). According to Alhomdy et al. (2021), cloud computing is the practice of managing, storing, and processing data on a network of remote servers, i.e., data centres on the internet, so that users can access these services online without having to own physical infrastructure. This model enables nearly unlimited storage space and computing power while efficiently enhancing remote processing capabilities (Khayer et al., 2021). Simply put, cloud computing provides computing resources as an on-demand service via the internet, where users can request resources such as servers, storage, and applications as needed, and the cloud service provider delivers them quickly without the need for complex manual configuration on the user's part (Chen et al., 2023). Another definition of cloud computing is a service model that provides easy-to-access, on-demand network access to a pool of configurable computing resources, such as networks, servers, and storage (Andriulo et al., 2024). Essentially, cloud computing transforms how organizations acquire and manage IT resources, shifting from a local (on-premises) model to flexible, internet-based services.

Cloud computing plays an important role in the digital transformation journey of companies, serving as a catalyst to accelerate and improve efficiency in this process (Alshirah et al., 2021). Cloud computing is a significant resource in organizational business methodologies, so that more and more new small and medium-sized companies have adopted and used cloud computing and other technological advances (Khayer et al., 2021). Companies are also developing digital transformation strategies to secure competitive advantage and achieve sustainable growth, adopting foundational infrastructure, cloud computing, and big data analytics systems (Hanelt et al., 2015). Cloud computing is an innovative technology that enables companies to reduce operational costs by using hardware, data storage, and networks in data centres instead of purchasing additional hardware (Lee, 2019). Shibambu (2022) defines it as a model that aims to provide appropriate endpoint access systems without the need to purchase software, platforms, or physical network infrastructure.

Over the past five years, from 2020 to 2025, cloud computing has continued to grow rapidly and adapt to new technology trends (Mondal & Goswami, 2025). One of the main developments is the increasing popularity of multi-cloud and hybrid cloud architectures. According to Bohn and Lee (2022), many organizations are now adopting multi-cloud strategies, which involve utilising multiple cloud service providers simultaneously, such as combining AWS, Azure, and Google Cloud services, to avoid

vendor lock-in and enhance redundancy. Hybrid cloud, which combines public and private clouds, is also a common choice to balance scalability needs with security/compliance requirements. This trend is driven by the need for architectural flexibility and interoperability across cloud platforms. Standardization efforts are also emerging, such as the IEEE 2302-2021 Intercloud Interoperability Standard published in 2022, which aims to enable cloud federation and improve interoperability among cloud service providers (Bohn & Lee, 2022). The standard also provides a framework for different clouds to connect in a cloud federation, enabling workloads and data to move seamlessly between different clouds.

Equally important, focus on cloud computing system security and data protection has increased along with the growing adoption of cloud computing systems (Chen et al., 2023). Issues such as data privacy, regulatory compliance, and service reliability have become topics of research and development in these systems. Specialised cloud security approaches, such as Zero Trust Architecture, end-to-end encryption in multi-tenant environments, and container security, are being developed to address increasingly sophisticated cyber threats in cloud environments (Bohn & Lee, 2022).

Overall, recent developments in cloud computing are characterised by integration with other technologies and refinement of service models. The integration of cloud with Artificial Intelligence (AI) or Machine Learning (ML) is also becoming increasingly close, with major cloud providers now offering artificial intelligence services (AI as a Service) and specialised infrastructure to facilitate large-scale AI deployment. Similarly, there is growing attention on green cloud computing, where energy efficiency of cloud data centres and carbon footprint are important considerations, in line with sustainability initiatives (Alhomdy et al., 2021). In other words, cloud computing continues to evolve, becoming more distributed, automated, serverless, multi-cloud, and smarter and more efficient. These developments ensure that cloud computing remains the backbone of digital infrastructure in the present and future.

Within the technological dimension of this study, cloud computing is a crucial foundation for supporting digital transformation, including in the SME sector, as it provides flexible, scalable, and cost-effective computing resources through an internet-based service model (Al-Sharafi et al., 2023). This technological development not only enhances operational efficiency but also reflects adaptation to multi-cloud and hybrid cloud trends that increase architectural flexibility and reduce dependence on a single

provider (Bohn & Lee, 2022). With these capabilities, the use of cloud computing can be a driving force in this research model, particularly as a technological element that enables SMEs to increase their efficiency, competitiveness, and innovation capacity in the increasingly dynamic digital era.

2.13.1 Cloud Computing Services

Cloud computing services refer to solutions, products, and services used for real-time delivery, i.e., services that include infrastructure and programme services (Shahbaz & Zahid, 2022). In the context of cloud-based accounting, all records, shareable financial reports, data, and additional information are stored in the cloud, and the provision of computing infrastructure as a service in a specific field, such as accounting, indicates cloud infrastructure (Lutfi, 2022). According to (NIST, 2020), cloud computing consists of three services, namely:

- a) Software-as-a-Service (SaaS) Applications, such as word processors, Customer Relationship Management (CRM), and Enterprise Resource Planning (ERP), are made available via the internet for use by end users. Users do not need to install software on client machines and update it with regular patches.
- b) Platform-as-a-Service (PaaS) Software development platforms and tools, such as Java, NET, Python, and Ruby on Rails, are available through the internet. Users do not need to purchase software licences for platforms such as operating systems, databases, and middleware.
- c) Infrastructure-as-a-Service (IaaS) This service refers to the provision of physical hardware such as virtual computers, servers, storage devices, and network transfer, which are physically located in a centralised location, namely a data centre. The data can be accessed and used via the internet, using a login authentication system and password from any terminal or device.

2.13.2 Benefits of Cloud Computing

The use of cloud computing offers various significant benefits for organizations and individual users. Economically, cloud computing enables cost savings and increased efficiency. Mondal & Goswami (2025) note that the economic benefits of

adopting cloud computing include reduced capital expenditure on IT infrastructure, lower maintenance costs, increased operational efficiency, and faster innovation. With a pay-as-you-go model, organizations only pay for what they use (operational expenditure), thereby reducing initial investment costs and avoiding idle capacity (Andriulo et al., 2024). In terms of scale and flexibility, cloud computing enables high scalability, where computing and storage capacity can be quickly increased or decreased as needed. This is crucial for handling sudden spikes in workload elastically without needing to provision excess physical servers (Andriulo et al., 2024). Cloud computing also offers location flexibility, meaning services can be accessed from anywhere with an internet connection, facilitating remote work and real-time collaboration.

In addition, system reliability and availability are improved because cloud computing providers generally have redundant architectures across multiple data centres (Mondal & Goswami, 2025). Data and services in the cloud remain available even if a single component fails, enabling high uptime levels (Andriulo et al., 2024). Security and disaster recovery are also benefits for large cloud providers, which typically offer advanced security features and managed backup/disaster recovery, which may be difficult for small organizations to achieve if they manage their own infrastructure (Alhomdy et al., 2021).

From a business innovation perspective, cloud computing enables companies to focus on their core competencies without being burdened by the management of complex IT infrastructure (Al-Sharafi et al., 2023). New product launch times can be faster because development and testing environments can be set up instantly in the cloud. According to Oke et al. (2023), the adoption of cloud computing systems in the sustainable construction sector provides benefits such as improved collaboration among stakeholders and easier access to real-time project information, which in turn enhances productivity. In general, the main benefits of cloud computing include cost savings, scalability and elasticity, flexible access, faster innovation, and enhanced reliability and security. These benefits are driving many organizations to adopt cloud-based solutions to support their digital transformation.

Furthermore, according to Tawfik et al. (2022), cloud computing can contribute to improving financial performance, namely:

- a) Facilitating the completion of financial transactions within the company.
- b) The existence of information technology can influence the way accounting information systems operate and contribute to improving the preparation and processing of business activities.
- c) Accuracy in the accounting process can be improved.
- d) The availability of information technology can improve efficiency within the accounting department, as well as provide timely and accurate results.
- e) Improving operational performance.
- f) Accounting operations experience a significant increase.

2.13.3 Characteristics of Cloud Computing

Cloud computing has several essential characteristics that distinguish it from traditional computing models. According to Younus et al. (2025), the five main characteristics of cloud computing systems are:

- a) On-demand self-service

Users can independently provide computing resources, such as servers and storage, as needed, without human interaction with the service provider

- b) Broad network access

Services are available through a network and can be accessed using standard mechanisms via various devices, such as personal computers (PCs), mobile phones, laptops, and tablets.

- c) Resource pooling

The provider's computing resources are combined to serve multiple users in a multi-tenant model, where resources are dynamically allocated according to user demand. Users generally do not know the exact physical location of these resources, as they can be located in various data centres.

d) Rapid elasticity

Capacity can be quickly and elastically increased or decreased, in some cases automatically, to meet fluctuating workload demands. To users, cloud capacity appears unlimited and can be adjusted at any time.

e) Measured service

Cloud computing systems automatically control and optimise resource usage through measurement mechanisms at appropriate levels of abstraction, such as bandwidth usage, storage, or computing power, ensuring transparency for both providers and consumers.

These five characteristics ensure that cloud computing services are elastic, efficient, and automatically managed by the provider, allowing users to focus on service consumption without having to manage the underlying infrastructure Younus et al., (2025). Additionally, cloud computing typically employs a layered service model, namely Software as a Service (SaaS), Platform as a Service (PaaS), and Infrastructure as a Service (IaaS), which allows for different levels of abstraction based on user needs, ranging from the use of ready-to-use applications to the management of virtual infrastructure (H. B. Hassan et al., 2021). These characteristics and service models make cloud computing a flexible and scalable paradigm that can be adapted to various usage scenarios in the modern world.

From a technological perspective, cloud computing is a technology paradigm that provides real-time infrastructure, platform, and application services via the internet, with key characteristics such as on-demand self-service, broad network access, resource pooling, rapid elasticity, and measured service (Younus et al., 2025). In the context of cloud-based accounting, this model enables all records, financial reports, and accounting data to be stored and accessed centrally, thereby improving efficiency, flexibility, and accuracy in reporting (Lutfi, 2022). Benefits offered include cost savings through a pay-as-you-go model, increased reliability, scalability as needed, data security, and accelerated business innovation (Mondal & Goswami, 2025). Furthermore, the use of cloud computing contributes to financial and operational performance, including through accelerated transaction settlement, increased accounting system efficiency, and timely reporting (Tawfik et al., 2022). Within the

framework of this research, these characteristics and benefits position cloud computing as a key technological component within the TOE framework that can strengthen the quality of SMEs' financial reports through increased process efficiency, integration of reporting standards, and reduction of resource constraints, thereby encouraging the creation of a reporting system that is more accountable and adaptive to the demands of digitalization.

2.14 Cloud Accounting

Cloud accounting is a technological development that offers many benefits to users and businesses. Cloud accounting can also be referred to as “online accounting”, “web accounting”, “electronic accounting”, “virtual accounting system”, or “cloud accounting software” (Sastararuji et al., 2021). Cloud accounting can also be referred to as online accounting software, which combines the use of computer technology in a network with internet-based development that has the function of running programs or applications through devices connected to the internet at the same time (Darren, 2021). Cloud accounting programming uses the cloud to store accounting information, making related accounting data available to owners and workers anywhere via the internet (Owolabi & Izang, 2020). The primary functions of cloud accounting are to collect and store financial data, transform data into valuable information for decision-makers, and ensure the reliability of information (Sastararuji et al., 2021). Additionally, cloud accounting makes accounting more accessible, cost-effective, and efficient (Ogunsola, 2021).

Cloud accounting offers various advantages in terms of recording financial transactions and generating accounting reports, and also includes functionality for managerial decision-making aimed at gaining a competitive advantage, both for large and small businesses. Typically, cloud accounting uses vendors that provide software for all accounting activities that occur within an organisation. Some global cloud accounting vendors for SMEs include Intuit, Sage, Xero, and Zoho (Permenter et al., 2020). In Indonesia, there are also several cloud accounting providers for SMEs, such as Accurate Online, Jurnal.id, Hashmicro, and Soltius. These cloud accounting vendors provide cloud accounting applications that SME owners can use to process the financial information of their SMEs. The abundance of cloud accounting applications allows

users to freely choose the cloud accounting vendor that offers the best services (Yusuf et al., 2020).

The number of SMEs in Indonesia is increasing every year, and with this increase comes greater business competition. SME entrepreneurs compete to be the best, one way being to keep up with the latest technological developments, which make it easier for SMEs to manage their businesses (Yusuf et al., 2020). However, several challenges arise from using cloud accounting, namely security issues. All data uploaded to the cloud system is stored on the internet, not on a centralised server, so its security is sometimes questioned by future users of the cloud system and has become a concern for developers. Therefore, to gain user trust, cloud accounting system developers strive to make their security systems compliant with standards (Wicaksono et al., 2020). Despite this, cloud accounting can be a solution for SMEs in the process of recording financial information and makes it easier for them to manage their businesses.

Previous studies have investigated the use of cloud accounting, such as (Dimitriu & Matei, 2015; Feng, 2016; Hamundu et al., 2020; Wicaksono et al., 2020; Yau-Yeung et al., 2020; Yusuf et al., 2020; Saha et al., 2020; Eldalabeeh et al., 2021; Sastararuji et al., 2022; Gădău, 2022; Al-Okaily et al., 2022; Tawfik et al., 2022). The development of technology and the internet in this era has changed the attitude of organizations to adapt so that they are able to face challenges from competitors. Therefore, adaptation is necessary for organizations to survive and thrive, one of which is through the use of cloud accounting. Cloud accounting offers several benefits across various sectors in the business world, including for business owners, accountants, and auditors (Dimitriu & Matei, 2015). The implementation of cloud accounting requires preparedness from organizations, which stems from both internal and external factors (Hamundu et al., 2020). (Wicaksono et al., 2020; Yau-Yeung et al., 2020; Hamundu et al., 2020; Sastararuji et al., 2022) explain that the use of cloud accounting can be influenced by several factors within the TOE framework, namely technological, organisational, and environmental factors. Meanwhile, Yusuf et al. (2020) explain that the use of cloud accounting can be influenced by the TAM framework, which is an internal factor of the organization.

The use of cloud accounting today offers many benefits, as cloud accounting integrates technology and the internet, making it easier for users to process their organization's financial transactions. The benefits of using cloud accounting include simplifying the process of creating financial reports Dimitriu and Matei (2015), and

improving the quality of financial reports (Owolabi & Izang, 2020). Ogunsola (2021) also argues that cloud accounting provides benefits for SMEs in improving the quality of their financial reports.

The use of cloud accounting systems provides access to flexible services that allow users to view their business accounts anytime and anywhere and through any device (Rao et al., 2017). Furthermore, Rao et al. (2017) also state several benefits of using cloud accounting systems, including:

a) Accessibility

By using cloud-based accounting software, users can access data from anywhere and through any device with an internet connection. This provides high flexibility for small and large companies. Workgroups and teams around the world can access data and information and collaborate without location barriers. Data sharing becomes very easy with the help of cloud-based accounting. Users are required to have access to the same system with their unique passwords.

b) Security

Data security remains a top priority for every individual or company. Cloud accounting has the same data storage mechanisms as traditional software. Remote servers contain effective security protocols. If a device, such as a laptop, is lost, data stored in remote storage tends to keep the information much safer than storage on the device. The threat of data theft is eliminated in cloud accounting because users must log in to their cloud account to access the software.

c) Cost efficiency and operational focus

Low capital investment because there are no servers at the client's location. Companies typically spend a lot of money on the infrastructure needed to store and manage data. Additionally, this means fewer IT staff are required, resulting in lower labour costs and significant savings. Therefore, cloud accounting can save time and operational costs, allowing business owners to focus more on business development (Hamzah et al., 2023).

d) User-friendly

This software is very easy to use and has basic functions. For example, customers can enter financial transactions online, which are automatically recorded accurately and in real time. Cloud-based accounting systems can help improve processing capacity, generate more work, engage more customers, and grow the business (Christauskas & Miseviciene, 2012).

e) Bandwidth

Bandwidth refers to the amount of data that can be transferred from one point to another within a certain period of time. Cloud storage does not require large file attachments to emails. Links can be sent to refer colleagues to the cloud.

f) Availability of important information

With cloud accounting, information is available to users as soon as transactions are entered into the system. This ensures timely financial management, better and faster decisions.

g) Better decision making

Real-time and integrated financial data make it easier for SMEs to make strategic business decisions. With a cloud accounting system, owners can immediately see the latest financial performance and cash flow trends (Hamzah et al., 2023). Research from Amir Hamzah et al. (2023) also shows that using cloud accounting helps SMEs formulate more careful financial strategies that are responsive to market changes.

h) Transparency and compliance

Centralising data in a single platform enhances transparency in financial record-keeping. Structured record-keeping facilitates tax reporting and audits. Cloud accounting can also be integrated with electronic tax systems (e.g., e-Invoicing and e-Tax Returns), enabling SMEs to more easily fulfil their tax obligations. Neat and up-to-date financial records also enhance business accountability in the eyes of third parties.

In addition to the above benefits, according to Khanom (2017), several reasons why a company should choose to use cloud accounting services, namely:

a) Maintaining focus on the company's business

By choosing cloud services, companies can focus more on developing their core business, rather than having to think about software development and data security. Companies can run their businesses more efficiently, so that surplus funds can be invested in the development of the company's business.

b) Business Agility

In short, business agility is the ability of a company to evolve dynamically in line with the latest developments in technology, business competition, and current conditions in the industry in which the company operates. With the use of cloud technology, companies with limited technological capabilities can keep up with the latest technological developments through updates provided by the provider at a much lower cost.

c) Reduced capital costs

The capital costs of setting up a company data centre or purchasing traditional software are replaced by a monthly subscription fee for cloud services, which are much cheaper and more affordable for small businesses and SMEs.

d) Business scale

Users can choose the cloud services they need, tailored to their business conditions and scale.

e) Ease of Access

Conduct business without spatial or temporal constraints. Users can access company data anytime, anywhere with a reliable internet connection.

f) Labour Efficiency

Companies can reduce the number of IT department staff by using cloud accounting, which simplifies financial reporting and reduces the number of staff required.

However, behind these benefits, there are various risks that arise from the implementation of cloud computing in accounting, including risks related to material capabilities, the lack of laws and regulations to control these applications, or risks to information security and confidentiality due to certain procedural gaps in implementation (Yedenova, 2024).

In addition to the various advantages of cloud accounting mentioned above, there are several risks, obstacles, or challenges that users of the service may face. The drawbacks are as follows:

a) Data security

Data confidentiality and security are important issues faced by service providers and users (Chen et al., 2023). Data leaks can occur on the part of both service providers and users (S. Ali, 2024). Unauthorised parties can engage in destructive activities or even delete data. This is one of the reasons why companies have not yet adopted cloud services as a place to process their financial data, preferring instead to store their data independently (Hamzah et al., 2023). Especially institutions that process important and sensitive data, such as banks or healthcare institutions (Dimitriu & Matei, 2014). According to Kumar et al. (2017), several aspects need to be considered when addressing security issues:

- i) The level of service security is generally tailored to customer requirements. In addition, external communication service providers can ensure the expertise required to deliver a higher level of security than client companies typically purchase for their internal PCs, thereby making the system more reliable and secure.
- ii) ISO 27011 requirements must be met, as they are international standards for data security. Communication service providers must follow certain security standards to demonstrate their trustworthiness. This way, their business will grow, and they will avoid the risk of a bad reputation.

b) Loss of control

The user company loses control over the software it owns because the service provider retains full control over the system. Additionally, users will become dependent

on the service provider for maintenance, updates, and system management (Christauskas & Miseviciene, 2012). Dependence on developers requires companies to analyze the viability of developers in the future. This is necessary because if developers experience financial difficulties and end up going bankrupt or relocating, the company's database may become difficult to access. Therefore, information is needed regarding the agreement between developers and users regarding the follow-up of the company's database if the developer goes bankrupt and is forced to close (Marsintauli et al., 2021).

c) Limited internet access

In certain areas where internet services are not yet available or have unstable internet connections, cloud services will be difficult to access (Khanom, 2017).

d) Dependence on internet connection

Access to the system is entirely dependent on internet availability. In areas with unstable connections, the use of cloud accounting can be hampered. If the network goes down, SMEs cannot access data or record transactions (Ali, 2024).

e) Implementation and organizational change challenges

The use of cloud accounting systems requires adaptation of work processes and employee training. Lack of technical support or staff understanding of the new system can be a barrier (Hamzah et al., 2023). SMEs must allocate time and resources for training to ensure a smooth transition. Additionally, reliance on a provider can complicate data migration if they wish to switch platforms in the future.

In addition to the advantages and disadvantages of cloud accounting systems, according to Tawfik et al., (2022) this system also has the following characteristics:

- a) Cloud accounting systems can provide added value through high profit margins.
- b) Cloud accounting systems ensure data accuracy and quality.
- c) They can reduce technological difficulties, especially in the financial recording process, making it more effective and efficient.
- d) Cloud accounting systems can reduce processing time, thereby increasing employee profits by combining accounting tasks through a centralised system.

Furthermore, the implementation of cloud accounting in Indonesia is influenced by several government regulations aimed at maintaining data security. Indonesia has several laws and regulations that protect data security in cloud systems, including Law Number 11 of 2008 concerning Electronic Information and Transactions (ITE), Regulation of the Minister of Communication and Information Technology (Permenkominfo) Number 20 of 2016 concerning Personal Data Protection in Electronic Systems, Government Regulation Number 71 of 2019 concerning the Implementation of Electronic Systems and Transactions (PP PSTE), and Law Number 27 of 2022 concerning Personal Data Protection (UU PDP). These laws collectively form a legal framework to ensure data security and protection in cloud systems in Indonesia. The regulations established by the Indonesian government demonstrate support for cloud accounting systems. Additionally, cloud accounting system vendors serving SMEs must comply with all standards and regulations to be officially registered, thereby assuring users of the cloud system that it can be used to conduct their business operations.

From an integrated perspective, cloud accounting is an internet-based accounting innovation that offers flexibility, efficiency, and real-time access to financial data, making it relevant for SMEs to improve recording accuracy, transparency, and the quality of financial reports (Hamzah et al., 2023). This technology offers various benefits, such as reduced infrastructure costs, improve collaboration, accelerated data-driven decision-making, and easier integration with electronic tax systems (Ogunsola, 2021). However, its implementation also faces risks and obstacles, including data security issues, reliance on internet connectivity, user loss of system control, and the need for organizational adaptation and human resource training (Ali, 2024). In Indonesia, regulatory support is a crucial factor in building user trust and ensuring vendor compliance with security standards. In the context of this research, these benefits, risks, and regulatory support are important variables within the TOE framework, which can ultimately influence SMEs' decisions to use cloud accounting systems as a strategic tool to improve the quality of their financial reports and business competitiveness.

2.15 Chapter Summary

The main objective of this chapter is to present a comprehensive literature review related to the variables and objects in this study. At the beginning of this chapter, SMEs are first explained from a global perspective, followed by SMEs in Indonesia and the contribution of SMEs, both globally and in Indonesia. In addition, accounting standards for SMEs are discussed, both globally (IFRS for SMEs) and in Indonesia (SAK EMKM). The existence of these accounting standards is one of the reasons why financial statements prepared by SMEs are of high quality. Furthermore, qualitative characteristics are another factor for determining whether financial statements are of high quality or not. In the process of preparing financial statements in SMEs, the role of cloud accounting systems is also necessary to facilitate SMEs in preparing these statements. In addition, cloud accounting systems have prepared financial statements that comply with accounting standards (Marsintauli et al., 2021), so the financial statements produced by these systems are better and of higher quality.

The next chapter will discuss the theoretical framework and the development of the study's hypotheses. Therefore, the literature review in this chapter can serve as a scientific basis for discussing the factors to be tested in this study.

CHAPTER 3

THEORETICAL UNDERPINNING, CONCEPTUAL FRAMEWORK, AND HYPOTHESIS DEVELOPMENT

3.1 Chapter Overview

This chapter discusses the theory underpinning this study. The TOE Framework serves as the basic theory, while the context of this theory becomes the independent variable in this study. In addition, this chapter discusses the study's conceptual framework and the development of hypotheses, which will be further elaborated in the next chapter. There are 19 hypotheses in this study, of which 10 hypotheses, namely H1a, H1b, H1c, H2a, H2b, H2c, H3a, H3b, H3c, and H4, are hypotheses for the direct influence of independent variables on dependent variables. Meanwhile, the remaining nine hypotheses, namely H5a, H5b, H5c, H6a, H6b, H6c, H7a, H7b, and H7c, are hypotheses regarding the indirect influence of independent variables on dependent variables, where there is a mediating variable between the independent and dependent variables.

3.2 Theoretical Underpinning

The use of information technology, including cloud accounting systems, can be based on several theories, namely the Technology Acceptance Model (TAM), the Unified Theory of Acceptance and Use of Technology (UTAUT), the Diffusion of Innovation Theory (DOI), and the Technological, Organizational, and Environmental (TOE) Framework. TAM is a theoretical model developed by Davis (1989) to explain and predict user acceptance of information technology. TAM has two main constructs that influence user intentions and behavior in using technology: Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) (Belmonte et al., 2024). Furthermore, this theory focuses on an individual's desire to use a new technological system, without considering organizational or environmental factors (Malatji et al., 2020).

Another theory that can be used to determine the influence of new technological systems is the UTAUT. UTAUT, formulated by Venkatesh et al. (2003), has four main constructs: performance expectancy, effort expectancy, social influence, and facilitating

conditions (Auyeung et al., 2025). UTAUT theory is designed to explain the intention and behavior of using information technology systems within an organizational and individual context, as evidenced by the absence of external environmental factors influencing the use of information technology systems (Kwarteng et al., 2024). Kwarteng et al. (2024) also state that the addition of competitive pressure is necessary to assess digitalization adoption in SMEs further.

The next theory is the DOI, which is used to explain technology adoption by individuals or organizations based on perceptions of five characteristics: relative advantage, compatibility, complexity, trialability, and observability (Faiz et al., 2024). This theory is quite effective in explaining the impact of technology system use on organizations. However, similar to UTAUT theory, DOI theory ignores the external environmental context, such as regulations, competitive pressure, and other external factors (Sastararuji et al., 2022).

This contrasts with the TOE Framework, developed by Tornatzky and Fleischer (1990), which assesses the factors influencing the use of information technology systems from an organizational perspective, both internal and external. This research focuses on the use of cloud accounting systems in SMEs. Therefore, considering the weaknesses of other theories in understanding the impact of information technology system use, including cloud accounting systems, the TOE framework is suitable as the underlying theory for this research.

Furthermore, the TOE Framework was introduced by Tornatzky and Fleischer (1990) as an analytical framework at the organizational level to explain the use of information technology systems influenced by three main contexts. The three contexts of the TOE Framework, namely technological, organizational, and environmental, can influence the use of information technology systems by an organization. The TOE Framework offers a holistic approach because it simultaneously considers internal factors, namely technological and organisational, and external factors, namely environmental (Sastararuji et al., 2021). In the context of SMEs, this framework is highly relevant because SMEs are influenced by internal resource constraints as well as external market pressures and regulations. Several empirical studies indicate that the TOE Framework is widely used to explain the use of information systems and technology, including the use of cloud accounting systems in SMEs, such as (Hamundu et al., 2020; Khayer et al., 2021; Sastararuji et al., 2021; Lutfi, 2022; Tawfik et al., 2022; Rawashdeh & Rawashdeh, 2023; Al-Sharafi et al., 2023), which state that factors from

the TOE Framework context can influence system usage in SMEs. This indicates that TOE is a strong and consistent theoretical framework for analysing the factors influencing the decision to adopt cloud accounting systems in SMEs. The TOE framework is also more comprehensive than other models that focus solely on technological aspects, as TOE incorporates the influence of external environmental factors, such as competitive pressure, regulations, and vendor support, which are relevant to SMEs (Sastararuji et al., 2022).

3.2.1 Technological, Organisational, Environmental (TOE) Framework

The Technological, Organisational, Environmental (TOE) framework, developed by Tornatzky & Fleischer (1990), which identifies three aspects that influence the use of information technology/information systems in organizations. The TOE framework can describe the factors that determine the success of cloud accounting. Several researchers agree that TOE is an excellent theoretical foundation for exploring the use of information systems in SMEs (Tawfik et al., 2022). In line with Lutfi's (2022) research, the TOE model has been proven to have strong empirical support, a strong theoretical basis, and broad application in testing the use and implementation of information systems and technology in SMEs. Similarly, Eldalabeeh et al. (2021) state that based on previous theoretical and empirical findings, the TOE framework is a good foundation for examining emerging technologies (adoption, implementation, and use) in cloud accounting applications in SMEs. The presence of technology, organisational, and environmental variables has made TOE superior to other adoption models in studying technology adoption, technology use, and the creation of value from technological innovation (B. Singh et al., 2024).

The TOE framework was used in this study because the factors contained in the TOE framework explain technology use within an organizational context, both internally and externally (Khayer et al., 2021). Ali et al. (2021) also stated that the TOE framework is highly suitable for explaining the use of information technology systems within organizations. Furthermore, Religia et al. (2024) also argued that the TOE framework provides strong predictive results in the adoption of new information technology systems. Therefore, the TOE offers a comprehensive view of technology use, implementation, and post-use diffusion within organizations (Abdurrahman, 2024).

Furthermore, this study used the TOE framework as a measurement because each dimension outlined by each context within this theory aligns with the adoption of cloud accounting systems at the SME level. Within the TOE framework, three factors can explain the implementation of cloud accounting systems: the technological, organizational, and environmental contexts (Hamundu et al., 2020). The technological context encompasses internal and external technologies relevant to the organization, including processes and equipment capable of improving organizational productivity (Yau-Yeung et al., 2020). Organizations with high technological readiness are well-positioned to utilize cloud accounting (Tawfik et al., 2022). Meanwhile, the organizational context is defined by several metrics, namely firm size, business scope, formalization, centralization, managerial structure, and the quality of resources. Furthermore, the environmental context encompasses the company's business environment, including competitors, industry, and government (Khayer et al., 2021).

The TOE framework also frequently presents top management support and technology readiness as crucial factors influencing SMEs' adoption of information technology systems (Salah & Ayyash, 2024). Furthermore, other technological contexts, such as perceived benefits and security, along with elements of the organizational context, such as management support and company size, are crucial for measuring the use of information technology systems (Abdurrahman, 2024). Abdurrahman (2024) also stated that environmental influences, such as government support and competitive pressure, also play a significant role in shaping the behavior of information technology system users. Therefore, the TOE framework is relevant for this study.

Although various theoretical perspectives have been used to explain technology adoption, this study adopts the TOE framework as its primary foundation. Unlike behavioral intention models such as TAM, which focus on individual perceptions, the adoption of cloud accounting systems in SMEs involves both organizational readiness and external environmental pressures. The TOE framework (Tornatzky & Fleischer, 1990) provides a comprehensive organizational-level perspective by simultaneously integrating technological, organizational, and environmental contexts.

Previous studies have shown that the TOE framework is well-suited to examining SME technology adoption because it accommodates internal capabilities such as firm size and management support, as well as external pressures including the regulatory environment and competitive forces (Hamundu et al., 2020; Wicaksono et

al., 2020; Sastararuji et al., 2022; Lutfi, 2022). This multidimensional perspective is particularly relevant in the context of SMEs, including SMEs in Indonesia, where digital readiness, regulatory conditions, and competitive dynamics interact to shape cloud-based accounting adoption (Yau-Yeung et al., 2020; Singh et al., 2024). Therefore, TOE is considered theoretically sound as it allows a holistic examination of cloud-based accounting adoption and its implications for financial reporting quality, extending its application beyond technology use to accounting information outcomes in SMEs.

3.2.1.1 Technological

The technological context highlights internal and external technologies within an organisation that influence its members and the organisation itself (Eldalabeeh et al., 2021). The technological context also includes the characteristics and readiness of the technology to be adopted, which in turn influence SMEs' perceptions of the benefits and risks of innovation (Sugandini et al., 2020). In addition, the technological context also emphasizes the alignment between technological features and organizational capabilities (Ai et al., 2025). The technological context in the TOE framework can be measured by several factors, namely relative advantage, complexity, perceived benefit, compatibility, and technology readiness. This study uses three main factors in the technological context, namely:

a) Technology Readiness

Technology readiness is a factor that measures the technological context, as several researchers have stated that technology readiness falls within the technological context (Tawfik et al., 2022). However, some researchers include technology readiness in the organisational context. Based on the definition of technology readiness, which is the readiness of a company to have a well-established technological infrastructure and a workforce with adequate technical skills and competencies, it is more appropriate to include it in the technological context. Akbar et al. (2022) state that technology readiness refers to the extent to which information technology (IT) infrastructure and IT human resources within an organisation are ready to support the adoption of new innovations. Khayer et al. (2021) explain that technology readiness encompasses a combination of adequate information technology (IT) infrastructure and human

resource competencies for companies' use of information technology. Both aspects are crucial for SMEs to implement new technologies effectively. A high level of technology readiness, such as the availability of reliable computer networks, up-to-date software systems, and skilled IT staff, will facilitate the innovation adoption process because the organisation has the technical capacity to adopt and utilise the technology.

In addition, there are differences in research results regarding the influence of technology readiness on the use of cloud accounting systems. Oliveira et al., (2014), Senyo et al. (2016), Yoo & Kim (2019), and Amron et al., (2022) state that technology readiness influences organizations' use of cloud accounting. However, Low et al. (2011), Wu et al. (2013), Khayer et al. (2021), and Tawfik et al. (2022) argue that technology readiness does not always influence the adoption of cloud accounting.

b) Perceived Benefits

In addition to technology readiness, the technological context in this study was measured by perceived benefits and security concerns. Perceived benefits refer to the benefits or advantages that a company believes it will gain from adopting a new technology (Stamenkov & Zhaku-Hani, 2023). Perceived benefits are also interpreted as relative advantages because this factor is rooted in the concept of relative advantage in innovation diffusion theory, which is related to the tactical and competitive advantages of using cloud accounting systems (Darren, 2021). Perceived benefits are important in the adoption of cloud accounting because they demonstrate that cloud accounting has significant advantages, such as efficiency, accessibility, speed, accuracy, and professionalism, which can save costs and increase profitability for SMEs (Sastararuji et al., 2022). The greater the perceived benefits, such as improved operational efficiency and organisational productivity through the use of technology, the greater the motivation for SMEs to adopt that technology (Skafi et al., 2020). The literature indicates that companies adopt technological innovations because they see potential solutions to business problems or new opportunities offered by the technology, such as process improvements, cost savings, enhanced service quality, and competitive advantages (Akbar et al., 2022). In fact, perceived benefits have repeatedly been identified as one of the strongest predictors of the adoption of various new technologies (Mousa et al., 2024).

c) Security Concerns

Furthermore, security concerns are also an important factor in the use of cloud accounting systems. Security concerns are perceived as security breaches among organizations using cloud accounting systems (Chen et al., 2023). Security concerns refer to the level of concern companies have about information security issues and technological risks when considering the use of innovations (Sharma & Sharma, 2023). Additionally, security concerns relate to an organisation's perception of the risks that may arise from implementing new technology (Hamzah et al., 2023). For many SMEs, data security, privacy, and vulnerability to cyberattacks are key considerations before implementing new technologies, especially those based on the internet or cloud computing (Chen et al., 2023). Khayer et al. (2021) also stated that vulnerable security systems and lack of data privacy are problems that arise in using systems.

Previous studies, such as Khayer et al. (2021), Chen et al. (2023), and Hamzah et al. (2023), explain that during the system usage process, data security issues must be considered. Therefore, the higher the concern about security risks, the more hesitant companies are to adopt the technology. Various studies have identified security concerns as a barrier to technology adoption. For example, in the context of cloud computing system usage in SMEs, concerns about system and data security have been proven to significantly reduce SMEs' intention to use the system (Lutfi, 2022). Hamzah et al. (2023) also showed that security concerns are one of the factors that influence the decision to use the system in practice. This underscores the importance of security guarantees from a technological perspective, where if technology providers can assure SMEs that the system is secure and reliable, adoption barriers due to security concerns can be reduced. Conversely, if SMEs perceive security risks as too high, such as the potential for customer data theft or operational disruptions caused by malware attacks, they are likely to delay or refuse to adopt the technology (Chen et al., 2023).

3.2.1.2 Organisational

The organisational context includes the characteristics, resources, and internal conditions of a company that influence the ability and readiness of SMEs to adopt technology (Ai et al., 2025). The organisational context describes organisational characteristics, such as size, business scope, formalisation, managerial structure, centralisation, number of resources, and employee relationships (Hamundu et al., 2020).

Previous studies have identified factors included in the organisational context, such as top management support, firm size, change management ability, and business characteristics (Sastararuji et al., 2022). This study uses three main factors from the organisational context, namely:

a) Top Management Support

Top management support in SMEs refers to SME owners' support for all activities that can help SMEs grow (Religia et al., 2024). Top management support can also be defined as the extent to which top company leaders, such as SME owners or general managers, are committed and actively involved in supporting the use of new technology (Skafi et al., 2020). This support can provide resources, such as time, funds, manpower, a willingness to take risks in innovation, and moral encouragement, to help employees accept technological changes (Hamzah et al., 2023). Academically, top management support is recognised as a key factor in the successful use of innovation, especially in small and medium-sized enterprises (Sugandini et al., 2020). Leaders with a technological vision and full support will facilitate the system adoption process, as they can overcome internal resistance and ensure the allocation of necessary resources (Chen et al., 2023). Many empirical studies have found a positive correlation between top management support and the level of information technology (IT) adoption. Research conducted by Skafi et al., (2020), Lutfi (2022), Amir Hamzah et al., (2023), and Chen et al., (2023) indicates that top management support positively influences the decision to adopt cloud systems in SMEs. Furthermore, a study on social media adoption resistance in SMEs in Yogyakarta revealed that manager or leadership support is the strongest determinant in using such technology (Sugandini et al., 2020). Thus, when top management proactively promotes and funds technology initiatives, the likelihood of successful technology implementation in SMEs becomes significantly higher.

According to Al Haderi et al., (2018), top management support plays several crucial roles because of the following:

- i) Set the vision and strategic direction for technology use.
- ii) Provide necessary resources, such as budget and personnel.
- iii) Encourage an organisational culture that is open to change and innovation.

iv) Overcome resistance to change among employees.

Top management support is a key determinant in the use of technology in the context of organizations in the TOE framework (Lutfi, 2022). Without top management support, technology initiatives often face obstacles such as resource shortages, internal resistance, and a lack of strategic direction (Tawfik et al., 2022). Therefore, in the implementation of new technology, it is important to ensure the active involvement and commitment of top management.

b) Firm Size

Firm size refers to the size or scale of SMEs, which is generally measured by the number of employees, turnover, or total assets of the company. Company size is seen as an indicator of resource capacity, whereby larger companies tend to have more financial and human resources to support technology use projects than smaller companies (Tawfik et al., 2022). Large companies tend to have specialised information technology departments and trained human resources, making them better prepared to implement technological innovations. Conversely, small companies may face resource constraints, but they can be more flexible and quicker in making decisions on technology adoption due to their simpler organisational structure (Skafi et al., 2020). Furthermore, firm size in SMEs is measured by the number of employees, so that the more employees an SME has, the larger it is considered to be, and vice versa (Oliveira et al., 2014). According to Indonesian regulations, namely Law No. 20 of 2008, the criteria for small SMEs require a workforce of between 5 and 19 people. Meanwhile, medium-sized businesses require a workforce of between 20 and 99 people. These numbers vary from country to country, depending on the regulations in place in each country.

c) Financial Cost

Furthermore, financial cost explains the costs incurred by SMEs to use a cloud accounting system, compared to the benefits obtained from using the system. According to Varma (2019), financial cost is a factor related to all forms of financial expenditure or investment that an organisation must incur to use new technology. Financial costs include the cost of purchasing hardware and software, system implementation and

integration costs, human resource training costs, and long-term maintenance and operational costs of the technology. Meanwhile, according to Alqudah (2024), financial costs in cloud accounting can be categorised as follows:

- i) Subscription Fees are periodic payments to the cloud accounting service provider for the use of the software.
- ii) Implementation Costs are expenses for integrating the cloud accounting system with the existing IT infrastructure, including data migration and system adjustments.
- iii) Training Costs are investments in training employees to use the new system effectively.
- iv) Maintenance and Support Costs are expenses for technical support services and system updates provided by the service provider.
- v) Security and Compliance Costs are additional investments to ensure data security and compliance with applicable regulations.

Meanwhile, according to Hsu et al. (2014), financial cost refers to an organisation's ability to manage and save costs by creating products, services, or using systems that are beneficial to the organisation. Financial cost requires organizations to conduct an in-depth cost-benefit analysis before using a technology. In line with the research by Alqudah (2024), the costs incurred to use a system are viewed as an investment rather than an expense, because the costs paid are often linked to expectations of service quality, encouraging users to optimise the use of the system. This statement is consistent with the research by Wicaksono et al. (2020), which explains that the implementation of a cloud accounting system in a business will save costs because the organisation does not have to pay monthly salaries to accountants to manage its business, nor does it need to invest significant resources to build a cloud accounting system, as this is provided and managed by the cloud accounting vendor.

3.2.1.3 Environmental

The final context in the TOE framework is the environmental context. The environmental context explains the influence of external environmental pressures on

the use of organisational technology (Lutfi, 2022). In addition, the environmental context also refers to the conditions in which organizational activities take place, including market structures, policy frameworks, and competitive landscapes (Ai et al., 2025). This study uses measurements of competitive pressure, regulatory environment, and vendor support to assess the environmental context. The following is an explanation of the factors in the environmental context of this study:

a) Competitive Pressure

Competitive pressure is an external factor in the environment that influences an organisation's decision to adopt new technology (Tawfik et al., 2022). This pressure arises when companies feel compelled to follow or surpass technological innovations made by competitors to maintain or improve their competitive position in the market. Thus, it can be said that competitive pressure arises from competitors' pressure for companies to survive and have a competitive advantage (Khayer et al., 2021). As stated in a study conducted by Amini & Javid (2023), competitive pressure can encourage organizations to use new technologies to maintain their competitive advantage, so that companies need to follow technological trends adopted by competitors to avoid falling behind in market competition. This pressure can come from various sources, including changes in customer preferences, product innovations by competitors, and rapid technological developments.

According to Mudzana & Kotze (2015), competitive pressure is an important environmental factor before using new technology because:

- i) It encourages organizations to innovate and use technology to maintain competitiveness.
- ii) It serves as an indicator of market dynamics that influence organisational strategic decisions.
- iii) It has been empirically proven to be a significant determinant in various studies on technology adoption.

One technology that can be used to maintain a competitive advantage is cloud accounting systems (Lutfi, 2022). This is because cloud accounting systems can be used for financial planning, facilitating SMEs' budgeting. (Tawfik et al., 2022). Therefore,

new technologies, such as cloud accounting, can be used to face competition among SMEs.

b) Regulatory Environment

In addition to competitive pressure, the regulatory environment is also necessary to measure the environmental context. Support from the government is essential in the process of using new technology, as the impact of existing laws and regulations can be significant in the adoption of new technology (Oliveira et al., 2014). The regulatory environment includes policies, regulations, and standards established by the government or relevant agencies that can encourage or even hinder the use of new technologies (Khayer et al., 2021). Strict regulations can encourage organizations to use technology, as technology users will feel secure with regulations that protect them from data loss or other threats. Conversely, a lack of regulation or unclear policies can cause uncertainty about data security or the use of new technology, causing them to delay the use of new technology (Al-Sharafi et al., 2023). Therefore, a conducive regulatory environment is crucial for encouraging organizations to adopt sustainable new technologies. This highlights the role of the government in creating a regulatory framework that supports innovation and business sustainability (Chen et al., 2023).

In Indonesia, the government has established regulations regarding the use of systems to maintain data security, local data storage, and strict access control systems (Rizal et al., 2024). There is Law Number 11 of 2008 concerning Electronic Information and Transactions (ITE), Minister of Communication and Information Technology Regulation (Permenkominfo) Number 20 of 2016 concerning Personal Data Protection in Electronic Systems, Government Regulation No. 71 of 2019 on the Implementation of Electronic Systems and Transactions (PP PSTE), and Law No. 27 of 2022 on Personal Data Protection (UU PDP). These laws collectively form the legal framework to ensure data security and protection in cloud systems in Indonesia (Wibowo et al., 2024).

In addition, Indonesian government regulations governing SMEs are contained in Law No. 20 of 2008. This regulation explains the criteria and characteristics of businesses classified as SMEs. Furthermore, Indonesia also has accounting standards specifically for SMEs, namely the Financial Accounting Standards for Micro, Small, and Medium Entities (SAK EMKM), which regulate how SMEs should prepare their

financial reports (Nur et al., 2025). Although preparing financial reports for SMEs in Indonesia is still voluntary, some parties interacting with SMEs, such as banks and the government, require financial reports from them. As a result, SMEs must prepare their financial reports to facilitate their business operations (Hasanah et al., 2021).

c) Vendor Support

Furthermore, another factor that measures the environmental context is vendor support. Vendor support is essential in the use of cloud accounting because they provide technical support related to the use of new technology (Lutfi, 2022). The support provided includes various services offered by technology providers, such as training, technical assistance, software updates, and consulting, all of which can facilitate the process of using and implementing new technology in an organisation (Hamzah et al., 2023). The availability and quality of vendor support can increase an organisation's confidence in the technology being used and reduce uncertainty that may arise during the implementation process (Baiod & Hussain, 2024).

Hamzah et al. (2023) highlight that support from technology vendors is a significant factor influencing the use of information technology among small and medium-sized enterprises (SMEs). The study by Hamzah et al. (2023) also shows that when vendors provide adequate support services, organizations are more likely to adopt new technologies because they feel more prepared and supported in facing technical and operational challenges that may arise. This support helps with technical aspects and builds trust and long-term relationships between organizations and vendors (Chen et al., 2023). The effectiveness of vendor support can vary depending on the organisational context and the type of technology used. Several studies indicate that even when vendor support is available, other factors such as organisational readiness, corporate culture, and competitive pressure also play an important role in the successful adoption of new technology (Kumar et al., 2017); (Sastararuji et al., 2022); (Chen et al., 2023); and (Hamzah et al., 2023). Therefore, vendor support should be viewed as one of many factors influencing the decision to use technology within the TOE framework.

Overall, within the TOE framework, vendor support in the context of the environment acts as a catalyst that can accelerate and facilitate the process of technology use by organizations (Chen et al., 2023). By providing relevant and responsive services to meet the needs of organizations, vendors can help reduce adoption barriers and

increase the likelihood of successful implementation of new technologies. However, organizations also need to consider other internal and external factors to ensure that technology adoption proceeds smoothly and delivers the expected benefits (Baiod & Hussain, 2024).

3.3 Previous Research

Table 3.1 below summarises several previous studies on the relationship between the TOE framework described for each factor in the technological, organisational, and environmental contexts. The table shows that the use of technology systems in companies needs to be studied because companies require readiness from internal and external factors, such as the readiness of the technology to be used, support from top management, technology system security, benefits obtained from using the system, government regulations regarding technology systems, and so on.

Furthermore, Table 3.1 also shows that several researchers have conducted studies focusing on cloud computing in SMEs, such as the studies by Oliveira et al. (2014), Senyo et al. (2016), Kumar et al. (2017), Adiyasa et al. (2019), Dincă et al. (2019), Skafi et al. (2020), Khayer et al. (2021), Chen et al. (2023), and Al-Sharafi et al. (2023). Meanwhile, cloud accounting is a part of cloud computing and focuses more on financial recording and management. Research conducted by Hamundu et al. (2020), Wicaksono et al. (2020), Yusuf et al. (2020), Ouaadi & Haddad (2020), Sastararuji et al. (2022), Lutfi (2022), Tawfik et al. (2022), Sarker & Islam (2022), Hamzah et al., (2023), and Mujalli et al. (2024) explains the factors influencing the use of cloud accounting systems in SMEs.

Table 3.1 also lists several researchers who have conducted studies on the impact of cloud accounting systems on companies, including SMEs, namely studies conducted by Owolabi & Izang (2020), Stanciu (2021), Ogunsola (2021), Al-Okaily et al. (2022), and Ajala et al., (2025). However, there has been limited discussion on the impact of this technology system on companies, particularly in preparing financial statements. Therefore, this study examines the factors influencing the adoption of cloud accounting and its impact on the quality of financial statements in SMEs.

Table 3.1
Prior Research

Name	Variables	Results
Oliveira et al. (2014)	Independent Variable: Technological, Organizational, Environmental (TOE) Framework Dependent Variable: Cloud computing	Technology Readiness, Firm Size, and Top Management have a significant effect on cloud computing usage. Competitive pressure and regulations have no effect on cloud computing usage.
Senyo et al. (2016)	Independent Variable: Technological, Organizational, Environmental (TOE) Framework Dependent Variable: Cloud computing	Perceived Benefit and Top Management Support have a significant and negative effect on Cloud Computing usage. Security Concerns and Technology Readiness have a positive significant effect on Cloud Computing usage. Firm Size does not affect Cloud Computing usage.
Kumar et al., (2017)	Independent Variable: Individual context Innovation characteristics Technological, Organizational, Environmental (TOE) Framework Dependent Variable: Cloud computing	Perceived usefulness, perceived ease of use, compatibility, technology readiness, and firm size do not affect Cloud computing usage. Relative advantage, top management support, external pressure, and service providers' support have a significant positive effect on Cloud computing usage. Security concerns have a significant negative effect on Cloud computing usage.
Dincă et al., (2019)	Independent Variable: Technological, Organizational, Environmental (TOE) Framework	Cloud providers, manager's cloud expertise, and cost reduction have a positive significant effect on cloud computing usage. Government support, employee's information, perceived benefits, and security have no effect on cloud computing usage.
Adiyasa et al. (2019)	Independent Variable: Technological, Organizational, Environmental (TOE) Framework Dependent variable: Cloud computing	Perceived Benefit and Top Management Support have a significant effect on Cloud Computing usage. Firm Size and Regulatory have no effect on Cloud Computing usage.
Hamundu et al.	Independent Variable:	Perceived Benefits, Firm Size, and

Name	Variables	Results
(2020)	Technological, Organizational, Environmental (TOE) Framework Dependent variable: Cloud accounting	Competitive Pressure have an effect on cloud accounting usage in SMEs
Wicaksono et al. (2020)	Independent Variable: Technological, Organizational, Environmental (TOE) Framework Dependent variable: Cloud accounting	Perceived benefits and security have a positive effect on cloud accounting usage. Financial cost has a negative effect on cloud accounting usage.
Skafi et al. (2020)	Independent Variable: Technological, Organizational, Environmental (TOE) Framework Dependent Variable: Cloud computing	IT infrastructures, security, top management support, and technology experience have a significant positive effect on cloud computing usage. Government initiatives and complexity have a significant negative effect on cloud computing usage. Political issues, relative advantages, compatibility, competitive pressure, and supplier support do not affect cloud computing usage.
Yusuf (2020)	Independent Variable: Technology Acceptance Model Dependent Variable: Cloud accounting	Ease of use, trust, and ability have a significant positive effect on cloud accounting usage.
Ouaadi & Haddad (2020)	Independent Variable: Technological, Organizational, Environmental (TOE) Framework Technology Acceptance Model Dependent Variable: Cloud Accounting	Level of importance, purpose of usage, age, firm size, technology used, stakeholders, remote reporting, productivity, and motivation have a significant positive effect on cloud accounting usage. Professional category and flexibility do not affect cloud accounting usage.
Owolabi & Izang (2020)	Independent Variable: Cloud accounting Dependent Variable: Financial report quality	Cloud accounting has a positive effect on financial reporting qualities of SMEs.
Sastararuji et al. (2022)	Independent variable: Technological, Organizational,	Perceived benefits, mimetic pressure, normative pressure, firm size, vendor support

Name	Variables	Results
	Environmental (TOE) Framework Dependent variable: Cloud accounting	have a positive effect on cloud accounting usage. Technology readiness has a negative effect on cloud accounting usage.
Khayer et al. (2021)	Independent Variable: Technological, Organizational, Environmental (TOE) Framework Unified theory of acceptance and use of technology (UTAUT) Mediating Variable: Cloud computing Dependent Variable: Firm performance	Performance expectancy, effort expectancy, absorptive capacity, and perceived trust have a significant positive effect on cloud computing usage. Data security and privacy have a significant negative effect on cloud computing usage. Technology readiness, competitive pressure, and regulatory support do not affect cloud computing usage. Cloud accounting usage has a significantly positive effect on firm performance.
Ogunsola (2021)	Independent Variable: Cloud accounting Dependent Variable: Financial report quality	Cloud accounting has a positive effect on financial reporting qualities of SMEs.
Stanciu (2021)	Independent Variable: Cloud accounting Dependent Variable: Quality of accounting information	Cloud accounting has a positive effect on quality of accounting information.
Lutfi (2022)	Independent variable: Technological, Organizational, Environmental (TOE) Framework Dependent variable: Cloud accounting	Top management support has a positive effect on cloud accounting usage Security concerns have a negative effect on cloud accounting usage
Tawfik et al. (2022)	Independent variable: Technological, Organizational, Environmental (TOE) Framework Dependent variable: Cloud accounting	Top management support, firm size, infrastructure, security and privacy, competitive pressure, and relative advantage do not affect cloud accounting usage. Compatibility positively affects cloud accounting usage.
Sarker & Islam (2022)	Independent Variable: Technological, Organizational,	Reliability, cost-effectiveness, security and privacy issues, complexity, compatibility, top

Name	Variables	Results
	Environmental (TOE) Framework Dependent Variable: Cloud accounting	management support, competitors, society, pressure or support from the government have a significant effect on cloud accounting usage.
Al-Okaily et al. (2022)	Independent Variable: Unified theory of acceptance and use of technology (UTAUT) Mediating Variable: Cloud accounting Dependent Variable: Decision quality	Risk of cloud-based accounting information systems, trust, performance expectancy, and social motivation have a significant positive effect on cloud accounting usage. Effort expectancy does not affect cloud accounting usage. Cloud accounting usage has a significantly positive effect on decision quality.
Chen et al. (2023)	Independent Variable: Technological, Organizational, Environmental (TOE) Framework Dependent Variable: Cloud computing	Security concern, top management support, IT competence, competitive support, trading partner pressure, and provider support have a significant positive effect on cloud computing usage. Relative advantage, compatibility, complexity, adequate resources, coercive pressure, and government support do not affect cloud computing usage.
Al-Sharafi et al. (2023)	Independent Variable: Technological, Organizational, Environmental (TOE) Framework Mediating Variable: Cloud computing Dependent Variable: Sustainable performance	Relative advantages, complexity, compatibility, cost reduction, top management support, and government support have a significant positive effect on cloud computing usage. IT readiness and competitive pressure do not affect cloud computing usage. Cloud computing usage affects sustainable performance.
Hamzah et al. (2023)	Independent Variable: Technological, Organizational, Environmental (TOE) Framework Dependent Variable: Cloud accounting	Complexity, Security Concern, Top Management Support, Adequate Resources, Competitive Pressure, Trading Partner Pressure, Coercive Pressure, Government Support, and Provider Support have a significant positive effect on cloud accounting usage. Relative Advantage, Compatibility, and IT Competence have no significant effect on

Name	Variables	Results
		cloud accounting usage.
Mujalli et al. (2024)	Independent Variable: Technological, Organizational, Environmental (TOE) Framework Theory acceptance model Dependent Variable: Cloud accounting	Relative advantage, compatibility, complexity, organizational resources, employee capability, top management, mimetic pressure, and normative pressure have a positive and significant effect on cloud accounting usage. Coercive pressure has no significant effect on cloud accounting usage.
Ajala et al. (2025)	Independent Variable: Cloud accounting Dependent Variable: Financial management Operational efficiency Decision making	The use of cloud accounting systems can improve financial management, operational efficiency, and decision-making in SMEs.

3.4 Conceptual Framework and Model Development

This research model discusses the influence of factors included in the TOE framework, which consists of technological, organisational, and environmental factors, on the use of cloud accounting systems, as well as the impact of using these systems on SMEs in Indonesia. In the technological context of the TOE framework, the main factors used in this study are technology readiness, perceived benefits, and security concerns. Meanwhile, in the organisational context, firm size, top management support, and financial cost are considered. Furthermore, the three main factors used in the environmental context are competitive pressure, regulatory environment, and vendor support. The use of cloud accounting systems is expected to provide significant benefits for SMEs, particularly in recording financial transactions, thereby enabling the production of high-quality financial reports. Cloud accounting serves as a mediating variable in this study because the independent variables, namely the factors from the TOE framework (technological, organisational, and environmental), cannot directly influence the dependent variable, which is the quality of financial reports. Furthermore, the effective and efficient use of cloud accounting in SMEs will have a significant impact, namely helping SMEs to produce accounting information that is complete, integrated, and computerised in accordance with the accounting standards in Indonesia.

There are 19 hypotheses in this study, where 10 hypotheses explain the direct influence between variables, and the other 9 hypotheses explain the indirect influence between independent variables and dependent variables. The development of hypotheses for the direct influence of independent variables on dependent variables is explained in subsections 3.4.1 to 3.4.4, while the development of hypotheses for the indirect influence of independent variables on dependent variables is explained in subsection 3.4.5. The following is a diagram of the model used in this study:

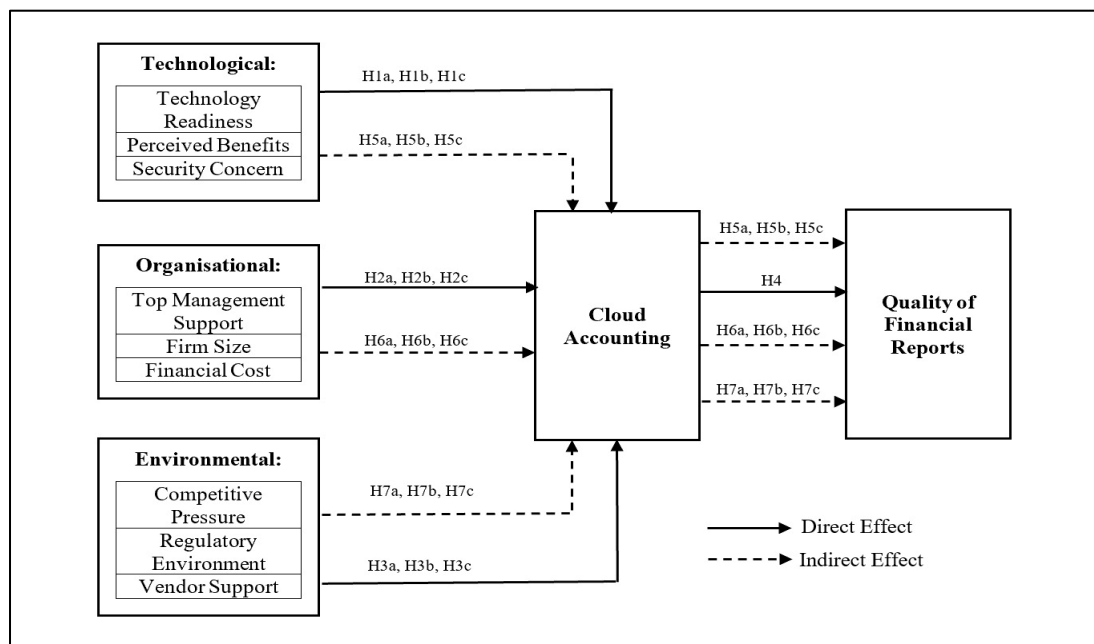


Figure 3.1 A Research Model of TOE, Cloud Accounting, and Quality of Financial Reports

Source: Technological, Organizational, and Environmental (TOE) Framework (Tornatzky & Fleischer., 1990)

3.4.1 The Effect of Technological Context on Cloud Accounting Usage of SMEs

The technological context in the TOE framework in this study uses three main constructs, namely technology readiness, perceived benefits, and security concerns. There are three hypotheses that are discussed from the technological context in this study, namely H1a, H1b, and H1c, in subchapters 3.4.1.1 to 3.4.1.3.

3.4.1.1 The Effect of Technology Readiness on Cloud Accounting Usage of SMEs

Technology readiness refers to the characteristics of technology available within an organisation for adoption, including structural aspects and specialised human resources (Mengesha et al., 2022). The structural aspect of technology readiness measures the readiness of SMEs to accept technological developments and transform internet technology into something useful for their businesses (Enonuya et al., 2024). Cloud accounting is a new technology that utilises computer technology in a network with internet-based development that has the function of running programs or applications through devices connected to the internet at the same time (Darren, 2021). In cloud accounting, accounting data is stored in the cloud, making it accessible to owners and employees anywhere via the internet (Owolabi & Izang, 2020). The human resource aspect relates to individuals within the organisation who possess the knowledge and skills to implement cloud accounting services, such as employees with computer skills or IT specialists (Sugandini et al., 2020).

Suppose SMEs have a high level of technology readiness. In that case, i.e., they are able to accept and develop available internet technology and have employees with knowledge of cloud computing. They will consider cloud accounting to be an important part of SME life that will help SMEs project their financial information in an integrated and computerised manner. This aligns with research conducted by Oliveira et al. (2014), Senyo et al. (2016), Ouaadi & Haddad (2020), and Enonuya et al. (2024) which found that an organisation's technology readiness can enhance the adoption of cloud accounting. However, this statement is contrary to the research by Sastararuji et al. (2022), which found that low technology readiness in organizations is a strong reason for using cloud accounting, as they believe that cloud accounting system vendors will assist in its operation. Furthermore, Khayer et al. (2021) stated that the level of technology readiness does not influence the use of cloud accounting because of low technical infrastructure, such as unstable or slow internet networks, as well as high internet costs that make organizations reluctant to use it. However, this study concludes that good technology readiness in organizations, including SMEs, will increase the use of cloud accounting systems.

Therefore, the following hypothesis is developed:

H1a: There is a positive relationship between technology readiness and cloud accounting usage of SMEs.

3.4.1.2 The Effect of Perceived Benefit on Cloud Accounting Usage of SMEs

Another factor for measuring technological context is perceived benefit. Perceived benefit is a technological factor that reflects the benefits expected to be realised from using a system, and this factor is rooted in the concept of relative advantage in innovation diffusion theory (Darren, 2021). In line with Hamundu et al. (2020), perceived benefit refers to the level of benefits obtained compared to the costs incurred. According to Sastararuji et al. (2022), perceived benefit is an important factor in every IT initiative, which is beneficial for efficiency, accessibility, speed, accuracy, and professionalism, ultimately leading to cost savings and increased profitability for SMEs. In the context of cloud accounting adoption, the extent of the benefits obtained from adopting cloud accounting will be examined (Hamundu et al., 2020). SMEs will use cloud accounting if the benefits obtained are greater than the costs incurred.

The above statement is consistent with the research findings of Adiyasa et al. (2019); Hamundu et al. (2020); Wicaksono et al. (2020); and Sastararuji et al. (2022). The more benefits obtained from the cloud accounting system, the more the use of the cloud accounting system will increase, because SMEs will get many benefits from using the cloud accounting system. However, Chen et al. (2023) have another opinion that the high perceived benefits of using a cloud accounting system are not a triggering factor for SMEs to use the system, because cloud accounting is a new technology that requires technical knowledge to understand. Although the use of cloud accounting has many benefits, organizations must provide resources to be able to use the system.

Therefore, the hypothesis that can be concluded from the above statement is:

H1b: There is a positive relationship between perceived benefits and cloud accounting usage of SMEs.

3.4.1.3 The Effect of Security Concerns on Cloud Accounting Usage of SMEs

The final factor in measuring the technological context is security concerns. Perceived security vulnerabilities and a lack of data privacy are considered to be some

of the factors influencing system use (Alnoor et al., 2025). Security refers to the level of procedures in cloud services to secure an organisation's data or systems from threats or attacks (Alkhater et al., 2018). Security concerns encompass risks that may arise when financial data and important information are transferred and stored in cloud systems. Security concerns are among the main reasons many companies do not intend to use cloud services (Alkhater et al., 2018). If cloud accounting providers fail to develop mature security protocols and identity management, then customer companies (SMEs) are reluctant to accept cloud accounting services (Oliveira et al., 2014). Companies using cloud services lose full control over information stored on servers owned and operated by third parties, thereby increasing the risk of data confidentiality breaches and leading to privacy violations (Lutfi, 2022). Data security is one of the main concerns for SMEs when using cloud accounting systems Chen et al. (2023), as security issues not only cause economic losses for companies but can also damage their reputation and consumer trust (G. Zhang et al., 2021). Senyo et al. (2016) and Khayer et al. (2021) argue that a high level of security for transaction data in cloud accounting systems will increase the use of cloud accounting systems because organizations feel confident that the data entered the cloud accounting system is free from damage or theft. Therefore, if the security issues in the cloud accounting system are low, customer companies (SMEs) will be willing to use the cloud accounting system in their business processes.

Thus, the hypothesis that can be concluded from the above statement is:

H1c: There is a negative relationship between security concerns and cloud accounting use among SMEs.

3.4.2 The Effect of Organisational Context on Cloud Accounting Usage of SMEs

Organisational context refers to the resources available to support innovation adoption, which refers to the characteristics of a company that facilitate or limit the adoption and implementation of innovation (Oliveira et al., 2014). This study measures organisational context using the constructs of top management support, firm size, and financial cost. Furthermore, three hypotheses are discussed from the organisational context in this study, namely H2a, H2b, and H2c, which will be discussed in subsections 3.4.2.1 to 3.4.2.3.

3.4.2.1 The Effect of Top Management Support on Cloud Accounting Usage of SMEs

Top management in SMEs is the owners of SMEs. Top management support plays an important role in the adoption of cloud accounting by providing guidance on resource allocation, service integration, and process re-engineering (Gupta et al., 2022). SMEs owners are proactively involved in the adoption process, including initiating, evaluating, testing, selecting, and acquiring software. Proactive owners are confident in the benefits of cloud accounting and are more likely to support it (Sastararuji et al., 2022). Owner participation and a strong desire to adopt digital technology are the main drivers of successful digital adoption among SMEs. Top management support is crucial for the adoption of cloud accounting technology in SMEs, as it has the authority to decide on strategies and investments in information and communication technology (ICT) (Chen et al., 2023).

Oliveira et al. (2014), Adiyasa et al. (2019), Sallehudin et al. (2020), and Lutfi (2022) argue that strong support from top management—such as the provision of financial resources, training, and technological infrastructure for cloud accounting systems—reflects managerial commitment and increases the likelihood of technology adoption. In this context, top management support signals organisational readiness and willingness to implement new technological systems. Conversely, without adequate managerial support, SMEs are less likely to adopt new technologies (Sallehudin et al., 2020). Meanwhile, Senyo et al. (2016) present a contrasting perspective, suggesting that top management support does not automatically guarantee the adoption of cloud accounting systems. As cloud accounting represents a relatively new and complex technology, organizations may require additional time, knowledge, and experiential understanding before fully committing to its implementation.

Thus, the hypothesis that can be concluded from the above statements is:

H2a: There is a positive relationship between top management support and cloud accounting usage of SMEs.

3.4.2.2 The Effect of Firm Size on Cloud Accounting Usage of SMEs

Another factor in measuring organisational context is firm size. Firm size is measured by the number of employees working in SMEs. The larger the number of

employees, the larger the company. According to Oliveira et al. (2014) and Tawfik et al. (2022), SMEs categorised as large will have an advantage over smaller companies because they have more resources and can take greater risks related to using innovations. However, Tawfik et al. (2022) also expressed a different opinion, stating that small companies are more flexible in implementing cloud accounting because they have easier communication and are quicker to decide on new technologies. Small companies typically face resource constraints, making them less prepared to embrace new technologies, such as cloud accounting. (Oliveira et al., 2014).

Furthermore, Senyo et al. (2016) and Adiyasa et al. (2019) have a different opinion that firm size does not influence the use of cloud accounting in organizations, as firm size has not been proven to be a driver of cloud accounting systems. The existence of a 'pay per use' feature when using a cloud accounting system will make it easier for small SMEs to use the system.

Based on the above statements, the hypothesis is formulated as follows:

H2b: There is a positive relationship between firm size and cloud accounting usage of SMEs.

3.4.2.3 The Effect of Financial Costs on Cloud Accounting Usage of SMEs

Financial costs are also used to measure the organisational context. Financial costs are the total expenses incurred by an organisation in using information technology systems compared to the benefits obtained (Mousa et al., 2024). Financial costs also refer to actions to manage and save money by creating products or services that perform well and are beneficial to the organisation (Hsu et al., 2014). However, costs are often seen as barriers; in many cases, the opposite is true, where the costs incurred can serve as an indicator of an organisation's commitment to technology use and reflect strategic investments aimed at improving financial reporting efficiency and transparency (Alagbe & Yinus, 2025).

SMEs that are willing to allocate a budget for cloud accounting systems generally recognise the long-term benefits, such as real-time data access, reduced infrastructure costs, and ease of integration (Alqudah, 2024). Therefore, the financial costs incurred encourage companies to optimise the use of the system in order to obtain benefits and a commensurate return. Additionally, cloud accounting systems are one

solution to help SMEs address financial recording issues more efficiently and cost-effectively. The implementation of cloud accounting systems by SMEs reduces costs because they do not have to pay accountant salaries to manage all transactions occurring in the business (Wicaksono et al., 2020). Furthermore, SMEs do not need to invest significant resources in building a cloud accounting system, as the cloud accounting vendor handles installation, maintenance, and upgrades, thereby reducing IT costs (Hsu et al., 2014).

The cloud accounting system is conducted online and is not installed on a computer, so SME owners choose to use the cloud accounting system as the most profitable application, considering the financial and non-financial benefits, such as hardware and software costs, timely reports, and increased competence from using cloud accounting (Wicaksono et al., 2020). Therefore, the costs incurred for using the system are viewed as an investment rather than an expense. Companies that are willing to make financial investments in cloud accounting demonstrate their commitment and readiness to use the system. Research conducted by Alqudah (2024) shows that implementing cloud accounting significantly contributes to cost efficiency and productivity improvement in industrial companies in Jordan. The results of this study support the statement that the costs incurred for using a cloud accounting system can be viewed not as an expense but as an enabler in digital accounting transformation. Furthermore, research conducted by Wicaksono et al. (2020) states that the provision of cloud accounting system services to organizations enables them to save time and costs, with accounting and financial costs falling below 5% of total company costs through the use of cloud accounting systems.

Hence, based on the above statements, the hypothesis in this study is:

H2c: There is a positive relationship between financial cost and cloud accounting usage of SMEs.

3.4.3 The Effect of Environmental Context on Cloud Accounting Usage of SMEs

The environmental context in this study is measured using the constructs of competitive pressure, regulatory environment, and vendor support. Furthermore, three hypotheses will be developed from the environmental context, namely H3a, H3b, and H3c, which will be discussed in subchapters 3.4.3.1 to 3.4.3.3.

3.4.3.1 The Effect of Competitive Pressure on Cloud Accounting Usage of SMEs

Competitive pressure is pressure experienced by companies from competitors in the same industry (Religia et al., 2024). Companies will choose the best strategy from their competitors to survive and achieve a competitive advantage (Khayer et al., 2021). In the era of the 4th Industrial Revolution, new technologies can be used to address competitive pressure from other companies. Chen et al. (2023) argue that organizations adopt technological innovations because many others have already adopted them, leading them to believe that using technology is essential to address competitors.

The use of cloud accounting by competitors, considering the benefits obtained, has prompted organizations also to use it to maintain their competitive advantage (Khayer et al., 2021). Cloud accounting systems can significantly benefit companies by improving operational efficiency and enabling more accurate data collection. Additionally, competitive pressure is a key determinant of information technology adoption, and several studies have suggested that competitive pressure is a factor influencing the adoption of new technologies (Tawfik et al., 2022). SMEs will face intense competition, prompting them to adopt innovative technologies, such as cloud accounting systems, to maintain their competitive advantage (Hamzah et al., 2023). Especially during the COVID-19 pandemic that hit the world in 2019, including Indonesia, which caused an economic slowdown, many organizations changed their strategies to remain competitive by using digital technology, such as remote work systems (Chen et al., 2023).

According to research by Hamundu et al. (2020), competitive pressure has led SMEs to adopt cloud accounting to maintain their competitive advantage. Therefore, high competitive pressure to adopt cloud accounting systems within the same industry also encourages SMEs to adopt them.

Based on the above statement, the hypothesis is:

H3a: There is a positive relationship between competitive pressure and cloud accounting usage of SMEs.

3.4.3.2 The Effect of Regulatory Environment on Cloud Accounting Usage of SMEs

Another factor in measuring the environmental context is the regulatory environment. The regulatory environment can refer to regulatory support, which refers to the support provided by government authorities to encourage information technology innovation (Wicaksono et al., 2020). The impact of existing laws and regulations can be important in the adoption of new technologies (Chen et al., 2023). Government regulations can encourage or hinder SMEs in using cloud accounting. The government's regulatory support will make it easier for SMEs to innovate in technology and adopt new technologies, such as cloud accounting systems. The emergence of several cloud accounting service providers in Indonesia, such as Accurate Online and Jurnal.id, indicates that the Indonesian government allows the use of cloud accounting systems.

In Indonesia, regulatory support provided by the government is in the form of Law Number 11 of 2008 concerning Electronic Information and Transactions (ITE), Regulation of the Minister of Communication and Information Technology (Permenkominfo) Number 20 of 2016 concerning Personal Data Protection in Electronic Systems, Government Regulation No. 71 of 2019 on the Implementation of Electronic Systems and Transactions (PP PSTE), and Law No. 27 of 2022 on Personal Data Protection (UU PDP). These laws collectively form a legal framework to ensure data security and protection in cloud systems in Indonesia (Wibowo et al., 2024). Additionally, the Indonesian government also recommends the use of accounting standards for SMEs, namely Financial Accounting Standards for Micro, Small, and Medium Enterprises (SAK EMKM). The use of these accounting standards will help SMEs in managing accounting information (Ifada et al., 2022). Thus, the regulations issued by the Indonesian government regarding data security and protection (Rizal et al., 2024), as well as accounting standards governing SMEs in preparing financial statements, represent the government's support for the presence of information systems and technology in accounting (Ifada et al., 2022). Therefore, the regulatory environment can directly influence how companies choose and use cloud accounting systems for their organizations (Khayer et al., 2021).

Therefore, the hypothesis of the discussion is:

H3b: There is a positive relationship between the regulatory environment and cloud accounting usage of SMEs.

3.4.3.3 The Effect of Vendor Support on Cloud Accounting Usage of SMEs

Furthermore, vendor support is another factor that measures the environmental context. Vendor support refers to technical support in implementing and using cloud accounting systems, as well as system training provided by vendors on their systems (Hamzah et al., 2023). Cloud accounting vendors provide software, hardware, and expertise in accounting to enhance knowledge and accounting systems in SMEs (Sastararuji et al., 2022). Therefore, organizations that have adopted cloud accounting systems will have higher levels of vendor support (Skafi et al., 2020), as vendors will provide high quality services, such as training and technical support for the cloud accounting systems they offer.

In addition, system vendors must be able to assist in migrating data to the cloud system and play a very important role in ensuring the availability of data that system users will use at all times (Chen et al., 2023). According to research done by Sastararuji et al. (2022), good vendor support in the process of using cloud accounting will convince SMEs to use the system. Thus, vendor support in the use of new technology, such as training and knowledge sharing, is essential to increase the use of new systems, in this case, cloud accounting. Accordingly, the hypothesis is:

H3c: There is a positive relationship between vendor support and cloud accounting usage of SMEs.

3.4.4 The Effect of Cloud Accounting System Usage on the Quality of Financial Reports of SMEs

Every year, SMEs in Indonesia experience an increase of 1.5% to 2% annually, and to date, the number of SMEs has reached more than 843 thousand (Kemenkop, 2022). However, 70% of these SMEs have not prepared proper financial reports (Hasanah et al., 2021). Low knowledge of financial management is the primary reason SMEs fail to produce financial reports (Kulathunga et al., 2020). Sumani & Roziq (2020) and Kurniasari et al. (2025) noted that the level of financial management knowledge among the Indonesian population remains low, reaching only 38.03% in 2019, and increased in 2022 to 45.93%. However, SMEs can utilise quality financial statements for various purposes, such as increasing credit (Palacín-Sánchez et al., 2021)

and obtaining investment (Shahzad et al., 2019). Therefore, using cloud accounting systems can be a solution for SMEs to obtain quality financial reports.

Cloud accounting is a system-based technology that facilitates users in the accounting process because it is computerised (Yusuf et al., 2020). Accounting information is entered into the cloud so that it can be accessed by SME owners and employees at any time (Owolabi & Izang, 2020). Hasanah et al. (2021) state that cloud accounting is usually created based on accounting standards in each country. Therefore, financial reports generated from cloud accounting systems have good quality (Ogunsola, 2021). This is in line with Owolabi & Izang's (2020) research that SMEs using cloud accounting systems can improve the quality of their financial reports because cloud accounting systems are programmed by applicable accounting standards. Thus, the hypothesis that can be formed from the above explanation is:

H4: There is a positive relationship between cloud accounting usage and the quality of financial reports of SMEs.

3.4.5 Cloud Accounting Mediates the Relationship of Technological, Organizational and Environmental Factors with Quality of Financial Reports of SMEs

The TOE framework consists of three contexts: technological, organizational, and environmental. The technological context in this study uses the constructs of technology readiness, perceived benefits, and security concerns. For the organizational context, the constructs used are top management support, firm size, and financial cost. Furthermore, for the environmental context, the constructs used in this study are competitive pressure, regulatory environment, and vendor support. Each of these constructs is a factor that can influence SMEs in using the cloud accounting system, which is expected affect the process of making SMEs' financial reports better and of higher quality. The hypothesis for the indirect influence of the technological, organizational, and environmental constructs will be explained in sub-chapters 3.4.5.1 to 3.4.5.9.

3.4.5.1 Cloud Accounting Mediates the Relationship of Technology Readiness with Quality of Financial Reports of SMEs

Technology readiness is the readiness of SMEs in using and adopting technology. There are two aspects of technology readiness: the structural and resource aspects (Mengesha et al., 2022). The structural element in this case is the readiness of SMEs regarding the technological infrastructure in using the cloud accounting system, such as the internet network that must be installed, and electronic devices that support the technology system (computers, smartphones, and so on). While the resource aspect is that SMEs have employees with good knowledge of technology or IT specialists (Khayer et al., 2021). If SMEs have good technology readiness, namely having employees who understand technology, and have a supporting technological infrastructure, then the SMEs will be encouraged to use the cloud accounting system in the process of recording all financial transactions, so that they will be able to produce quality financial reports for the development of the SME's business. Based on this statement, the hypothesis that can be formed is:

H5a: Cloud accounting usage mediates the relationship between technology readiness and the quality of financial reports of SMEs.

3.4.5.2 Cloud Accounting Mediates the Relationship of Perceived Benefits with Quality of Financial Reports of SMEs

The next factor is perceived benefits, which refers to the level of benefits obtained by SMEs from using the cloud accounting system (Hamundu et al., 2020). According to Tawfik et al. (2022), perceived benefits are defined as the level at which technology is able to provide more benefits to users, such as ease of communication, access, time savings, and reduced administrative costs. The cloud accounting system has benefits for organizations, including SMEs, because the system is able to help its users in terms of recording financial transactions and taxation, and users can access data anywhere and anytime (Hamzah et al., 2023). If the benefits generated from using the cloud accounting system are high, then SMEs will be willing to use the cloud accounting system, which will later have an impact on good financial records in SMEs, in the form of quality financial reports. Thus, the following hypothesis is formed:

H5b: Cloud accounting usage mediates the relationship between perceived benefits and the quality of financial reports of SMEs.

3.4.5.3 Cloud Accounting Mediates the Relationship of Security Concern with Quality of Financial Reports of SMEs

The last factor in measuring the technological context is security concern. Security concern is the ability of cloud accounting to maintain data security, in the form of data storage, data exchange, and conducting other business transactions (Kumar et al., 2017). Security concerns can also be interpreted as a perceived security breach among organizations that use cloud accounting systems (Chen et al., 2023). The high level of security breaches felt by cloud system users will have an impact on reducing the number of people or organizations that will use the system (Lutfi, 2022). If the cloud accounting system provider succeeds in convincing SMEs that the cloud accounting system is safe, or it can be said that the cloud accounting system is able to maintain data security, then SMEs will be willing to use the cloud accounting system (Hamzah et al., 2023), so that later it can have an impact on the quality of financial reports produced from the cloud accounting system. Thus, the hypothesis is developed as follows:

H5c: Cloud accounting usage mediates the relationship between security concerns and the quality of financial reports of SMEs.

3.4.5.4 Cloud Accounting Mediates the Relationship of Top Management Support with Quality of Financial Reports of SMEs

The first organizational context in this study uses the construct of top management support. Top management support is one of the important factors in the organizational context that influences the organization's intention to use new technology or systems (Tawfik et al., 2022). Top management support is very important for the implementation of technology in SMEs, because they will later make the final decisions about the strategy and investment of information and communication technology in the organization (Chen et al., 2023). SME owners as top management will allocate the resources needed to be successful in using the cloud accounting system, and will influence their employees to accept the technological changes (Oliveira et al., 2014). In

addition to support in the form of resources, financial support will also be provided by top management to implement the system in SMEs (Tawfik et al., 2022). Thus, the successful use of cloud accounting systems in SMEs businesses can occur because of good top management support, so that the use of the system will affect the results of SMEs' financial reports to be better and of higher quality. Thus, the hypothesis that can be formed from the explanation above is:

H6a: Cloud accounting usage mediates the relationship between top management support and the quality of financial reports of SMEs.

3.4.5.5 Cloud Accounting Mediates the Relationship of Firm Size with Quality of Financial Reports of SMEs

Another measurement in the organizational context of this study is firm size. Firm size is one of the main determinants of information technology innovation (Tawfik et al., 2022). Oliveira et al. (2014) argue that the larger the firm size, the easier it will be for the organization to use the cloud accounting system, because it has the resources needed for the successful adoption of the new technology. Meanwhile, the size of a small company can affect the way SMEs use the cloud accounting system, such as limited resources and resistance to change, benefits such as scalability, cost, and accessibility (Skafi et al., 2020). The use of a cloud accounting system has many benefits for SMEs, one of which is the process of recording financial transactions and taxation (Hamzah et al., 2023). Thus, the larger the company size, the more it indicates that SMEs have the ability in terms of resources, costs, and accessibility, so they will potentially use the cloud accounting system. Furthermore, by using the system, SMEs will be able to produce high-quality financial records, namely in the form of financial reports that comply with accounting standards and are of high quality. Accordingly, the following hypothesis is formed:

H6b: Cloud accounting usage mediates the relationship between firm size support and the quality of financial reports of SMEs.

3.4.5.6 Cloud Accounting Mediates the Relationship of Financial Cost with Quality of Financial Reports of SMEs

The next factor in measuring the organizational context in this study is financial cost. Financial cost is the amount of costs incurred by the organization to use new systems and technologies compared to the benefits obtained (Mousa et al., 2024). Cost savings will be offered if SMEs use a cloud accounting system in managing their business, because SMEs do not have to pay accountant salaries to manage all transactions that occur in the business (Wicaksono et al., 2020). Al-Sharafi et al. (2023) also stated that cloud system services, including cloud accounting systems, offer a more efficient and cost-effective solution to legacy systems, because cloud accounting systems do not require software installation and offer a subscription method, so SMEs only pay for the services used. The good financial cost offered by using a cloud accounting system will make SMEs willing to use the system in their business processes, including in recording their financial transactions, so that the resulting financial reports can be better and of higher quality. Based on this statement, the hypothesis that can be formed is:

H6c: Cloud accounting usage mediates the relationship between financial cost and the quality of financial reports of SMEs.

3.4.5.7 Cloud Accounting Mediates the Relationship of Competitive Pressure with Quality of Financial Reports of SMEs

The last context in the TOE framework is the environmental context. In this study, the environmental context is measured using the constructs of competitive pressure, regulatory environment, and vendor support. Competitive pressure arises because of the level of pressure from competitors in the same industry, so companies must be able to filter the best strategies from competitors in order to achieve a competitive advantage and survive in the industry (Khayer et al., 2021). Kinuthia (2015) argues that using a cloud system is one of the strategic tools that allows companies to become more competitive, namely, companies can use information technology to change the rules of competition by changing industry rules and being able to outperform their competitors. The number of SMEs in Indonesia, which is increasing every year, is

making competition among them increasingly fierce. Therefore, the use of a cloud accounting system can help businesses optimize the market, increase their productivity and operational competence, and ultimately increase their competitiveness (Lutfi, 2022). Moreover, the cloud accounting system can be a tool to help SMEs in recording accounting and taxation, so that their financial reports can be well-organized and in accordance with accounting standards (Hamzah et al., 2023). Thus, the existence of competitive pressure in the SMEs business can make them willing to use the cloud accounting system, because of the many benefits obtained for the continuity of their business and in facing market competition, including being able to make all financial transaction records better, so that the resulting financial reports are of higher quality. Thus, the hypothesis that can be concluded from the statement above is:

H7a: Cloud accounting use mediates the relationship between competitive pressure and the quality of SMEs' financial reports.

3.4.5.8 Cloud Accounting Mediates the Relationship of Regulatory Environment with Quality of Financial Reports of SMEs

The next factor in measuring the environmental context is the regulatory environment. The regulatory environment is the regulatory support from the government to be able to reject or accept the adoption of cloud accounting. The level of regulatory support from the government will make it easier for SMEs to innovate in technology and adopt cloud accounting systems (Wicaksono et al., 2020). Furthermore, the presence of several cloud accounting vendors in Indonesia, such as Accurate Online, Jurnal.id, and so on, indicates that the Indonesian government supports the use of cloud accounting.

In addition to allowing cloud system vendors to be present in the business world in Indonesia, the Indonesian government has also made several regulations to ensure the security and protection of data in cloud systems in Indonesia, so that important data owned by cloud users can be properly maintained (Wibowo et al., 2024). These regulations include Law Number 11 of 2008 concerning Electronic Information and Transactions (ITE), Regulation of the Minister of Communication and Informatics (Permenkominfo) Number 20 of 2016 concerning Protection of Personal Data in Electronic Systems, Government Regulation Number 71 of 2019 concerning

Implementation of Electronic Systems and Transactions (PP PSTE), and Law Number 27 of 2022 concerning Protection of Personal Data (UU PDP). In addition, the government also stipulates the Financial Accounting Standards for Micro, Small, and Medium Enterprises (SAK EMKM) for SMEs, so that the financial reports prepared by SMEs are in accordance with standards and of high quality (Nur et al., 2025). Thus, the existence of a regulatory environment will make it easier for SMEs to innovate technology, so that they will feel comfortable and safe in using the cloud accounting system. The use of this system will later have an impact on improving the quality of SMEs' financial reports, because the recording is in accordance with all financial transactions that occur in SMEs, and in accordance with applicable accounting standards. Hence, the hypothesis that can be concluded from the statement above is:

H7b: Cloud accounting usage mediates the relationship between the regulatory environment and the quality of financial reports of SMEs.

3.4.5.9 Cloud Accounting Mediates the Relationship of Vendor Support with Quality of Financial Reports of SMEs

The last factor in measuring the environmental context in this study is vendor support. Vendor support is technical support for the implementation and use of cloud accounting systems, as well as vendor-provided system training for the systems they provide (Kinuthia, 2015). In addition, vendor support includes handling all services required to switch to a cloud system, so the vendor must have a reputation for reliability and the capability to ensure data is available at all times (Chen et al., 2023). Therefore, vendor support is a significant factor in the adoption of information technology, including cloud accounting systems (Skafi et al., 2020). Good support provided by cloud accounting system vendors, such as providing training, technical support, and adequate resources, can increase SMEs' desire to use cloud accounting systems. This is because users feel confident and satisfied if they switch to using a cloud accounting system, especially if SMEs are new users who will definitely need help from the vendor if they experience difficulties during the process of using the system.

In addition, SMEs can also request socialization and training to make it easier for them to use the system (Hamzah et al., 2023). If SMEs are satisfied with vendor support, they will be willing to use the cloud accounting system. The use of the system

will later provide benefits for SMEs in terms of financial management, including producing good and quality financial reports. Based on this statement, the hypothesis that can be concluded is:

H7c: Cloud accounting usage mediates the relationship between vendor support and the quality of financial reports of SMEs.

3.5 Chapter Summary

This study identifies factors that influence SMEs' use of cloud accounting systems. These factors come from three contexts of the TOE framework: technological, organizational, and environmental. These factors may influence SMEs to adopt information technology systems, including cloud accounting systems. Before SMEs use cloud accounting systems, they will consider several things, such as the benefits and costs of the system, support from SME owners, support from vendors, pressure from competitors, the level of system security, SMEs' readiness for developing technology, to regulations made by the government to provide a sense of security and comfort in the process of using the cloud accounting system. The size of SMEs can also be a consideration for them to use a cloud accounting system, where the size of SMEs is seen from the number of employees. The more employees, the larger the size of SMEs. If these factors are met, then it is likely that SMEs will use a cloud accounting system in their business.

In the era of revolution 4.0, information technology systems are needed by all organizations, including SMEs. The cloud accounting system is part of the cloud accounting system that focuses more on finance (Stanciu, 2021), so that the existence of a cloud accounting system can help SMEs to record their finances better. In addition, the cloud accounting system in Indonesia complies with accounting standards for SMEs (Marsintauli et al., 2021). Therefore, a cloud accounting system can be a tool that helps SMEs create high-quality financial reports in accordance with the accounting standards applicable in Indonesia.

Table 3.2 below summarizes the research questions, research objectives, and hypotheses in this study.

Table 3.2

Summary of Research Question, Research Objectives, and Hypotheses

No.	Research Questions	Research Objectives	Hypotheses
1	To what extent do technological factors (technology readiness, perceived benefits, and security concern) have a relationship with cloud accounting usage of SMEs?	To examine the relationship of technological factors (technology readiness, perceived benefits, and security concern) with cloud accounting usage of SMEs.	H1a: There is a positive relationship between technology readiness and cloud accounting usage. H1b: There is a positive relationship between perceived benefits and cloud accounting usage. H1c: There is a negative relationship between security concern and cloud accounting usage.
2	To what extent do organizational factors (top management support, firm size, and financial cost) have a relationship with cloud accounting usage of SMEs?	To examine the relationship of organizational factors (top management support, firm size, and financial cost) with cloud accounting usage of SMEs.	H2a: There is a positive relationship between top management support and cloud accounting usage. H2b: There is a positive relationship between firm size and cloud accounting usage. H2c: There is a positive relationship between financial cost and cloud accounting usage.
3	To what extent do environmental factors (competitive pressure, regulatory environment, and vendor support) have a relationship with cloud accounting usage of SMEs?	To examine the relationship of environmental factors (competitive pressure, regulatory environment, and vendor support) with cloud accounting usage of SMEs.	H3a: There is a positive relationship between competitive pressure and cloud accounting usage. H3b: There is a positive relationship between the regulatory environment and cloud accounting usage. H3c: There is a positive relationship between vendor support and cloud accounting usage.
4	To what extent does cloud accounting usage have a relationship with the	To examine the relationship between cloud accounting usage and the quality of	H4: There is a positive relationship between cloud accounting usage and the

No.	Research Questions	Research Objectives	Hypotheses
	quality of financial reports of SMEs?	financial reports of SMEs.	quality of financial reports.
5	To what extent does cloud accounting usage mediate the relationship of technological factors (technology readiness, perceived benefits, and security concern) with the quality of financial reports?	To examine whether cloud accounting use mediates the relationships between technological factors (technology readiness, perceived benefits, and security concerns) and the quality of financial reports of SMEs.	H5a: Cloud accounting usage mediates the relationship between technology readiness and the quality of financial reports of SMEs. H5b: Cloud accounting usage mediates the relationship between perceived benefits and the quality of financial reports of SMEs. H5c: Cloud accounting usage mediates the relationship between security concern and the quality of financial reports of SMEs.
6	To what extent does cloud accounting usage mediate the relationship of organizational factors (top management support, firm size, and financial cost) with the quality of financial reports?	To examine whether cloud accounting usage mediates the relationships between organizational factors (top management support, firm size, and financial cost) and the quality of financial reports of SMEs.	H6a: Cloud accounting usage mediates the relationship between top management support and the quality of financial reports of SMEs. H6b: Cloud accounting usage mediates the relationship between firm size and the quality of financial reports of SMEs. H6c: Cloud accounting usage mediates the relationship between financial cost and the quality of financial reports of SMEs.
7	To what extent does cloud accounting usage mediate the relationship of environmental factors (competitive pressure, regulatory environment, and vendor support) with	To examine whether cloud accounting usage mediates the relationships of competitive pressure, regulatory environment, and vendor support with the quality of financial reports	H7a: Cloud accounting usage mediates the relationship between competitive pressure and the quality of financial reports of SMEs. H7b: Cloud accounting usage mediates the relationship

No.	Research Questions	Research Objectives	Hypotheses
	the quality of financial reports?	of SMEs.	between the regulatory environment and the quality of financial reports of SMEs. H7c: Cloud accounting usage mediates the relationship between vendor support and the quality of financial reports of SMEs.

CHAPTER 4

RESEARCH METHODOLOGY

4.1 Chapter Overview

This chapter explains the methods and research design used in this study. This section consists of subsections 4.1 to 4.12. It begins with subsection 4.1 on the research paradigm, followed by the research design, population, sample, and sampling techniques. A pilot test is also described in this section to test the feasibility of the questionnaire before it is administered to all respondents. Additionally, this section provides operational definitions of variables and clarifies each variable's measurement indicators. Furthermore, this chapter explains the analytical techniques employed, including preliminary analysis, descriptive statistical tests, and PLS-SEM analysis. The theoretical framework for PLS-SEM analysis is also outlined in this section, including explanations of the measurement model and structural model.

4.2 Research Paradigm

A research paradigm is a framework or philosophical perspective that underlies how research is conducted. This paradigm reflects the researcher's view of reality (ontology), how knowledge is obtained (epistemology), and the role of values in research (axiology). The research paradigm also influences all aspects of the research process, from problem formulation, the methods used, to the interpretation of results (Creswell, 2018). Thus, it can be said that the research paradigm is a framework that provides researchers with a way to understand the world and how to study it. According to Creswell (2018), there are several research paradigms, such as positivism, interpretivism, and critical theory. This study falls under the positivist paradigm. The positivist paradigm is a philosophical approach that assumes that reality is objective, fixed, and empirically measurable.

This paradigm views social phenomena, like natural phenomena, as capable of being studied through a scientific approach using quantitative methods and statistically testable data (Creswell, 2018). The positivist paradigm aligns with the hypothetico-deductive approach, in which research begins by developing a theory or hypothesis,

which is then tested through the collection and analysis of quantitative data. This method allows for identifying cause-and-effect relationships between the variables being studied (Creswell, 2018). As Park et al. (2020) explained, the positivist approach aims to identify explanatory associations or causal relationships through a quantitative data collection and analysis approach.

This study used a quantitative approach to examine the influence of factors affecting the use of cloud accounting systems, derived from the TOE framework, and the impact of cloud accounting system use on financial report quality in SMEs. Data were collected through closed questionnaires and analysed using statistical techniques to test the formulated hypotheses. The positivist paradigm was chosen because it aligns with the research objectives: test hypotheses formulated deductively and provide a systematic and measurable explanation of the phenomena under study. Thus, the positivist paradigm underpins the entire research approach, from the research design and data collection techniques to the analytical methods employed.

4.3 Research Design

Research design is a systematic framework used to design, implement, and evaluate a study, and aims to ensure that the data collected can answer research questions validly and reliably (Creswell, 2018). According to Creswell (2018); Hair et al. (2019); and Asenahabi Bostley (2019), several steps must be taken in developing a research design, namely the researcher must clearly define the research problem and determine the objectives and research questions to be answered, determine the research paradigm and approach, determine the strategy or type of research to be used, determine the population and sample, establish data collection techniques, and determine data analysis techniques.

Based on these steps, this study uses a quantitative approach with an explanatory research design to test the influence of independent variables on dependent variables in the research model. Therefore, this design is suitable for testing the influence of factors in the TOE framework on the use of cloud accounting systems and the impact of using these systems on the quality of financial reports in SMEs. This study is based on the positivist paradigm, which views reality as objectively measurable and analyzable through scientific approaches (Creswell, 2018). This paradigm underpins the selection of quantitative methods and the use of primary data collected through structured

questionnaires (Park et al., 2020). The researcher acts as an independent observer, avoiding influence on the respondents, thereby maintaining the objectivity of the data and analysis.

The population in this study was SMEs in Indonesia registered with the crowdfunding company santara.co.id. The sampling technique used was census sampling, so the entire population served as the sample in this study. Furthermore, data were obtained by distributing a closed questionnaire to all respondents. After the data was collected, it was analysed using the Structural Equation Modelling – Partial Least Squares (PLS-SEM) technique. With this research design, it is expected that an empirical understanding of the determinants of the use of TOE Framework-based cloud accounting systems and their implications for the quality of financial reports produced by SMEs can be obtained.

4.4 Population

A population is a collection of individuals or objects of study with certain characteristics or qualities. Based on these qualities, a population can be understood as a group of individuals or objects of observation that share at least one characteristic. The population in this study is SMEs in Indonesia that are active members of santara.co.id platform. Santara.co.id is the first equity crowdfunding company in Indonesia that connects SMEs who want to develop their business with people who want to be investors. SMEs that are members of Santara.co.id must have a business prospectus consisting of a business and financial report. Therefore, SMEs that are members of santara.co.id are concerned with the quality of their financial reports. Potential investors use these financial reports to make projections about future growth and returns on investment for SMEs. Active members are defined as SMEs that register their businesses on the santara.co.id website and issue shares to raise funds from investors. There are 248 SMEs in Indonesia who are active members of the santara.co.id platform, during the observation period in this study, namely from April 2023 to October 2023. This period is also the period of data collection through the distribution of questionnaires, thus reflecting the empirical conditions of SMEs at the time the study was conducted. This number is obtained from the santara.co.id website, which has published the shares issued by these SMEs.

4.5 Sample and Sampling Technique

This study used an attempted census or population survey approach, which attempts to reach all elements of the population defined as the research target. In this study, all SMEs registered as active members and that had issued shares on the santara.co.id platform during the observation period were targeted as respondents. This approach attempted to cover the entire population available during the study period. However, not all population units responded, and some collected data did not meet eligibility criteria after screening. Therefore, although the study was designed as an attempted census, the final dataset analyzed represents an achieved sample rather than a complete enumeration of the population.

The number of SMEs registered as members of santara.co.id and who have issued their shares during the observation period is 248. Therefore, this number will be the target number of respondents in this study. However, not all targeted respondents can be guaranteed to respond, so a minimum sample size analysis was still conducted. In this study, there are several ways to determine the minimum sample size, namely based on the table developed by Krejcie & Morgan (1970), assistance from G-Power software, and PLS-SEM requirements. Referring to Table 4.1 by Krejcie & Morgan (1970), the minimum sample size used in this study was 152 out of a total population of 248 SMEs. The population size was rounded up to 250 to obtain the minimum sample size. Furthermore, G-Power software can also be used to determine the minimum sample size. G-Power is recommended for calculating sample size using various statistical methods (t-test, F-test, and chi-square test) because it is easy to use and free (Kang, 2021). G-Power analysis uses software that considers effect size, significance level (α), number of predictors, and power ($1-\beta$). Based on the G-Power analysis, the minimum total sample size that can be used is 114.

Furthermore, according to Hair et al. (2022), the minimum sample size should be equal to ten times the maximum number of arrows pointing to the latent variable in the PLS-SEM path model. In this study, 10 arrows point to the latent variable, so the recommended minimum sample size is 100. Thus, based on the recommendations of Krejcie & Morgan (1970), G-Power analysis, and PLS requirements, it can be concluded that the minimum sample size for this study is 100-152. According to Fincham (2008), the minimum sample size or minimum recommended response rate is 60% of the population, so in this study, the minimum response rate is 144, which is not

much different from the minimum sample sizes required by the three recommendations above.

Table 4.1

Table to Determine Sample Size of a Known Population

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	346
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	354
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	191	1200	291	6000	361
45	40	170	118	400	196	1300	297	7000	364
50	44	180	123	420	201	1400	302	8000	367
55	48	190	127	440	205	1500	306	9000	368
60	52	200	132	460	210	1600	310	10000	370
65	56	210	136	480	214	1700	313	15000	375
70	59	220	140	500	217	1800	317	20000	377
75	63	230	144	550	226	1900	320	30000	379
80	66	240	148	600	234	2000	322	40000	380
85	70	250	152	650	242	2200	327	50000	381
90	73	260	155	700	248	2400	331	75000	382
95	76	270	159	750	254	2600	335	1000000	384

N= Population Size, S=Sampling Size, Derived from: Krejcie & Morgan (1970)

Next, data were collected using a survey method. The data for this study were primary data obtained through questionnaires distributed to SMEs who responded to the survey. Because this study used an attempted census approach, questionnaires were administered to all SMEs that were members and offered shares on santara.co.id. Thus, 248 SMEs were targeted as respondents in this study. The questionnaires were distributed online via Google Forms and via email and social media (WhatsApp and Instagram). Questionnaires were distributed and collected over six months, from April to October 2023. During the distribution and collection of questionnaires, every 2-3 weeks in the first 3 months, reminder messages were sent to respondents who had not returned the questionnaire via email and social media (WhatsApp and Instagram). After that, messages were sent weekly on weekdays via email and social media (WhatsApp

and Instagram). In addition, there are rewards in the form of small tokens, as a form of appreciation and to encourage participation.

4.6 Data Measurement Scale

This study is quantitative research and uses quantitative data that need to be processed and analysed so they can be used as information for users (Saunders et al., 2009). Data collection in this study used questionnaires measured based on interval data, namely using a 5-point Likert scale to measure the variables of technology readiness, perceived benefits, security concern, top management support, financial cost, competitive pressure, regulatory environment, vendor support, cloud accounting, and quality of financial report. Meanwhile, the firm size variable uses a questionnaire that is measured by stating the number of employees in SMEs, which will then be categorized based on the size of the SMEs.

The use of a 5-point Likert scale was intended to make it easier for respondents to answer each research question, as well as reduce respondent fatigue in answering, thus improving data quality (Lozano et al., 2008). Furthermore, a 5-point Likert scale, ranging from “strongly agree” to “strongly disagree,” was used because it is highly recommended by previous researchers to reduce respondent frustration and improve response rates and response quality (Sachdev & Verma, 2004). In this study, the questionnaire was sent online, so the use of a 5-point Likert scale was appropriate to be applied so that respondents could easily and quickly answer all research questions.

4.7 Operationalisation of Variables and Measurement

An operational definition is a definition given to a variable by providing meaning, specifying activities, or providing an operational procedure necessary to measure the variable to facilitate data collection in the field and data analysis (Sekaran, 2003). Each variable is explained in the operational definition as follows:

4.7.1 Dependent Variable - Quality of Financial Reports

Financial report quality is a condition in which a company maintains good, complete, and accurate financial records in accordance with applicable financial

standards (Meyere et al., 2018). This variable uses five indicators based on qualitative characteristics taken from Beest et al. (2009), Al-Dmour et al. (2018), and Pham et al. (2022). The qualitative characteristic indicators are relevance, faithful representation, understandability, comparability, and timeliness. The relevance indicator comprises six questions; the faithful representation indicator, five; the understandability indicator, six; the comparability indicator, six; and the timeliness indicator, one. This study uses a 5-point Likert scale, ranging from 1 (Strongly disagree) to 5 (Strongly agree). A response of 5 indicates that the quality of financial reports issued by SMEs is high.

4.7.2 Mediating Variable - Cloud Accounting

Cloud accounting, also known as online accounting software, combines the use of computer technology in a network with internet-based development that has the function of running programs or applications through devices connected to the internet at the same time (Darren, 2021). In this study, cloud accounting is positioned as a mediating variable that plays a role in bridging technological, organizational, and environmental factors on the quality of SMEs' financial reports, as well as a mechanism that directly supports increasing the accuracy, timeliness, and consistency of financial information presentation according to accounting standards.

This variable uses two indicators adopted from the study by Oliveira et al., (2014), and each indicator consists of 1 question item in the questionnaire. This study uses a 5-point Likert scale. For the first question, the following ratings are used: “Not considering; Currently evaluating; Have evaluated, but do not plan to adopt this technology; Have evaluated and plan to adopt this technology; Have already adopted services, infrastructure or platforms of cloud accounting”. The second question uses the following ratings: “Not considering; More than 5 years; Between 2 and 5 years; Between 1 and 2 years; Less than 1 year; Have already used services, infrastructure, or platforms of cloud accounting”. If the question indicates a rating of 5, it suggests that the use of cloud accounting systems in SMEs is high.

4.7.3 Independent Variable - Technology Readiness

Technology readiness refers to the characteristics of the technology available for use within an organisation, including structural aspects and specialised human

resources (Oliveira et al., 2014). This variable uses three indicators, which are then measured using five question items in the questionnaire, and are adopted from research (Oliveira et al., 2014). This study uses a 5-point Likert scale, ranging from 1 (Strongly disagree) to 5 (Strongly agree). If the question shows a score of 5, it indicates that the technological characteristics possessed by SMEs to use cloud accounting systems are high.

4.7.4 Independent Variable - Perceived Benefits

Perceived benefits are viewed as a multidimensional construct that encompasses various types of perceived value from technology use, including technical benefits (such as data accuracy and security), increased operational efficiency, and long-term strategic benefits (such as increased competitiveness and reputation) (Faiz et al., 2024). This variable uses eight indicators adapted from research by (Kuan & Chau, 2001); (Oliveira et al., 2014); and (Kurnia et al., 2015). Each indicator consists of 1 question item in the questionnaire. Therefore, the measurement of perceived benefits consisting of eight indicators in this study is in accordance with a comprehensive conceptual approach to the perception of technology benefits. This study uses a 5-point Likert scale, ranging from 1 (Strongly disagree) to 5 (Strongly agree). If the response is 5, it indicates that the level of benefits obtained compared to the costs incurred for using the cloud accounting system is high.

4.7.5 Independent Variable - Security Concern

Security concern is defined as the extent to which the cloud accounting system is considered a secure system for data storage, data exchange, and conducting other business transactions (Kinuthia, 2015). This variable uses four indicators adopted from the study of Kinuthia, (2015) and Chen et al., (2023), each indicator consists of 1 question item in the questionnaire. This study uses a 5-point Likert scale, ranging from 1 (Strongly disagree) to 5 (Strongly agree). If the question shows a score of 5, it indicates that the security level of the cloud accounting system is high.

4.7.6 Independent Variable - Top Management Support

Top management support plays an important role in the use of cloud accounting systems because it provides guidance for resource allocation, service integration, and process re-engineering (Oliveira et al., 2014). This variable uses three indicators, which are then measured using five question items in the questionnaire, and are adopted from research (Oliveira et al., 2014; Chen et al., 2023). This study uses a 5-point Likert scale, ranging from 1 (Strongly disagree) to 5 (Strongly agree). If the response is 5, it indicates that the support from SME owners in using cloud accounting systems is high.

4.7.7 Independent Variable - Firm Size

Firm size in this study is operationalised based on the number of employees, consistent with prior studies (Zhu et al., 2004). Although the number of employees is conceptually a ratio measure, in this research, it was intentionally treated as a categorical variable to align with the formal classification of SMEs. Accordingly, respondents were grouped into small enterprises (5–19 employees) and medium enterprises (≥ 20 employees). This categorisation reflects the structural distinction commonly used in SME research and ensures consistency between the operational definition and the analytical treatment of the variable. Larger firms, as indicated by higher employee categories, are generally associated with greater organisational resources and higher capacity to adopt technological innovations (Oliveira et al., 2014).

4.7.8 Independent Variable - Financial Cost

Financial cost in this study represents SMEs' perceptions of the economic feasibility of using cloud accounting, including the balance between costs incurred and benefits obtained (Kuan & Chau, 2001). This variable uses three indicators, which are then measured using four questionnaire items, adopted from research (Kuan & Chau, 2001). This study uses a 5-point Likert scale, ranging from 1 (Strongly disagree) to 5 (Strongly agree). Higher scores indicate a stronger perception that the financial implications of cloud accounting are favourable and economically justifiable, rather than indicating higher absolute cost.

4.7.9 Independent Variable - Competitive Pressure

Competitive pressure is the pressure experienced by companies from competitors in the same industry (Kinuthia, 2015), leading companies to adopt the best strategy from competitors to be able to survive and achieve competitive advantage (Khayer et al., 2021). This variable uses three indicators, which are then measured using four question items in the questionnaire, and are adopted from research (Oliveira et al., 2014; Chen et al., 2023). This study uses a 5-point Likert scale, ranging from 1 (Strongly disagree) to 5 (Strongly agree). If the question shows a score of 5, it indicates that the competitive pressure experienced by SMEs is high.

4.7.10 Independent Variable - Regulatory Environment

The regulatory environment refers to the support provided by government authorities to encourage information technology innovation (Wicaksono et al., 2020). This variable uses two indicators, which are then measured using four question items in the questionnaire, and are adopted from research (Oliveira et al., 2014). This study uses a 5-point Likert scale, ranging from 1 (Strongly disagree) to 5 (Strongly agree). If the question indicates a score of 5, this shows that government support for using cloud accounting systems is high.

4.7.11 Independent Variable - Vendor Support

Vendor support refers to technical support in the implementation and use of cloud accounting systems, as well as system training provided by vendors for their systems (Kinuthia, 2015). This variable uses three indicators, which are then measured using four question items in the questionnaire, and are adopted from research (Kinuthia, 2015). This study uses a 5-point Likert scale, ranging from 1 (Strongly disagree) to 5 (Strongly agree). A score of 5 indicates that the support provided by the cloud accounting vendor in providing software and hardware, and training on the system is high.

Table 4.2 describes the measurement of variables in this study, which were adopted and adapted from several previous studies, namely:

Table 4.2
Measurement of Variables

Variables	Measurement Indicators	References
Quality of Financial Reports	• Relevance • Faithful Representation • Understandability • Comparability • Timeliness	Beest et al. (2009) Al-Dmour et al. (2018) Pham et al. (2022)
Cloud Accounting	• Evaluation stage of the use of cloud accounting. • Cloud accounting usage time	Oliveira et al. (2014)
Technology Readiness	• The percentage of employees who have Internet access • Company knowledge in the use of cloud accounting • Skills to implement cloud accounting.	Oliveira et al. (2014)
Perceived Benefits	• Improve data accuracy • Improve security data • Improve operation efficiency • Speed up application process • Reduce clerical errors • Improve organization image • Improve competitive advantage • Benefit other business practices	Kuan & Chau (2001); Oliveira et al. (2014); Kurnia et al. (2015)
Security Concern	• Cloud accounting system adoption is consistent with our business strategy • Our organization is very satisfied with the security environment of cloud accounting systems • In a cloud accounting system, data is safeguarded from unauthorized changes or use • In a cloud accounting system, sensitive data is protected from those who should not have access to it.	Kinuthia (2015) Chen et al. (2023)
Top Management Support	• SME's management supports cloud accounting implementation • SME's management is involved in the cloud accounting process • SME's management is willing to take risks in implementing cloud accounting	Oliveira et al. (2014) Chen et al. (2023)

Variables	Measurement Indicators	References
Firm Size	The number of company employees.	(Oliveira et al., 2014)
Financial Cost	• High set-up costs • High running costs • High training costs	Kuan & Chau (2001)
Competitive Pressure	• The firm thinks that cloud accounting has an influence on competition in its industry. • Our firm is under pressure from competitors to adopt cloud accounting. • Some of our competitors have already started using cloud accounting.	Oliveira et al. (2014) Chen et al. (2023)
Regulatory Environment	• There is legal protection in the use of cloud accounting. • The laws and regulations that exist nowadays are sufficient to protect the use of cloud accounting.	(Oliveira et al., 2014)
Vendor Support	• Cloud accounting vendors provide technical support for the effective use of cloud accounting systems • Cloud accounting vendors actively market their technology by providing incentives for adoption • Cloud accounting vendors promote their technology by offering free training sessions.	(Kinuthia, 2015)

4.8 Pilot Test

After the questionnaire has been compiled and developed, the next step is to conduct a pilot test. A pilot test assesses the validity and reliability of the entire questionnaire before it is distributed to respondents. Pilot tests are used to filter out unclear or ambiguous questions (van Teijlingen & Hundley, 2002). Pilot tests are conducted to assess the feasibility of the survey instruments and procedures before the main study, so that problems with item understanding, wording ambiguity, question order, response options, and time required to complete the content can be detected and corrected early, thereby increasing validity and reliability (Collins, 2009). In conducting a pilot test, it is important to pay attention to the time taken by respondents to answer

all questions in the questionnaire and ensure that the number of questions is not too long, as respondents will be reluctant to participate in the survey (Ghozali, 2018).

In this study, the validity of all research questions was determined through assessment and validation by two individuals: a senior lecturer and a professor from the Faculty of Economics and Business, Unissula. The feedback included comments on all questions deemed inappropriate for language and excessive wordiness. One question, specifically the timeliness indicator, from the quality of financial reports variable, had its grammar changed to make it easier for respondents to understand.

The pilot test in this study will be conducted with 30 SMEs to obtain feedback on the suitability of the questions, the questionnaire design, and the time required to complete the questionnaire. This test was conducted from January to February 2023, as a preliminary step before the main survey. Feedback or data obtained from this pilot test will not be used as primary data in the hypothesis analysis. According to Cooper & Schindler (2003), the minimum sample size for a pilot test is 25–100 respondents. Feedback was received from 30 SME owners, including the questionnaire results and responses on the number of questions, writing grammar, and filling time. Furthermore, the questionnaire was modified based on feedback from the pilot test, particularly regarding the wording, sentences, and instructions provided to respondents. After obtaining feedback from senior lecturers and several SME owners, a pilot test was conducted with 30 SMEs using the SPSS analysis tool, confirming that all questionnaire items were valid and reliable. Table 4.3 and Table 4.4 present the results of the validity and reliability scores from the pilot test.

Table 4.3
Validity Test for Pilot Test

No	Variable	Number of Items	KMO	Sig. Bartlett's
1	Quality of Financial Report:			
	- Relevance			
	- Faithful Representative	6	0.696	0.000
	- Understandability	5	0.812	0.000
	- Comparability	6	0.776	0.000
		6	0.740	0.000
2	Cloud Accounting	2	0.500	0.000
3	Technology Readiness	5	0.663	0.000
4	Security Concern	4	0.832	0.000
5	Top Management Support	5	0.795	0.000

6	Financial Cost	4	0.663	0.000
7	Competitive Pressure	4	0.567	0.000
8	Regulatory Environment	4	0.847	0.000
9	Vendor Support	4	0.712	0.000

Table 4.4
Reliability Test for Pilot Test

No	Variable	Number of Items	Cronbach's Alpha
1	Quality of Financial Report:		
	- Relevance	6	0.904
	- Faithfull Representative	5	0.962
	- Understandability	6	0.888
	- Comparability	6	0.946
2	Cloud Accounting	2	0.845
3	Technology Readiness	5	0.845
4	Perceived Benefits	8	0.952
5	Security Concern	4	0.960
6	Top Management Support	5	0.927
7	Financial Cost	4	0.876
8	Competitive Pressure	4	0.884
9	Regulatory Environment	4	0.940
10	Vendor Support	4	0.962

The validity test for this pilot test used the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO). Based on the validity test results in Table 4.3, the KMO value is ≥ 0.5 , and the Bartlett's test is significant ($p < 0.05$). Meanwhile, for the perceived benefits variable, because the number of questions was 8 with a sample for the pilot test of 30 people, the KMO test could not be conducted, so the validity test for the perceived benefits variable used Pearson Correlation. The test results showed that the Pearson correlation for the perceived benefits variable ranged from 0.767 to 0.987, exceeding the r-table value for 5% significance (0.361). Thus, all research questions in the questionnaire are valid. Furthermore, Table 4.4 presents the reliability test results, expressed as Cronbach's Alpha values. The results of the test indicate that the Cronbach's Alpha value is > 0.7 , meaning that all questions in the questionnaire are reliable. Therefore, based on the results of the pilot test, it can be concluded that all research questions in the questionnaire can be distributed to all respondents who are in the sample in this study.

4.9 Preliminary Analysis

Preliminary analysis is the initial stage of the quantitative data analysis process, aimed at assessing the quality and suitability of the data before the main analysis is conducted. The preliminary analysis conducted in this study included data screening, a common method bias test, a multicollinearity test, and a non-response bias test.

4.9.1 Data Screening

Data screening is the initial step in quantitative data analysis that aims to examine, clean, and prepare raw data for statistical analysis. Data screening in this study was conducted to identify any outliers that could interfere with subsequent analysis. The outlier test in this study used the SPSS program with the Boxplot method, so that any outliers were removed and not used in subsequent analyses. Furthermore, in this study, the boxplot method was used to detect outliers because this method is effective in statistics, namely, simple, visual, and mathematically reliable.

4.9.2 Common Method Bias Test

The Common Method Bias (CMB) test is used to detect and address potential bias in research data caused using uniform data collection methods. CMB can also occur due to errors or disturbances in research data that arise because all data is collected in the same way and at the same time (Kock et al., 2021). Therefore, to reduce the occurrence of bias, the common method bias test can be performed using procedural and statistical techniques. The procedural technique involves distinguishing questions for dependent and independent variables by asking questions about organizational characteristics. Meanwhile, the statistical techniques commonly used in the common method bias test include Harman's single-factor test (Kock et al., 2021), and the multicollinearity test to determine the VIF values resulting from the PLS-SEM analysis.

Harman's single-factor test is used to detect common method bias, particularly when a single questionnaire is used to collect data on independent and dependent variables from the same respondents (Kock et al., 2021). In this test, if a single factor appears or the first factor explains more than 50% of the total variance, this indicates potential common method bias. Furthermore, a multicollinearity test using the Variance

Inflation Factor (VIF) value is a statistical technique that can be used to detect common method bias, particularly in Partial Least Squares Structural Equation Modelling (PLS-SEM)-based analysis. The test is performed by calculating the VIF for each construct or indicator in the model. A $VIF > 5$ indicates the possibility of common method bias (Kock et al., 2021).

4.9.3 Non-Response Bias

Non-response bias testing was conducted to determine whether the characteristics of responses from respondents who returned the questionnaire at the beginning differed from those who returned it at the end. In addition, non-response bias testing was conducted to determine whether the characteristics of responses from respondents who returned the questionnaire differed from those of respondents who did not return the questionnaire (non-respondents) (Ghozali, 2018). Non-response bias occurs when individuals who do not respond to a survey or questionnaire have characteristics, attitudes, or behaviors that are systematically different from those who do respond. The main components of unit non-response are non-contact and refusal, where, in addition to the response rate, the contact rate and refusal rate are important indicators for evaluating the survey and its fieldwork (Luiten et al., 2020). This test uses an independent-samples t-test in SPSS to assess the consistency of respondents' answers. If the significance value in the independent sample t-test is $> 5\%$, it indicates that there is no bias or no significant difference between the answers of respondents received at the beginning of the questionnaire collection, compared to the answers of respondents received at the end of the questionnaire collection.

In the non-response bias test, the variables taken were quality of financial reports, cloud accounting, security concerns, top management support, and competitive pressure. These five variables were selected because they are included in the main variables in this study. The quality of financial reports is a dependent variable to determine the level of financial report quality in SMEs. Then, cloud accounting is a mediating variable and is included in the core variables, namely, why SMEs use cloud accounting systems and its impact on the quality of financial reports in SMEs. In the TOE framework, each context is represented by each factor. Security concerns were chosen because they are not only important factors in the technological context of the TOE framework but can also be a major determinant in an organization's decision to

use technology. Furthermore, in the implementation of new technology, it is important to ensure the active involvement and commitment of top management, so that top management support is one of the variables selected in the non-response bias test. Meanwhile, competitive pressure is one of the variables selected in this test because organizations are often driven to use new technology to maintain or improve their competitive advantage in the market.

4.10 Descriptive Analysis

Descriptive analysis is used to determine the variables in the study. Descriptive analysis provides an overview of the data, including the mean, standard deviation, minimum, and maximum values of the variables studied. This study uses a Likert scale from 1 (Strongly disagree) to 5 (Strongly agree). The number 3 is the middle value; if the answer is less than 3, it indicates that the respondent disagrees with the question. However, if the answer is more than 3, it proves that the respondent agrees with the question.

In this study, the results of descriptive statistical tests are examined for all variables, namely quality of financial reports, cloud accounting, technology readiness, perceived benefits, security concerns, top management support, firm size, financial costs, competitive pressure, regulatory environment, and vendor support. The descriptive analysis in this study presents the mean and standard deviation for each item across all variables.

4.11 PLS-SEM Analysis

Hypothesis testing was used to determine the effect of independent variables on dependent variables. This study used the PLS-SEM equation model because the PLS-SEM technique aims to minimize errors in all endogenous latent variables, thereby preventing uncertainty and unacceptable solutions from the research results (Ghozali, 2021). Thus, the PLS-SEM technique is generally used in predictive or exploratory research or as an extension of existing structural theory (Hair, Black, et al., 2019). Additionally, sample size in PLS-SEM analysis is not strictly constrained, allowing PLS-SEM to accommodate a much wider range of sample sizes, including small sample sizes (Hair, Black, et al., 2019). Furthermore, this research model is a hierarchical

components model, formed from several lower-order constructs (LOC). Hierarchical component models are relatively easier to estimate because PLS-SEM can handle complex models. Hierarchical components models can also be estimated using CB-SEM, but generally require more complex modelling, and CB-SEM is more stringent in terms of normality assumptions and sample size, making it sometimes less flexible (Hair et al., 2022).

4.11.1 Measurement Evaluation

This research model is included in the hierarchical components model with a reflective-reflective measurement model. Where the indicators used to measure first-order components are reflective, then the indicators to measure second-order components are also reflective. In the hierarchical components model, the assessment for the measurement of this study uses an embedded two-stage approach (Sarstedt et al., 2019). The embedded two-stage approach is one method for measuring second-order constructs in Structural Equation Modelling - Partial Least Squares (PLS-SEM) (Sarstedt et al., 2019). This method is used for higher-order constructs, which are constructs formed from several first-order constructs. The embedded two-stage approach is a combination of two-stage measurements, but it is still conducted within a single PLS-SEM model (embedded), not separately. This method uses higher-order constructs (HOC) in the first stage to calculate construct scores, which serve as indicators of higher-order constructs in the second stage (Hair et al., 2022).

Stage 1 of the embedded two-stage approach involves measuring all first-order constructs using their respective indicators. The main focus of stage 1 in the embedded two-stage approach method is on the dimensions formed from the HOC stage 1. Where the latent variable scores obtained from these dimensions are HOC stage 1 scores, which will later be used as HOC indicators in the second stage (Hair et al., 2022). In stage 2, the latent variable scores from the first-order constructs are used as new indicators for the second-order constructs within the same model, without creating a separate model.

Although it requires two stages for construct measurement, the measurement model assessment used remains the same for both stages. The difference is that in Stage 1 of the embedded two-stage approach, no structural model (inner model) is designed; the process only goes up to the measurement of first-order constructs, and focuses on the dimensions formed from HOC Stage 1 as the basis for the HOC score in Stage 2.

There are two steps in conducting PLS-SEM analysis: designing the measurement model (outer model) and the structural model (inner model).

4.11.2 Assessment of The Measurement Model (Outer Model)

The measurement model (outer model) explains the relationship between latent constructs and their indicators (Hair et al., 2021). There are several steps that must be taken in testing the measurement model, namely assessment of loading factors, assessment of construct reliability and validity, and assessment of discriminant validity. Assessment of the measurement model needs to be carried out to ensure that the indicators measure the construct well (reliable), the construct is valid in theory and statistically, and there is no overlap between constructs (Hair et al., 2021).

4.11.2.1 Assessment of Loading Factor

The loading factor is a number that indicates how strong the relationship is between an indicator and a latent construct in a PLS-SEM model (Hair et al., 2021). According to Effort et al. (2018), there are several purposes for conducting a loading factor assessment: to assess the reliability of individual indicators, to decide whether an indicator should be retained, revised, or removed from the model, and to ensure that the indicators truly reflect the latent construct. There are several indicators recommended for assessing the loading factor. According to Hair et al. (2021), the recommended loading factor value is above 0.708. Meanwhile, according to Chin (1998), a loading factor value above 0.6 can still be used in research. Therefore, the loading factor value must be in accordance with the recommended indicators so that it can be used for further analysis.

4.11.2.2 Assessment of Construct Reliability and Validity

The next step after conducting the loading factor assessment is to assess construct reliability and validity. Consistency reliability is determined from the composite reliability (CR) and Cronbach's alpha values. The recommended composite reliability value for measuring consistency reliability is 0.7 to 0.9. Consistency reliability in PLS-SEM analysis can also be measured using Cronbach's alpha value. A

Cronbach's alpha value is considered satisfactory if all values are above the threshold of 0.6 (Nunnally & Bernstein, 1994). Furthermore, to assess construct validity in PLS-SEM analysis, the average variance extracted (AVE) can be used, where the acceptable AVE value is greater than 0.5 (Hair et al., 2021).

4.11.2.3 Assessment of Discriminant Validity

Discriminant validity is the extent to which a construct is empirically distinct from other constructs in the model. This means that a construct should be able to explain the variance of its own indicators better than the variance of other constructs' indicators. Discriminant validity is important in PLS-SEM analysis because it ensures that constructs in the model truly measure different concepts and do not overlap (Hair et al., 2021). Three commonly used approaches are the Fornell-Larcker Criterion, Cross Loadings, and the Heterotrait-Monotrait Ratio (HTMT).

The Fornell and Larcker test is viewed from the square root value of the AVE, where the AVE root must be greater than the correlation between constructs in order to achieve discriminant validity (Hair, Risher, et al., 2019). Meanwhile, in assessing discriminant validity using cross-loadings, each indicator must have the highest loading value in its own construct compared to the loading values in other constructs (Hair, Risher, et al., 2019). Furthermore, the HTMT is the ratio of the average correlation of indicators between different constructs (heterotrait-heteromethod) compared to the average correlation of indicators measuring the same construct (monotrait-heteromethod) (Effort et al., 2018). The threshold value for the HTMT is 0.9 (Henseler et al., 2015). Therefore, if the HTMT value is greater than 0.9, it indicates that the two constructs in the model are likely not empirically different, thus indicating a problem with discriminant validity. Table 4.5 below summarizes the measurement model that must be met before proceeding to the next analysis.

Table 4.5
Measurement Model Indicators

Indicator	Explanation	General Criteria	Source
Outer Loadings	Measures the strength of the relationship between indicators and their constructs	≥ 0.708 > 0.6	(Hair et al., 2021) (Chin, 1998)
Cronbach's Alpha	Conservatively measures	≥ 0.70	(Nunnally &

Indicator	Explanation	General Criteria	Source
	construct reliability		Bernstein, 1994)
Composite Reliability (CR)	Measures internal consistency between indicators within a construct	≥ 0.70	(Hair et al., 2021)
Average Variance Extracted (AVE)	Measures how much indicator variance is explained by the construct	≥ 0.50 (indicates convergent validity)	(Hair et al., 2021)
Discriminant Validity - Fornell-Larcker	AVE square root > correlation between constructs	$\sqrt{\text{AVE}} > \text{correlation}$ between constructs	(Hair et al., 2021)
Discriminant Validity - Cross Loadings	Indicator loading is higher on the original construct than other constructs	Loading of indicators on their own constructs must be highest	(Hair et al., 2021)
Discriminant Validity - Heterotrait-Monotrait Ratio (HTMT)	Measures the difference between constructs statistically	HTMT < 0.90	(Hair et al., 2021)

4.11.3 Structural Model

Structural model analysis is a stage for testing hypotheses and relationships between constructs in a conceptual model. Structural model analysis is performed if the entire measurement model has been fulfilled, i.e., if there are no problems with the outer loading, reliability, validity, and discriminant validity values. There are several stages in structural model analysis, namely assessing collinearity as seen from the variance inflation factor (VIF) value, assessing the significance and path coefficients, assessing the coefficient of determination (R^2), assessing the effect size (f^2), and assessing predictive relevance (Q^2).

4.11.3.1 Assessment of Collinearity

Collinearity assessment is a process for evaluating whether multicollinearity exists among constructs in the structural model (inner model) in PLS-SEM. One of the main tools used is the Variance Inflation Factor (VIF). VIF measures how much the variance of an estimate of a construct increases due to its correlation with other

constructs. In the context of PLS-SEM, the VIF is used to avoid distortions in path coefficient estimates due to excessive relationships between exogenous constructs (Hair et al., 2021). The VIF value should not exceed 5, as a high VIF value above 5 indicates collinearity issues, which can affect the reliability and interpretation of regression coefficients, as well as the overall stability of the model (Sarstedt et al., 2019).

4.11.3.2 Assessment of Path Coefficient

Assessment of path coefficients is a key step in structural model analysis to evaluate the relationships between latent constructs in terms of direction, strength, and significance (Hair, Risher, et al., 2019). This path coefficient assessment explains the direct influence between variables. Path coefficient assessment can be seen from the Beta value, t-value, and p-value. The Beta value determines the direction of positive or negative influence between variables. Meanwhile, the t-value and p-value are used to determine the significance of the influence between variables. The significance criteria for two-tailed tests can be accepted if the t-value ≥ 1.96 with a p-value < 0.05 , and vice versa. For one-tailed significance criteria, the results are considered significant if the t-value is ≥ 1.645 and the p-value is < 0.05 . Therefore, the influence between variables can be accepted or rejected not only based on the Beta value but also on the t-value and p-value.

4.11.3.3 Assessment of Coefficient of Determination (R^2)

The coefficient of determination (R^2) indicates how much of the variance of the endogenous construct can be explained by the exogenous construct in the model (Hair et al., 2021). The endogenous constructs in this study are the variables quality of financial reports and cloud accounting. The variable cloud accounting influences the variable quality of financial reports. Meanwhile, the variable cloud accounting is influenced by factors from the TOE framework: technology readiness, perceived benefits, security concerns, top management support, firm size, financial costs, competitive pressure, regulatory environment, and vendor support. The general guidelines used for assessing R^2 are 0.75, 0.50, and 0.25, which are considered substantial, moderate, and weak, respectively (Hair et al., 2021).

4.11.3.4 Assessment of Effect Size (f^2)

Effect size (f^2) measures how large an exogenous construct's impact is on an endogenous construct in a structural model. The f^2 value helps to understand not only the statistically significant influence, but also how large the influence is in practical terms (Hair, Risher, et al., 2019). According to the guidelines from Hair et al., (2021), f^2 values can be interpreted as follows: 0.02 indicates a small effect, 0.15 indicates a moderate effect, and 0.35 indicates a large effect. Therefore, f^2 is important for evaluating the relative strength of each exogenous construct in explaining the endogenous construct, especially when there are multiple predictors.

4.11.3.5 Predictive Relevance (Q^2)

Predictive relevance (Q^2) is a measure in PLS-SEM used to assess the predictive ability of a structural model for endogenous constructs (Hair et al., 2021). Q^2 assesses whether the model can accurately predict the observed data values not used in the model estimation. If the model can predict the omitted data well, Q^2 will be positive. This is because, in general, the value of Q^2 should be greater than 0. A value of $Q^2 > 0$ indicates that the model has predictive relevance, meaning that the model is not only good at explaining historical data and useful for predicting new observations (Hair et al., 2021). The Q^2 value is calculated for reflective endogenous constructs and can be used to evaluate the model as a whole or per construct (Hair, Risher, et al., 2019). If an endogenous construct has a $Q^2 \leq 0$, the model does not have adequate predictive ability for that construct and may need to be revised (Effort et al., 2018).

4.12 Chapter Summary

This section explains the research methodology used to test the hypotheses in this study. Several stages must be carried out before conducting the analysis: sample selection, determination of measurement indicators for each variable, and preliminary analysis. The sampling technique used is census sampling, so that all populations in this study are used as samples. Furthermore, in the preliminary analysis, several stages must be passed before the data can be used for further analysis, namely testing for outliers, common method bias, and non-response bias. Once all data meet these requirements,

the next analysis technique can proceed. The analysis technique in this study uses PLS-SEM analysis. In PLS-SEM analysis, several steps must be taken to test the hypothesis. The measurement model is the first step to determine whether the research model is suitable for further analysis. There are several stages in measurement model evaluation: testing outer loading, construct reliability and validity, and discriminant validity. If the entire measurement model is valid and reliable, the next step is to analyse the structural model. In structural model analysis, several stages must be carried out, including testing for collinearity, examining path coefficients, assessing the coefficient of determination (R^2), evaluating effect size (f^2), and assessing predictive relevance (Q^2).

CHAPTER 5

FINDINGS ANALYSIS

5.1 Chapter Overview

This chapter explains the research results obtained using quantitative methods, including questionnaires distributed to respondents. The respondents selected for this research were registered SMEs that offered their shares on the santara.co.id website. Chapter 5 consists of eight (8) sub-chapters, where sub-chapters 5.2 and 5.3 relate to response rates, data screening to ensure that the data being analyzed is free of outliers and unbiased, and a description of the respondents who participated in this research. Next, sub-chapter 5.4 presents descriptive statistics to describe respondents' responses to each indicator variable. Sub-chapters 5.5 to 5.7 explain measurement model analysis to determine whether the measurement model results are valid and reliable. This sub-chapter also explains structural model analysis to assess collinearity, path coefficients for direct influence between variables, determination coefficients (R^2), and effect size (f^2). Mediation effects are also discussed in Chapter 5 to determine the indirect effects specified in the hypotheses of this research, as well as the type of mediation identified through the PLS-SEM bootstrapping test. The final section of this chapter presents the overall conclusions of this research.

5.2 Response Rate

This research method used a questionnaire, with the number of questionnaires sent out corresponding to the target respondents of 248 SMEs. This is because this study used an attempted census approach, a data collection strategy that targets all elements of a predefined population as respondents. Although the entire population was targeted for the questionnaire, not all population units responded, and some data did not meet eligibility criteria after screening. Therefore, the final number of respondents analyzed represents an achieved sample rather than a complete enumeration. Questionnaires were given to respondents online using Google Forms, which were sent via email and social media (WhatsApp and Instagram). The time for distributing and collecting questionnaires was six (6) months, from April 2023 to October 2023. Then, of the

number of questionnaires distributed, the number of questionnaires that were not returned or did not receive a response was 15 (6%). Thus, the number of questionnaires returned from respondents was 233 or 94%. Based on the minimum sample size calculation used in the study, namely the recommendation from Krejcie & Morgan (1970) of 152, the G-Power analysis of 114, and the PLS requirement of 100, the number of questionnaires returned from respondents has exceeded the minimum sample size. Table 5.1 below describes the number of questionnaires distributed and obtained for this research.

Table 5.1
Response Rate

Description	Total	Percentage
The number of questionnaires was distributed	248	100
The number of questionnaires not returned	15	6
Response rate	233	94

5.3 Preliminary Analysis

This preliminary analysis is carried out before testing the hypothesis. The preliminary analysis in this research consisted of data screening, common method bias test, multicollinearity test, and non-response bias test. Preliminary analysis is one of the things that is considered important before conducting hypothesis testing, including PLS-SEM.

5.3.1 Data Screening

This research questionnaire was given to registered SME owners and offered their shares on the santara.co.id platform. A total of 248 questionnaires were distributed to all respondents in this study. Furthermore, 233 questionnaires were obtained by distributing them via Google Forms. All answers received from respondents are complete and usable, as questionnaires sent via Google Forms require respondents to complete all questions before the form is sent. However, from 233 questionnaires, data screening was conducted to determine the final amount of usable data for further testing. Two stages were conducted during the data screening process in this research. First,

carry out an outlier test to determine the amount of data or answers from respondents that cannot be used. The outlier test in this research uses the SPSS program and the Boxplot method. Based on Figure 5.1, it can be seen that several points are outside the box, where these points are outlier data. There are 13 data points included as outliers in this study, so these data are not used for further testing. Next, after running an outlier test, the data were rechecked, and any single-line responses were removed by deleting the answers of respondents who entered the same numbers in all questions. Four (4) respondents answered linearly, giving the same answer to all questions. Therefore, after performing an outlier test and rechecking the respondents' data, 216 data points were obtained, which could be used for further testing.

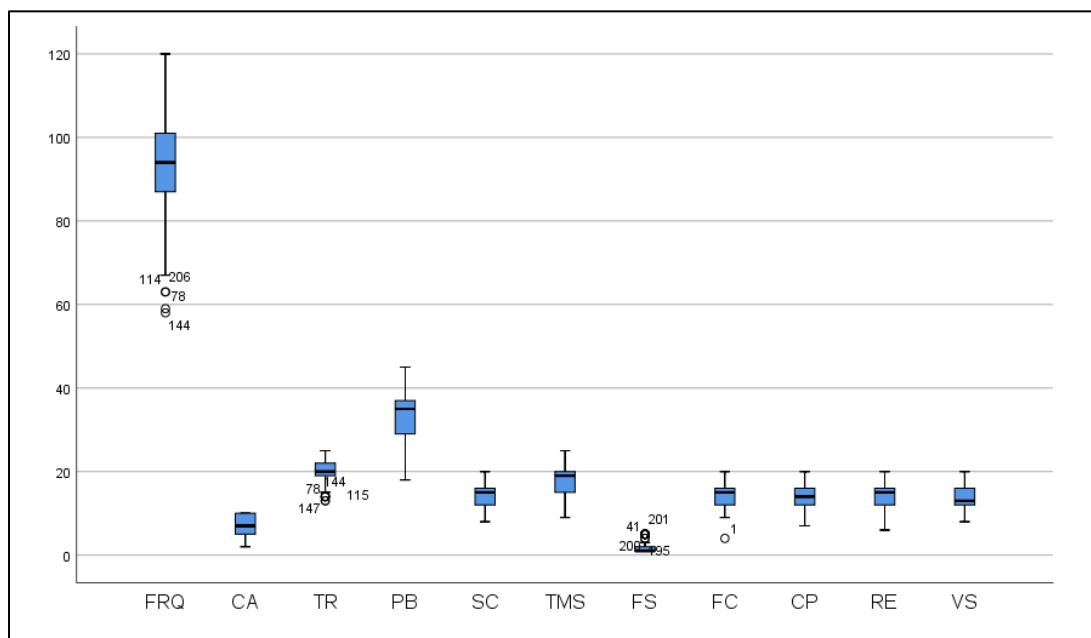


Figure 5.1 Test for outliers with Boxplot

5.3.2 Common Methode Bias Test

The Common Method Bias (CMB) test is used to detect and address potential bias in research data arising from uniform data-collection methods. This bias can occur when respondents give consistent answers in a particular way, which can affect the validity of research results (Kock et al., 2021). Common method bias (CMB) can be detected using statistical techniques. The statistical technique most commonly used in the common method bias test is Harman's single-factor test (Kock et al., 2021). Common method bias (CMB) can be done using procedural and statistical techniques.

The procedural technique in question is to differentiate questions for dependent and independent variables by asking questions about organisational characteristics. Respondents were asked to complete questions on the dependent variable, then on organisational characteristics, and finally on the independent variables. This method can reduce bias because respondents are given a pause before answering the next actual question.

Furthermore, the statistical technique most commonly used in the common method bias test is Harman's single-factor test (Kock et al., 2021). In this research, Harman's single-factor test is performed in SPSS. The VIF value obtained from a PLS-SEM analysis can also be used as a statistical tool to assess common-method bias.

Table 5.2 below explains the results of Harman's single-factor test. Based on this table, it can be seen that the variance value is 31.96%, which is below 50%. These values indicate that the single factor did not account for a majority of the variance, and there is no serious common-method bias in this research model. Apart from that, Table 5.3 presents the VIF test results for each construct in the PLS-SEM model, with values ranging from 1.00 to 3.91. Based on the approach developed by this test is used to detect common-method bias, which arises from the use of the same data-collection method. According to this approach, if all constructs have VIF values < 5 , the model can be declared free of potential common method bias (Hair et al., 2022). Furthermore, this test differs from conventional collinearity tests in linear regression, for example, in SPSS, because in PLS-SEM, this test not only measures the relationship between constructs in the structural model (inner model) but also reflects potential collinearity at the indicator level (outer model). This is what makes PLS-SEM an appropriate method for detecting common method bias (Hair et al., 2022; Kock et al., 2021). Therefore, the results of these two statistical techniques indicate that there is no problem of common method bias in this research.

Table 5.2
Harman's Single Factor Test

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	21.702	32.882	32.882	21.094	31.961	31.961

Table 5.3
Full Collinearity Test

Constructs	VIF
Cloud accounting (CA)	1.00
Technology readiness	1.99
Perceived benefit	3.91
Security concern	3.84
Top management support	3.47
Firm size	1.07
Financial cost	1.69
Competitive pressure	2.72
Regulatory environment	2.51

5.3.3 Non-Response Bias Test

A non-response bias test was carried out to see whether the characteristics of the answers given by respondents who returned the questionnaire at the beginning and those who returned the last questionnaire were different. Non-response bias testing is necessary because in questionnaire-based surveys, there is a risk that respondents who are slow to respond (or even do not respond) have different characteristics from those who respond quickly, so that if not controlled, this can reduce external validity and cause research results to be biased towards certain groups (Hair et al., 2022). This test uses the independent sample t-test from SPSS to test the consistency of respondents' answers as seen from the five variables in this research, namely quality of financial reports (FRQ), cloud accounting (CA), security concern (SC), top management support (TMS), and competitive pressure (CP). Based on Table 5.4 below, the p-value for all variables, namely FRQ (0.842), CA (0.359), SC (0.237), TMS (0.840), and CP (0.472), is greater than the significance value of 5%. This proves that there is no bias or significant difference between the respondents' answers received at the beginning of collecting the questionnaire, compared to the respondents' answers received at the end of collecting the questionnaire. Thus, the results of this test indicate that the response can be used for further testing in this research.

Table 5.4
Independent Sample T-test

Variables	p-value	Mean Difference
Quality of financial reports (FRQ)	0.842	-0.467
Cloud accounting (CA)	0.359	-0.700
Security concern (SC)	0.237	0.733
Top management support (TMS)	0.840	0.167
Competitive pressure (CP)	0.472	0.367

5.3.4 Description of Respondents

Respondents in this research are SME whose businesses are registered on the website santara.co.id. There were 233 questionnaires returned, and only 216 questionnaires could be used as data in this research. The following profiles of the 216 respondents who participated in this research are shown in the table below:

Table 5.5
Respondent Profile

Information	Amount	Percentage
Gender		
Male	141	65%
Female	75	35%
Age		
≤ 25 years	17	8%
26 – 30 years	44	20%
31 – 35 years	37	17%
> 35 years	118	55%
Education		
High school seniors	43	20%
Bachelor	130	60%
Masters	42	19.9%
Doctor	1	0.1%
Income per year		
≤ 2 billion rupiah (USD 118,000)	195	90%
> 2 billion rupiah (USD 118,000)	21	10%
The number of employees		
5-19 employees	179	83%
≥20 employees	37	17%
Type of main business		
Food	118	55%
Fashion	32	15%
Agribusiness	17	8%
Service	34	16%
Other	15	7%
Business Age		
≤ 5 years	127	59%

6-10 years	65	30%
11-15 years	16	7%
> 15 years	8	4%

Based on the table above, it can be seen that the majority of respondents were men, 141 people (65%), while the rest were women, 75 people (35%). Based on the data above, the majority of respondents were male, reflecting a broader pattern in which business leadership remains predominantly male. Meanwhile, women still face the constraints of dual roles that can limit their opportunities to engage in business full-time. However, the 35% female figure is also quite significant, reflecting that women also play a role in business development.

The majority of respondents were over 35 years old, namely 118 people (55%). Followed by 44 respondents aged 26-30 years (20%), 37 people aged 31-35 years (17%) and 17 people aged under 25 years (18%). This indicates that those over 35 years old are considered mature in running a business and can still keep up with developments in information technology for the sustainability of their business.

Furthermore, the highest level of education among respondents was a bachelor's degree with 130 people (60%), followed by senior high school and a master's degree with 43 people and 42 people respectively. A bachelor's degree is the level of education generally possessed by young people in Indonesia. In addition, respondents with a bachelor's degree can keep up with developments in information technology and apply them to their businesses.

The majority of respondents' annual income was less than 2 billion rupiah (approximately USD 118,000, based on the 2025 exchange rate). This indicates that the majority of respondents fall into the small enterprise category. According to Law No. 20 of 2008 of the Republic of Indonesia, the small enterprise category has a maximum annual income of 2 billion rupiah (approximately USD 118,000, based on the 2025 exchange rate). Meanwhile, the remaining respondents in this study fell into the medium enterprise category, with annual income exceeding 2 billion rupiah (approximately USD 118,000, based on the 2025 exchange rate).

Based on the table above, the majority of workers in the SMEs under research are in SMEs with 5-19 employees (83%), while the remainder are in SMEs with more than 20 employees (17%). According to the Central Statistics Agency in Indonesia, SMEs with 5-19 employees are classified as small businesses. Furthermore, SMEs with more than 20 employees are included in medium-sized businesses.

The majority of businesses owned by respondents in this study are in the food sector (118 respondents, 55%), service (34 respondents, 16%), which consists of salons, spas, and car rentals, and fashion (16 respondents), which operates in the clothing sector, shoes and bags, as many as 32 respondents (15%), and agribusiness, such as agriculture and plantations, as many as 17 respondents (8%). Furthermore, the remaining 15 respondents (7%) are SMEs engaged in activities other than those mentioned above, such as animal husbandry, printing, and handicrafts. The food industry has the largest number in this research because, according to data from the Central Bureau of Statistics in Indonesia in 2022, this industry is the most popular among SME players, reaching 36% of the total SMEs in Indonesia.

The majority of respondents' business age was ≤ 5 years, namely 127 respondents (59%). The following order is business age between 6-10 years, with as many as 65 respondents (30%). This business age is still classified as a new business. It is in the development process so that they may care about the development of information systems and information technology for business development. Meanwhile, the rest are respondents with a business age of more than 11 years, who can be said to have settled into running their business.

5.4 Descriptive Statistics for Items on Variables

The statistical description of variables is intended to analyze data based on the results obtained from respondents' answers to each indicator measuring the variable. Descriptive analysis in this study presents the average value and standard deviation for each item on all variables where the variables that are presented are quality of financial reports (FRQ), cloud accounting (CA), technology readiness (TR), perceived benefits (PB), security concern (SC), top management support (TMS), firm size (FS), financial cost (FC), competitive pressure (CP), regulatory environment (RE), and vendor support (VS).

5.4.1 Quality of Financial Reports

The quality of financial reports variable in this research consists of five (5) indicators: relevance, faithful representativeness, understandability, comparability, and timeliness. Each question item to measure this variable uses a 1-5 Likert scale. The

number 1 indicates "strongly disagree" and the number 5 means "strongly agree". The relevance indicator in this variable consists of six (6) questions, the faithful representative indicator consists of five (5) questions, the understandability indicator consists of six (6) questions, the comparability indicator consists of six (6) questions, and the timeliness indicator consists of one (1) question.

Table 5.6 below describes the average value for measuring indicators in the quality of financial reports variable. Based on this table, the average value for the quality of financial reports indicator is 3.89-4.02. The highest average value of 4.02 indicates understandability, which consists of 6 questions. This indicates that the majority of respondents agree that financial reports prepared by SMEs must be easy for users to understand. Apart from that, the financial report must be clear and informative about the financial condition of the SMEs. Meanwhile, the comparability indicator is the lowest average value of the quality of financial reports variable. The average value for each question from this indicator is 3.72. The results of this average value indicate that the majority of respondents agree that the financial reports prepared by SMEs can be used as a comparison tool regarding their financial performance from the previous year.

Table 5.6
Mean Values of Measures Indicators – Quality of Financial Reports

Indicators	Mean	Std. Deviation
Relevance	3.95	0.53
Faithfull Representative	3.88	0.49
Understandability	4.02	0.53
Comparability	3.72	0.50
Timeliness	3.89	0.91

5.4.2 Cloud Accounting

The cloud accounting variable in this research consists of two (2) question items, each measured using a Likert Scale of 1 to 5. The first question discusses the level of involvement of SMEs in using the cloud accounting system. Number 1 shows that SMEs are not considering using the system, while number 5 shows that SMEs have fully used the cloud accounting system. Based on Table 5.7, the average value of items

for the first question is 3.42, which proves that the majority of respondents have evaluated the cloud accounting system and will use the system for the advancement of SMEs' business. Furthermore, the second question in this variable discusses the time SMEs need to use the cloud accounting system. Number 1 shows that SMEs are not considering using a cloud accounting system for any period, while number 5 shows that SMEs that have not used a cloud accounting system will use the system for less than 1 year. The average value seen in Table 5.7 for the second question item is 3.44, proving that most respondents will use a cloud accounting system within two (2) years.

Table 5.7
Mean Values of Measures Indicators – Cloud Accounting

Code	Measure Items	Mean	Std. Deviation
Z1	At what stage of cloud accounting is your company currently engaged?	3.42	1.517
Z2	If you're anticipating that your company will use cloud accounting in the future. How long do you think it will happen?	3.44	1.578

5.4.3 Technology Readiness

The technology readiness variable consists of five (5) question items, which are measured using a Likert Scale of 1 to 5. Based on Table 5.8, it can be seen that the highest average value is question item X1.2 of 4.21, which proves that the majority of respondents have internet access to support their work and everyday life. Currently, the internet is the most essential technology, so respondents feel it is a necessity. Furthermore, the lowest average value of the technology-readiness variable is for the question item.

Table 5.8
Mean Values of Measures Indicators – Technology Readiness

Code	Measure Items	Mean	Std. Deviation
X1.1	The company provides internet access in its operations	4.14	0.604
X1.2	The majority of employees have Internet access	4.21	0.577
X1.3	The company knows how IT can be used to support operations	4.07	0.668

X1.4	Within the company, there are the necessary skills to implement cloud accounting	3.81	0.661
X1.5	The company databases are electronically integrated with cloud accounting systems	3.72	0.701

5.4.4 Perceived Benefits

The perceived benefits variable in this research consists of eight (8) question items measured using a Likert Scale of 1 to 5. Table 5.9 below shows the average value of each question item in this variable. The highest average value for this variable is 3.85, from item X2.2, indicating that the majority of respondents agree that transaction data entered into the cloud accounting system is maintained rather than lost and can be reused when needed. Transaction data entered into the cloud accounting system will be stored and accessible anytime, anywhere, so it can be used again if SMEs need it. Meanwhile, the lowest average value of this variable comes from items X2.7, with a value of 3.66. This shows that the majority of respondents agree that using a cloud accounting system can improve their business image, as SMEs that use this system have complete, up-to-date financial information. Valid financial information makes it easier for users, such as creditors and investors, to understand a company's financial performance, so they will have more confidence in SMEs with complete and informative financial information.

Table 5.9
Mean Values of Measures Indicators – Perceived Benefits

Code	Measure Items	Mean	Std. Deviation
X2.1	The use of cloud accounting services increases the accuracy of processed financial transaction data	3.79	0.696
X2.2	The use of cloud accounting services increases the security of the entered financial transaction data	3.85	0.679
X2.3	The use of cloud accounting services improves the quality of operations	3.75	0.719
X2.4	Using cloud accounting allows you to perform certain tasks faster	3.74	0.715
X2.5	The use of cloud accounting services reduces errors in calculating financial transactions	3.82	0.673
X2.6	Using cloud accounting services can improve your company's image	3.75	0.665
X2.7	Our SME is able to compete with other SMEs because of the use of cloud accounting	3.66	0.803
X2.8	Cloud accounting allows the company to increase business productivity	3.75	0.661

5.4.5 Security Concerns

The security concern variable in this research consists of four (4) question items measured using a Likert Scale of 1 to 5. Based on Table 5.10, it can be seen that the highest average value of this variable comes from question item X3.4, with a value of 3.76. Most respondents agree that sensitive data entering the cloud accounting system must be kept secure. The cloud accounting system must protect access to sensitive data from unauthorised users. Meanwhile, the lowest average value is 3.66 with a standard deviation value of 0.662, which comes from item X3.1. Item X3.1 is positioned within the security concern construct because the consistency of cloud accounting use with business strategy reflects management's level of confidence in the security and risk management aspects of the system. In SMEs, the use of technology aligned with business strategy is generally carried out after considering data security risks and operational sustainability. Thus, most respondents agreed that a cloud accounting system is suitable for their business, as it is intended to support business performance in financial recording.

Table 5.10
Mean Values of Measures Indicators – Security Concern

Code	Measure Items	Mean	Std. Deviation
X3.1	Cloud accounting system usage is consistent with our business strategy	3.66	0.662
X3.2	My company is very satisfied with the security environment of cloud accounting systems	3.68	0.692
X3.3	In cloud accounting systems, data is protected from unauthorized changes or use	3.66	0.684
X3.4	In cloud accounting systems, sensitive data is protected from those who should not have access to it	3.76	0.720

5.4.6 Top Management Support

The top management support variable in this research consists of five (5) question items measured using a Likert Scale of 1 to 5. Table 5.11 shows that the highest average value of the five (5) top management support variable question items is 3.69, which comes from item X4.2. Most respondents agree that top management consistently supports all SMEs' business activities, including the use of cloud accounting systems. SME owners who also serve as top management should embrace all emerging technological innovations, including cloud accounting systems. Apart from that, they should also accept and support ideas from employees that can improve SMEs' business performance. Meanwhile, the lowest average value in this variable comes from question item X4.1, with a value of 3.54. Item X4.1 represents top management support manifested in implementation decisions. In SMEs, the use of cloud accounting is inseparable from the approval and direct support of top management, so this item reflects managerial support through organisational actions. Thus, some respondents agreed that the use of cloud accounting systems in SMEs requires top management support, and that these systems are useful for improving SME financial performance because they can process and store all financial transaction data for reporting.

Table 5.11

Mean Values of Measures Indicators – Top Management Support

Code	Measure Items	Mean	Std. Deviation
X4.1	My company uses cloud accounting system.	3.54	0.764
X4.2	The company's management (the owner of SME) supports the implementation of cloud accounting	3.69	0.736
X4.3	The company's top management (the owner of SME) provides strong leadership and engages in the process when it comes to information systems	3.63	0.785
X4.4	The company's management (the owner of SME) is willing to take risks (financial and organizational) involved in the use of cloud accounting	3.62	0.685
X4.5	Top management in my company considers cloud accounting system using important	3.55	0.707

5.4.7 Firm Size

The firm size variable in this study was measured using one (1) question regarding the number of employees in SMEs. The increasing number of employees in the SME business indicates that the company's size is also growing. In this study, firm size is determined by the number of employees in SMEs, and then categorised into small (5-19 employees) and medium (≥ 20 employees). Based on Table 5.12, it can be seen that the average value of this variable is 1.68. This shows that the majority of respondents have between five (5) and 19 employees, which are classified as small businesses. The relatively small number of employees can occur because the majority of SMEs serve only the local market, producing only a few goods and offering services that meet local needs.

Table 5.12

Mean Values of Measures Indicators – Firm Size

Code	Measure Items	Mean	Std. Deviation
X5	The number of company employees	1.68	1.139

5.4.8 Financial Costs

The financial cost variable in this study consists of four (4) questions, which are measured using a Likert Scale of 1 to 5. Table 5.13 shows this variable's highest average value of 3.64, which comes from question X6.2. Most respondents agree that the operational costs incurred in using a cloud accounting system are high. In general, companies use third-party vendors to obtain and use the system, and, of course, there will be costs incurred in accordance with the company's specifications. The more complete the features or specifications of a cloud accounting system, the higher the costs of using it. Moreover, the majority of respondents fall into the small business category, so the costs of using a cloud accounting system are perceived as high. Meanwhile, the lowest average value in this variable comes from question X6.4, with a value of 3.42. This shows that respondents agree that the costs of using a cloud accounting system are significant. When compared with the benefits of using a cloud accounting system, the costs that the company will incur will be comparable to the benefits that will be obtained.

Table 5.13
Mean Values of Measures Indicators – Financial Cost

Code	Measure Items	Mean	Std. Deviation
X6.1	The setup costs for using a cloud accounting system are high	3.50	0.668
X6.2	The operational costs of using a cloud accounting system are high	3.64	0.661
X6.3	The costs of training to understand cloud accounting systems are high	3.55	0.673
X6.4	In the context of your company's overall information systems budget, how significant would the financial cost of implementing a cloud accounting system be?	3.42	0.785

5.4.9 Competitive Pressure

The competitive pressure variable in this research consists of four (4) questions measured using a Likert Scale of 1 to 5. Table 5.14 shows that the highest average value

of all questions in this variable is 3.59, which comes from question item X7.4. This shows that the majority of respondents agree that several SMEs who are competitors have used a cloud accounting system in the process of recording their financial transactions. The cloud accounting system can help SMEs and other companies with various financial tasks, such as recording financial transactions, planning finances, calculating taxes, and more. Meanwhile, the lowest average value in this variable is 3.39, which comes from question item X7.3. These results show that, on average, respondents feel there is not too much pressure from competitors to use a cloud accounting system, because although the benefits of using this system for recording financial transactions are very large, the costs are not small either. Therefore, SMEs consider cost issues more than pressure from their competitors.

Table 5.14
Mean Values of Measures Indicators – Competitive Pressure

Code	Measure Items	Mean	Std. Deviation
X7.1	My company thinks that cloud accounting has an influence on competition in their industry	3.53	0.570
X7.2	My company thinks that by using a cloud accounting system they will gain a competitive advantage over their competitors	3.56	0.591
X7.3	My company is under pressure from competitors to use cloud accounting	3.39	0.666
X7.4	Some of our competitors have already started using cloud accounting	3.59	0.760

5.4.10 Regulatory Environment

The regulatory environment variable consists of four (4) question items measured using a Likert scale of 1 to 5. Based on Table 5.15, it can be seen that the highest average value among the four question items in this variable is 3.56, which comes from question item X8.4. These results show that the majority of respondents agree that the government provides support for the use of cloud accounting systems in SMEs. The large number of vendors offering cloud accounting systems for financial recording is proof that these systems can be included in efforts to improve company business performance, including for SMEs. In Indonesia, many vendors provide cloud

accounting systems. However, the process of using them must still follow the applicable laws and regulations in Indonesia, especially in terms of personal data or other important data stored in the cloud system. Furthermore, Table 5.15 also shows the lowest average value for this variable, 3.44, which comes from question item X8.3. This shows that the majority of respondents still agree that business law in Indonesia supports the use of cloud accounting systems. Although no specific law regulates cloud accounting systems, Indonesia has regulations related to information technology and data protection.

Table 5.15

Mean Values of Measures Indicators – Regulatory Environment

Code	Measure Items	Mean	Std. Deviation
X8.1	There is legal protection in the use of cloud accounting	3.52	0.721
X8.2	The laws and regulations that exist nowadays are sufficient to protect the use of cloud accounting	3.54	0.701
X8.3	Existing business law supports the cloud accounting system	3.44	0.700
X8.4	The government strongly supports the use of cloud in accounting in SME	3.56	0.672

5.4.11 Vendor Support

The vendor support variable consists of four (4) question items, each measured using a Likert Scale of 1 to 5. Table 5.16 below shows the highest average value of the four question items originating from this variable, namely question item X9.4 with a value of 3.66. These average results indicate that respondents agree that vendors offering cloud accounting systems provide solutions to all system problems. The cloud accounting system is still relatively new for SMEs, so problems in the process of using it may arise. Therefore, cloud accounting system vendors must always be ready to address user complaints and provide the best solutions to these problems. Furthermore, Table 5.16 shows that the lowest average across all questions in this variable is for question item X9.3, with a value of 3.42. This shows that respondents still agree that there are several vendors who offer free training sessions to offer the cloud accounting systems they have, although not all vendors will provide these free training sessions.

This free training will attract potential cloud accounting system users to use the system. This session will explain how to use it, the data input process, and the reports produced from the cloud accounting system.

Table 5.16
Mean Values of Measures Indicators – Vendor Support

Code	Measure Items	Mean	Std. Deviation
X9.1	Cloud accounting vendors provide technical support for effective use of cloud accounting systems	3.47	0.661
X9.2	Cloud accounting vendors actively market their technology by providing incentives for adoption	3.44	0.775
X9.3	Cloud accounting vendors promote their technology by offering free training sessions	3.42	0.761
X9.4	Cloud accounting vendors provide solutions to problems in using the system	3.66	0.797

5.5 Measurement Model Analysis

This research model is included in the hierarchical components model with a reflective-reflective measurement model. The indicators used to measure first-order components are reflective, and then the indicators to measure second-order components are also reflective. Because this research model includes a hierarchical components model, the assessment for the measurement of this study uses an embedded two-stage approach by Sarstedt et al., (2019).

The embedded two-stage approach is used in this research because the dependent variable in this research, namely the quality of financial reports, is measured using five (5) dimensions, where each indicator consists of several questions, such as the relevance indicator with six (6) questions, faithful representation with five (5) questions, understandability with six (6) questions, comparability with six (6) questions, and timeliness with one (1) question. The SmartPLS application cannot distinguish whether the model being built is a normal model (first order) or a hierarchical components model (second order). This causes the composite reliability (CR) and average variance extracted (AVE) values to be calculated from the normal model, not calculated from the second-order model (Becker et al., 2012). The embedded two-stage

approach consists of two (2) stages to obtain measurement values that are in accordance with the research model.

5.5.1 Measurement Model Analysis – Stage 1

In stage 1, the model is based on general PLS-SEM research models. The quality of financial reports (FRQ) variable is linked to five (5) dimensions: relevance, faithful representativeness, understandability, comparability, and timeliness. Next, the variable quality of financial reports (FRQ) is measured again by question items from the five dimensions. The primary focus in stage 1 is on the dimensions of the quality of financial reports variable: relevance, faithful representation, understandability, comparability, and timeliness. This is because the latent variable scores from each dimension are high-order construct (HOC) scores in stage 1, which will be used as HOC indicators in the second stage (Hair et al., 2022). Figure 5.2 shows the measurement model for stage 1 to assess the HOC model, where, in this study, the HOC is the FRQ. Next, the model will be evaluated by looking at the loading factor, composite reliability (CR), average variance extracted (AVE) and discriminant validity values.

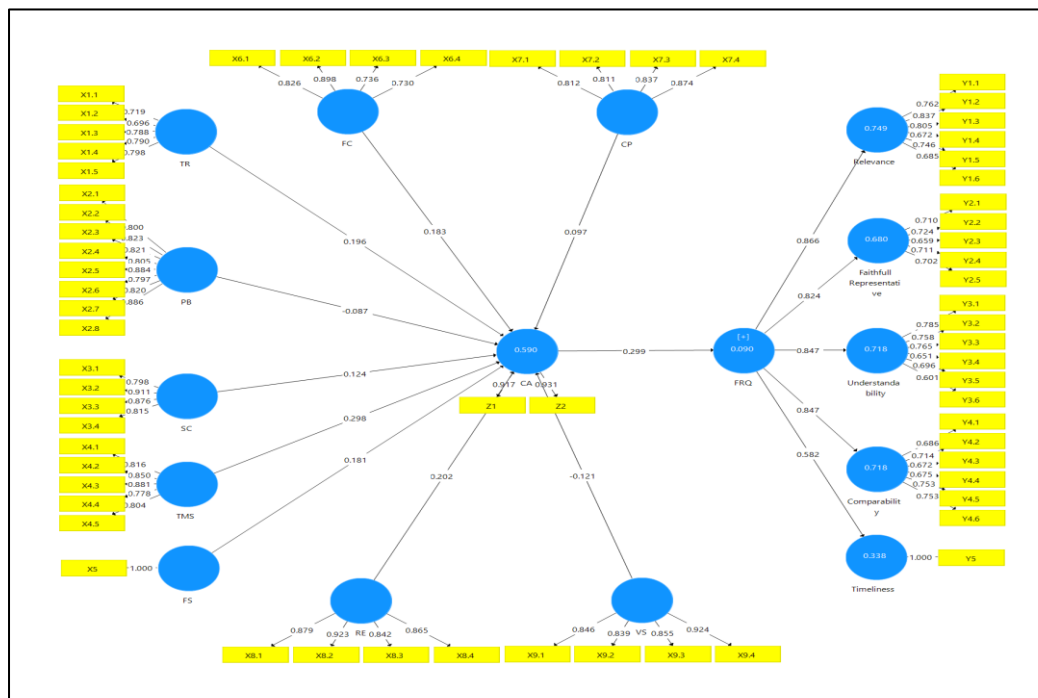


Figure 5.2 Measurement Model Stage 1

5.5.2 Assessment of Loading Factor – Stage 1

The loading factor is the correlation coefficient between indicators and latent constructs in the measurement model (Hair et al., 2021). Based on Figure 5.2, the loading factor values for each construct range from 0.6 to 1. There are around 7 constructs, namely X1.2, Y1.4, Y3.4, Y3.5, Y4.1, Y4.3, and Y4.4 which has a loading factor value of 0.6. According to Hair et al. (2021), the recommended loading factor is above 0.708, indicating that the construct explains more than 50 per cent of the indicator variance. However, according to Chin (1998), loading factor values above 0.6 can still be used in research. In addition, several previous researchers have noted that low loading factors are common in measurement models in social science studies (Hulland, 1999). Therefore, the loading factor values in this study, which are below 0.7, do not need to be removed and can be continued for further assessment.

5.5.3 Assessment of Construct Reliability and Validity – Stage 1

After assessing the loading factors, the following assessment is to assess the internal consistency reliability of the latent construct as measured by several indicators and to ensure that the latent construct is measured accurately and reliably (Hair, Risher, and Sarstedt, 2019). Consistency reliability can be assessed using composite reliability (CR) and Cronbach's alpha. The recommended composite reliability (CR) value for measuring consistency reliability is 0.7 to 0.9. Apart from composite reliability (CR), consistency reliability in PLS-SEM analysis can be assessed using Cronbach's alpha. Cronbach's alpha is considered satisfactory if all values exceed 0.6 (Nunnally & Bernstein, 1994). However, the Cronbach's alpha value has problems because the resulting assumptions are unrealistic, namely that all indicators are interrelated with the construct being measured, so that consistency reliability assessments should use composite reliability (CR), especially for structural equation models (McNeish, 2017).

Although composite reliability is recommended for assessing consistency reliability in structural equation models, this research compared composite reliability and Cronbach's alpha in two ways to assess consistency reliability. Table 5.17 shows that the Cronbach's alpha value in stage 1 for all variables in this study was above the threshold of 0.6. Furthermore, the majority of composite reliability values in stage 1 in this study were above 0.9. Even though the composite reliability for each construct

exceeds the threshold, the measurement of this research model was carried out in two (2) stages. Therefore, all constructs in this stage 1 measurement are considered reliable.

Furthermore, to assess construct validity in PLS-SEM, average variance extracted (AVE) is used. Hair et al. (2021) states that the acceptable AVE value is more than 0.5. Based on Table 5.17, almost all constructs and the dimensions of the quality of financial reports variables have an AVE value of more than 0.5. However, one dimension of financial quality, faithful representation, had an average variance extracted of 0.492, slightly below 0.5. According to Lam (2012) and Maruf et al. (2021), if an AVE value is slightly below the recommended threshold of 0.5 and a composite reliability value is above 0.7, then the convergent validity of the construct is considered acceptable.

Table 5.17
Construct Reliability and Validity – Stage 1

Construct	Cronbach's Alpha	Composite Reliability	AVE
Cloud accounting (CA)	0.829	0.921	0.853
Competitive pressure (CP)	0.854	0.901	0.695
Financial cost (FC)	0.814	0.876	0.641
Firm size (FS)	1.000	1.000	1.000
Perceived benefits (PB)	0.935	0.947	0.689
Regulatory environment (RE)	0.901	0.931	0.771
Security concern (SC)	0.872	0.913	0.725
Top management support (TMS)	0.884	0.915	0.683
Technology readiness (TR)	0.822	0.872	0.577
Vendor support (VS)	0.895	0.924	0.752
Comparability	0.802	0.859	0.504
Faithfull Representative	0.742	0.829	0.492
Relevance	0.846	0.887	0.568
Timeliness	1.000	1.000	1.000
Understandability	0.804	0.860	0.507

5.5.4 Assessment of Discriminant Validity – Stage 1

The next step in assessing the measurement model is to look at the value of discriminant validity. There are several tests that can be used to assess discriminant validity, such as the Fornell-Larcker test, cross-loadings, and the heterotrait–monotrait

ratio (HTMT). However, the most recommended is the heterotrait–monotrait ratio (HTMT) test of correlations (Henseler et al., 2015). However, this research presents the Fornell-Larcker test and the heterotrait–monotrait ratio (HTMT) test to assess discriminant validity at stage 1. The Fornell-Larcker test compares the correlations between constructs and the square roots of the Average Variance Extracted (AVEs) for each construct; the square root of the AVE must be greater than the correlation between constructs to achieve discriminant validity (Hair, Risher, and Sarstedt, 2019). Table 5.18 shows that each construct and dimension of the quality of financial reports in the research model in stage 1 has adequate discriminant validity, because the AVE root of each construct is greater than the correlation between other constructs.

Meanwhile, discriminant validity testing uses cross-loadings, which can be assessed by comparing the loadings of items on the main construct with their cross-loadings on other constructs. If the item loading on the main construct is higher than the cross-loading on the other constructs, discriminant validity can be achieved (Hair et al., 2021). Table 5.19 shows that the main cross-loading values in bold have values that are greater than the cross-loading values of other constructs. This indicates that there is no discriminant validity problem.

Furthermore, another way to see the discriminant validity value is with the heterotrait–monotrait ratio (HTMT) test. HTMT is the ratio of the average correlation of indicators between different constructs (heterotrait-heteromethod) compared to the average correlation of indicators measuring the same construct (monotrait-heteromethod) (Effort et al., 2018). The threshold value for the HTMT is 0.9. If the HTMT value is greater than 0.9, it indicates that discriminant validity is not established, suggesting that the constructs may overlap too much. Based on Table 5.20, the HTMT values for all constructs are below the threshold value of 0.9. Based on the results of the Fornell and Larcker test and the HTMT test shown in Table 5.18, Table 5.19, and Table 5.20, the discriminant validity value at stage 1 is established. Likewise, the results of Fornell and Larcker's testing, cross-loadings, and HTMT for the quality of financial reports variable demonstrate the expected value of the discriminant validity test. Therefore, the next step is the measurement model analysis stage 2

Table 5.18
Fornell and Larcker – Stage 1

	CA	CP	Comparability	FC	FS	Faithfull Representative	PB	RE	Relevance	SC	TMS	TR	Timeliness	Understandability	VS
CA	0.924														
CP	0.606	0.834													
Comparability	0.228	0.284	0.710												
FC	0.533	0.604	0.170	0.800											
FS	0.278	0.197	-0.020	0.132	1.000										
Faithfull Representative	0.370	0.433	0.622	0.256	0.150	0.702									
PB	0.555	0.568	0.504	0.395	0.072	0.569	0.830								
RE	0.564	0.609	0.459	0.402	0.017	0.434	0.665	0.878							
Relevance	0.270	0.324	0.643	0.170	0.032	0.647	0.516	0.409	0.753						
SC	0.642	0.665	0.375	0.498	0.152	0.434	0.761	0.614	0.451	0.851					
TMS	0.651	0.652	0.394	0.488	0.137	0.470	0.706	0.637	0.408	0.791	0.827				
TR	0.482	0.426	0.462	0.247	0.045	0.419	0.691	0.506	0.444	0.534	0.439	0.759			
Timeliness	0.089	0.094	0.449	0.021	0.006	0.356	0.328	0.236	0.430	0.187	0.183	0.259	1.000		
Understandability	0.186	0.236	0.616	0.137	-0.037	0.624	0.415	0.364	0.612	0.272	0.379	0.394	0.549	0.712	
VS	0.415	0.582	0.382	0.287	0.103	0.425	0.600	0.663	0.356	0.520	0.625	0.389	0.129	0.213	0.867

Table 5.19
Cross-Loading – Stage 1

Indicators	CA	CP	Comparability	FC	FS	Faithfull	PB	RE	Relevance	SC	TMS	TR	Timeliness	Understandability	VS
						Representative									
X1.1	0.335	0.307	0.319	0.194	0.202	0.293	0.342	0.249	0.295	0.263	0.233	0.719	0.147	0.310	0.170
X1.2	0.234	0.201	0.292	0.110	0.080	0.232	0.340	0.227	0.273	0.240	0.192	0.696	0.194	0.278	0.138
X1.3	0.326	0.275	0.447	0.145	0.023	0.315	0.541	0.358	0.447	0.435	0.374	0.788	0.340	0.414	0.264
X1.4	0.404	0.354	0.339	0.234	-0.064	0.360	0.628	0.469	0.328	0.484	0.404	0.790	0.172	0.279	0.347
X1.5	0.463	0.415	0.356	0.217	-0.014	0.357	0.665	0.518	0.342	0.517	0.399	0.798	0.161	0.249	0.454
X2.1	0.485	0.516	0.338	0.341	0.113	0.394	0.800	0.498	0.343	0.613	0.507	0.589	0.284	0.285	0.405
X2.2	0.449	0.523	0.318	0.321	0.089	0.423	0.823	0.481	0.410	0.647	0.557	0.605	0.251	0.327	0.469
X2.3	0.417	0.387	0.466	0.257	0.088	0.482	0.821	0.535	0.343	0.595	0.566	0.558	0.219	0.319	0.464
X2.4	0.411	0.376	0.456	0.254	0.062	0.561	0.805	0.537	0.443	0.559	0.578	0.561	0.332	0.429	0.505
X2.5	0.450	0.512	0.486	0.396	0.023	0.528	0.884	0.618	0.517	0.684	0.646	0.588	0.324	0.380	0.549
X2.6	0.413	0.423	0.535	0.279	0.058	0.497	0.797	0.568	0.522	0.635	0.572	0.532	0.275	0.430	0.506
X2.7	0.506	0.502	0.347	0.301	0.083	0.460	0.820	0.555	0.427	0.633	0.600	0.519	0.246	0.268	0.552
X2.8	0.524	0.505	0.433	0.443	-0.030	0.456	0.886	0.620	0.436	0.676	0.654	0.628	0.255	0.346	0.529
X3.1	0.511	0.568	0.338	0.462	0.127	0.333	0.638	0.541	0.338	0.798	0.606	0.376	0.253	0.172	0.427
X3.2	0.600	0.594	0.350	0.449	0.189	0.378	0.669	0.539	0.373	0.911	0.693	0.508	0.128	0.176	0.502
X3.3	0.558	0.589	0.245	0.457	0.104	0.380	0.645	0.487	0.349	0.876	0.678	0.417	0.110	0.208	0.400
X3.4	0.512	0.514	0.348	0.325	0.093	0.389	0.641	0.528	0.486	0.815	0.719	0.516	0.157	0.385	0.438
X4.1	0.574	0.537	0.311	0.445	0.152	0.372	0.536	0.499	0.338	0.673	0.816	0.296	0.160	0.288	0.471
X4.2	0.611	0.577	0.394	0.365	0.063	0.414	0.669	0.609	0.445	0.739	0.850	0.471	0.217	0.333	0.568
X4.3	0.495	0.553	0.276	0.432	0.105	0.379	0.567	0.513	0.287	0.672	0.881	0.351	0.117	0.278	0.577
X4.4	0.503	0.440	0.355	0.380	0.058	0.459	0.584	0.509	0.267	0.550	0.778	0.366	0.170	0.394	0.473
X4.5	0.482	0.580	0.278	0.399	0.196	0.313	0.547	0.487	0.324	0.612	0.804	0.315	0.074	0.271	0.490
X5	0.278	0.197	-0.020	0.132	1.000	0.150	0.072	0.017	0.032	0.152	0.137	0.045	0.006	-0.037	0.103
X6.1	0.380	0.454	0.217	0.826	0.117	0.213	0.343	0.354	0.248	0.379	0.358	0.233	0.129	0.184	0.253

X6.2	0.436	0.557	0.117	0.898	0.075	0.198	0.332	0.315	0.156	0.441	0.390	0.230	0.018	0.118	0.179
X6.3	0.303	0.408	0.009	0.736	0.006	0.247	0.273	0.213	0.081	0.358	0.341	0.175	-0.074	0.095	0.190
X6.4	0.520	0.484	0.167	0.730	0.181	0.178	0.305	0.364	0.069	0.398	0.441	0.156	-0.013	0.055	0.277
X7.1	0.491	0.812	0.330	0.518	0.084	0.427	0.514	0.539	0.289	0.575	0.579	0.417	0.222	0.280	0.483
X7.2	0.475	0.811	0.220	0.459	0.108	0.304	0.509	0.531	0.261	0.570	0.517	0.380	0.021	0.174	0.543
X7.3	0.458	0.837	0.148	0.513	0.207	0.319	0.386	0.449	0.243	0.541	0.561	0.224	0.025	0.127	0.483
X7.4	0.582	0.874	0.244	0.524	0.245	0.388	0.482	0.511	0.285	0.540	0.524	0.388	0.048	0.201	0.445
X8.1	0.476	0.524	0.394	0.393	0.006	0.367	0.611	0.879	0.348	0.535	0.546	0.465	0.195	0.277	0.651
X8.2	0.558	0.668	0.381	0.419	0.064	0.402	0.614	0.923	0.329	0.601	0.641	0.443	0.181	0.305	0.617
X8.3	0.394	0.437	0.382	0.249	-0.015	0.364	0.540	0.842	0.334	0.455	0.489	0.400	0.208	0.356	0.485
X8.4	0.528	0.481	0.455	0.328	-0.006	0.388	0.568	0.865	0.424	0.546	0.544	0.463	0.247	0.351	0.561
X9.1	0.412	0.455	0.364	0.224	0.090	0.486	0.544	0.554	0.303	0.400	0.543	0.351	0.149	0.270	0.846
X9.2	0.244	0.483	0.243	0.166	0.058	0.329	0.431	0.490	0.275	0.436	0.427	0.301	0.042	0.066	0.839
X9.3	0.216	0.469	0.314	0.255	0.108	0.294	0.412	0.523	0.293	0.409	0.479	0.280	0.135	0.159	0.855
X9.4	0.451	0.589	0.365	0.320	0.099	0.327	0.608	0.676	0.345	0.535	0.644	0.379	0.107	0.187	0.924
Y1.1	0.240	0.257	0.550	0.252	0.066	0.488	0.451	0.346	0.762	0.397	0.411	0.411	0.280	0.467	0.295
Y1.2	0.160	0.118	0.502	0.018	0.025	0.423	0.358	0.305	0.837	0.294	0.312	0.323	0.402	0.524	0.303
Y1.3	0.193	0.272	0.501	0.077	0.086	0.516	0.389	0.327	0.805	0.331	0.257	0.371	0.342	0.475	0.252
Y1.4	0.338	0.291	0.397	0.216	-0.033	0.416	0.470	0.343	0.672	0.455	0.314	0.395	0.308	0.358	0.196
Y1.5	0.199	0.322	0.496	0.171	0.014	0.587	0.356	0.287	0.746	0.334	0.269	0.270	0.298	0.467	0.285
Y1.6	0.110	0.217	0.446	0.048	-0.029	0.492	0.326	0.246	0.685	0.248	0.284	0.246	0.314	0.463	0.265
Y2.1	0.287	0.233	0.402	0.151	0.228	0.710	0.410	0.258	0.414	0.313	0.334	0.308	0.166	0.448	0.225
Y2.2	0.162	0.240	0.454	0.200	0.079	0.724	0.389	0.240	0.432	0.275	0.294	0.166	0.088	0.344	0.267
Y2.3	0.264	0.334	0.451	0.184	0.071	0.659	0.341	0.364	0.434	0.297	0.397	0.277	0.352	0.470	0.310
Y2.4	0.254	0.226	0.438	0.118	0.063	0.711	0.401	0.275	0.503	0.261	0.207	0.372	0.387	0.511	0.252
Y2.5	0.326	0.485	0.436	0.250	0.094	0.702	0.453	0.382	0.480	0.379	0.424	0.333	0.229	0.402	0.436
Y3.1	0.180	0.242	0.474	0.177	0.047	0.535	0.280	0.299	0.525	0.259	0.325	0.264	0.443	0.785	0.162
Y3.2	0.079	0.140	0.449	0.017	-0.051	0.369	0.342	0.319	0.511	0.227	0.276	0.317	0.469	0.758	0.137
Y3.3	0.226	0.204	0.468	0.112	0.018	0.490	0.323	0.274	0.526	0.205	0.240	0.324	0.415	0.765	0.163

Y3.4	0.017	0.129	0.380	0.086	0.020	0.511	0.319	0.262	0.338	0.182	0.339	0.209	0.335	0.651	0.169
Y3.5	0.104	0.090	0.532	0.084	-0.151	0.445	0.305	0.178	0.371	0.134	0.279	0.301	0.398	0.696	0.134
Y3.6	0.189	0.205	0.296	0.104	-0.062	0.288	0.189	0.216	0.295	0.138	0.142	0.268	0.247	0.601	0.152
Y4.1	0.165	0.201	0.686	0.102	-0.010	0.462	0.263	0.339	0.494	0.300	0.314	0.231	0.353	0.451	0.221
Y4.2	0.191	0.230	0.714	0.134	-0.018	0.386	0.375	0.448	0.478	0.312	0.335	0.307	0.293	0.388	0.387
Y4.3	0.080	0.302	0.672	0.064	0.026	0.404	0.326	0.305	0.381	0.272	0.209	0.233	0.258	0.343	0.255
Y4.4	0.140	0.079	0.675	0.070	-0.057	0.433	0.310	0.160	0.404	0.169	0.189	0.356	0.291	0.459	0.143
Y4.5	0.180	0.238	0.753	0.145	-0.021	0.409	0.422	0.320	0.504	0.321	0.314	0.418	0.331	0.410	0.334
Y4.6	0.202	0.174	0.753	0.193	-0.003	0.540	0.439	0.375	0.466	0.226	0.306	0.403	0.371	0.548	0.286
Y5	0.089	0.094	0.449	0.021	0.006	0.356	0.328	0.236	0.430	0.187	0.183	0.259	1.000	0.549	0.129
Z1	0.917	0.581	0.159	0.477	0.301	0.323	0.481	0.494	0.181	0.571	0.582	0.408	0.010	0.087	0.361
Z2	0.931	0.541	0.258	0.506	0.217	0.360	0.541	0.546	0.312	0.614	0.618	0.480	0.147	0.250	0.404

Table 5.20
Heterotrait–monotrait ratio (HTMT) – Stage 1

	CA	CP	Comparability	FC	FS	Faithfull Representative	PB	RE	Relevance	SC	TMS	TR	Timeliness	Understandability	VS
CA															
CP	0.716														
Comparability	0.273	0.356													
FC	0.622	0.712	0.231												
FS	0.308	0.209	0.035	0.131											
Faithfull Representative	0.469	0.542	0.802	0.337	0.177										
PB	0.624	0.630	0.585	0.444	0.085	0.687									
RE	0.643	0.685	0.537	0.448	0.028	0.528	0.723								
Relevance	0.325	0.384	0.776	0.224	0.061	0.815	0.588	0.470							
SC	0.753	0.774	0.452	0.583	0.161	0.541	0.843	0.689	0.535						
TMS	0.753	0.752	0.461	0.565	0.148	0.581	0.772	0.704	0.467	0.897					
TR	0.556	0.480	0.560	0.290	0.111	0.519	0.751	0.552	0.532	0.599	0.487				
Timeliness	0.094	0.102	0.497	0.081	0.006	0.405	0.341	0.249	0.469	0.204	0.190	0.293			
Understandability	0.238	0.286	0.753	0.191	0.091	0.796	0.481	0.430	0.728	0.326	0.445	0.495	0.604		
VS	0.439	0.659	0.436	0.317	0.108	0.504	0.625	0.712	0.398	0.577	0.674	0.405	0.131	0.235	

5.5.5 Measurement Model Analysis – Stage 2

In stage 2 of the embedded two-stage approach, the research model is directly linked to its dimensions. In this research, the quality of financial reports variable is directly linked to five dimensions: relevance, faithful representation, understandability, comparability, and timeliness. However, the data used to measure these five dimensions are latent variable scores (LVS) obtained from measurements in stage 1. Figure 5.3 shows a measurement model that aligns with the model developed in this research: the quality of financial reports variable is directly measured across all five dimensions. The next measurement steps in Stage 2 are the same as in Stage 1: the measurement model is evaluated by examining the loading factors, composite reliability, AVEs, and discriminant validity.

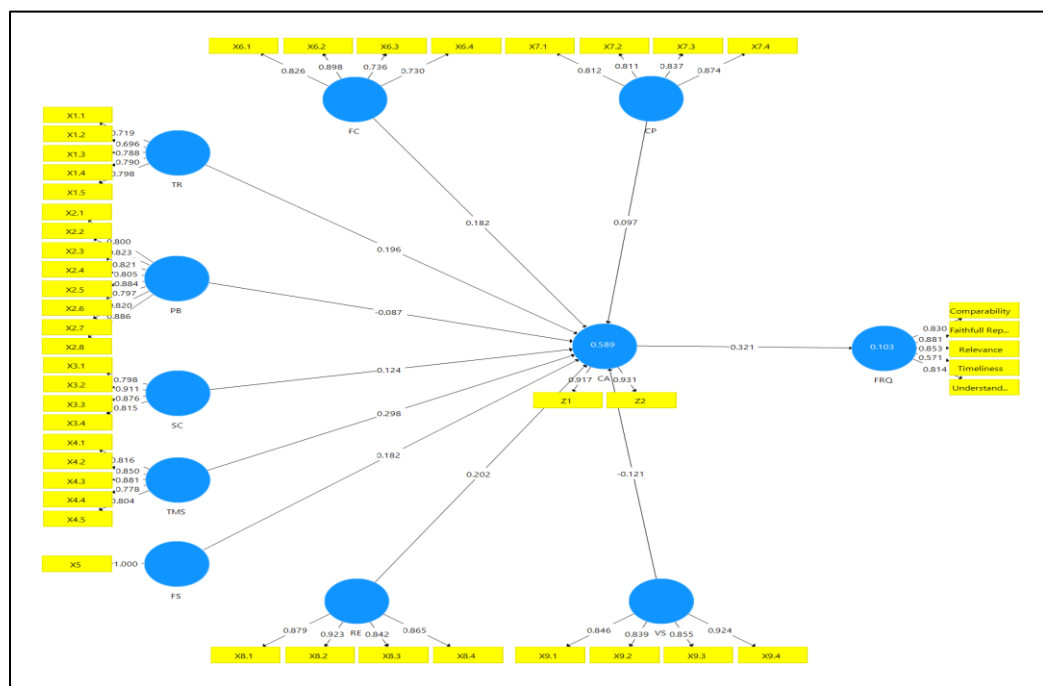


Figure 5.3 Measurement Model Stage 2

5.5.6 Assessment of Loading Factor – Stage 2

It is very necessary to assess the loading factors for each construct in the stage 2 model. This is done to find out how well each indicator captures the latent construct in this model. In general, a good and recommended loading factor value is above 0.708, as it indicates that the indicator makes a significant contribution to measuring the latent

construct (Hair et al., 2021). However, a loading value below the threshold of 0.7 is still acceptable if the model as a whole has a good fit or the indicator is considered theoretically important (Hulland, 1999). Based on Figure 5.3, the loading factor values for all constructs in this study exceed the threshold of 0.7. However, there is 1 dimension that has a loading factor value of less than 0.7, namely the timeliness dimension, which only has a loading factor value of 0.571. Even though the loading factor value is still below the normal threshold, it can still be used for social research (Hulland, 1999).

5.5.7 Assessment of Construct Reliability and Validity – Stage 2

After assessing the loading factors, the next step is to test construct reliability and validity. This step is the same as the steps taken in stage 1. Construct reliability assessment at this stage uses Cronbach's alpha and Composite Reliability. In the Cronbach's alpha assessment, the recommended value is above the threshold of 0.6 (Nunnally & Bernstein, 1994). Based on Table 5.20, it can be seen that the Cronbach's alpha value for all constructs in this study has exceeded the threshold value, namely 0.6. Thus, based on this test, the research model meets the reliability criterion. Furthermore, in addition to Cronbach's Alpha, construct reliability can be assessed using composite reliability. The threshold value for assessing composite reliability is between 0.7 and 0.9. Table 5.21 below shows the composite reliability value for the majority of constructs in this study, above 0.9. This value still exceeds the threshold, even after retesting in stage 2. As a comparison, the Cronbach's alpha value has been satisfactory, exceeding the threshold of 0.6 at both stages 1 and 2. Thus, the construct reliability assessment for all constructs in this research model is considered reliable.

In addition to assessing construct reliability, construct validity also needs to be assessed in testing this Stage 2 model. The AVE value is required for the assessment in stage 2. The recommended value for AVE should be greater than 0.5. In stage 1, the AVE value for one dimension of the quality of financial reports, namely faithful representation, was slightly below the AVE threshold, which was 0.492. However, because the CR value exceeded 0.7, it was still acceptable (Lam, 2012; Maruf et al., 2021). Therefore, in stage 2, the AVE is re-measured to assess the construct validity of this research model. Based on Table 5.21, all constructs in this study have AVE values above 0.5. Thus, the data and constructs used in this research have met all the

requirements for assessing the measurement model, as evidenced by the reliability values, factor loadings, and convergent validity.

Table 5.21
Construct Reliability and Validity – Stage 2

Constructs	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Cloud accounting (CA)	0.829	0.921	0.854
Competitive pressure (CP)	0.854	0.901	0.695
Financial costs (FC)	0.814	0.876	0.641
Quality of Financial Reports (FRQ)	0.862	0.895	0.636
Firm size (FS)	1.000	1.000	1.000
Perceived benefit (PB)	0.935	0.947	0.689
Regulatory environment (RE)	0.901	0.931	0.771
Security concern (SC)	0.872	0.913	0.725
Top management support (TMS)	0.884	0.915	0.683
Technology readiness (TR)	0.822	0.872	0.577
Vendor support (VS)	0.895	0.924	0.752

5.5.8 Assessment of Discriminant Validity – Stage 2

Discriminant validity tests also need to be carried out on the measurement model in stage 2 (higher-order construct). This test is used to assess the extent to which a construct in the structural research model differs empirically from other constructs in the model (Hair et al., 2021). Discriminant validity testing in stage 2 is the same as in stage 1: using the results of the Fornell-Larcker, cross-loadings, and Heterotrait–Monotrait Ratio (HTMT) tests. Based on Table 5.22, the Fornell-Larcker test results for all constructs in this research model indicate that the Fornell-Larcker values for each construct are greater than the correlations among the other constructs. Thus, these results indicate that the model has adequate discriminant validity.

The same thing that is done in stage 1 is to check the cross-loading value for each construct, which will then be compared with the cross-loading value of other constructs. As can be seen in Table 5.23, the cross-loading value of the construct in bold has a value that is greater than the loading value of the other constructs. Therefore, the discriminant validity using this method is adequate.

Another test of discriminant validity used in this research is the heterotrait–monotrait ratio (HTMT). The results of this test are more recommended for assessing the validity of the structural model because HTMT provides more accurate results in assessing constructs in the model that are truly empirically different from other constructs in the structural model, and the results of HTMT are also more consistent in various situations and models (Henseler et al., 2015). The threshold value for the HTMT is 0.9. Table 5.24 shows that the HTMT value for all constructs in this research model is below 0.9. Thus, according to the results of Fornell and Larcker, cross-loading and HTMT for the discriminant validity test, it can be concluded that the overall measurement model in this study is valid and adequate.

Table 5.22
Fornell and Larcker – Stage 2

Constructs	CA	CP	FC	FRQ	FS	PB	RE	SC	TMS	TR	VS
CA	0.924										
CP	0.606	0.834									
FC	0.533	0.604	0.800								
FRQ	0.321	0.385	0.218	0.798							
FS	0.278	0.197	0.132	0.056	1.000						
PB	0.554	0.568	0.395	0.603	0.072	0.830					
RE	0.564	0.609	0.402	0.490	0.017	0.665	0.878				
SC	0.642	0.665	0.498	0.459	0.152	0.761	0.614	0.851			
TMS	0.650	0.652	0.488	0.486	0.137	0.706	0.637	0.791	0.827		
TR	0.482	0.426	0.247	0.503	0.045	0.691	0.506	0.534	0.439	0.759	
VS	0.415	0.582	0.287	0.413	0.103	0.600	0.663	0.520	0.625	0.389	0.867

Table 5.23
Cross-Loading – Stage 2

Indicators	CA	CP	FC	FRQ	FS	PB	RE	SC	TMS	TR	VS
Comparability	0.228	0.284	0.170	0.830	-0.020	0.504	0.459	0.375	0.394	0.462	0.382
Faithfull Representative	0.370	0.433	0.256	0.881	0.150	0.569	0.434	0.434	0.470	0.419	0.425
Relevance	0.270	0.324	0.170	0.853	0.032	0.516	0.409	0.451	0.408	0.444	0.356
Timeliness	0.088	0.094	0.021	0.571	0.006	0.328	0.235	0.187	0.183	0.259	0.129
Understandability	0.186	0.236	0.137	0.814	-0.037	0.415	0.364	0.272	0.379	0.394	0.213
X1.1	0.335	0.307	0.194	0.350	0.202	0.342	0.249	0.263	0.233	0.719	0.170
X1.2	0.233	0.201	0.110	0.311	0.080	0.340	0.227	0.240	0.192	0.696	0.138
X1.3	0.326	0.275	0.145	0.471	0.023	0.541	0.358	0.435	0.374	0.788	0.264
X1.4	0.404	0.354	0.234	0.387	-0.064	0.628	0.469	0.484	0.404	0.790	0.347
X1.5	0.463	0.415	0.217	0.386	-0.014	0.665	0.518	0.517	0.399	0.798	0.454
X2.1	0.485	0.516	0.341	0.416	0.113	0.800	0.498	0.613	0.507	0.589	0.405
X2.2	0.449	0.523	0.321	0.446	0.089	0.823	0.481	0.647	0.557	0.605	0.469
X2.3	0.417	0.387	0.257	0.481	0.088	0.821	0.535	0.595	0.566	0.558	0.464
X2.4	0.411	0.376	0.254	0.570	0.062	0.805	0.537	0.559	0.578	0.561	0.505
X2.5	0.450	0.512	0.396	0.576	0.023	0.884	0.618	0.684	0.646	0.588	0.549
X2.6	0.413	0.423	0.279	0.582	0.058	0.797	0.568	0.635	0.572	0.532	0.506
X2.7	0.506	0.502	0.301	0.461	0.083	0.820	0.555	0.633	0.600	0.519	0.552
X2.8	0.524	0.505	0.443	0.498	-0.030	0.886	0.620	0.676	0.654	0.628	0.529
X3.1	0.511	0.568	0.462	0.365	0.127	0.638	0.541	0.798	0.606	0.376	0.427
X3.2	0.600	0.594	0.449	0.385	0.189	0.669	0.539	0.911	0.693	0.508	0.502

X3.3	0.558	0.589	0.457	0.358	0.104	0.645	0.487	0.876	0.678	0.417	0.400
X3.4	0.511	0.514	0.325	0.464	0.093	0.641	0.528	0.815	0.719	0.516	0.438
X4.1	0.574	0.537	0.445	0.388	0.152	0.536	0.499	0.673	0.816	0.296	0.471
X4.2	0.611	0.577	0.365	0.469	0.063	0.669	0.609	0.739	0.850	0.471	0.568
X4.3	0.495	0.553	0.432	0.362	0.105	0.567	0.513	0.672	0.881	0.351	0.577
X4.4	0.503	0.440	0.380	0.434	0.058	0.584	0.509	0.550	0.778	0.366	0.473
X4.5	0.482	0.580	0.399	0.342	0.196	0.547	0.487	0.612	0.804	0.315	0.490
X5	0.278	0.197	0.132	0.056	1.000	0.072	0.017	0.152	0.137	0.045	0.103
X6.1	0.380	0.454	0.826	0.254	0.117	0.343	0.354	0.379	0.358	0.233	0.253
X6.2	0.436	0.557	0.898	0.175	0.075	0.332	0.315	0.441	0.390	0.230	0.179
X6.3	0.303	0.408	0.736	0.133	0.006	0.273	0.213	0.358	0.341	0.175	0.190
X6.4	0.520	0.484	0.730	0.139	0.181	0.305	0.364	0.398	0.441	0.156	0.277
X7.1	0.491	0.812	0.518	0.404	0.084	0.514	0.539	0.575	0.579	0.417	0.483
X7.2	0.475	0.811	0.459	0.282	0.108	0.509	0.531	0.570	0.517	0.380	0.543
X7.3	0.458	0.837	0.513	0.257	0.207	0.386	0.449	0.541	0.561	0.224	0.483
X7.4	0.582	0.874	0.524	0.335	0.245	0.482	0.511	0.540	0.524	0.388	0.445
X8.1	0.476	0.524	0.393	0.410	0.006	0.611	0.879	0.535	0.546	0.465	0.651
X8.2	0.558	0.668	0.419	0.419	0.064	0.614	0.923	0.601	0.641	0.443	0.617
X8.3	0.394	0.437	0.249	0.419	-0.015	0.540	0.842	0.455	0.489	0.400	0.485
X8.4	0.528	0.481	0.328	0.474	-0.006	0.568	0.865	0.546	0.544	0.463	0.561
X9.1	0.412	0.455	0.224	0.431	0.090	0.544	0.554	0.400	0.543	0.351	0.846
X9.2	0.244	0.483	0.166	0.282	0.058	0.431	0.490	0.436	0.427	0.301	0.839
X9.3	0.216	0.469	0.255	0.317	0.108	0.412	0.523	0.409	0.479	0.280	0.855

X9.4	0.451	0.589	0.320	0.361	0.099	0.608	0.676	0.535	0.644	0.379	0.924
Z1	0.917	0.581	0.477	0.234	0.301	0.481	0.494	0.571	0.582	0.408	0.361
Z2	0.931	0.541	0.506	0.355	0.217	0.541	0.546	0.614	0.618	0.480	0.404

Table 5.24

Heterotrait–monotrait ratio (HTMT) – Stage 2

Constructs	CA	CP	FC	FRQ	FS	PB	RE	SC	TMS	TR	VS
CA											
CP	0.716										
FC	0.622	0.712									
FRQ	0.333	0.397	0.240								
FS	0.308	0.209	0.131	0.066							
PB	0.624	0.630	0.444	0.652	0.085						
RE	0.643	0.685	0.448	0.538	0.028	0.723					
SC	0.753	0.774	0.583	0.498	0.161	0.843	0.689				
TMS	0.753	0.752	0.565	0.519	0.148	0.772	0.704	0.897			
TR	0.556	0.480	0.290	0.584	0.111	0.751	0.552	0.599	0.487		
VS	0.439	0.659	0.317	0.411	0.108	0.625	0.712	0.577	0.674	0.405	

5.5.9 The Overall Measurement Model Evaluation

The purpose of the measurement model is to evaluate and ensure that the latent construct in this research model is accurately, validly, and reliably measured by the indicators that assess it. The measurement model was evaluated, including assessments of construct reliability, convergent validity, and discriminant validity.

Based on the results of testing this measurement model, the construct reliability assessment, as seen from the Cronbach's alpha and composite reliability results, each shows results that exceed the threshold value. The Cronbach's alpha value for all constructs is more than 0.6, while the composite reliability value for all constructs is more than 0.7. Furthermore, in the convergent validity assessment, the AVE values indicate that all constructs exceed 0.5. Finally, the assessment of discriminant validity in this research model uses the criteria from Fornell and Larcker and the HTMT, where the values of these two criteria generally show that all constructs in this research model are different from each other. Thus, overall, the measurement model is valid and reliable, and it can proceed to the structural model assessment.

5.6 Structural Model Analysis

Structural model analysis was conducted after the overall measurement model was found to be valid and reliable. Structural model analysis is used to assess the relationships among latent constructs in the model, namely, to test hypotheses about the influence of one latent construct on others, based on the theory underlying the research. This section explains the steps required to carry out a structural model, according to Hair et al. (2019). There are five steps in carrying out structural model analysis: assessment of collinearity, assessment of path coefficients, coefficient of determination (R^2), effect size (f^2), and level of predictive relevance (Q^2).

5.6.1 Assessment of Collinearity

The first step in analysing a structural model is to assess collinearity. The collinearity test aims to ensure that the independent variables (predictors) in the model are not too highly correlated. The collinearity indicator can be seen in the VIF values, which must be less than 5. If the VIF value is large and more than 5, it indicates a collinearity problem, namely a high collinearity value. can affect the reliability and interpretation of regression coefficients, as well as the overall stability of the model (Sarstedt et al., 2019). Table 5.25 shows that the inner VIF value is below 5. This shows that there is no significant collinearity among the constructs, so all constructs in this research model are retained.

Table 5.25
Collinearity Assessment

Constructs	C.A	FRQ
Cloud accounting (CA)		1.000
Competitive pressure (CP)	2.721	
Financial costs (FC)	1.694	
Firm size (FS)	1.072	
Perceived benefit (PB)	3.910	
Regulatory environment (RE)	2.513	
Security concern (SC)	3.841	
Top management support (TMS)	3.470	
Technology Readiness (TR)	1.999	
Vendor support (VS)	2.295	

5.6.2 Assessment of Path Coefficient

The second step is to assess the path coefficient in the structural model. Apart from that, in this step, a significance test will be carried out on the structural model. The model used is the result of stage 2 of the embedded two-step approach. In this path coefficient assessment, the direct influence between variables will be explained. The direct influence is divided into 10 hypotheses, namely H1a, H1b, H1c, H2a, H2b, H2c, H3a, H3b, H3c, and H4. Meanwhile, indirect effects will be explained in another section of this chapter. Figure 5.4 shows the direct and indirect influence between variables in this research model. The numbers listed in the figure are the results of PLS bootstrapping to emphasise the path coefficient assessment.

Next, Table 5.26 presents the results of the direct influences among the variables in this research model. Beta value is the direction of influence between variables, where the positive or negative direction is determined from this value. Based on the path coefficient results in Table 5.26, only 2 of the 10 hypotheses show a negative relationship between variables, and the rest show a positive relationship. Apart from the Beta value, to determine whether this research hypothesis is accepted or rejected, it is also necessary to examine the T-value and P-value. The T-value in this research model is greater than 1.645 ($T\text{-value} > 1.645$), and the P-value is less than 0.05 ($P\text{-value} < 0.05$).

The results in Table 5.26 show that of the 10 hypotheses, there are 7 hypotheses, namely H1a, H2a, H2b, H2c, H3b, H3c and H4, which have a T-value > 1.645 with a P-value < 0.05 . These results indicate that the seven hypotheses previously formulated are supported. Furthermore, the other 3 hypotheses, namely H1b, H1c, and H3a, have T-values < 1.645 and P-values > 0.05 , so the results of these three hypotheses do not support the hypothesis being tested. Meanwhile, of the seven hypotheses that have T-values and P-values that fulfil the requirements, the Beta values for the direction of influence between variables must be reviewed to indicate that the hypothesis is accepted. The results of the H3c test indicate that the hypothesis does not support the previously developed hypothesis, as the Beta value is negative (- 0.121), even though the T-value and P-value meet the requirements.

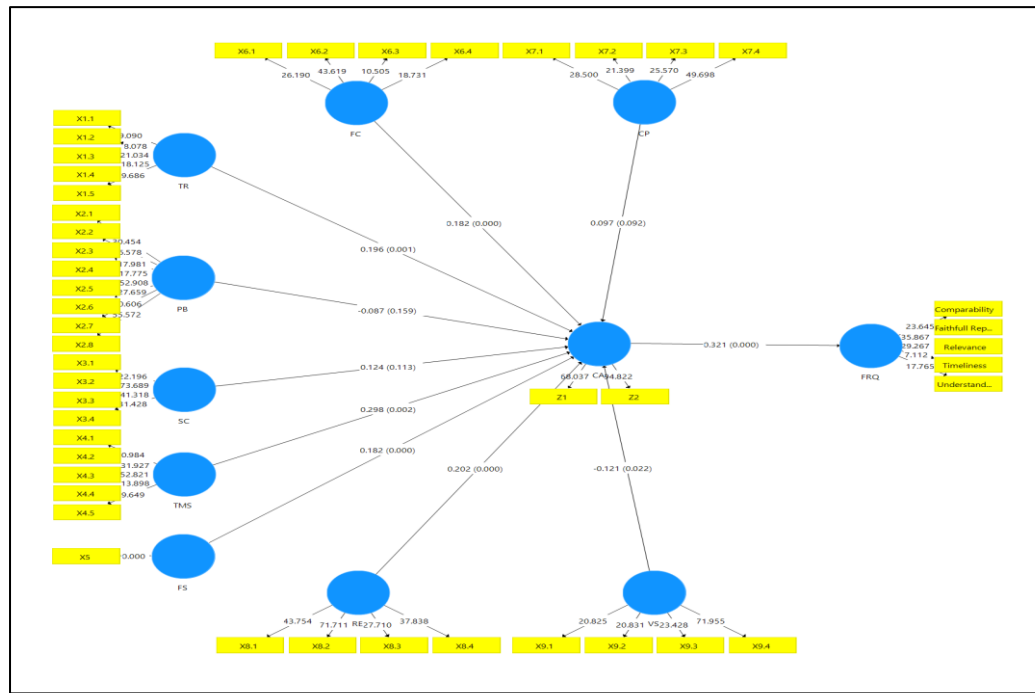


Figure 5.4 The Structural Model

Table 5.26
Path Coefficients for Hypotheses – Direct Effect

Hypotheses	Relationships	Beta	T-value	P-value	Decision
H1a	Technology readiness → Cloud accounting	0.196	3.288	0.001	Supported
H1b	Perceived benefits → Cloud accounting	-0.087	1.019	0.154	Not supported
H1c	Security concerns → Cloud accounting	0.124	1.210	0.113	Not supported
H2a	Top management support → Cloud accounting	0.298	2.919	0.002	Supported
H2b	Firm size → Cloud accounting	0.182	5.104	0.000	Supported
H2c	Financial costs → Cloud accounting	0.182	3.447	0.000	Supported
H3a	Competitive pressure → Cloud accounting	0.097	1.329	0.092	Not supported
H3b	Regulatory environment → Cloud accounting	0.202	3.303	0.000	Supported
H3c	Vendor support → Cloud accounting	-0.121	1.984	0.024	Not supported
H4	Cloud accounting → Quality of financial reports	0.321	5.808	0.000	Supported

5.6.3 Assessment of Coefficient of Determination (R^2)

The third step in testing the structural model is to assess the coefficient of determination (R^2). The coefficient of determination (R^2) describes the amount of variance in the endogenous variable explained by the exogenous variable (Hair et al., 2019). The R^2 value generally ranges from 0 to 1, where a higher value indicates greater explanatory power. According to Hair et al. (2021), the general guidelines for R^2 assessment are 0.75, 0.50, and 0.25, corresponding to substantial, moderate, and weak, respectively.

In this research model, the cloud accounting variable is explained by several exogenous variables, namely technology readiness, perceived benefits, security concerns, top management support, firm size, financial costs, competitive pressure, regulatory environment, and vendor support. Meanwhile, the quality of financial reports is explained by the cloud accounting variable. Based on Table 5.27, the R^2 value for the cloud accounting variable is 0.589, which indicates that the R^2 value is included in the moderate category. These results explain that 58.9% of the variance in the endogenous variable is explained and predicted by the exogenous variable, namely, cloud accounting. Meanwhile, the R^2 value for the quality of financial reports variable is 0.103. These results show that the cloud accounting variable explains and predicts the quality of financial reports variable by 10.3%. Furthermore, the R^2 value is included in the weak category because the predictor construct for assessing R^2 in this variable is only 1, so this causes the R^2 value to be included in the weak category. Hair et al. (2021) explain that the greater the number of predictor constructs, the higher the R^2 value.

Table 5.27
Coefficient of Determination (R^2)

Constructs	R square
Cloud accounting (CA)	0.589
Quality of financial reports (FRQ)	0.103

5.6.4 Assessment of Effect Size (f^2)

Effect size (f^2) is a measure used to assess the magnitude of the influence or contribution of an exogenous variable to the endogenous variable in the model. Effect

size is important to assess the relative significance of each exogenous variable in influencing the endogenous variable. The f^2 assessment in this structural model is carried out to determine the direct influence between variables, while the f^2 value for indirect influence (mediation) will be discussed in another section of this chapter. According to Hair et al. (2021), the interpretation of the effect size (f^2) value is categorized into 3, namely 0.02 (small), 0.15 (medium), and 0.35 (substantial). The greater the effect size, the stronger the relationship between exogenous and endogenous variables.

Table 5.28 shows that the f^2 for the cloud accounting variable on the quality of financial reports (FRQ) is 0.115, which means that the cloud accounting variable has a medium influence on the quality of financial reports. Next, for the variables that influence the cloud accounting variable, namely technology readiness ($f^2 = 0.047$), perceived benefits ($f^2 = 0.005$), security concern ($f^2 = 0.010$), top management support ($f^2 = 0.062$), firm size ($f^2 = 0.075$), financial cost ($f^2 = 0.048$), competitive pressure ($f^2 = 0.008$), regulatory environment ($f^2 = 0.040$), and vendor support ($f^2 = 0.016$), each has small effect size.

Table 5.28
Effect Size (f^2)

Constructs	CA	FRQ
Cloud accounting (CA)		0.115
Competitive pressure (CP)	0.008	
Financial costs (FC)	0.048	
Firm size (FS)	0.075	
Perceived benefits (PB)	0.005	
Regulatory environment (RE)	0.040	
Security concern (SC)	0.010	
Top management support (TMS)	0.062	
Technology readiness (TR)	0.047	
Vendor support (VS)	0.016	

5.6.5 Assessment of Predictive Relevance (Q^2)

The final step is assessing the predictive relevance (Q^2) of the structural model. Q^2 assessment is used to assess the predictability and relevance of structural models.

According to Hair et al. (2021), the Q^2 value must be more than 0 to indicate the accuracy of the structural model predictions for endogenous constructs. Furthermore, as a rule of thumb, Q^2 values higher than 0, 0.25, and 0.5 indicate small, medium, and large predictive relevance (Hair et al., 2021).

Table 5.29 shows that the Q^2 value of the cloud accounting (CA) and quality of financial reports (FRQ) variables are 0.546 and 0.184, respectively, both of which are greater than 0. In addition, when compared with the Q^2 value according to the rule of thumb, the resulting Q^2 value for the cloud accounting variable is included in the medium category. Meanwhile, the Q^2 value for the quality of financial reports variable falls into the weak category. Thus, the exogenous variables in this research model have predictive relevance for the endogenous variables being studied.

Table 5.29

Predictive Relevance (Q^2)

Constructs	Q^2
Cloud accounting (CA)	0.546
Quality of financial reports (FRQ)	0.184

5.7 Evaluation of Mediation Effect

Mediating influence is a mechanism or process that underlies the relationship between the independent variable (X) and the dependent variable (Y). The variable used to explain the mediation effect is the intervening variable. This variable is a mediator, or intervening variable, in the relationship between the independent and dependent variables. Figure 5.4 shows the direct and indirect effects between variables. The intervening variable in this research is cloud accounting. The mediation effect or indirect effect in this research consists of 9 hypotheses, namely H5a, H5b, H5c, H6a, H6b, H6c, H7a, H7b, and H7c. Each independent variable has an indirect influence on the dependent variable, namely the quality of financial reports, through the cloud accounting variable. The cloud accounting variable is the focus of this research because the independent variable used is part of the Technological, Organisational, Environmental (TOE) framework, which is a factor causing SMEs to use cloud accounting systems. Furthermore, using this system can improve the quality of financial reports in SMEs. Therefore, there is no direct influence between the independent variable and the dependent variable.

The results of the mediation test can be seen from the bootstrapping test in PLS-SEM. The effect of mediation in a study can be full, partial, or absent. According to Hair et al. (2021), there are three types of mediation mentioned as follows:

- a) Complementary mediation, where there is significant indirect and direct influence, and has the same direction of influence.
- b) Competitive mediation, where there are significant indirect and direct influences, but the direction of influence is opposite.
- c) Indirect-only mediation, where there is a significant indirect influence, but there is no direct influence between the independent variable and the dependent variable.

Furthermore, Hair et al. (2021) also identified two types of non-mediation, namely:

- a) Direct-only non-mediation, where there is a significant direct influence between the independent variable and the dependent variable, but there is no indirect influence between the variables.
- b) No-effect non-mediation, where there is no significant direct or indirect effect.

Table 5.30 shows the results of the mediation effect obtained from the bootstrapping test in PLS-SEM. To test the mediation effect, the presence of a mediation effect can be seen from the p-value, t-value and type of mediation mentioned above. The p-value must be smaller than 0.05 ($p\text{-value} < 0.05$), and the t-value must be greater than 1.96 ($t\text{-value} > 1.96$). Based on this table, the hypotheses H5a, H6a, H6b, H6c, H7b, and H7c have a p-value < 0.05 , and a t-value > 1.96 . In addition, according to the type of mediation, this hypothesis is included in the category of indirect-only mediation, where there is a significant indirect influence, but there is no direct influence between the independent variable and the dependent variable. Therefore, it can be concluded that H5a, H6a, H6b, H6c, H7b, and H7c are supported. Furthermore, the hypotheses H5b, H5c, and H7a have a p-value > 0.05 and a t-value < 1.96 . Thus, these three hypotheses are included in the no-effect non-mediation category because there is no significant direct or indirect effect; H5b, H5c, and H7a are therefore not supported.

Table 5.30
Mediation Effect

Hypotheses	Relationships	Beta	T-value	P-value	Outcomes	Decision
H5a	Technology readiness → Cloud accounting → Quality of financial reports	0.063	2.781	0.003	Indirect-only mediation	Supported
H5b	Perceived benefits → Cloud accounting → Quality of financial reports	-0.028	0.098	0.159	No-effect non-mediation	Not supported
H5c	Security concerns → Cloud accounting → Quality of financial reports	0.040	1.151	0.125	No-effect non-mediation	Not supported
H6a	Top management support → Cloud accounting → Quality of financial reports	0.096	2.643	0.004	Indirect-only mediation	Supported
H6b	Firm size → Cloud accounting → Quality of financial reports	0.058	3.828	0,000	Indirect-only mediation	Supported
H6c	Financial costs → Cloud accounting → Quality of financial reports	0.059	2.908	0.002	Indirect-only mediation	Supported
H7a	Competitive pressure → Cloud accounting → Quality of financial reports	0.031	1.243	0.107	No-effect non-mediation	Not supported
H7b	Regulatory environment → Cloud accounting → Quality of financial reports	0.065	2.742	0.003	Indirect-only mediation	Supported
H7c	Vendor support → Cloud accounting → Quality of financial reports	-0.039	1.913	0.028	Indirect-only mediation	Supported

5.8 Summary of Findings

This section discusses the overall findings of this research. Test results for all hypotheses in this research model use PLS-SEM analysis with an embedded two-stage approach. This approach is used because this research model is included in the hierarchical components model with a reflective-reflective measurement model. Apart from that, mediation effects are also discussed in this chapter to analyse hypotheses

with indirect effects. Table 5.31 summarises all the hypotheses developed in this research.

Table 5.31
Summary Results of All Hypotheses

Hypotheses	Relationships	Decision
H1a	There is a positive relationship between technology readiness and cloud accounting.	Supported
H1b	There is a positive relationship between perceived benefits and cloud accounting.	Not supported
H1c	There is a positive relationship between security concerns and cloud accounting.	Not supported
H2a	There is a positive relationship between top management support and cloud accounting.	Supported
H2b	There is a positive relationship between firm size and cloud accounting.	Supported
H2c	There is a negative relationship between financial costs and cloud accounting.	Supported
H3a	There is a positive relationship between competitive pressure and cloud accounting.	Not supported
H3b	There is a positive relationship between regulatory environment and cloud accounting.	Supported
H3c	There is a positive relationship between vendor support and cloud accounting.	Not supported
H4	There is a positive relationship between cloud accounting and quality of financial reports.	Supported
H5a	Cloud accounting mediates the relationship between technology readiness and quality of financial reports of SMEs.	Supported
H5b	Cloud accounting mediates the relationship between perceived benefits and quality of financial reports of SMEs.	Not supported
H5c	Cloud accounting mediates the relationship between security concerns and quality of financial reports of SMEs.	Not supported
H6a	Cloud accounting mediates the relationship between top management support and quality of financial reports of SMEs.	Supported
H6b	Cloud accounting mediates the relationship between firm size and quality of financial reports of SMEs.	Supported
H6c	Cloud accounting mediates the relationship between financial costs and quality of financial reports of SMEs.	Supported
H7a	Cloud accounting mediates the relationship between competitive pressure and quality of financial reports of SMEs.	Not supported
H7b	Cloud accounting mediates the relationship between regulatory environment and quality of financial reports of SMEs	Supported
H7c	Cloud accounting mediates the relationship between vendor support and quality of financial reports of SMEs.	Supported

Based on this table, of the 19 hypotheses developed in this research, there are 12 supported hypotheses, namely H1a, H2a, H2b, H2c, H3b, H4, H5a, H6a, H6b, H6c, H7b, and H7c. Meanwhile, the remaining 7 hypotheses developed in this research are

not supported, namely H1b, H1c, H3a, H3c, H5b, H5c, and H7a. Furthermore, the interpretation and discussion of the findings from this analysis will be presented in Chapter 6.

CHAPTER 6

RESULTS AND DISCUSSIONS

6.1 Chapter Overview

This chapter discusses the explanation of the results of hypothesis testing described in the previous chapter. The discussion is based on theories and research. There are 19 hypotheses, where 10 hypotheses are direct effects between variables in the study, namely H1a, H1b, H1c, H2a, H2b, H2c, H3a, H3b, H3c, and H4, which are discussed in subchapter 6.2. Meanwhile, nine hypotheses represent the indirect influence between independent variables on the dependent variable through a mediating variable, namely H5a, H5b, H5c, H6a, H6b, H6c, H7a, H7b, and H7c, which are explained in subchapter 6.3. Furthermore, subchapter 6.4 is a summary of this chapter.

6.2 The Direct Effect of Independent Variables on Dependent Variables

This section discusses the analysis results of the 10 hypotheses constructed in this study, namely H1a, H1b, H1c, H2a, H2b, H2c, H3a, H3b, H3c, and H4. The discussion is in the sub-chapters 6.2.1 to 6.2.10. The discussion draws on the results of this study, theory, and previous research to strengthen the explanation of the results.

6.2.1 The Effect of Technology Readiness on Cloud Accounting Usage of SMEs

The first research objective of this study is to examine the relationship between technological factors (technology readiness, perceived benefits, and security concerns) and cloud accounting use among SMEs. The first research objective is divided into three hypotheses, where the first hypothesis (H1a) states that there is a positive relationship between technology readiness and cloud accounting use among SMEs. The statistical test results for H1a through PLS-SEM, as explained in Chapter 5, show that the Beta value is 0.196 with a t-value of $3.288 > 1.64$ and a p-value of $0.001 < 0.05$, meaning that hypothesis H1a in this study is supported. These statistical results indicate that technology readiness positively influences the use of cloud accounting systems. This confirms that SMEs that have good technological readiness, both in terms of devices,

user capabilities, and previous experience using digital systems, will find it easier and faster to adopt cloud accounting compared to SMEs that still have limitations in these aspects.

Technology readiness is an organization's readiness in terms of the existence of information technology (IT) infrastructure and human resources in implementing new technology (Alkhater et al., 2018). In line with Khayer et al. (2021), technology readiness encompasses structural aspects (network technology and company systems) as well as human resources, including information technology knowledge and skills for implementing new technologies in organizations. This can be strengthened theoretically through the TOE framework. Within this framework, technology readiness is situated within the context of technology, along with other factors such as perceived benefits and data security (Khayer et al., 2021; Mousa et al., 2024). The TOE framework explains that the decision to adopt a new system is influenced by available technology, internal organizational conditions, and external pressures (Prakash, 2025).

Access to cloud accounting services is highly dependent on technology readiness, including internet connectivity. A cloud accounting system is a system that helps organizations control and manage their finances with internet access, allowing users to access it anywhere and anytime (Tawfik et al., 2022). The results of this study are supported by respondents' answers regarding technology readiness, which indicate that most respondents have internet access. The internet is not a rare commodity, especially since almost all developing technologies require internet access. In Indonesia, internet usage is increasing every year (Aberth, 2024). This makes it easier for business people, including SME owners, to use cloud accounting systems. In addition, the availability of an internet connection within the company was also a reason for respondents in this study to assess the technology readiness SMEs must have before using a cloud accounting system. A good internet connection facilitates the completion of all company operational activities. Therefore, technology readiness, such as good internet connectivity, adequate computer technology or devices, and employees with information technology skills, can play an important role in an organisation's decision to use a cloud accounting system.

From a theoretical perspective, these findings suggest that within the TOE framework, technological readiness serves as a fundamental enabling condition, rather than merely a supporting technological factor, in the context of SMEs (Oliveira et al., 2014). Technological readiness represents a tangible organizational capability that

directly determines whether a cloud-based accounting system can be operationalized (Khayer et al., 2021). In the context of Indonesian SMEs, the decision to use a system is driven more by operational feasibility, such as the availability of internet infrastructure and basic IT competencies. This suggests that for SMEs in developing countries, technological capability is a crucial prerequisite for using information technology systems, including cloud accounting systems (Amron et al., 2022).

The results of this study are consistent with previous studies, namely Oliveira et al. (2014); Senyo et al. (2016), Alkhater et al. (2018), Yoo & Kim (2019), Amron et al., (2022); and Mengesha et al. (2022), which state that good technological readiness when using a cloud system will encourage organizations to use it. However, this contrasts with the findings of Khayer et al. (2021), Tawfik et al. (2022), and Al-Sharafi et al. (2023) who indicate that some SMEs lack technological readiness, such as inadequate technological infrastructure, unstable internet connectivity, and insufficient knowledge of information technology, which can hinder the implementation of cloud accounting systems in SMEs.

6.2.2 The Effect of Perceived Benefits on Cloud Accounting Usage of SMEs

This study's second hypothesis (H1b) is part of the first research objective. The second hypothesis (H1b) in this study is that there is a positive relationship between perceived benefits and cloud accounting usage by SMEs. The statistical test results for hypothesis H1b, shown in Table 5.26, indicate that the Beta value is -0.087, with a t-value of $1.019 < 1.64$ and a p-value of $0.154 > 0.05$, indicating that hypothesis H1b is not supported. In other words, there is no influence of perceived benefits on the use of cloud accounting systems in SMEs.

In the TOE framework, perceived benefits are included in the context of technology, which describes the extent to which an organization views new technology as offering advantages over existing systems, such as cost savings, increased efficiency, and real-time data access (Wasudawan & Sim, 2024). The TOE framework explains that an organization's decision to adopt a system, such as cloud accounting, is influenced by the belief that the technology will provide tangible benefits, including operational efficiency, cost savings, greater data accuracy, and easier access and integration (Putri et al., 2025). According to Darren (2021), perceived benefits are defined as relative advantages because this factor is rooted in the concept of relative advantage in

innovation diffusion theory, which relates to the tactical and competitive advantages of using cloud accounting systems. Organizations planning to use new information technology systems, including cloud accounting systems, expect to gain many benefits from using these systems. However, the results of this study indicate that perceived benefits do not significantly influence the use of cloud accounting systems in SMEs.

In Indonesia, cloud accounting systems are still not widely used despite developments in their use, namely a 48% increase in the last five years (Fardian, 2022). Additionally, based on this study's answers, most respondents have evaluated cloud accounting systems and plan to use them within the next two years. As in the study conducted by Chen et al., (2023), most SMEs have low knowledge of cloud systems. Therefore, many respondents in SMEs have not yet adopted cloud accounting systems in their business processes because they are unfamiliar with or do not understand them. Thus, they are not fully aware of or have not yet experienced the significant benefits of using such systems.

From a substantive and theoretical perspective, these findings suggest that perceived benefits do not serve as a primary driver of technology adoption, specifically cloud accounting systems, when SMEs are still in the early stages of digital maturity. This implies that perceived benefits tend to become prominent only after SMEs have gained sufficient understanding and experience with cloud accounting systems (Chen et al., 2023). Within the TOE framework, these findings suggest that the benefits of technology are still understood abstractly and conceptually, rather than directly experienced in real-world business operations (Skafi et al., 2020). Consequently, perceived benefits have not yet become a primary driver for SMEs to use the technology.

The results of this study are consistent with Gutierrez et al. (2015); Hassan et al. (2017); Dincă et al. (2019); Skafi et al. (2020); and Chen et al. (2023) who found that the significant benefits obtained from the use of cloud accounting systems do not necessarily motivate organizations, including SMEs, to adopt such systems in their business processes. This is primarily due to the low level of knowledge about cloud systems, which can hinder their implementation in business operations. However, these findings contradict those of Hsu et al. (2014); Oliveira et al. (2014); Gangwar et al. (2015); Kumar et al. (2017); Senarathna et al. (2018); Adiyasa et al. (2019); Hamundu et al. (2020); and Rawashdeh & Rawashdeh (2023), which state that the high perceived

benefits of using cloud accounting systems will make organizations want to use these systems to improve their business performance.

6.2.3 The Effect of Security Concern on Cloud Accounting Usage of SMEs

The next hypothesis, which is still included in the first research objective, is hypothesis H1c, namely that there is a negative relationship between security concerns and cloud accounting usage by SMEs. The statistical test results in Table 5.26 indicate that the Beta value is 0.124, indicating a positive relationship. Furthermore, the t-value is $1.210 < 1.64$ with a p-value of $0.113 > 0.05$. Based on the results in the table, it can be concluded that hypothesis H1c is not supported.

In the TOE framework, the security concern factor is included in the technology context because it reflects the organization's perception of security issues arising from the use of new technologies (Gui et al., 2024). Where security concerns are security breaches experienced by organizations using cloud accounting systems (Chen et al., 2023), these security breaches can take the form of loss of information, personal data, or other sensitive data that can harm the organisation (Hamzah et al., 2023). These security breaches are a security issue when using cloud accounting systems. The high level of security issues in cloud accounting systems can lead to a low desire to use them, as organizations are concerned that important data will be damaged or lost (Khayer et al., 2021). However, the results of this study indicate that the security issues experienced by users of cloud accounting systems do not influence their decision to use these systems. The magnitude of security issues experienced by organizations (SMEs) does not influence their decision to use the system. Based on the respondents' answers explained in the descriptive statistics, most respondents agree on the security of data entering the cloud system. All important and personal data must be kept secure to prevent theft and misuse by unauthorized parties. However, the importance of security in cloud accounting systems does not make SMEs use these systems because data security in cloud systems is regulated by several laws in Indonesia, so SMEs feel secure and do not overly concern themselves with the security of data entering cloud systems.

Indonesian laws and regulations used to maintain data security in cloud systems include Law Number 11 of 2008 concerning Electronic Information and Transactions (ITE), Regulation of the Minister of Communication and Informatics (Permenkominfo) Number 20 of 2016 concerning Protection of Personal Data in Electronic Systems,

Government Regulation Number 71 of 2019 concerning the Implementation of Electronic Systems and Transactions (PP PSTE), and Law Number 27 of 2022 concerning Protection of Personal Data (UU PDP). These laws collectively form the legal framework to ensure data security and protection in cloud systems in Indonesia (Wibowo et al., 2024). Furthermore, these laws and regulations stipulate the obligation for system service providers to implement technical security measures such as encryption, audit trails, and reporting data breaches to regulators (Rizal et al., 2024). Therefore, several of these regulations directly contribute to increasing consumer trust in information technology system services, including cloud accounting systems, because users feel that technology manufacturers comply with government-set security standards, so that concerns about security issues in the system can be minimized (Prastyanti & Sharma, 2024).

Theoretically, these findings suggest that security issues are not always a determining factor in the decision to use cloud accounting, especially in contexts where regulatory protection and institutional frameworks are perceived to be adequate to mitigate technological risks. In the context of SMEs in Indonesia, the existence of data protection and electronic system security regulations means that security risks are seen as risks that have been managed institutionally by service providers and regulators, rather than as direct operational threats that must be borne by business actors (Rizal et al., 2024). Therefore, security concerns do not emerge as a significant obstacle to the use of cloud accounting by SMEs, as reflected in the empirical results of this research.

The results of this study are in line with Oliveira et al. (2014), Dincă et al. (2019), and Tawfik et al. (2022), which state that security concerns are not a factor influencing organizations in using cloud systems because laws made by the government are able to help build trust and control over data when using cloud-based systems. However, these results are inconsistent with the findings of Kumar et al. (2017); Khayer et al. (2021); Lutfi (2022); Chen et al. (2023); Sharma & Sharma (2023); and Hamzah et al. (2023) that the numerous security concerns led to a decrease in their willingness to adopt such systems.

6.2.4 The Effect of Top Management on Cloud Accounting Usage of SMEs

The second research objective in this study is to examine the relationship between organizational factors (top management support, firm size, and financial cost)

and cloud accounting use among SMEs. Based on the research objective, the hypothesis H2a in this study is that there is a positive relationship between top management support and cloud accounting usage of SMEs. Statistical tests for the hypothesis H2a have been conducted in the previous chapter and have been summarised in Table 5.26. Based on the table, it can be seen that the Beta value is 0.298, indicating a positive relationship. Furthermore, the t-value is $2.919 > 1.64$ and the p-value is $0.002 < 0.05$, which means that the hypothesis H2a is supported, namely that there is a positive and significant influence between top management support and the use of cloud accounting systems among SMEs in Indonesia.

The results of this study have important substantive and theoretical implications. A positive beta coefficient indicates that top management support acts as an organizational mechanism driving the adoption of cloud-based accounting at the SME level. In the SME context, where strategic decision-making is generally centred on the owner or top management, management commitment and involvement are key factors shaping an organization's readiness to adopt digital technologies, including cloud-based accounting systems (Hamzah et al., 2023).

Top management support refers to the involvement, support, and commitment of the highest levels of management in an organisation toward a particular project, initiative, or change (Zhang et al., 2021). Support from top management is essential in various contexts, such as the implementation of new technologies, organizational change, product development, or the implementation of business strategies (Chen et al., 2023). In addition, top management support is also needed in the strategic decision-making process related to SMEs' business performance (Mousa et al., 2024). Top management support is also considered an important predictor in using information technology and information systems at the organizational level, including cloud accounting systems (Lutfi, 2022). In the TOE framework, top management support is part of the organizational context, which reflects the organization's internal readiness to face digital transformation, because when organizational leaders understand the strategic value of cloud accounting, such as cost efficiency, reporting accuracy, and real-time access, they will tend to allocate resources in the form of finance, human resources, and time, as well as form cultural support that accelerates the use of cloud accounting systems (Hamzah et al., 2023).

In the context of SMEs in Indonesia, top management support has a very positive influence on the use of digital technologies, including cloud accounting

systems. Hamzah et al. (2023) and Iswari et al. (2025) found that top management support has a significant direct effect on the use of cloud accounting systems in SMEs. Top management support facilitates resource allocation, the formation of a strong digital vision, and internal organizational motivation to implement technological change (Iswari et al., 2025). Therefore, if SMEs have good support from top management, they will be able to improve their business performance, including strategic decision-making to use cloud accounting systems.

The results of this study are in accordance with Oliveira et al. (2014), Gangwar et al. (2015), Kumar et al. (2017), Skafi et al. (2020), Lutfi (2022), Amir Hamzah et al. (2023), and Chen et al. (2023) that support from top management is needed in an organization, including in making decisions to use a cloud accounting system. If top management provides support in finance and other resources, applying the cloud accounting system will be easier and smoother. However, these results are in contrast to Gutierrez et al. (2015); Hassan et al. (2017); and Tawfik et al. (2022) who stated that top management support is not a supporting factor for organizations using cloud systems, because currently cloud systems, including cloud accounting, are easy to obtain and even available for free, so organizations do not need top management support as decision makers to use the system.

6.2.5 The Effect of Firm Size on Cloud Accounting Usage of SMEs

The following hypothesis is the H2b hypothesis, which is still included in the second research objective. The H2b hypothesis in this study is that there is a positive relationship between firm size and cloud accounting usage of SMEs. Table 5.26 in Chapter 5 is the result of testing the H2b hypothesis. Based on the table, the Beta value for this hypothesis is 0.182, indicating a positive relationship. Furthermore, it can be seen that the t-value is $5.104 > 0.164$, with a p-value of $0.000 < 0.05$. The statistical test results indicate that firm size has a positive and significant effect on the use of cloud accounting systems in SMEs, supporting H2b.

Firm size in SMEs is measured using the number of employees. The more employees, the larger the size of the company, and vice versa; the smaller the number of employees, the smaller the size of the company (Senyo et al., 2016). Theoretically, in the TOE framework, firm size is included as an element of the organizational context. Larger organizations typically have more adequate financial resources, a more formal

internal structure, and the capacity to allocate budgets for training, technology integration, and vendor support (Ouaadi & Haddad, 2020). Furthermore, larger SMEs tend to be more financially, operationally, and human resource-ready to use cloud accounting systems, whereas smaller SMEs will require additional support or simpler, more cost-effective solutions (Oliveira et al., 2014). If the size of a small company can affect the way SMEs use cloud accounting systems, such as resource constraints and resistance to change, there are benefits such as scalability, cost, and accessibility (Skafi et al., 2020). Therefore, the size of a company can affect an organization, including SMEs, in its decision to use a cloud accounting system.

Based on the results of descriptive statistics, most respondents are classified as small SMEs, which is indicated by the number of employees being in the range of 5 to 19 people, which includes 179 SMEs. Furthermore, based on the average responses, most respondents are currently in the evaluation stage of cloud accounting usage and intend to use the system within the next 2 years. In other words, most respondents have not used the cloud accounting system and will use it after evaluating the system. In addition, the cloud accounting system has a "pay per use" feature, which makes it easier for small SMEs to use, as they only pay for the features or capacity they use (Senyo et al., 2016). Likewise, in Indonesia, when using a cloud accounting system, SMEs do not need to invest heavily in the system and are only required to pay the service provider for the services they use during business activities (Hamundu et al., 2020). Thus, the results of this study support the notion that firm size positively influences the use of cloud accounting systems in SMEs.

This condition indicates that although the majority of respondents are small-scale SMEs, company size still plays a role in shaping the intention and readiness to use cloud accounting systems. Relatively larger SMEs are in a better position to move from the evaluation stage to the actual use stage, compared to smaller SMEs that still face resource constraints (Tawfik et al., 2022). Thus, the positive influence of company size reflects differences in the level of readiness to use information technology systems, including cloud accounting systems, among SMEs.

The results of this study are in accordance with previous studies conducted by Oliveira et al. (2014); Kinuthia (2015); and Ouaadi & Haddad (2020) that firm size is an important factor in the use of cloud accounting systems, because large firms have sufficient costs and resources to use the system, while small firms mostly do not have the resources to create, test, and implement cloud systems. However, several previous

studies stated that firm size did not show a significant effect on the use of cloud systems (Gutierrez et al., 2015); (Senyo et al., 2016); (Kumar et al., 2017); (Skafi et al., 2020); and (Tawfik et al., 2022). Furthermore, Marzi et al. (2023) stated that firm size has negative or adverse effect on the use of information technology systems, because small company sizes make it easier for them to implement technological innovations, such as ease of communication, less coordination, and less influence, so that it is easier for companies to use new systems.

6.2.6 The Effect of Financial Cost on Cloud Accounting Usage of SMEs

This study's next hypothesis is the H2c hypothesis, which is included in the second research objectives. The H2c hypothesis in this study is there is a positive relationship between financial cost and cloud accounting usage of SMEs. The results in Table 5.26 demonstrate the Beta value of 0.182, which indicates a positive relationship. Furthermore, based on the table, the t-value is $3.447 > 1.64$ and the p-value is $0.000 < 0.05$. These results suggest that the H2c hypothesis is supported: there is a positive and significant relationship between financial costs and the use of cloud accounting systems in SMEs.

The results of this study demonstrate an organization's readiness and commitment to using information technology systems, specifically cloud accounting systems. In the context of SMEs, the willingness to allocate funds for cloud accounting systems reflects a long-term strategic orientation and the perception that the technology enhances business performance (Putri et al., 2025).

Financial costs are expenses incurred by companies to subscribe to, implement, train staff, and maintain cloud-based systems (Alqudah, 2024). Financial costs are not always an obstacle, because when companies are willing to spend money on cloud accounting systems, such as for subscriptions, training, or integration, it will reflect the strategic commitment and readiness of the organization to make maximum use of technology (Putri et al., 2025). Phu et al. (2025) also stated that the costs incurred in using the cloud accounting system are seen as a form of investment. This is because the use of a cloud accounting system will increase efficiency, improve data accuracy, and increase transparency in the preparation of financial reports. Therefore, companies that invest financially in cloud systems tend to be more motivated to optimize their use to obtain the full benefits of the system, such as real-time data processing, business

decision-making tools, reduced infrastructure costs, and ease of integration (Phu et al., 2025). Moreover, SMEs in Indonesia are only required to pay for the services they use, making it easier for small SMEs to use the system (Hamundu et al., 2020). The cost incurred for using a cloud accounting system is not small, but with the “pay per use” feature, it can provide a flexible and cost-effective solution for businesses, especially SMEs, where they can pay according to the level of service usage (Sastararuji et al., 2022). This not only helps in better budget management but also allows for rapid adaptation to changing business needs.

Furthermore, cloud system services, including cloud accounting systems, offer a more efficient and cost-effective solution to legacy systems, because cloud accounting systems do not require software installation and offer a subscription method, so SMEs only pay for the services used (Al-Sharafi et al., 2023). The cost savings offered by cloud accounting system services will also make SMEs more willing to use them in their businesses, because, in addition to the system's benefits in facilitating the recording of business financial transactions, the remaining savings can also be used for SMEs' operational activities.

In line with research done by Wicaksono et al. (2020) which states that the advantages of cloud accounting system services lie in the time and cost savings offered to organizations, including SMEs. Thus, SMEs will continue to use the cloud accounting system, even though the costs incurred to use the system are not small, because in addition to having a "pay per use" feature, there are offers regarding savings in financial and accounting costs, as well as long-term benefits from using the system, which are very beneficial for SMEs.

6.2.7 The Effect of Competitive Pressure on Cloud Accounting Usage of SMEs

The third objective in this study is to examine the relationship between environmental factors (competitive pressure, regulatory environment, and vendor support) and cloud accounting use among SMEs. The third objective consists of 3 hypotheses, namely H3a, H3b, and H3c. Hypothesis H3a in this study shows a positive relationship between competitive pressure and cloud accounting. The results of statistical tests for hypothesis H3a are also seen in Table 5.26. Based on the table, the Beta value shows a figure of 0.097, which indicates a positive value. Furthermore, for the t-value of 1.329 <1.64 with a p-value of 0.092 > 0.05. These results suggest that

there is no significant influence between competitive pressure on the use of cloud accounting systems in SMEs.

Although the relationship is positive, this insignificant result indicates that competitive pressure has not been a major driver of the use of cloud-based accounting systems among Indonesian SMEs. Subsequently, this suggests that SMEs' competitors are not interested in adopting cloud accounting systems (Tawfik et al., 2022). In other words, SMEs do not automatically respond to the dynamics of market competition by adopting technological innovation, especially if the benefits of such technology are not yet clearly understood (Skafi et al., 2020).

Competitive pressure is one of the determining factors in the implementation of technology and information systems in organizations. As market competition increases, organizations need to seek a competitive advantage by introducing new innovations (Tawfik et al., 2022). When organizations face fierce competition, they tend to implement changes, including adopting a cloud accounting system that will be carried out if the organization knows that its competitors are using it and has a positive impact on their business (Khayer et al., 2021). However, the results of this study state that competitive pressure is not a factor that influences SMEs to use a cloud accounting system. The results of the descriptive statistical test in this study, shown in Table 5.7, indicate that many respondents have not used a cloud accounting system in their business processes, because they are not yet familiar with or understand the cloud accounting system. Thus, the low number of SMEs that have used a cloud accounting system indicates that there is no pressure from competitors to adopt it, because they do not fully understand its benefits and how it can provide a competitive advantage. Furthermore, without adequate knowledge of the system, competitive pressure from competitors is not enough to encourage the use of a cloud accounting system in SMEs. This is equivalent to the statement by Khayer et al. (2021) that the majority of SMEs are still unable to utilise cloud technology as their competitive advantage.

The results of this study are in accordance with Oliveira et al. (2014); Skafi et al. (2020); Khayer et al. (2021); and Tawfik et al. (2022) that in the SMEs environment, the competitive advantages of using a cloud accounting system are not yet fully understood, so SMEs will use it if their competitors have obtained real results from using the system, or if the government requires SMEs to use a cloud accounting system. In addition, the cloud accounting system has not become an important technology for SMEs, so they have not considered the strategic need for using the system, until many

SMEs use the system to improve their business (Baiod & Hussain, 2024). However, the results of this study contradict Gutierrez et al. (2015), Senyo et al. (2016), Lutfi (2022), and Chen et al. (2023) who state that the business success experienced by competitors constitutes competitive pressure, and makes SMEs follow the methods used by their competitors, one of which is the use of a cloud accounting system.

6.2.8 The Effect of Regulatory Environment on Cloud Accounting Usage of SMEs

The H3b hypothesis is included in the third research objective. The H3b hypothesis states that there is a positive relationship between the regulatory environment and cloud accounting. The H3b test results show a Beta value of 0.202, indicating a positive relationship. Furthermore, the t-value of the test results is $3.03 > 1.64$, with a p-value of $0.000 < 0.05$. Based on these results, it can be concluded that the H3b hypothesis is supported, namely, there is a positive influence between the regulatory environment and the use of cloud accounting systems in SMEs.

These findings indicate that regulatory support serves not only as a formal legal framework but also as a legitimizing mechanism that increases SMEs' confidence in using information technology systems. This suggests that the stronger and clearer the regulations governing the use of information technology systems, including cloud accounting systems, the higher the level of trust and security perceived by SMEs in using them (Rizal et al., 2024). Thus, the regulatory environment serves as an external driver that reduces uncertainty in the process of using cloud-based accounting systems.

Regulatory environment refers to the support of regulators, namely the government, in increasing information technology innovation (Khayer et al., 2021). In Indonesia, the regulatory environment influences the use of cloud accounting systems with regulations that focus on data security, privacy protection, tax compliance, and accounting standards set by the government (Wicaksono et al., 2020). Where, these regulations include Law Number 11 of 2008 concerning Information and Electronic Transactions (ITE), Regulation of the Minister of Communication and Information (Permenkominfo) Number 20 of 2016 concerning Protection of Personal Data in Electronic Systems, Government Regulation Number 71 of 2019 concerning Implementation of Electronic Systems and Transactions (PP PSTE), Law Number 27 of 2022 concerning Protection of Personal Data (UU PDP), and Financial Accounting

Standards for Micro, Small and Medium Enterprises (SAK EMKM) for SMEs. Some of these regulations determine that companies, including SMEs, can use cloud accounting technology safely and legally. Khayer et al. (2021) also argue that if a country's government has specific standards and protocols for the use of cloud technology, companies will be more enthusiastic about accepting this technology to develop their business.

The results of this study are in line with Wang (2019) and Al-Sharafi et al. (2023), who state that policies and regulations on the use of cloud technology made by the government are able to make companies use the system, including cloud accounting. Therefore, the use of a cloud accounting system does need support from the government so that users feel safe and confident in using the system. However, the results of this study contradict (Oliveira et al., 2014); (Wicaksono et al., 2020); (Khayer et al., 2021); and (Chen et al., 2023). Their research findings suggest that without economic incentives or financial assistance from the government for business development, technological advancements and cloud system standards developed by the government are unable to overcome the barriers to using these systems.

6.2.9 The Effect of Vendor Support on Cloud Accounting Usage of SMEs

H3c hypothesizes a positive relationship between vendor support and cloud accounting. Based on the results of direct testing of the hypothesis listed in Table 5.26, it can be seen that the Beta value for the H3c hypothesis is -0.121 with a p-value of $0.024 < 0.05$, and a t-value of $1.984 > 1.64$. This indicates that there is a significant negative influence between the vendor support variable and the cloud accounting variable. Thus, it can be concluded that the results of the H3c test are not supported: there is no negative influence of vendor support on the use of cloud accounting systems in SMEs.

The results of this study indicate that the higher the perceived intensity of vendor support, the lower the likelihood that SMEs will use cloud accounting systems. Substantively, this reflects that the form of support provided is not aligned with the needs and characteristics of SMEs, which tend to be simple, flexible, and prioritize operational independence (Harauzek & Hani, 2022).

Vendor support provides services to users of cloud accounting systems by offering adequate technical support, training, and resources, so that the service can

provide assurance, a comprehensive understanding, and access to devices to successfully implement the system for the success of their SMEs (Hamzah et al., 2023). Equivalent to the statement of Kumar et al. (2017) that the cloud accounting system is a new technology that requires support from vendors to ensure that the system runs smoothly, so that SMEs are willing to use the system. Within the TOE framework, vendor support is categorized as an environmental factor that theoretically can facilitate technology adoption and use by providing external resources and reducing technical uncertainty (Low et al., 2011). Conceptually, vendor support is expected to act as an enabling mechanism that helps SMEs understand, operate, and maintain cloud accounting systems effectively. Consistent with previous research, vendor support can increase user confidence in system stability and expedite the implementation process of new technology (Hamzah et al., 2023).

However, empirical results indicate that vendor support has a significant negative effect on SMEs' adoption of cloud accounting systems. This finding does not necessarily contradict the TOE framework, as environmental factors, from this perspective, are not always encouraging but can also serve as constraints if external interventions are not aligned with organizational capacity (Low et al., 2011). Excessive vendor support can lead to dependence on a single vendor, which can lead to limited flexibility and weaken the development of internal organizational capabilities in the long term (Opara-martins et al., 2016). In the context of SMEs, which generally have simple organizational structures and limited managerial capacity, high dependence on system providers can reduce perceptions of autonomy and internal control over the information systems used (Baiod & Hussain, 2024). Furthermore, dominant vendor support or a lack of adaptability to SMEs' operational needs can increase the complexity of external coordination and slow the process of system internalization in daily business activities (Harauzek & Hani, 2022).

Therefore, in this study, vendor support is understood not only as an external factor driving technology adoption but also as an environmental factor that has the potential to become an environmental constraint if the form of support is not aligned with the SMEs' characteristics, readiness, and internal capacity. These findings broaden understanding of the role of vendor support in the context of cloud accounting adoption, particularly in small organizations that are highly sensitive to issues of internal control, operational simplicity, and the development of independent capabilities.

In line with research by Sastararuji et al., (2022), although vendor support is provided during and after implementation, many SMEs feel the administrative burden and vendor dependence increase, as vendors often offer complex service packages that are not tailored to SMEs' simple needs. Excessive or lack of transparency in vendor support can also lead to uncertainty, unexpected costs, and time-consuming contract negotiations, thus inhibiting SMEs from adopting cloud accounting systems.

The results of this study are in contrast to several previous studies, namely Kumar et al. (2017), Chen et al. (2023), and Hamzah et al. (2023), which state that support from cloud system vendors will help cloud system users operate the system, so that they will always use it in their business. Vendors will provide access to cloud system services, such as infrastructure, platforms, software, and after-sales services, which allow SMEs to rely on vendors for uninterrupted cloud service availability (Chen et al., 2023). However, the results of research from Baiod & Hussain (2024) provide evidence that vendor support is still insufficient to encourage the use of cloud accounting systems, which are relatively new technologies.

6.2.10 The Effect of Cloud Accounting System Usage on the Quality of Financial Reports of SMEs

The fourth hypothesis in this study is included in the fourth objective, where it predicts a positive relationship between cloud accounting usage and the quality of financial reports of SMEs. Based on Table 5.26, it shows that the results of direct testing between the variables of cloud accounting usage and quality of financial reports of SMEs, namely the Beta value of 0.321, with a p-value of $0.000 < 0.05$, and a T-value of $5.722 > 1.64$. These results show that there is a positive and significant influence between the use of cloud accounting systems on the quality of financial reports of SMEs. Thus, it can be concluded that the results of the H4 test are supported.

The positive beta coefficient indicates that the use of cloud-based accounting makes a relatively strong contribution to improving the quality of SME financial reports. This finding not only demonstrates a statistically significant relationship but also indicates that digital transformation through cloud-based accounting has direct implications for more accurate, systematic, and standardized financial reporting practices (Putri et al., 2025). Substantially, these results confirm that the use of cloud-

based accounting systems goes beyond simply using the system and continues to improve the quality of the accounting results produced (Owolabi & Izang, 2020).

Cloud accounting is an accounting service that can be controlled remotely and can be accessed by users of the system anywhere and anytime (Al-Okaily et al., 2022). The use of a cloud accounting system makes it easier for SMEs to run their business because the system provides various features that help SMEs manage their finances, such as automatic financial report generation, tax calculations, and inventory monitoring (Kariyawasam, 2019). In addition, the cloud accounting system also helps SMEs in producing accurate financial reports and conducting financial analysis, making it easier for users to make better decision-making processes (Hamzah et al., 2023). The cloud accounting system in Indonesia has also been adjusted to the applicable accounting standards (Marsintauli et al., 2021). Therefore, the existence of a cloud accounting system can help SMEs in Indonesia in carrying out structured financial records in accordance with applicable accounting standards.

Furthermore, the cloud accounting system has many benefits, one of which is that it is easy to use and provides structured financial records (Rao et al., 2017). The system has basic functions, where customers only enter financial transactions online and will automatically be recorded properly and in real time, then the resulting financial records become neater and always updated, thus increasing business accountability in the eyes of third parties (Rao et al., 2017). Although Indonesia has a large number of SMEs, which is 843 thousands and always increasing every year, many SMEs in Indonesia have not made their financial reports properly (Hasanah et al., 2021). This is reinforced by the low level of financial management knowledge of the Indonesian people (Kurniasari et al., 2025). Thus, the existence of a cloud accounting system is the right solution for SMEs in Indonesia, because it is easy to use and can produce neat, quality financial reports, and in accordance with applicable accounting standards.

The results of this study are in line with Owolabi & Izang (2020), Ogunsola (2021), and (Putri et al., 2025), SMEs that use the help of a cloud accounting system in their business processes make it easier for them to record all their financial transactions, so that the financial reports produced by the system are better, of higher quality, and in accordance with accounting standards.

6.3 Indirect Effect Between Independent Variables on Dependent Variables

This section discusses the analysis results of 9 hypotheses built in this study, namely H5a, H5b, H5c, H6a, H6b, H6c, H7a, H7b, and H7c. The discussion will be carried out for each hypothesis, and the explanation will be divided into 9 sub-chapters, starting from sub-chapter 6.3.1 to 6.3.9. The discussion for each hypothesis will be based on the results of the analysis of this study, theory, and previous research results to strengthen the explanation of the results of this study.

6.3.1 Cloud Accounting Mediates the Relationship of Technology Readiness with Quality of Financial Reports of SMEs

The fifth hypothesis in this study is included in the fifth objective. The hypothesis is that cloud accounting usage mediates the relationship between technology readiness and the quality of financial reports of SMEs. The results of testing the hypothesis are listed in Table 5.30, where the results show that the t-value is $2.781 > 1.96$ and the p-value is $0.003 < 0.05$. Based on these values, H5a is supported, with the category of indirect-only mediation, namely, there is a significant indirect influence, but there is no direct influence between the independent variable and the dependent variable.

These findings indicate that technological readiness does not directly improve financial reporting quality, but must first be realized through the use of a cloud-based accounting system. In other words, technological readiness, including IT infrastructure, serves as a prerequisite or foundation, while the use of cloud-based accounting acts as an operational mechanism that translates this readiness into improved financial reporting quality (Putri et al., 2025). This reinforces the role of cloud-based accounting as a key variable in bridging technological readiness and financial reporting quality that complies with accounting standards (Limba et al., 2025).

The cloud accounting system is an information technology system regarding accounting services that can be accessed anywhere and anytime (Darren, 2021). The use of cloud accounting systems in SMEs is still based on the readiness of SMEs to adopt new technology. The technology readiness possessed by SMEs can be in the form of resource aspects, namely, having employees with good knowledge of technology or IT specialists (Khayer et al., 2021). In addition, other aspects of technology readiness

possessed by SMEs can be in the form of readiness for technological infrastructure that supports the use of new technology (Oliveira et al., 2014). SMEs that possess both of these aspects are considered ready to adopt and use new technology in their businesses, including cloud accounting systems (Tawfik et al., 2022).

Many internet networks can support the emergence of technology readiness in organizations (Santoso, 2020). In Indonesia, the number of internet penetration always increases every year, and in 2024 it has reached 79.5% of the total population of Indonesia (Aberth, 2024). This makes it easier for SMEs to achieve technology readiness so that they can accept the presence of new information technology systems, including cloud accounting systems. Several previous studies, such as Oliveira et al. (2014); Senyo et al. (2016); Alkhater et al. (2018); and Amron et al., (2022) have shown that there is a direct influence between technology readiness and the use of information technology systems, where technology readiness greatly helps cloud system users in accepting and using the technology in their business. The results of the hypothesis in this study (H1a) also state that the technology readiness owned by SMEs makes them willing to use cloud accounting systems in their business processes.

Furthermore, the cloud accounting system itself offers accounting services, such as recording all financial and tax transactions, and assisting in creating these reports, namely financial reports and tax reports (Hamzah et al., 2023). The cloud accounting system in Indonesia has been adjusted to the accounting standards applicable in Indonesia, namely, the Financial Accounting Standards for Micro, Small and Medium Enterprises (SAK EMKM) (Marsintauli et al., 2021), so that SMEs that use the cloud accounting system offered by various vendors in Indonesia will have financial reports that comply with accounting standards and are of high quality. Thus, the quality of financial reports in SMEs is indirectly influenced by the technology readiness of SMEs using the cloud accounting system in their business.

However, there is still little research examining the indirect effect of technology readiness on the quality of financial reports. Putri et al. (2025) examined the indirect effect of IT infrastructure on the quality of financial reports, proving that good IT infrastructure in SMEs can improve the quality of financial reports produced by SMEs. Furthermore, several previous studies discussed the indirect effect of technology readiness on business performance (Raut et al., 2017) and (Khayer et al., 2021). Furthermore, Ali et al. (2024) discussed the effect of technology readiness on remote

audit quality. Several of these studies indicate that technology readiness is very much needed by organizations, including SMEs, to support all their business needs.

6.3.2 Cloud Accounting Mediates the Relationship of Perceived Benefits with Quality of Financial Reports of SMEs

The next hypothesis is to explain the indirect effect between perceived benefits and the quality of financial reports of SMEs, using a cloud accounting system (H5b). This hypothesis is included in the fifth objectives. The test results for H5b are shown in Table 5.30, namely a Beta value of -0.028, with a t-value of 0.098 < 1.96, and a p-value of 0.159 > 0.05. This indicates that the results of H5b are not supported. In other words, these results are included in the no-effect non-mediation category, because there is no direct or indirect effect significantly. The statistical results conclude that the use of a cloud accounting system is unable to mediate the relationship between perceived benefits and the quality of financial reports.

These findings indicate that SMEs' perceived benefits of cloud accounting are not yet strong enough to translate into improved financial reporting quality, either directly or through system use. This indicates that perceived benefits are cognitive in nature, but have not yet been fully translated into optimal usage practices (Chen et al., 2023), resulting in inadequate reporting output.

Perceived benefits are a condition where a technology is able to provide more benefits to users, such as ease of communication, access, time savings, and reduced administrative costs (Tawfik et al., 2022). The use of a cloud accounting system is expected to provide benefits to its users, because the system helps in the process of recording financial transactions and for taxation recording (Hamzah et al., 2023). Therefore, the use of this cloud accounting system can facilitate the preparation of better and higher-quality financial reports (Owolabi & Izang, 2020). However, the results of this study prove that the perceived benefits provided by using a cloud accounting system do not significantly affect the quality of the financial reports produced. This is because the financial reports of SMEs in Indonesia are generally voluntary and not legally required, so not all SMEs in Indonesia make financial reports that comply with the accounting standards applicable in Indonesia (Wiralestari & Riski, 2020). In accordance with the statement of Hasanah et al. (2021), around 70% of SMEs in Indonesia do not make their own financial reports properly. This proves that one of the reasons for not

making financial reports is because it is not legally required to make financial reports in SMEs. In addition, from the respondents' answers stating that there are still many respondents in SMEs who have not used the cloud accounting system in their business processes, because they are not yet familiar with and understand the cloud accounting system, so they do not yet know the magnitude of the benefits felt from using the system. Thus, the low knowledge of the cloud accounting system and the legal obligation of financial reports for SMEs in Indonesia, which causes SMEs not to see the benefits generated from using the cloud accounting system, especially for making quality financial reports and in accordance with applicable accounting standards.

Several previous studies, such as Gutierrez et al. (2015); Hassan et al. (2017); Dincă et al. (2019); Skafi et al. (2020); and Chen et al. (2023), consider that the benefits obtained from using a cloud accounting system are unable to influence them to use and apply a cloud accounting system in their business. Meanwhile, research from Hsu et al. (2014); Oliveira et al. (2014); Gangwar et al. (2015); Kumar et al. (2017); Senarathna et al. (2018); Adiyasa et al. (2019); Hamundu et al. (2020); and Rawashdeh & Rawashdeh (2023) stated that the benefits generated by using cloud systems can influence them to use the system for the sustainability of their business.

These studies state the direct influence between perceived benefits on the use of a cloud accounting system. Meanwhile, previous studies examining the indirect influence between perceived benefits on the quality of financial reports are still rare. Previous research explains the indirect influence between perceived benefits on business performance Al-Sharafi et al., (2023), where the benefits obtained from using a cloud system can significantly increase business performance and productivity in SMEs.

6.3.3 Cloud Accounting Mediates the Relationship of Security Concern with Quality of Financial Reports of SMEs

The last factor that measures the technological context in this study is security concern. The hypothesis formed is that cloud accounting usage mediates the relationship between security concerns and the quality of SMEs' financial reports. The results of testing the H5c hypothesis are shown in Table 5.30. Based on the table, it can be seen that the Beta value is 0.040, with a t-value of $1.151 < 1.96$ and a p-value of $0.125 > 0.05$. These results indicate that the H5c results are not supported. In other

words, these results are included in the no-effect non-mediation category because there is no significant direct or indirect influence. Thus, it can be concluded that cloud accounting is unable to mediate the relationship between security concern and quality of financial reports.

These findings indicate that security concerns are not a determining factor in improving the quality of financial reports, either directly or through the use of cloud accounting. This indicates that while security issues are an important consideration in the use of information technology systems (Tawfik et al., 2022), including cloud accounting systems, in the context of Indonesian SMEs, this factor is not yet strong enough to significantly impact the quality of financial reports.

Chen et al. (2023) explained that security concerns are security threats that may occur in organizations that utilize cloud accounting systems. These security threats can be in the form of losing important data, so if security concerns are high, it will influence SMEs to use cloud accounting systems in business. The use of cloud accounting systems greatly helps SMEs in recording transactions up to financial reports that are in accordance with accounting standards and are of high quality (Hamzah et al., 2023). However, in this study, when viewed from the results of descriptive statistical values, it illustrates that the average respondent's answer is 3.4, which indicates that quite a few respondents are still evaluating using the system. This means that quite a few have not used the cloud accounting system, so they do not know the extent of the security offered by the cloud accounting system, including the security concerns that can occur from using the system. In addition, the results of respondents' answers regarding security concerns stated that they agreed that all important data entered into the cloud accounting system must be kept secure. However, Indonesia has several regulations regarding data security, including Law Number 11 of 2008 concerning Information and Electronic Transactions (ITE), Regulation of the Minister of Communication and Informatics (Permenkominfo) Number 20 of 2016 concerning Protection of Personal Data in Electronic Systems, Government Regulation Number 71 of 2019 concerning Implementation of Electronic Systems and Transactions (PP PSTE), and Law Number 27 of 2022 concerning Protection of Personal Data (UU PDP). These regulations make respondents feel safe and not worried about security issues that can arise from the use of cloud accounting systems, such as loss of important data, important information, or other sensitive data (Rizal et al., 2024). Therefore, the few SMEs in Indonesia that use cloud accounting systems have not been able to mediate the influence of security

concerns on the quality of financial reports in SMEs. In addition, regulations made by the Indonesian government regarding data security have increased confidence in the use of information technology systems, so that the presence or absence of security concerns from using cloud accounting systems does not affect the level of use of these systems. Furthermore, these regulations provide data security and privacy, ensuring financial data cannot be manipulated, altered, or accessed without authorisation. Hasan et al. (2024) also state that cybersecurity in accounting practices can prevent the loss of important financial data, ensuring that the financial reports are accountable.

There are several previous studies related to the direct influence between security concerns on the use of cloud accounting systems. Several studies have been conducted by Senyo et al. (2016); Kumar et al. (2017); Skafi et al. (2020); Khayer et al. (2021); Lutfi (2022); Chen et al. (2023); and Hamzah et al., (2023), stating that there are security disturbances that arise from the use of cloud systems that can affect companies' willingness to use the system. However, the results of research from Oliveira et al. (2014); Dincă et al. (2019) and Tawfik et al. (2022), state that there is no significant influence between security concerns and the use of cloud accounting systems. Furthermore, research that states the indirect influence of security concerns on the quality of financial reports is still rare. However, there is also research on the effect of security on the quality of financial reports, although it is not specifically aimed at security concerns in information technology systems. Sukma et al. (2025) stated that implementing effective cybersecurity practices protects sensitive data and enhances the transparency and accountability in financial reports at Islamic Commercial Banks in Indonesia. In addition, Elnagar et al. (2024) showed that disclosure of cybersecurity risks has an important role in improving the quality of financial reporting and the company's market value, where this disclosure can reduce earnings management practices, which indicates an increase in the quality of financial reporting.

6.3.4 Cloud Accounting Mediates the Relationship of Top Management Support with Quality of Financial Reports of SMEs

The sixth research objective in this study is to examine whether cloud accounting usage mediates the relationships of organisational factors (top management support, firm size, and financial cost) with the quality of financial reports of SMEs. The research objective is divided into three hypotheses, where this sub-chapter explains the

results of the analysis of hypothesis 6a, namely, cloud accounting usage mediates the relationship between top management support and quality of financial reports of SMEs. The results of the indirect effect test in this study are listed in Table 5.30, which can be seen from the Beta value of 0.096 and shows a positive direction. Furthermore, the t-value shows a figure of $2.643 > 1.96$ and a p-value of $0.004 < 0.05$. The analysis results explain that H6a is supported, with the category of indirect-only mediation, namely, there is a significant indirect effect, but there is no direct effect between the independent variable and the dependent variable. Thus, there is an indirect influence of the top management support variable on the quality of financial reports, with the use of a cloud accounting system as a mediating variable.

These findings indicate that top management support does not directly improve the quality of financial reports, but rather is first realized through the use of a cloud accounting system. This is in line with the information systems success model that positions system use as the primary mechanism that translates management support into tangible benefits or performance (Jayeola et al., 2022). In the context of SMEs, strategic commitment from top management only impacts tangible performance outputs when such support is implemented in the form of consistent system utilization (Al-Sharafi et al., 2023). In other words, the use of cloud-based accounting acts as an operational mechanism that links managerial policies with improved accounting output quality.

Top management support refers to the level of support, involvement, and commitment provided by top management in the planning, implementation, and utilisation of strategic initiatives, such as information system implementation, digital transformation, or other organisational projects (Sarker & Islam, 2022). This support includes providing the necessary resources, making strategic decisions, and communicating the vision and objectives of the project to the entire organisation (Tawfik et al., 2022). Active involvement and continuous support from top management can increase the likelihood of project success and ensure that strategic initiatives align with the organisation's objectives.

Top management support plays a vital role in the successful use of cloud accounting systems, especially in SMEs, because top management support includes commitment, active involvement, and resource allocation by top management in supporting the implementation of new technologies (Hamzah et al., 2023). In using a cloud accounting system, effective top management support includes providing adequate resources, communicating a strategic vision, and training and incentives for

employees to use the new system (Skafi et al., 2020). Without support from top management, SMEs may face several obstacles in implementing information technology systems, such as employee resistance or a lack of understanding of the benefits of technology (Chen et al., 2023). Therefore, to maximize the benefits of using a cloud accounting system, SMEs need to ensure that top management is actively involved and provides balanced support throughout the implementation and post-implementation process. Frau (2022) explains that top management can influence the use of information systems through cultural change, employee motivation, and the creation of a conducive environment for information technology. Thus, good support from top management can provide success in using the cloud accounting system, so that the use of this system can provide benefits for SMEs related to the preparation of quality financial reports that are in accordance with accounting standards.

There are several previous studies on the direct influence of top management support on the use of cloud systems. Research conducted by Oliveira et al. (2014); Senyo et al. (2016); Kumar et al. (2017); Adiyasa et al. (2019); Skafi et al. (2020); Lutfi (2022); Sarker & Islam (2022); Chen et al. (2023); Al-Sharafi et al. (2023); (Hamzah et al., 2023); and Mujalli et al. (2024), explains that support from top management can influence companies in using cloud systems, because they provide motivation, resources, a conducive environment, and are directly involved in the implementation process of the system. However, in contrast to the research (Tawfik et al., 2022), top management support is not a factor that can influence companies to use cloud accounting systems. Although research on the indirect effect of top management support on the quality of financial reports is still very limited, there are several studies on the indirect effect of top management support and other variables, such as sustainable performance and financial performance. Jayeola et al. (2022) discuss the mediating role of top management support in the relationship between cloud-based ERP implementation and financial performance in Malaysian SMEs. The results of the study stated that top management support is a determining factor in the success of system implementation, where top management support encourages employees to accept change, allocate technology budgets, and mitigate the risk of system failure, and without support from the highest level of management, the implementation of cloud accounting systems often experiences obstacles such as employee resistance, lack of resources, or minimal user training. The research conducted by Al-Sharafi et al. (2023) stated that

top management support has an effect on sustainable performance through the use of cloud computing systems.

6.3.5 Cloud Accounting Mediates the Relationship of Firm Size with Quality of Financial Reports of SMEs

The next analysis discussion is related to the sixth research objective, namely to examine whether cloud accounting usage mediates the relationships between organisational factors (top management support, firm size, and financial cost) and the quality of financial reports of SMEs. Meanwhile, the hypothesis that will be explained in this sub-chapter is H6b, namely, cloud accounting usage mediates the relationship between firm size and the quality of financial reports of SMEs. Table 5.30 illustrates a summary of the results of data analysis derived from respondents' answers. Based on the table, it can be seen that the Beta value shows a positive direction with a value of 0.058, with a t-value of $3.828 > 1.96$, and a p-value of $0.000 < 0.05$, so it can be concluded that H6b is supported, which is included in the indirect-only mediation category, namely there is a significant indirect influence, but there is no direct influence between the independent variable and the dependent variable.

These findings indicate that company size does not directly determine the quality of financial reports, but rather is influenced by the use of cloud-based accounting systems. In the context of this study, where the majority of respondents are small SMEs, these results indicate that limitations in business scale, both in terms of the number of employees and resources, do not automatically reduce the quality of financial reports. However, these limitations can only be overcome if small SMEs use cloud-based accounting systems as a structured recording and reporting tool. Theoretically, these results emphasize that organizational capacity, including company size, can influence the ability to use cloud accounting systems (Hamundu et al., 2020). Furthermore, from the perspective of information system success, organizational benefits will only be achieved when the system is used effectively as an operational mechanism (Alagbe & Yinus, 2025). Thus, the use of cloud-based accounting serves as a mechanism to bridge organizational capacity limitations in SMEs, enabling them to produce more organized, accurate, and standardized financial reports.

Firm size is an indicator used to describe the size of a business entity. In SMEs, firm size is measured by the number of employees working there (Oliveira et al., 2014).

The more employees working in SMEs, the larger the size of the SMEs, and vice versa. If the number of employees working in SMEs is small, it means it is included in the category of small SMEs. In Indonesia, the criteria for measuring the size of SMEs based on the number of employees are determined by Law of the Republic of Indonesia No. 20 of 2008. According to this regulation, the number of workers between 5 and 19 people is classified as small SMEs. For medium-sized SMEs, the number of workers needed is around 20 to 99 people. In this study, the majority of respondents fell into the category of small SMEs because they had between 5 and 19 employees, which was 179 SMEs. Furthermore, the results of descriptive statistics on respondents' answers illustrate that quite a few respondents have not yet used the cloud accounting system because they still need to evaluate and will use it in another 2 years. This also affects the quality of financial reports made by SMEs. It is proven that only around 30% of SMEs have made their own financial reports (Hasanah et al., 2021). Thus, firm size can indirectly influence the creation of quality financial reports in SMEs, with the cloud accounting system as a mediating variable. The results of this study indicate that the small size of SMEs means that they have not used the cloud accounting system, which has an impact on the low number of SMEs that are able to make their own financial reports. In fact, by using the cloud accounting system, it can help SMEs that lack of accounting skills to produce quality financial reports that are in accordance with applicable accounting standards.

Several previous studies on the direct influence of firm size on the use of cloud accounting systems, including research conducted by (Oliveira et al., 2014); (Hamundu et al., 2020); (Ouaadi & Haddad, 2020); and (Sastararuji et al., 2022). They stated that large companies, including SMEs, tend to have adequate resources and infrastructure to implement advanced technologies such as cloud accounting. However, research conducted by Senyo et al. (2016); Adiyasa et al. (2019); and Tawfik et al. (2022), stated that the size of SMEs is not a factor influencing SMEs to use cloud accounting systems. Meanwhile, research on the direct influence of firm size on the quality of financial reports, such as research conducted by Osamudiamé & Nkechi (2022) and Falana et al. (2025), states that firm size in listed companies can influence the company to make quality financial reports that meet standards. Furthermore, the results of research that state the indirect influence of firm size on the quality of financial reports, with the cloud accounting system as a mediating variable, are still very limited. Alagbe & Yinus (2025), explores how the use of cloud accounting systems can affect the quality of

financial reporting among SMEs in Nigeria. Although the main focus of this study is not explicitly on the size of SMEs as an independent variable, the implications suggest that SMEs with greater resources, and often correlated with company size, tend to be better able to use cloud accounting systems, which in turn improves the quality of their financial reporting.

6.3.6 Cloud Accounting Mediates the Relationship of Financial Cost with Quality of Financial Reports of SMEs

Hypothesis H6c is still included in the sixth research objective, namely, to examine whether cloud accounting usage mediates the relationships between organizational factors (top management support, firm size, and financial cost) and the quality of financial reports of SMEs. H6c posits that cloud accounting usage mediates the relationship between financial costs and the quality of financial reports for SMEs. The results of the H6c hypothesis test are listed in Table 5.30. Based on the table, the Beta value is 0.059, indicating a positive direction. While the t-value shows a value of $2.908 > 1.96$ with a p-value of $0.002 < 0.05$. Therefore, based on the results of the data analysis test, it is concluded that the H6c hypothesis is supported, with the indirect-only mediation category, namely, there is a significant indirect influence, but there is no direct influence between the independent variable and the dependent variable.

The results of this study indicate that financial costs do not directly improve the quality of financial reports; rather, their influence operates through decisions and the intensity of cloud accounting system use. In other words, financial costs will impact reporting quality if allocated to effective and sustainable system use. Theoretically, this finding positions financial costs as a supporting capacity for technology use (Wicaksono et al., 2020), rather than a direct determinant of performance. Thus, cloud accounting functions as an operational mechanism that transforms the allocation of financial resources into improved financial reporting quality that is more structured, accurate, and meets standards.

Financial cost is the amount of costs incurred by an organization to use an information technology system compared to the benefits obtained. Financial cost is not always an obstacle; although the costs incurred to use a cloud accounting system are high, when viewed from the long-term benefits obtained from using the system, it can be profitable for SMEs. Therefore, the costs incurred to use a cloud accounting system

are considered an investment, not a burden, so that when users see that the costs paid are comparable to the benefits obtained, such as real-time data access, reduced infrastructure costs, and automatic integration, then they will be more likely to use the system actively and sustainably (Alqudah, 2024). Another benefit obtained from using a cloud accounting system is the ease of using the system and transparency in financial and tax reporting (Rao et al., 2017). The convenience provided by using a cloud accounting system is a feature that is easy to operate, easy to enter data, and transactions are recorded in real time. All data recorded in the cloud accounting system is also easy to access, because basically the cloud accounting system is online accounting software, which combines the use of computer technology in a network with internet-based development that has the function of running programs or applications through devices connected to the internet at the same time (Darren, 2021). In addition, the cloud accounting system in Indonesia has been adjusted to applicable accounting standards, including tax regulations Marsintauli et al. (2021), so that the financial and tax reports produced by the system are of high quality and meet standards. The importance of high-quality financial reports for the sustainability of SMEs is evident in their role in financial planning, tax calculations, credit applications, and managerial decision-making (Meyere et al., 2018). In addition, considering that the level of financial literacy in Indonesia is reported to be only 38%, the implementation of cloud accounting systems offers significant long-term benefits for SMEs, particularly in supporting the preparation of more structured and systematic financial records. Therefore, the high costs incurred by SMEs to use a cloud accounting system are not an obstacle when compared to the benefits they obtain, namely, quality financial reports that comply with accounting standards.

Alagbe & Yinus (2025) stated that the use of cloud accounting systems will significantly improve the quality of financial reporting, namely by increasing data accuracy, accessibility, and transparency. The cost of implementing the system is not a barrier, so SMEs that invest in this technology can demonstrate improvements in operational efficiency and the quality of financial reporting (E. Putri et al., 2025). This shows that the financial costs incurred to use the cloud accounting system act as a strategic investment that results in improved quality of financial reports.

6.3.7 Cloud Accounting Mediates the Relationship of Competitive Pressure with Quality of Financial Reports of SMEs

The next discussion is the hypothesis H7a, namely, cloud accounting usage mediates the relationship between competitive pressure and the quality of financial reports of SMEs. This hypothesis is included in the seventh research objective, namely, to examine whether cloud accounting usage mediates the relationships between environmental factors (competitive pressure, regulatory environment, and vendor support) and the quality of financial reports of SMEs. Based on Table 5.30, it can be seen that the Beta value is 0.031, which indicates a positive value, with a t-value of $1.243 < 1.96$ and a p-value of $0.107 > 0.05$. The results of the analysis state that the H7a hypothesis is not supported. In other words, the results are included in the no-effect non-mediation category because there is no direct or indirect influence that is significant. Thus, the cloud accounting system is unable to mediate the influence of competitive pressure on the quality of financial reports in SMEs.

These findings indicate that competitive pressure has not yet become a driving factor for Indonesian SMEs to improve the quality of their financial reports through the use of cloud accounting. While competitive pressure can theoretically drive innovation (Chen et al., 2023), in the context of this study, it is not yet strong enough to drive digital transformation that impacts the quality of financial reporting.

Competitive pressure is the pressure faced by an organisation or company from its competitors in the market, and this pressure arises due to competition for market share, customers, technological innovation, cost advantages, and operational efficiency (Al-Sharafi et al., 2023). Competitive pressure forces companies, including SMEs, to continuously innovate, improve services, adjust prices, and adopt new technologies to avoid falling behind and remain competitive in their industry environment (Tawfik et al., 2022). Companies that see their competitors successfully improving efficiency and services through digital technology will feel compelled to do the same to avoid losing customers or operational efficiency, including in the preparation of financial reports. High-quality financial reports that comply with standards can be used by SMEs for various purposes, such as financial planning, decision-making, tax reporting, and financing applications (Meyere et al., 2018).

However, the results of this study indicate that the use of cloud accounting systems is unable to mediate the influence of competitive pressure on the quality of

financial reports in SMEs. Descriptive statistics for the variable of cloud accounting system usage show that some respondents have evaluated cloud accounting systems and will use them within two years. The low number of respondents who have used cloud accounting systems indicates that there is no pressure from competitors to use such systems in SME businesses. This also proves that SME actors have not yet felt the real benefits of using cloud accounting systems, so they have not been able to turn the benefits of using these systems into competitive advantages. In line with the statement of Khayer et al. (2021), competitive pressure does not affect the use of cloud accounting systems because the majority of SMEs are still unable to utilise cloud technology to their competitive advantage.

The absence of pressure from competitors to use cloud accounting systems can have an impact on the financial recording process in SMEs, including when preparing financial reports. Cloud accounting systems have benefits for their users, one of which is a structured financial recording process (Rao et al., 2017). The low level of financial literacy among the Indonesian population Kurniasari et al. (2025) and the low number of SMEs that have prepared their own financial statements Hasanah et al. (2021) can be used as reasons for SMEs to use cloud accounting systems to assist in the preparation of high-quality financial statements. However, due to the absence of pressure from competitors, many SMEs are not yet interested in using cloud accounting systems, resulting in financial reports that may not be of high quality and may not comply with the accounting standards applicable in Indonesia.

Previous research results have widely discussed the direct influence of competitive pressure on the use of cloud systems, such as Gutierrez et al. (2015); Senyo et al. (2016); Hamundu et al. (2020); Lutfi (2022); and Chen et al. (2023), where they argue that pressure received from competitors can encourage SMEs to use cloud accounting systems for the sustainability of their businesses. Meanwhile, research conducted by Oliveira et al. (2014); Skafi et al. (2020); Khayer et al. (2021); and Tawfik et al. (2022), states that competitive pressure is not a factor that causes SMEs to use cloud systems, including cloud accounting systems. Furthermore, indirect results between the competitive pressure variable on the quality of financial reports with the cloud accounting system as a mediating variable are still very rare. Research from Al-Sharafi et al. (2023) on the indirect effect between competitive pressure on sustainable performance, with the cloud computing system as a mediating variable. The results of the study stated that competitive pressure is not a factor that influences the cloud

accounting system, resulting in a decrease in sustainable performance. Furthermore, Khayer et al. (2021) also conducted a study on the indirect effect of competitive pressure on firm performance, with the use of the cloud system as a mediating variable. The results of the study stated that competitive pressure was unable to make SMEs in Bangladesh use the system, because they were not yet able to use and transform all the benefits of the cloud accounting system into a competitive advantage. Therefore, the low use of the cloud accounting system will have an impact on the lack of firm performance.

6.3.8 Cloud Accounting Mediates the Relationship of Regulatory Environment with Quality of Financial Reports of SMEs

The next discussion analysis is the H7b hypothesis, which is included in the seventh research objective. The hypothesis in the study is that cloud accounting usage mediates the relationship between the regulatory environment and the quality of financial reports of SMEs. The results of the H7b hypothesis test are shown in Table 5.30. Based on the table, the Beta value is 0.065, with a t-value of $2.742 > 1.96$, and a p-value of $0.003 < 0.05$. These results indicate that H7b is supported, with the indirect-only mediation category, namely, there is a significant indirect influence, but there is no direct influence between the independent variable and the dependent variable.

The results of this study indicate that the regulatory environment does not directly improve the quality of financial reports, but rather influences it by encouraging the use of cloud accounting systems. This means that the existence of supportive regulations can create a sense of security and legal certainty (Rizal et al., 2024), which can encourage Indonesian SMEs to use cloud accounting systems (Hamzah et al., 2023), and through their use, the quality of financial reports can be improved.

The regulatory environment includes policies, regulations, and standards set by the government or institutions related to the use of new technologies (Khayer et al., 2021). In addition, the regulatory environment also includes a set of laws, regulations, and policies that govern how companies operate in a particular jurisdiction (Casino-Martínez et al., 2023). In using a new system, the existence of government regulations provides a sense of security because important company data entered into the system can be kept confidential. In Indonesia, there are several regulations related to data security and privacy, including Law Number 11 of 2008 concerning Information and

Electronic Transactions (ITE), Regulation of the Minister of Communication and Informatics (Permenkominfo) Number 20 of 2016 concerning Protection of Personal Data in Electronic Systems, Government Regulation Number 71 of 2019 concerning Implementation of Electronic Systems and Transactions (PP PSTE), and Law Number 27 of 2022 concerning Protection of Personal Data (UU PDP). The existence of several regulations indicates that the Indonesian government supports information technology to develop and be used for the benefit of the community, including SMEs. Therefore, good and strict regulations can encourage SMEs to use information technology systems, because users of information technology will feel safe with regulations that are able to maintain data security and privacy. Conversely, a lack of regulation or unclear policies can lead to uncertainty about rules regarding data security or the use of new technologies, so that organizations will postpone the use of new technologies (Al-Sharafi et al., 2023). Thus, a good regulatory environment causes SMEs to be willing to use cloud accounting systems, because these regulations provide convenience and security for users of information technology systems, so that the use of cloud accounting systems will have a positive impact on SMEs' businesses, one of which is to facilitate the preparation of quality financial reports, in accordance with accounting standards.

In Indonesia, accounting standards are also applied to SMEs when making financial reports, namely the Financial Accounting Standards for Micro, Small, and Medium Entities (SAK EMKM). These standards regulate the procedures for SMEs in making their financial reports, although they are still voluntary. The preparation of financial reports for SMEs in Indonesia is voluntary because there is no legal obligation for SMEs to make financial reports, as well as the low accounting literacy among SMEs (Prihastuti & Sukri, 2024). Therefore, the cloud accounting system can provide convenience for SMEs who do not yet understand accounting because it can create structured financial records. In addition, the cloud accounting system in Indonesia has been adjusted to applicable accounting standards, ensuring high-quality financial reports (Marsintauli et al., 2021).

Research on the direct influence of the regulatory environment on the use of cloud systems has been conducted by Wang (2019); (Hamzah et al., 2023); and Al-Sharafi et al. (2023), who states that regulations made by the government encourage companies to use information technology systems, including cloud accounting systems. Meanwhile, research conducted by Oliveira et al. (2014); Wicaksono et al. (2020); Khayer et al. (2021); and Chen et al. (2023) states that regulations are not a factor that

can influence companies, including SMEs, to use cloud systems. Furthermore, research discussing the indirect influence of the regulatory environment on financial statement quality and the use of cloud accounting systems is still minimal. However, research conducted by Al-Sharafi et al. (2023) states that government regulations on technology can provide a sense of security and comfort, encouraging businesses to use technology systems that can impact sustainable performance.

6.3.9 Cloud Accounting Mediates the Relationship of Vendor Support with Quality of Financial Reports of SMEs

The final discussion in this study is the H7c hypothesis, which states that cloud accounting usage mediates the relationship between vendor support and the quality of financial reports of SMEs. The hypothesis is still included in the seventh research objective. The results of the analysis test for the H7c hypothesis are listed in Table 5.30. Based on the table, it can be seen that the Beta value is -0.039, which indicates a negative direction of the indirect influence in this study. Furthermore, the t-value is also seen as $1.913 > 1.96$, and the p-value is $0.028 < 0.05$, which indicates that H7c is supported, with the indirect-only mediation category, namely, there is a significant indirect influence, but there is no direct influence between the independent variable and the dependent variable.

These findings suggest that vendor support does not always positively impact financial reporting quality through the use of cloud-based accounting. Excessive vendor support can create dependency, which can influence organizations' willingness to use a system (Opara-martins et al., 2016). In this study, the negative direction of this indirect effect indicates that the higher the vendor support, the lower the tendency of Indonesian SMEs to optimize the use of cloud-based accounting systems, which can ultimately impact reporting quality.

Vendor support is support provided by service providers to users in implementing and maintaining cloud accounting systems (Sastararuji et al., 2022). This support includes training, technical assistance, software updates, and consulting services that help organizations use and optimize the use of cloud accounting technology (Hamzah et al., 2023). Good support provided by vendors after the implementation of the cloud accounting system can be a motivating factor for system users, including SMEs, to be willing to use the system. However, overly intensive

vendor support can potentially increase organizational dependence, including SMEs, on the system provider, making it difficult for organizations to switch vendors, reducing flexibility, and reducing internal control over the system used (Opara-martins et al., 2016). Sastararuji et al. (2022) also stated that many SMEs actually experience increased administrative burdens and operational dependence due to vendor support, thus hampering the continued use of cloud accounting systems. In fact, the cloud accounting system has many benefits for SMEs, especially for structured financial recording, namely, quality financial reports that comply with accounting standards.

From the TOE framework perspective, vendor support falls within the environmental context, which is generally assumed to be a driving factor in the use of information technology systems (Chen et al., 2023). However, the findings of this study suggest that environmental factors, including vendor support, may also function as limiting elements when they foster excessive external reliance and are not compatible with the internal capabilities of SMEs (Opara-martins et al., 2016). This confirms that not all external support automatically improves the output quality of organizations using such systems.

Previous research on the direct influence of vendor support on cloud system usage has been conducted by Kumar et al. (2017); Sastararuji et al. (2021); Chen et al. (2023); and Hamzah et al. (2023), who stated that vendor support, such as training, after-sales service, technical assistance, and consultation, can encourage SMEs to use the system. However, research findings on the indirect influence of vendor support on financial report quality, with the use of cloud accounting systems as a mediating variable, are still very limited. Another research model by Teh & Subramaniam (2024) states that vendor support moderates the influence between the use of cloud systems and financial performance, so that this influence becomes stronger as vendor support increases.

6.4 Chapter Summary

The analysis of the discussion in this chapter is based on the research objectives and hypotheses formulated in the previous chapter. There are 19 hypotheses formulated in this study, consisting of hypotheses regarding the direct influence between research variables and hypotheses regarding the indirect influence between research variables. Regarding the direct effects between research variables, there are 10 hypotheses: H1a,

H1b, H1c, H2a, H2b, H2c, H3a, H3b, H3c, and H4. Meanwhile, for the indirect influence between research variables, there are 9 hypotheses, namely H5a, H5b, H5c, H6a, H6b, H6c, H7a, H7b, and H7c. Each hypothesis in this study is discussed and analysed based on the theory and the results of the analysis tests conducted in the previous chapter. Out of the total 19 hypotheses in this study, 12 hypotheses are supported, while the remaining 7 hypotheses are not supported. The 12 supported hypotheses are H1a, H2a, H2b, H2c, H3b, H4, H5a, H6a, H6b, H6c, H7b, and H7c. Furthermore, the 7 hypotheses that do not supported, are H1b, H1c, H3a, H3c, H5b, H5c, and H7a.

The Technological, Organizational, Environmental (TOE) Framework becomes an independent variable and becomes a factor that influences SMEs to use the cloud accounting system. The factors of the TOE framework are technology readiness, perceived benefits, security concerns, top management support, firm size, financial costs, competitive pressure, regulatory environment, and vendor support. These factors that can influence and encourage SMEs to use the cloud accounting system are technology readiness, top management support, firm size, financial costs, and regulatory environment. At the same time, the rest are not factors that can influence SMEs to use the cloud accounting system, except for vendor support. From the results of the analysis test, vendor support has a negative influence, which is different from the hypothesis. Then, the factor that directly influences the quality of financial reports is the use of the cloud accounting system, which is supported in this study. While the results of the analysis test for the indirect influence between the factors of the TOE framework on the quality of financial reports, with the use of the cloud accounting system as a mediating variable, show that technology readiness, top management support, firm size, financial costs, regulatory environment, and vendor support can influence the quality of financial reports in SMEs, through the use of the cloud accounting system. Meanwhile, the rest shows that perceived benefits, security concerns, and competitive pressure are not factors that can influence the quality of financial reports in SMEs.

CHAPTER 7

CONCLUSION, IMPLICATION, LIMITATION, AND FUTURE RESEARCH

7.1 Chapter Overview

This section is the final chapter of this study. It comprises six subchapters, with subchapter 7.2 providing a summary of the discussion of the results described in chapter 6. Subchapter 7.3 contains the theoretical and practical implications of this study. Subchapter 7.4 outlines the limitations of this study, while subchapter 7.5 provides recommendations for future research. Finally, the last subchapter, 7.6, summarises this chapter.

7.2 Summary of Findings

This study investigates the factors that influence the use of cloud accounting systems. These factors are derived from the TOE framework, namely technological, organisational, and environmental contexts. Each context in the TOE framework explains the factors influencing organizations to use information technology systems. In this study, the technological context uses the factors of technology readiness, perceived benefits, and security concerns. Meanwhile, the organisational context uses top management support, firm size, and financial cost. Furthermore, the environmental context uses competitive pressure, regulatory environment, and vendor support. Each of these factors is hypothesised to have a direct influence on the use of cloud accounting systems. Cloud accounting systems have many benefits, including creating high-quality financial reports that comply with applicable accounting standards. This study focuses on SMEs in Indonesia due to the low financial literacy of the Indonesian people (Kurniasari et al., 2025) and the low number of SMEs capable of preparing their own financial reports (Hasanah et al., 2021).

This study consists of seven research objectives, each of which is broken down into three hypotheses, except for the fourth research objective. Therefore, there are 19 hypotheses in this study, where 10 hypotheses are direct influences between

independent variables and dependent variables, and 9 hypotheses are indirect influences between independent variables and dependent variables.

7.2.1 To examine the relationship between technological factors (technology readiness, perceived benefits, and security concern) and cloud accounting usage of SMEs

The results of the hypothesis test from the first research objectives indicate that technology readiness has a positive effect on the use of cloud accounting systems in SMEs. Technology readiness, such as good internet connections, adequate computer technology or devices, and employees who have information technology skills, can play an important role in an organization's decision to use a cloud accounting system (Mengesha et al., 2022). Furthermore, the results of the hypothesis test on the second factor from the technological context, namely perceived benefits, were unable to influence SMEs to use the cloud accounting system. There are still many SMEs that have not used the cloud accounting system in their business processes, because they are not yet familiar with and understand the cloud accounting system, so they do not yet know and feel the great benefits of using the system (Chen et al., 2023). Likewise, the third factor, namely security concerns, turned out to be unable to be a factor that encourages SMEs to use the cloud accounting system. Indonesia has laws that maintain the security and privacy of data for users of information technology systems (Wibowo et al., 2024), so that SMEs feel safe and do not worry too much about the security of data entering the cloud system.

7.2.2 To examine the relationship between organizational factors (top management support, firm size, and financial cost) and cloud accounting usage of SMEs

Top management support is the first factor in the organizational context. The results of the hypothesis test show that the support provided by top management can influence SMEs to use the cloud accounting system. The form of support is anything that can improve the business performance of SMEs, including strategic decision-making to use the cloud accounting system (Mousa et al., 2024). The next factor is firm size, which is a measure of SMEs and is calculated from the number of employees.

According to Indonesian law, the number of employees between 5 and 19 people is classified as small SMEs, and most respondents in this study are included in small SMEs. The results of the hypothesis test show that many respondents have not used the cloud accounting system and will use it later after evaluating the system. Hence, the results of this study are in accordance with the hypothesis, namely that firm size has a positive effect on the use of the cloud accounting system (Tawfik et al., 2022). Furthermore, financial cost is one of the factors that can influence SMEs to use the cloud accounting system. This is because companies that invest financially in cloud systems tend to be more motivated to optimize their use in order to gain the full benefits of the system, such as real-time data action, business decision-making tools, reduced infrastructure costs, and ease of integration (Phu et al., 2025).

7.2.3 To examine the relationship between environmental factors (competitive pressure, regulatory environment, and vendor support) and cloud accounting usage of SMEs

Competitive pressure is the pressure from competitors in the market to increase their competitive advantage by introducing innovations (Tawfik et al., 2022). The results of the hypothesis test show that competitive pressure cannot encourage SMEs to use cloud accounting systems to compete in the market. This is because the number of SMEs using cloud accounting systems is still low, so they do not fully understand the benefits of cloud accounting systems, which can provide competitive advantages (Khayer et al., 2021). The next factor in the environmental context is the regulatory environment, which is supported by regulators or the government in increasing information technology innovation (Khayer et al., 2021). The results of the hypothesis test show that the support provided by the Indonesian government can make SMEs in Indonesia use information technology systems, especially cloud accounting systems. Several laws have been made by the Indonesian government to maintain data security and privacy (Wibowo et al., 2024), as well as other regulations made to ensure that system users, including SMEs, are safe in using cloud accounting technology legally (Rizal et al., 2024).

The last factor is vendor support, which is the support and services provided by the cloud accounting system vendor before and during the use of the cloud accounting system. This study's results indicate that the vendor's support and services are not

enough to make SMEs use the cloud accounting system. This is because some vendors charge additional fees for after-sales services to users of the cloud accounting system (Marsintauli et al., 2021). Although the support provided by the vendor is good, if there is an additional fee for after-sales service from the system, it will affect users' use of the cloud system in their business.

7.2.4 To examine the relationship between cloud accounting usage and the quality of financial reports of SMEs

The fourth hypothesis in this study discusses the direct influence of cloud accounting systems on the quality of financial reports produced by SMEs. This hypothesis falls under the fourth research objective. The results of the hypothesis test show that the use of cloud accounting systems in SMEs can produce high-quality financial reports. This is because cloud accounting systems offer various benefits to their users, namely convenience and structured recording (E. Putri et al., 2025). Users of cloud accounting systems are only required to enter financial transactions online, and these transactions will be automatically recorded properly and in real time. In addition, the financial records generated by cloud accounting systems are more organised, of higher quality, and in accordance with applicable accounting standards. In Indonesia, cloud accounting systems have been adapted to accounting standards, making the financial reports generated accountable (Marsintauli et al., 2021).

7.2.5 To examine whether cloud accounting usage mediates the relationships of technological factors (technology readiness, perceived benefits, and security concern) with the quality of financial reports of SMEs

Furthermore, the fifth to seventh research objectives are to determine the indirect influence between factors derived from the TOE framework on the quality of financial reports using a cloud accounting system. The fifth research objective is to examine whether cloud accounting usage mediates the relationships of technological factors (technology readiness, perceived benefits, and security concerns) with the quality of financial reports of SMEs. SMEs' readiness to provide information technology infrastructure and human resources can encourage SMEs to use innovations, namely the cloud accounting system (Al-Sharafi et al., 2023). SMEs that use the cloud

accounting system to produce quality financial reports that are in accordance with accounting standards. The cloud accounting system is designed to assist users in making structured financial records. Especially in Indonesia, the system has been adjusted to the accounting standards applicable in Indonesia (Marsintauli et al., 2021). Thus, the readiness of technology owned by SMEs indirectly affects the creation of quality financial reports through a cloud accounting system. Then, the factors of perceived benefits and security concerns do not affect SMEs in creating quality financial reports, even when using a cloud accounting system. Not a few SMEs who were respondents in this study have not used the cloud accounting system, because they are still evaluating and will only use it in 2 years. This is what causes SMEs not to be familiar with the benefits generated by the system, so this is what makes SMEs not yet willing to use the cloud accounting system (Chen et al., 2023). In fact, the use of this system is very beneficial for SMEs in making structured financial records, especially if SMEs do not have the ability in accounting. In addition, security issues that can arise due to the use of the cloud accounting system have not prevented users from using it. Several regulations made by the Indonesian government are considered sufficient to protect their data from theft or data loss, so that system users in Indonesia feel safe and comfortable when using the information technology systems (Rizal et al., 2024), and the financial data entered cannot be changed or accessed by others, so the financial reports produced can be accounted for (Thaher, 2024). Therefore, the cloud accounting system has been unable to mediate between security concerns and the quality of financial reports made by SMEs.

7.2.6 To examine whether cloud accounting usage mediates the relationships of organisational factors (top management support, firm size, and financial cost) with the quality of financial reports of SMEs

The sixth research objective consists of three hypotheses, namely hypothesis 6a, hypothesis 6b, and hypothesis 6c. The results of the hypothesis 6a test in this study indicate that the use of a cloud accounting system can mediate the influence of top management on the quality of financial reports made by SMEs. Support from management includes commitment, active involvement, and resource allocation to support the implementation of new technology (Zhang et al., 2021). All support provided by top management can encourage SMEs to use a cloud accounting system,

which will undoubtedly also affect the financial reports produced by the system, because they are neater, of better quality, and in accordance with accounting standards. Then, the results of the hypothesis 6b test indicate that the use of a cloud accounting system can mediate the size of SMEs on the quality of financial reports made by them. The size of SMEs is seen from the number of employees. In this study, of respondents were classified as small SMEs because they had between 5 and 19 employees, and on average, they had not used a cloud accounting system because they were still in the evaluation stage and would use it within 2 years. Thus, the small size of SMEs means that they have not used a cloud accounting system (Tawfik et al., 2022), therefore affecting the low number of SMEs that can make their financial reports. The next factor in the organizational context is financial cost. Financial cost is all costs incurred to use the cloud accounting system within the organization. The high costs incurred by SMEs to use a cloud accounting system are not an obstacle when compared to the benefits obtained, namely, high quality financial reports that comply with accounting standards (Putri et al., 2025).

7.2.7 To examine whether cloud accounting usage mediates the relationships of environmental factors (competitive pressure, regulatory environment, and vendor support) with the quality of financial reports of SMEs

Competitive pressure, which is the pressure faced by an organization or company from its competitors in the market. The results of the hypothesis test show that the cloud accounting system has not been able to mediate the influence of financial costs on the quality of financial reports produced by SMEs. The low number of respondents, namely SMEs, who have not used the cloud accounting system, indicates the absence of competitive pressure from competitors to use the system (Tawfik et al., 2022). Then, the absence of pressure from competitors has caused not many SMEs to be interested in using the cloud accounting system, so that the financial reports they make are likely to be of poor quality and not in accordance with the accounting standards applicable in Indonesia (Putri et al., 2025). The second factor is the regulatory environment, which includes policies, regulations, and standards set by the government. A good regulatory environment causes SMEs to be willing to use the cloud accounting system, because the regulation provides convenience and security for users of the information technology system (Rizal et al., 2024), so that the use of the cloud accounting system

will have a positive impact on SMEs businesses, one of which is to facilitate the creation of quality financial reports and in accordance with accounting standards (Putri et al., 2025). Furthermore, vendor support is the last factor in the final study. The results of the 7c hypothesis test show that although there is support from the vendor after-sales service, if there are additional costs, it can make new users of the cloud system reluctant to use the system in their business, so this can have an impact on SMEs who are reluctant to use the system (Marsintauli et al., 2021). The benefits felt from using the cloud accounting system are numerous, one of which is the ease of access and structured financial recording, which makes it easier for users of the cloud accounting system when entering transaction data until a quality financial report is made and in accordance with accounting standards (Putri et al., 2025).

7.3 Implications of the Findings

This study has several implications, both theoretical and practical. The results of this study contribute to the development of future research. The discussion of theoretical and practical implications is presented in the following subchapters.

7.3.1 Theoretical Implications

This study broadens and deepens the theoretical understanding of the relationship between the TOE Framework, cloud accounting system usage, and financial reporting quality in the context of Indonesian SMEs. It demonstrates how the factors in the TOE Framework operate empirically at the organisational level of SMEs, specifically in explaining the use of cloud accounting systems and their implications for financial reporting quality. Thus, the theoretical contribution of this study lies in the application of the TOE Framework to the context of cloud accounting usage and financial reporting quality of Indonesian SMEs, a topic that has been limited in the literature.

The TOE Framework explains the impact of cloud accounting system adoption from an organizational, not an individual, perspective and focuses on technological, organizational, and environmental contexts (Ali et al., 2021). In this study, the technological context confirms that SMEs' technological readiness, such as infrastructure and human resources, is a driving factor in cloud accounting system

adoption (Talmizie, 2022). Meanwhile, two other factors, perceived benefits and security concerns, have not been found to be driving factors in SME adoption (Chen et al., 2023) and (Tawfik et al., 2022). These findings provide additional empirical support that the relative influence of technological factors in the TOE framework can vary when applied to the context of SMEs in developing countries, namely Indonesia.

Meanwhile, from an environmental perspective, the regulatory environment can accelerate the adoption of cloud accounting systems (Al-Sharafi et al., 2023). This is because the support provided by the Indonesian government makes users feel safe and confident in using cloud accounting systems. However, pressure from competitors actually discourages SMEs from adopting these systems, as not many SMEs use them, thus preventing pressure to use them for business continuity (Tawfik et al., 2022). Vendor support, on the other hand, has the opposite effect, as its presence actually discourages SMEs from adopting cloud accounting systems. Overly intensive support has the potential to increase dependence on system providers, making it difficult for organizations to switch vendors, reducing strategic flexibility, and decreasing internal control over the system (Opara-martins et al., 2016; Harauzek & Hani, 2022). These results extend the discussion of the TOE framework by showing that environmental factors do not always function as enablers but can become barriers when such support creates external dependencies, increases coordination complexity, or imposes cost burdens on SMEs.

Another theoretical implication of this research lies in the contextual explanation of how the use of cloud-based accounting technology is related to improved financial reporting quality, including aspects of relevance, faithful representation, understandability, comparability, and timeliness (Putri et al., 2025). This research empirically demonstrates that the factors within the TOE framework that influence cloud accounting use also have practical implications for the quality of accounting information produced by SMEs. Thus, this research provides an applicable understanding of the relationship between technology use at the organizational level and SMEs' ability to produce higher-quality financial reports.

7.3.2 Practical Implications

This research provides important practical implications for SMEs, cloud accounting system providers, and policymakers in Indonesia. For SME owners and

management, the findings of this study indicate that the successful use of cloud accounting systems depends not only on the availability of the technology itself, but also on the organization's internal readiness and external environmental support. Understanding the factors of the TOE framework is necessary before using a cloud accounting system. Based on the technological context, SMEs need to have technological readiness consisting of IT infrastructure and IT resources to support the use of the system in their business environment, such as internet access and supporting devices, as well as paying attention and commitment to the use of the system. In addition, SMEs must also understand the benefits and security issues arising from the use of the system.

Furthermore, based on the organizational context, SME owners must provide full support for the continuity of their business, such as covering the costs of using a cloud accounting system and providing all the necessary requirements for using the system. This is because the use of a cloud accounting system can help them in carrying out a more structured financial recording process, so that top management support is a very decisive factor in realizing this. In the environmental context, SMEs must be able to understand competitors in their business. This aims to seek competitive advantages by creating new innovations that are better than their competitors, one of which is by using a cloud accounting system to help SMEs in recording all financial transactions in a more structured way, and ultimately being able to produce quality financial reports. Furthermore, before using a cloud accounting system, SMEs must know and understand the regulatory environment provided by the government, to ensure that data entered into the system remains secure. In addition, SMEs must also ensure that the vendor of the system is willing to provide after-sales services, such as training and infrastructure, and not make system users dependent on the vendor.

The TOE framework's factors provide SMEs with insights to help them make more strategic and targeted decisions about using cloud accounting systems. This will help them improve operational efficiency and produce more relevant, understandable, accurate, comparable, and timely financial reports, thus supporting SMEs in making better business decisions.

For cloud accounting system vendors, this research provides insight into the importance of tailoring their products and services to the unique conditions of Indonesian SMEs. This includes providing systems that are easy to use for non-accountants, as many Indonesians understand financial literacy. Furthermore, training

should be tailored to SMEs' limited time and resources, with no additional after-sales service fees, and flexible pricing for cloud accounting systems. Furthermore, cloud accounting system vendors need to build trust through data security guarantees and responsive support services. Although regulations regarding data security and privacy exist in Indonesia, cloud accounting system vendors need to ensure the security of data entered into their systems. Furthermore, vendors should ensure responsive, yet moderate, support to avoid creating a perception of dependency.

Meanwhile, for the government and related institutions, the results of this study underscore the need for regulations regarding financial reporting in SMEs. To date, financial reporting in SMEs in Indonesia has been voluntary, which has resulted in SMEs not preparing their own financial reports. Only 30% of the total SMEs in Indonesia have prepared their own financial reports. Therefore, the mandatory implementation of the Financial Accounting Standards for Micro, Small, and Medium Entities (SAK EMKM) among SMEs is crucial, considering that many SMEs still have not prepared their financial reports properly and according to standards. Therefore, training in bookkeeping and digital financial reporting that aligns with SAK EMKM is essential to improve SMEs' financial literacy and awareness of the importance of structured financial records. Furthermore, the government also needs to strengthen regulations regarding the use of information technology and its security to ensure users feel more secure and comfortable. Thus, this study provides concrete practical guidance for strengthening the digital ecosystem of SMEs in Indonesia and improving the overall quality of financial reporting in this sector.

7.4 Limitations and Suggestions for Future Research

This study has several limitations that require consideration, as well as suggestions for future research. This study used a closed-ended questionnaire-based survey approach, which limits the depth of understanding of the specific context of technology use, particularly cloud accounting systems, in each SME. This is because a closed-ended questionnaire-based survey approach does not allow for narrative exploration as in qualitative interviews. Therefore, future research could use mixed methods, such as supplementing qualitative interviews or open-ended questions, to capture respondents' understanding, motivations, and barriers in more detail and comprehensively.

Most respondents in this study were small SMEs, with only 5 to 19 employees. Although small SMEs have high flexibility and speed in decision-making, they generally have limited financial resources, so they can only access basic systems, such as the use of a cloud accounting system with limited features. Therefore, further research could focus more on large SMEs that have the financial capacity and infrastructure that make it easier for them to implement more comprehensive and integrated systems, such as the use of a multi-user cloud accounting system.

This study only focuses on one aspect of the benefits of using a cloud accounting system: the quality of financial reports. The use of a cloud accounting system makes it easier for SMEs to produce high-quality financial reports (Putri et al., 2025). However, there are still several impacts of using a cloud accounting system on the success of SMEs, so further research could explore other benefits of using a cloud accounting system.

This study only uses the TOE framework to identify factors influencing the use of a cloud accounting system. This is because the TOE framework is a theory that explains the use of information technology systems in an organizational context, both internally and externally (Khayer et al., 2021). Therefore, further research could combine the TOE framework with other theories, such as the Diffusion of Innovation Theory (DOI) or the Unified Theory of Acceptance and Use of Technology (UTAUT).

The common method bias (CMB) test in this study only used tests commonly used in PLS-SEM. More comprehensive approaches, such as the use of marker variables or common latent factors, were not implemented. Because all data were collected from a single source via questionnaire at a single measurement point, the possibility of residual method bias cannot be completely ruled out. Therefore, future research is recommended to use multi-source or longitudinal designs and more advanced CMB testing techniques to increase methodological robustness.

7.5 Chapter Summary

In essence, this study discusses the factors that influence SMEs in Indonesia in using cloud accounting systems, as well as the impact of using the system on the quality of financial reports. These factors come from the Technological, Organizational, Environmental (TOE) framework developed by Tornatzky and Fleischer(1990). Based on the results of this study, factors from the TOE framework, such as technology

readiness, top management support, firm size, financial cost, and regulatory environment, are driving factors for SMEs to use cloud accounting systems. Meanwhile, other factors from the TOE framework in this study, such as perceived benefits, security concerns, and competitive pressure, are not determining factors for SMEs to use the system. Meanwhile, another factor, namely vendor support, has the opposite result because the presence of vendor support makes SMEs reluctant to use cloud accounting systems. Furthermore, the impact of using cloud accounting systems can also affect the quality of financial reports. This is because the cloud accounting system has features that are easy for its users to use, and has structured financial recording results, namely financial data that can be accounted for and in accordance with accounting standards.

This study also provides theoretical insights into the TOE framework factors, the use of cloud accounting systems, and their relationship with the quality of financial reports, focusing on SMEs in Indonesia. Furthermore, this research has practical implications for SMEs, cloud accounting system vendors, and the Indonesian government as the regulator. This is aimed at helping them understand the importance of their role in the use and development of technology, particularly cloud accounting systems.

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APPENDICES

APPENDIX 1

Survey Questionnaire

PART A

QUALITY OF FINANCIAL REPORT

1. Relevance

Relevance is the ability of the information produced to influence the decision making of users of financial statements so that the existence of the information is able to change or support the results or consequences of the actions taken (Beest et al., 2009).

Questions	Scale				
	1	2	3	4	5
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The company's financial report discloses forward-looking information to help forming expectations and predictions concerning the future of the company					
The company's financial report discloses information in terms of business opportunities and risks					
Information in financial report helps you confirm profitability level of the business					
Financial reports are presented annually by the company					
The financial report provides feedback information on how various events and significant transactions affected the company					
The company's financial report helps your company to make decision					

2. Faithfull Representative

Faithful representation is the quality of information that causes users of accounting information to rely heavily on the truth of the information produced (Ghozali & Anis 2014).

Questions	Scale				
	1	2	3	4	5
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The financial report explains the assumptions and estimates made clearly					
Valid arguments provided in the annual report to support the decision for certain assumptions and estimates					
The financial report explains the choice of accounting principles clearly					
The financial report highlights the positive and negative events in a balanced way when discussing the annual results					
The financial report extensively discloses information on corporate governance issues					

3. Understandability

Understandability explains that the information presented in financial statements must be easily understood by users, clear and concise (Boonvut, 2017).

Questions	Scale				
	1	2	3	4	5
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The financial report presents in a well-organized manner					
The notes to the balance sheet and the income statement are sufficiently clear					
Sources and level of revenue and expenditure can easily be understood					
Business assets are easy to be identified in terms of value and nature					
The presence of graphs and tables clarifies the presented information					

The use of language and technical jargon is easy to follow in the annual report					
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4. Comparability

Comparability explains that financial statement information must be comparable from time to time (between time periods).

Questions	Scale				
	1	2	3	4	5
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The notes to changes in accounting policies explain the implications of the change					
The notes to revisions in accounting estimates and judgments explain the implications of the revision					
The company's previous accounting period's figures are adjusted for the effect of the implementation of a change in accounting policy or revisions					
The results of current accounting period are compared with results in previous accounting periods					
Information in the financial report is comparable to information provided by other company					
The financial report presents financial index numbers and ratios.					

5. Timeliness

Information generated from financial statements must be timely for decision makers before they lose their capacity to influence decisions (Al-Dmour et al., 2018).

Questions	Scale				
	1	2	3	4	5
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
There is no undue delays in the presentation of financial reports.					

PART B

Name : (Optional)

Gender : Male ☐ Female ☐

Age : year

Level of education : ☐ Senior high school
 ☐ Bachelor
 ☐ Master
 ☐ Other

SME's Name :

The amount of
Income per year :

Type of main
Business : ☐ Food
 ☐ Fashion, (clothing/bags/shoes)
 ☐ Service, (mention it)
 ☐ Agribusiness, (agriculture/plantation)
 ☐ Other, (mention it)

Business age : year

The number of
employees : people

PART C

CLOUD ACCOUNTING

Cloud accounting can also be referred to as online accounting software, which combines the use of computer technology in a network with internet-based development that has the function to run programs or applications through internet-connected devices at the same time (Darren, 2021).

Questions	Scale				
	1	2	3	4	5
	Not considering	Currently evaluating	Have evaluated, but do not plan to adopt this technology	Have evaluated and plan to adopt this technology	Have already adopted services, infrastructure or platforms of cloud accounting
At what stage of cloud accounting is your company currently engaged?					

Questions	Scale				
	1	2	3	4	5
	Not considering	More than 5 years	Between 2 and 5 years	Between 1 and 2 years	Less than 1 year
If you're anticipating that your company will adopt cloud accounting in the future. How long do you think it will happen?					

PART D

TECHNOLOGICAL

1. Technology Readiness

Technology readiness is a condition where the company's readiness to have an established technology infrastructure and a workforce with adequate technical skills and competencies, it is more suitable to enter the technology context.

Questions	Scale				
	1	2	3	4	5
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The company provides internet access in its operations					
The majority of employees					

have Internet access					
The company knows how IT can be used to support operations					
Within the company, there are the necessary skills to implement cloud accounting					
The company databases are electronically integrated with cloud accounting systems					

2. Perceived Benefits

Perceived benefits are important in adopting the system because they illustrate that this system has great benefits, such as efficiency, accessibility, speed, accuracy, and professionalism, which can save costs and increase profitability for SMEs (Sastararuji et al., 2021b).

Questions	Scale				
	1	2	3	4	5
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The use of cloud accounting services increases the accuracy of processed financial transaction data					
The use of cloud accounting services increases the security of the entered financial transaction data					
The use of cloud accounting services improves the quality of operations					
Using cloud accounting allows you to perform certain tasks faster					
The use of cloud accounting services reduces errors in calculating financial transactions					
Using cloud accounting services can improve your company's image					
Our SME is able to compete with other SMEs because of the used of					

cloud accounting					
Cloud accounting allows the company to increase business productivity					
Do you like summer?					

3. Security Concern

Security concern is a condition where vulnerable security systems and lack of data privacy are problems that arise in system adoption.

Questions	Scale				
	1	2	3	4	5
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Cloud accounting system adoption is consistent with our business strategy					
My company is very satisfied with the security environment of cloud accounting systems					
In cloud accounting system, data is safeguarded from unauthorized changes or use					
In cloud accounting system, sensitive data is protected from those who should not have access to it					

PART E

ORGANIZATIONAL

1. Top Management Support

Top management support in SME is support from SME owners for all activities that can make SME grow.

Questions	Scale				
	1	2	3	4	5
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
My company adopts cloud accounting system.					
The company's management (the owner of SME) supports the implementation of cloud accounting					
The company's top management (the owner of SME) provides strong leadership and engages in					

the process when it comes to information systems					
The company's management (the owner of SME) is willing to take risks (financial and organizational) involved in the adoption of cloud accounting					
Top management in my company considers cloud accounting system adoption important					

2. Firm Size

The higher the number of employees, it indicates that the SME is counted as a large SME, and vice versa (Oliveira et al., 2014).

Questions	Answer
The number of company employees	

3. Financial Cost

Financial costs explain the costs incurred by SMEs to adopt cloud accounting, compared to the benefits derived from the adoption.

Questions	Scale				
	1	2	3	4	5
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The setup costs for using a cloud accounting system is high					
The operational costs of using a cloud accounting system is high					
The costs of training to understand cloud accounting systems is high					

Questions	Scale				
	1	2	3	4	5
	Not Significant	Somewhat Not Significant	Neutral	Somewhat Significant	Significant
In the context of your company's overall information systems budget, how significant would the financial cost					

of implementing a cloud accounting system be?					
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PART F

ENVIRONMENTAL

1. Competitive Pressure

Competitive pressure arises because of pressure from competitors so that the company is able to survive and have a competitive advantage (Khayer et al., 2021).

Questions	Scale				
	1	2	3	4	5
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
My company thinks that cloud accounting has an influence on competition in their industry					
My company thinks that by using a cloud accounting system they will get a competitive advantage over their competitors					
My company is under pressure from competitors to adopt cloud accounting					
Some of our competitors have already started using cloud accounting					

2. Regulatory Environment

Support from the government is very much needed in the process of using new technologies, because the impact of existing laws and regulations can be important in the adoption of new technologies (Oliveira et al., 2014).

Questions	Scale				
	1	2	3	4	5
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
There is legal protection in the use of cloud accounting					
The laws and regulations that exist nowadays are sufficient to protect the use of cloud accounting					
Existing business law support the cloud accounting system					
The government highly support the use of cloud in					

accounting in SME					
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3. Vendor Support

Vendor support is needed in the adoption of cloud accounting because they provide training and technical support related to the use of new technologies (Kinuthia, 2015).

Questions	Scale				
	1	2	3	4	5
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Cloud accounting vendor provides technical support for effective use of cloud accounting systems					
Cloud accounting vendors actively market their technology by providing incentives for adoption					
Cloud accounting vendors promote their technology by offering free training sessions					
Cloud accounting vendors provide solutions to problems in using the system					

APPENDIX 2

PLS OUTPUT

Stage 1

SmartPLS: C:\Users\ASUS\smartpls_workspace

File Edit View Themes Calculate Info Language

Save New Project New Path Model Hide Zero Values Increase Decimals Decrease Decimals Export to Excel Export to Web Export to R

Theses Disertasi.splm PLS Algorithm (Run No. 1)

Construct Reliability and Validity

	Matrix	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
CA		0.829	0.834	0.921	0.853
CP		0.854	0.863	0.901	0.695
Comparability		0.802	0.806	0.859	0.504
FC		0.814	0.829	0.876	0.641
FRQ		0.925	0.928	0.933	0.371
FS		1.000	1.000	1.000	1.000
Faithfull Representative		0.742	0.742	0.829	0.492
PB		0.935	0.939	0.947	0.689
RE		0.901	0.914	0.931	0.771
Relevance		0.846	0.851	0.887	0.568
SC		0.872	0.879	0.913	0.725
TMS		0.884	0.889	0.915	0.683
TR		0.822	0.840	0.872	0.577
Timeliness		1.000	1.000	1.000	1.000
Understandability		0.804	0.816	0.860	0.507
VS		0.895	0.957	0.924	0.752

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Final Results

Path Coefficients	Quality Criteria	Interim Results	Base Data
Indirect Effects	R Square	Stop Criterion Changes	Setting
Total Effects	f Square		Inner Model
Outer Loadings	Construct Reliability and Validity		Outer Model
Outer Weights	Discriminant Validity		Indicator Data (Original)
Latent Variable	Collinearity Statistics (VIF)		Indicator Data (Standardized)
Residuals	Model Fit		Indicator Data (Correlations)
	Model Selection Criteria		

SmartPLS: C:\Users\ASUS\smartpls_workspace

File Edit View Themes Calculate Info Language

Save New Project New Path Model Hide Zero Values Increase Decimals Decrease Decimals Export to Excel Export to Web Export to R

Theses Disertasi.splm PLS Algorithm (Run No. 1)

Discriminant Validity

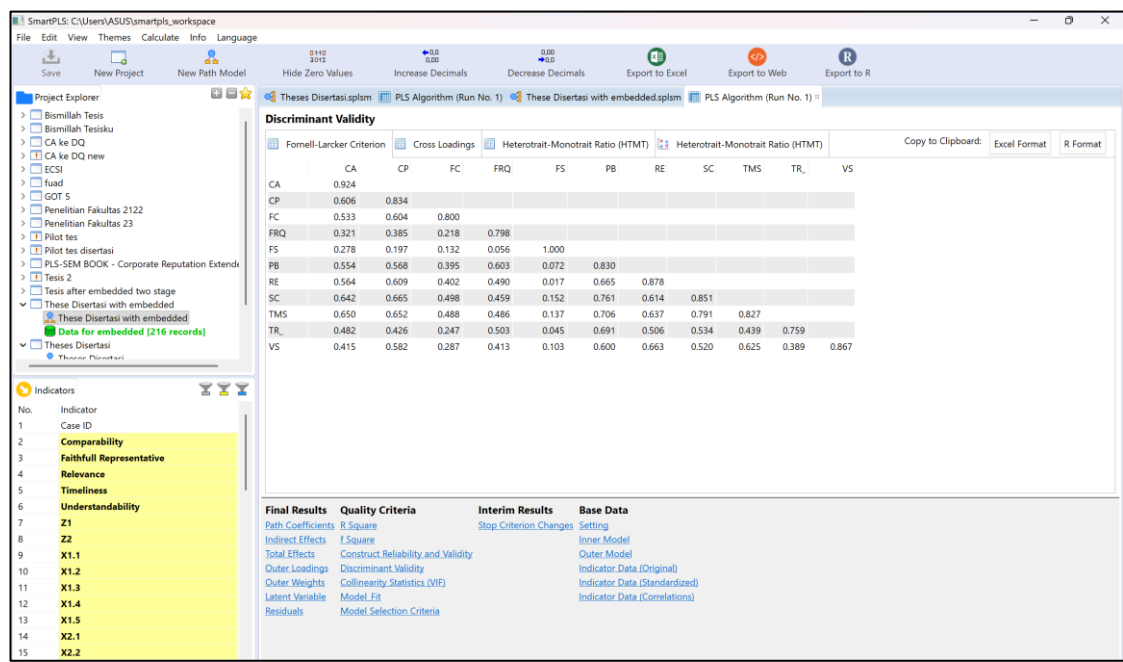
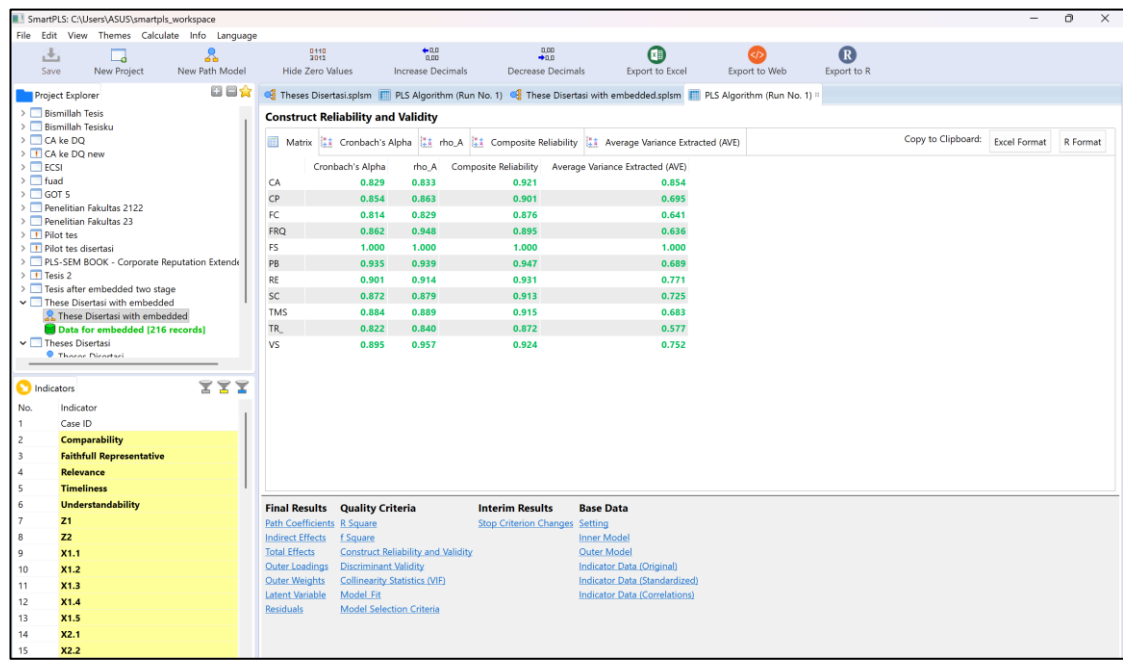
	Fornell-Larcker Criterion	Cross Loadings	Heterotrait-Monotrait Ratio (HTMT)	Heterotrait-Monotrait Ratio (HTMT)
CA	0.924	CA CP Comparability FC FRQ FS Faithfull ... PB RE Relevance SC TMS TR Timeliness Understandability VS		
CP	0.606 0.834			
Comparability	0.228 0.284 0.710			
FC	0.533 0.604 0.170 0.800			
FRQ	0.299 0.362 0.847 0.204 0.609			
FS	0.278 0.197 -0.020 0.132 0.029 1.000			
Faithfull Representative	0.370 0.433 0.622 0.256 0.824 0.150 0.702			
PB	0.555 0.568 0.504 0.395 0.586 0.072 0.569 0.830			
RE	0.564 0.609 0.459 0.402 0.487 0.017 0.434 0.665 0.878			
Relevance	0.270 0.324 0.643 0.170 0.866 0.032 0.647 0.516 0.409 0.753			
SC	0.642 0.665 0.375 0.498 0.446 0.152 0.434 0.761 0.614 0.451 0.851			
TMS	0.651 0.652 0.394 0.488 0.476 0.137 0.470 0.706 0.637 0.408 0.791 0.827			
TR	0.482 0.426 0.462 0.247 0.506 0.045 0.419 0.691 0.506 0.444 0.534 0.439 0.759			
Timeliness	0.089 0.094 0.449 0.021 0.582 0.006 0.356 0.328 0.236 0.430 0.187 0.183 0.259 1.000			
Understandability	0.186 0.236 0.616 0.137 0.847 -0.037 0.624 0.415 0.364 0.612 0.272 0.379 0.394 0.549 0.712			
VS	0.415 0.582 0.382 0.287 0.393 0.103 0.425 0.600 0.663 0.356 0.520 0.625 0.389 0.129 0.213 0.867			

Copy to Clipboard: Excel Format R Format

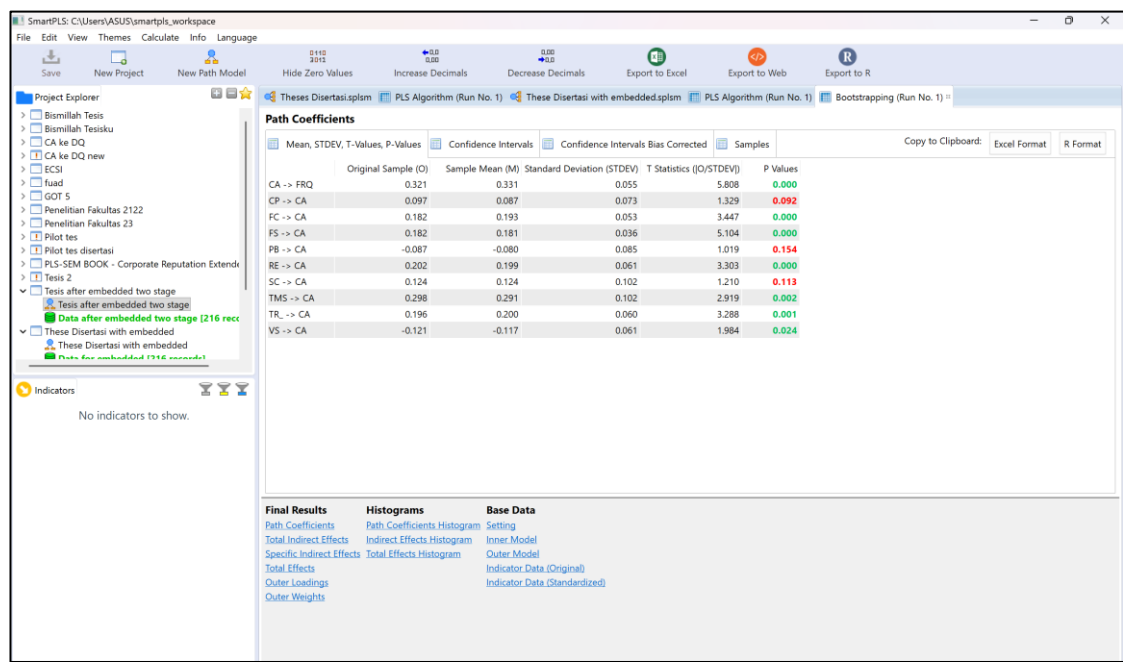
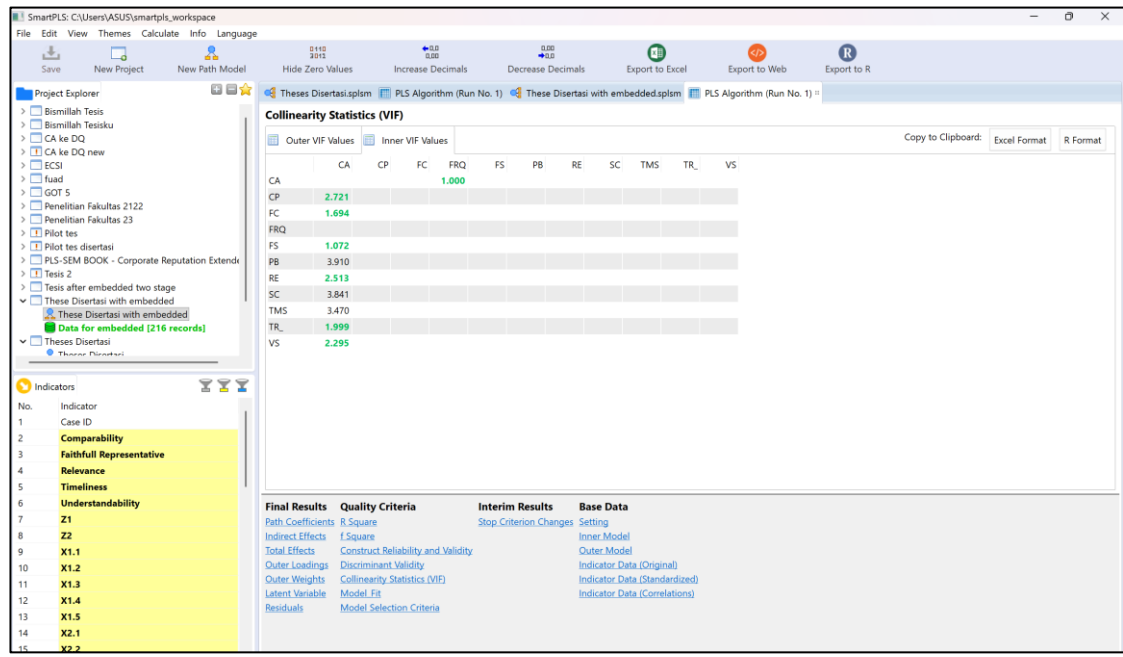
Final Results

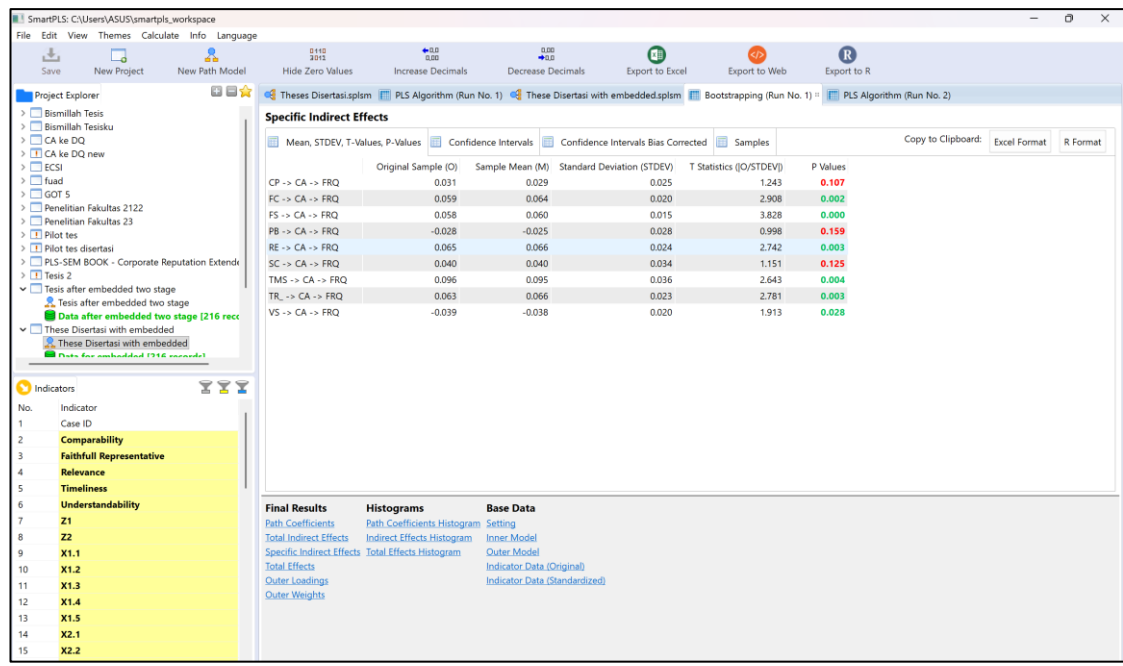
Path Coefficients	Quality Criteria	Interim Results	Base Data
Indirect Effects	R Square	Stop Criterion Changes	Setting
Total Effects	f Square		Inner Model
Outer Loadings	Construct Reliability and Validity		Outer Model
Outer Weights	Discriminant Validity		Indicator Data (Original)
Latent Variable	Collinearity Statistics (VIF)		Indicator Data (Standardized)
Residuals	Model Fit		Indicator Data (Correlations)
	Model Selection Criteria		

Stage 2



Structural Model





AUTHOR'S PROFILE



Devi Permatasari obtained Bachelor of Science in Accounting in 2009 from Diponegoro University, Semarang, Indonesia, MSi in Accounting (2012) from Diponegoro University, Semarang, Indonesia and PhD in Financial Criminology (2026) from the Universiti Teknologi MARA, Malaysia. Her PhD thesis examined the quality of financial reporting in Indonesian SMEs. She is currently working as an accounting lecturer at Universitas Islam Sultan Agung, Semarang, Indonesia.

LIST OF PUBLICATIONS:

- Permatasari, D., Mohammed, N. F., & Shafie, N. A. (2024). Exploring Factors Influencing the Adoption of Cloud Accounting Systems in Indonesian Micro Small and Medium Enterprises: A Unified Theory of Acceptance and Use of Technology Based Analysis. *Management and Accounting Review*, 23(1), 195–229. <https://doi.org/10.24191/mar.v23i01-07>
- Permatasari, D., Mohammed, N. F., Shafie, N. A., & Sanchez-del-Rio-Vazquez, M.-E. (2025). Technological-Organisational-Environmental Determinants Of Cloud Accounting System Usage In Indonesian SMEs. *Journal of Nusantara Studies*, 10(2), 566–589.
- Permatasari, D., Yulianto, A. R., Mohammed, N. F., & Shafie, N. A. (2023). Factors Influencing Business Sustainability of SMEs in Indonesia Post COVID-19 Pandemic. *European Proceedings of Social and Behavioural Sciences EpSBS*, 131, 167–178. <https://doi.org/10.15405/epsbs.2023.11.14>

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