International Journal of
Economics Development Research, Volume 6(3), 2025
pp. 1156-1167

Impact of Technology-Based Accounting Systems, Budgeting, and Cost Control on Company Profitability: A Case Study of SMEs in Indonesia

Fadlia Annisa[1], Mulya Rafika [2], Muhammad Raja Siregar [3]

Abstract:

This study aims to analyse the influence of technology-based accounting systems, budgeting, and cost control on the profitability of case study companies in SMEs in Indonesia. This study is a quantitative descriptive study. The population in this study were SMEs and the sampling used purposive sampling technique with certain criteria on SMEs located in the city of Rantauprapat, which amounted to 98 respondents. Data analysis was carried out using the SEM (Structural Equation Modelling) method with the help of the SmartPLS application. The results showed that 1) technology-based accounting systems have a significant effect on company profitability, 2) budgeting has a significant effect on company profitability, 3) while cost control does not show a significant effect on profitability.

Keywords: *SMEs; Technology-Based Accounting Systems; Budgeting; Cost Control; Company Profitability.*

Submitted: March 20, 2025, Accepted: April 14, 2025, Published: May 20, 2025

1. Introduction

Small and Medium Enterprises (SMEs) play an important role in the Indonesian economy, accounting for the majority of business units and the workforce. Despite having great potential to improve the country's economy, SMEs often face significant challenges in financial and operational management that impact profitability. One of the main challenges faced by SMEs is ineffective accounting management, which can affect the quality of financial information, decision making, and ultimately, the profitability of the company (Kanaan-Jebna et al., 2021).

Small and Medium Enterprises (SMEs) have a strategic role in Indonesia's economic development. Based on data from the Ministry of Cooperatives and SMEs, SMEs account for more than 60% of the Gross Domestic Product (GDP) and absorb around 97% of the workforce in Indonesia (Munthe et al., 2023). However, behind this large contribution, SMEs face challenges in maintaining sustainability and increasing

[1] *Universitas Labuhanbatu, Indonesia. fadliaannisanasution@gmail.com*
[2] *Universitas Labuhanbatu, Indonesia. mulyarafika27@gmail.com*
[3] *Universitas Labuhanbatu, Indonesia. muhammadrajasiregar07@gmail.com*

profitability, especially in the era of global competition and digitalisation. One of the main obstacles faced by SMEs is suboptimal financial management. Ineffective financial management is often caused by a lack of understanding of modern accounting systems, a lack of structured budgeting, and weak cost control. These three aspects are interrelated in determining the company's financial performance and profitability (Sholikha et al., 2023; Adistyawati, 2021).

Technology-based accounting systems have developed rapidly and become an important tool in facilitating the process of recording, processing, and analysing financial data. The use of technology in accounting enables companies to improve the efficiency, accuracy, and integration of data which is very important in strategic decision making (Ariani & Rachmawati, 2019; Garrison et al., 2021). However, the implementation of technology-based accounting systems among SMEs in Indonesia still varies, especially in terms of adoption rate, resources, and understanding of its benefits. Technology-based accounting systems have become an important solution in modernising the financial management of SMEs. Technology enables SMEs to record transactions in real-time, produce accurate financial reports, and perform data analysis quickly (Balisa et al., 2024; Zamzami et al., 2021). However, even though the adoption of this technology has the potential to improve operational efficiency, many SMEs still face obstacles, such as budget limitations, lack of technological knowledge, and resistance to change (Rohmayanti et al., 2023; Budi Harto et al., 2023).

On the other hand, budgeting is a crucial element in ensuring efficient resource allocation and supporting the achievement of company goals. SMEs often face difficulties in consistently preparing and implementing budgets, especially when dealing with market fluctuations and capital limitations (Santioso & Agusyah, 2022). Without good budgeting, SMEs are vulnerable to waste of resources which ultimately reduces profitability. Budgeting is an important aspect of company financial management. With effective budgeting, companies can optimally plan and control resource allocation, predict future financial needs, and avoid waste (Sofyani et al., 2020; Murdoko et al., 2024). However, not all SMEs have a well-integrated budgeting system, so they often have difficulty in managing costs and controlling expenses, which has a direct impact on profitability.

Furthermore, cost control is a challenge for SMEs. Effective cost control is needed to maintain a balance between expenses and income without compromising the quality of products or services. SMEs that fail to control costs properly tend to experience a decline in profit margins, even in situations where income increases (Suindari & Juniariani, 2020). Cost control is an important process to ensure that the company does not spend more than is necessary to run its operations. Good cost control helps companies maximise operational efficiency, increase profit margins, and ultimately contribute to higher profitability. However, the challenge for SMEs is how to effectively utilise cost control tools and techniques, especially in the face of limited resources (Nur Mar’atus Sholikha et al., 2023).

Although various studies have examined the importance of technology, budgeting, and cost control separately, research linking these three aspects in the context of SMEs in Indonesia is still limited. A deeper understanding of the integrative effect of technology-based accounting systems, budgeting, and cost control on SME profitability is needed. The strong reason for the need for this research is that many SMEs have not adopted technology in their accounting systems, resulting in limitations in obtaining accurate and real-time financial information. Researcher observations also find that many SMEs face budget and human resource limitations that hinder their ability to implement good budgeting and cost control systems. Another reason is that ineffective cost control is often due to a lack of understanding and training in applying cost control techniques (Azizah, 2019; Suardana et al., 2020).

Considering the significant role of SMEs in contributing to GDP and absorbing the workforce, an increase in SME profitability can have a direct impact on Indonesia's overall economic growth. By integrating technology-based accounting systems, budgeting, and cost control, SMEs are expected to be more competitive in local and international markets. This study is important to explore how the implementation of technology-based accounting systems, budgeting, and cost control can affect the profitability of SMEs in Indonesia. By understanding the relationship between these variables, this study is expected to provide useful insights for SME owners and policymakers in designing strategies that can increase SME profitability. This study aims to examine the effect of technology-based accounting systems, budgeting, and cost control on the profitability of SMEs in Indonesia, as well as to determine how much each factor contributes to profitability.

2. Theoretical Foundations

Technology-Based Accounting Systems
Technology-based accounting systems refer to the use of software and digital tools to manage accounting processes, such as transaction recording, financial reporting, and data analysis (Berliana et al., 2019). According to (Adistyawati, 2021), the adoption of accounting technology enables SMEs to improve operational efficiency and better decision making (Sofyani et al., 2020). A good technology-based accounting system must be able to support managerial decision making by providing timely and relevant information. This includes the ability to produce data analysis and forecasting that aids in strategic decision making. The following are indicators of the Technology-Based Accounting System variable adapted from (Zhang et al., 2023), namely; ease of use of technology, efficiency of recording processes, accuracy of financial reports, and availability of automatic reporting features.

Budgeting
Budgeting is a financial planning process that involves determining income and expenditure targets (Murdoko et al., 2024). Effective budgeting helps SMEs optimally allocate resources, thus increasing financial stability and competitiveness (Waluyo & Marlina, 2019). Budgeting or budget planning is one of the important aspects of company financial management, which includes planning and allocating financial resources to achieve the company's short and long-term goals. In the context of Small

and Medium Enterprises (SMEs), good budget planning can help in managing cash flow, controlling costs, and increasing profitability. The budgeting process can also provide a clear picture of projected income and expenses, as well as facilitate more informed decision making (Khristianto, 2022). The adopted budgeting indicators are clarity of budget objectives, participation in budget preparation, consistency of the budget with the business plan, and monitoring and evaluation of the budget.

Cost Control

Cost control is the process of managing expenses to ensure that costs do not exceed the predetermined budget. Research by the Indonesian Institute of Accountants highlights that good cost control can maintain profit margins and increase company profitability. Cost control is a systematic effort to manage and control company expenses to fit the predetermined plan, so that it can effectively support the achievement of company goals.

The following are cost control indicators according to the following: supervision of cost realisation, production cost efficiency, application of cost standards, and evaluation of cost deviations

Company Profitability

Profitability is the company's ability to generate profits from its operational activities (Suardana et al., 2020). (Azizah, 2019) explains that profitability reflects the operational efficiency and effectiveness of the company's strategy in managing resources. Financial ratios such as net profit margin and return on assets (ROA) are often used to measure profitability (Azizah, 2019). Corporate profitability is the main indicator that shows an entity's ability to generate profit in a certain period (Mulyadi, 2020). This theory is rooted in the basic concept of financial management which aims to maximise company value through operational efficiency and effective business strategies. (Ardiyanto et al., 2020) Profitability is also influenced by internal and external factors. Internal factors include operational efficiency, cost structure, and marketing strategy, while external factors include market conditions, government policies, and the level of competition. The profitability indicators are Net Profit Margin (NPM), Return on Assets (ROA), Return on Equity (ROE), and Net Profit Growth.

3. Methodology

The approach used in this study is a quantitative approach, which aims to test hypotheses and measure the relationship between research variables numerically. This type of research is explanatory research. Explanatory research is used to explain the cause-and-effect relationship between the variables under study. Explanatory research was chosen because this study aims to examine the effect of technology-based accounting systems, budgeting, and cost control on the profitability of SMEs in Indonesia. The population in this study are all SMEs operating in Indonesia, especially those that have adopted technology-based accounting systems in financial management. The sample was taken using the purposive sampling method, which is to select respondents based on certain criteria relevant to the research objectives. The sample size was determined using the Slovin formula. So, for a population of 130 people with a margin of error of 5%, the optimal sample size is around 98 respondents. The data collection techniques used in this study were questionnaires and documentation. And for data analysis, this study used the SEM (Structural Equation Modeling) method with the help of the SmartPLS application.

4. Empirical Findings/Results

Descriptive Analysis
The sampling in this study was carried out on SMEs in the city of Rantauprapat. The number of samples determined in this study was 98 respondents. The research sample was taken using the purposive sampling method with respondent criteria. The descriptive analysis of the respondents in this study is described in the following table:

Table 1. Description of Respondents

Respondent Data		Frequency	%
Gender	Male	70	71,43%
	Female	28	28,57%
Age	18-24 Years	12	12,24%
	25-30 Years	15	15,31%
	31-40 Years	20	20,41%
	41-50 Years	35	35,71%
	< 50 Years	16	16,33%
Education	Not Graduated from Primary School	0	-
	Primary School	6	6,12%
	Junior High School	23	23,47%
	Senior High School/Vocational High School	51	52,04%
	Bachelor's Degree/Master's Degree/Doctorate	18	18,37%
Income	< Rp. 2.000.000	0	-
	> Rp. 2.000.000 - Rp. 3.000.000	14	14,29%
	> Rp. 3.000.000 - Rp. 5.000.000	63	64,29%
	> Rp. 5.000.000	21	21,43%

Source: processed primary data (2025)

Based on table 1 above, the majority of respondents in this study were male, namely 70 people or 71.43%, and the majority of respondents were aged between 41 and 45 years old, or 35.71%, and the majority of respondents with a high school/vocational high school education level were more dominant, namely 51 people or 52.04%, and the majority of respondents had an income of more than IDR 3,000,000 to IDR 5,000,000 or 64.29%.

Measurement Model
This study aims to examine the effect of technology-based accounting systems, budgeting, and cost control on the profitability of case study companies in SMEs, in this case SMEs in the city of Rantauprapat. The initial testing began with an evaluation analysis of the measurement model (outer model).

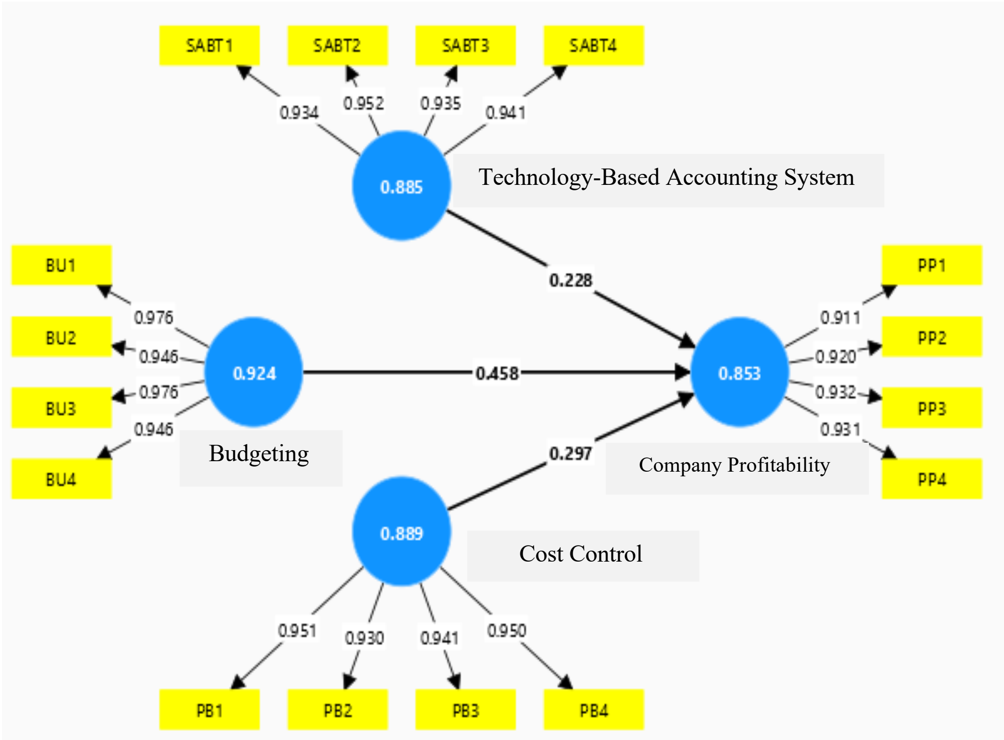

Figure 1. Outer model measurement analysis results.

At this stage, the aim is to measure the level of validity and reliability of the research conducted. A relationship in convergent validity is achieved if the loading factor value exceeds 0.6. The results of the outer loading test analysis in this study can be seen in the following table:

Table 2. Outer loading test results

	Budgeting (X2)	Cost Control (X3)	Company Profitability (Y)	Technology-Based Accounting System (X1)
BU1	0.976			
BU2	0.946			
BU3	0.976			
BU4	0.946			
PB1		0.951		
PB2		0.930		
PB3		0.941		
PB4		0.950		
PP1			0.911	
PP2			0.920	
PP3			0.932	
PP4			0.931	
SABT1				0.934
SABT2				0.952
SABT3				0.935
SABT4				0.941

Source: processed primary data (2025)

Table 2 above shows that the output indicator loading analysis results for each indicator of each variable have met the convergent validity requirement for reflective constructs with loading factors above 0.6.

Table 3 AVE Test Results

	Average variance extracted (AVE)
Technology-Based Accounting System (X1)	0.885
Budgeting (X2)	0.924
Cost Control (X3)	0.889
Company Profitability (Y)	0.853

Source: processed primary data (2025)

Based on Table 3 above, it can be explained that the value obtained from the AVE for all variables has met the requirement of being above 0.5, indicating that the construct explains more than half of the variants of the indicators (Hair et al., 2014).

Table 4. Reliability Test Results

	Composit Reliability	**Cronbach's alpha**	**Description**
Technology-Based Accounting System (X1)	0.957	0.957	Reliable
Budgeting (X2)	0.973	0.972	Reliable
Cost Control (X3)	0.959	0.959	Reliable
Company Profitability (Y)	0.943	0.943	Reliable

Source: processed primary data (2025)

Based on Table 4 above, it can be seen that the composite reliability of each variable has met the requirement of being above 0.70. Furthermore, for the Cronbach's alpha value, all research variables have met the requirement of being above 0.60. Therefore, overall, the measurement model (outer model) results have met the requirements so that this study can proceed to the structural model (inner model).

Structural Model

The structural model in PLS is evaluated using R for the dependent variable, the path coefficient value and the t-value of each path for the significance test between variables in the model. The table below presents the R^2 value for the dependent variable of company profitability research.

Table 5. Reliability Test Results

	R-square	**Adjusted R-square**
Company Profitability (Y)	0.946	0.944

Source: processed primary data (2025)

Based on the R^2 value in table 5 above, the R^2 value of the company's profitability variable is 0.944, which indicates that the independent variables (technology-based accounting system, budgeting, and cost control) are able to influence the company's profitability with a strong category of 94%, and the remaining 6% is explained by other variables not examined in this study. The results of the analysis with the bootstrapping process on the path coefficients with a 5% confidence level are fully presented in the following figure:

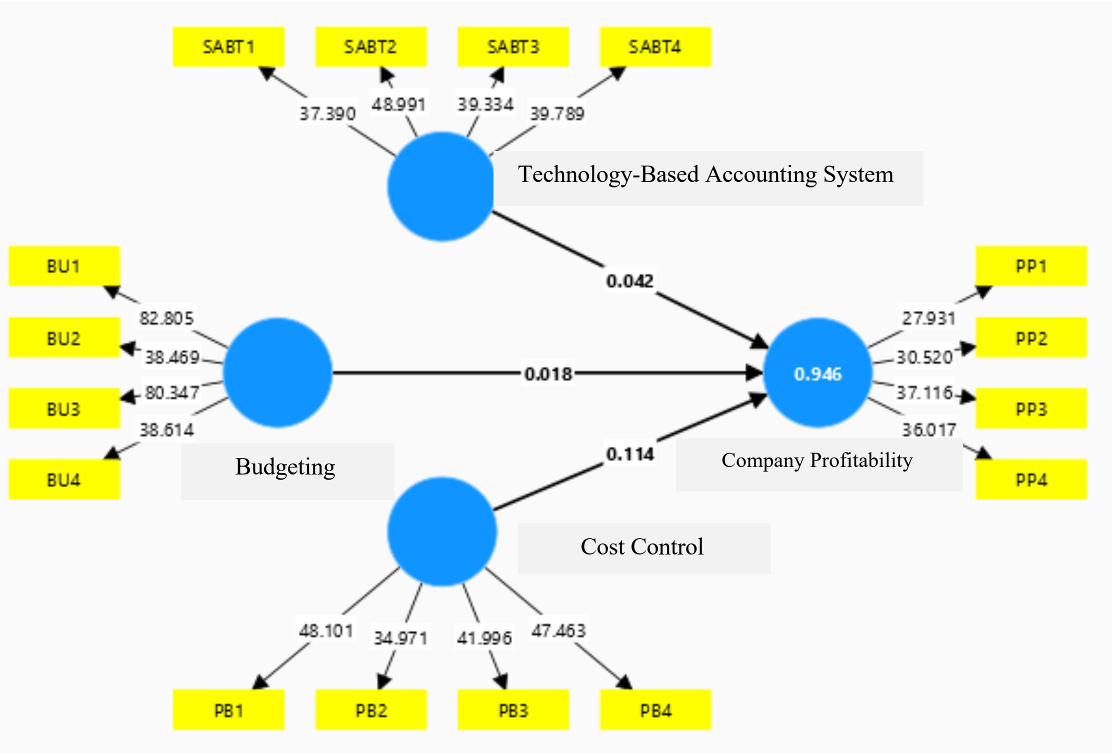

Figure 2. Bootstrapping Output Analysis Results.

Table 6. Path Coefficients Test Results

	Coefficient	Standard deviation	T Calculate	P values	Conclusion
Technology-Based Accounting System (X1) -> Company Profitability (Y)	0.238	0.112	2.036	0.042	Significant
Budgeting (X2) -> Company Profitability (Y)	0.463	0.193	2.376	0.018	Significant
Cost Control (X3) -> Company Profitability (Y)	0.284	0.188	1.581	0.114	Not significant

Source: processed primary data (2025)

Based on table 6 above, it is known that the technology-based accounting system variable has a significant effect on the company's profitability variable. This result is proven by the obtained t-value of 2.036 and p-value of 0.042 <0.05. Furthermore, the budgeting variable also has a significant effect on the company's profitability variable. This result is proven by the obtained t-value of 2.376 and p-value of 0.018 < 0.05. And on the cost control variable, it has no significant effect on the company's profitability variable. This result is proven by the obtained t-value of 1.581 and p-value of 0.144 > 0.05.

5. Discussion

The Effect of Technology-Based Accounting Systems on Company Profitability
Based on the analysis results, it is known that technology-based accounting systems (X1) have a significant effect on company profitability (Y) for SMEs in Indonesia. This is proven by the obtained t-value of 2.036 and the obtained p-value of 0.042, which is less than 0.05. This means that technology-based accounting systems can affect company profitability. These results are in line with research conducted by Putra et al., (2023), which found that companies that adopt technology-based accounting systems experience a decrease in operational costs of up to 20%, which directly impacts an increase in profitability. Then research by Susanto (2022) shows that technology-based accounting systems help companies present more accurate and real-time financial reports. The high accuracy of financial statements enables management to make more informed decisions in allocating resources, which ultimately increases profitability. Similarly, Rahman & Sari (2021) found that the use of a technology-based accounting information system contributes to an increase in Return on Assets (ROA) and Return on Equity (ROE) of 15-25% in companies that apply it optimally. This shows that companies with technology-based accounting systems have higher profitability compared to companies that still use manual systems. Thus, it means that the better the technology-based accounting system used in SMEs, the more it will increase profitability.

The Effect of Budgeting on Company Profitability
Based on the analysis results, it is known that budgeting (X2) has a significant effect on company profitability (Y) in SMEs in Indonesia. This result is proven by the obtained t-value of 2.376 and the obtained p-value of 0.018 which is smaller than 0.05. This means that budgeting can increase company profitability or Budgeting has an important role in company financial management and can significantly affect profitability. These results are in line with Dewi & Suaryana (2019), who found that companies with effective control of operating costs through proper budgeting can significantly increase profitability. Research by Kusuma & Raharja (2018) found that an increase in the accuracy of the operating cost budget correlates with an increase in the net profit margin. In their study of 100 publicly listed companies in Indonesia, a 1% increase in operating cost budget accuracy was associated with a 0.3% increase in net profit margin. In line with Pratiwi et al., (2018) found that the effect of operating cost budgets on profitability can be influenced by factors such as company size and macroeconomic conditions. This shows that budgeting effectiveness does not only depend on internal processes but also on external factors that influence company performance. Overall, research shows that effective and accurate budgeting can have a significant effect on increasing company profitability. However, budgeting effectiveness is influenced by various internal and external factors, including company size, macroeconomic conditions, and the ability to adapt to changes in the business environment. Thus, companies need to pay attention to the right and adaptive budgeting process to achieve optimal profitability.

The Effect of Cost Control on Company Profitability

The analysis shows that cost control (X3) has no significant effect on company profitability (Y). This is proven by the obtained t-value of 1.581 and the obtained p-value of 0.114, which is greater than 0.05. This means that cost control has not been able to increase the company's profitability. This result is in line with research conducted by Nurnela Shinta Br. Surbakti (2022) on manufacturing companies listed on the Indonesia Stock Exchange for the period 2015–2019, which found that cost control efficiency has no significant effect on profitability. The results of the analysis show that although cost control is important, this factor does not directly affect the profitability of the companies in the sample studied. Therefore, the relationship between cost control and profitability is complex and can be influenced by various factors, including business strategy, market conditions, and operational efficiency. In some cases, excessive cost reduction without considering the quality of products or services can have a negative impact on long-term profitability. Although cost control is an important component of financial management, research shows that its effect on profitability is not always significant. This emphasises the need for a holistic approach to company management, where cost control must be integrated with other strategies that focus on improving operational efficiency, innovation, and product or service quality to achieve sustainable profitability.

6. Conclusions

Based on the results of research analysis on Small and Medium Enterprises (SMEs) in Indonesia, it was found that technology-based accounting and budgeting systems have a significant influence on company profitability, while cost control does not show a significant influence on profitability. SMEs in Indonesia need to invest in accounting technology to improve financial efficiency and profitability. Effective budget management must be a top priority in SME business strategies to increase competitiveness. Although cost control remains important, SMEs should focus more on innovation, quality improvement, and market expansion to increase profitability on an ongoing basis.

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