



The Research on the Impact of Earnings Management on Business Performance: The Food, Beverage, and Tobacco Sector in Vietnam Before and During the COVID-19 Pandemic (2016–2023)

Dinh The Hung¹✉
Vo Tran Bich Ngoc²
Le Nguyen Bao Phuc³

¹National Economics University, Vietnam.
²Vietnam Australia International School, Vietnam.
³Gia Dinh Highschool, Vietnam.
Email: hungdt@neu.edu.vn
Email: jennybichngocvt@gmail.com
Email: lephucmichael@gmail.com
(✉ Corresponding Author)

Abstract

This research analyzes the impact of earnings management on the business performance of food, beverage, and tobacco companies in Vietnam. The data were collected from 35 companies in the food, beverage, and tobacco industries listed on the HNX and HOSE stock exchanges between 2016 and 2023. Earnings management is measured based on the theoretical framework of the Jones model. The multiple linear regression method is applied with the support of Stata software. The results of this research provide important insights into the relationship between earnings management and the business performance of companies in these industries.

Keywords: Business performance, COVID–19, Earnings management, Food and beverage industry.

1. Introduction

The Food, beverage, and tobacco industries play an important role in Vietnam’s economy - not just in terms of GDP, but also as reflections of the country’s culture and social life. Over the past few years, these industries have witnessed remarkable transformations and growth over time. But when COVID-19 hit, it brought serious disruptions, pushing many businesses to rethink how they operate just to stay afloat.

Even though these products are considered essentials and usually maintain steady demand, companies still faced big challenges. Fluctuating markets, shifting consumer habits, and supply chain issues made things harder. According to a Vietnam Report survey at the end of 2020, nearly half of the businesses said the pandemic hadn’t affected them much. But once the Delta variant arrived in 2021, that outlook changed fast. By April, about 80% of companies said their production and distribution had taken a hit. The hospitality and food service sector was especially impacted, with its GDP contribution falling by over 20%, which dragged the national GDP down by roughly 0.5%, based on data from the "White Paper on Vietnamese Enterprises". For many, recovery didn’t really start until early 2022.

Setting profit targets - quarterly or annually - is common practice and helps investors gauge a company’s outlook. But not all of these numbers tell the full story. Some companies adjust or “massage” their profits to look more favorable, which can sometimes hide deeper financial issues.

In this article, earnings management (EM) emerges as a pivotal strategy to maintain a delicate balance between corporate profitability and sustainability. This paper aims to elucidate the role of EM in ensuring business performance and adapting to market shocks, such as the COVID-19 crisis. The study provides an in-depth analysis of the impacts of EM during two distinct periods: pre-pandemic and amid the pandemic. Through this exploration, the research proposes tailored management strategies that can enhance the sustainability of Food, beverage, and tobacco enterprises in the future.

This article takes a closer look at how Food, beverage, and tobacco companies in Vietnam have handled EM, especially during difficult periods like the COVID-19 pandemic. It focuses on publicly listed firms on the HNX and HOSE exchanges, analyzing financial data from 2016 to 2023 to uncover patterns in EM and how they relate to actual business performance. From that, it offers practical suggestions to help these companies grow in a more stable and sustainable way.

2. Literature Review

In recent decades, EM has become a popular topic among researchers worldwide. Regarding its impact, the study by Graham, Harvey, and Rajgopal (2005) found that while EM can help companies boost their short-term stock value, it also increases financial risks and can harm shareholders' long-term interests. This aligns with Roychowdhury's (2006) research, who demonstrated that firms often engage in real EM activities, such as revenue timing or cost-cutting, to achieve immediate financial targets.

Nguyen Thi Hong Minh (2019) focused on EM within service companies in Vietnam, especially those in tourism and hospitality. This study highlighted how EM affects business performance in the service sector. It concluded that EM not only helps companies optimize profits but also supports sustainable relationships with customers through flexible pricing strategies and effective cost management.

Amid the COVID-19 pandemic, recent research has started to pay more attention to how businesses face unusual challenges and adjust EM during this time. Chen et al. (2022) examined the pandemic's impact on EM behavior, finding that companies often increase profit adjustments to maintain financial performance and investor confidence during uncertain periods. However, they also warned that overusing EM could damage a company's reputation and increase the risk of long-term financial crises.

Pham Thi Lan and Nguyen Duc Dung (2021) studied the effects of the COVID-19 economic crisis on EM among small and medium-sized enterprises in Vietnam. Their findings revealed that the pandemic caused significant disruptions, forcing businesses to adjust their profits to adapt to the new situation. Cash flow management and cost optimization were identified as key strategies helping companies survive the crisis and maintain profitability during difficult times.

These studies, which explore EM across various industries, deepen our understanding of how companies adapt to market volatility and business environment challenges. They also show that EM not only helps businesses continue operating during tough periods but also serves as a tool to improve competitiveness and operational efficiency. Especially in recent research during the COVID-19 pandemic, optimizing cash flow and managing costs emerged as crucial strategies for overcoming the crisis.

3. Theoretical Framework

3.1. Earnings Management

EM is a broad term used in accounting and finance. It refers to when companies use accounting methods to influence how stakeholders perceive their financial situation, often to gain certain benefits such as reducing income taxes or attracting outside investment. Whether profits are reported higher or lower than reality usually depends on the company's ultimate goal. Since most investors look at profit figures to evaluate and predict a company's future business performance, adjusting financial reports to make income look better is common. EM involves directly modifying accounting numbers to achieve a specific objective.

The decision to adjust profits is influenced by many factors, especially during times of economic instability when actual profits may fall short of targets. In such cases, companies may use strategies to alter their reports to retain investors, increase or maintain stock prices, and hide financial difficulties by inflating profits. Financial reports are especially important because they are publicly available documents that transparently show a company's profits and expenses. This transparency can be manipulated to mislead investors and stakeholders. Additionally, EM during challenging periods can help companies avoid risks such as breaching contracts if their profits do not meet investor expectations. However, not all EM aim to increase profits. Some companies deliberately report lower profits to gain advantages like avoiding government intervention or competition, benefiting from tax incentives, or reducing income tax payments. More specific reasons for these strategies will be detailed later.

3.2. Business Performance

Business Performance is a crucial factor that helps investors and business leaders evaluate whether a company is on track to meet its goals. This makes it easier for stakeholders to make informed decisions about investing or buying and selling shares. Business performance reflects how well a company uses its resources and assets to achieve its objectives. It means optimizing production costs while maximizing income. For example, if a company can achieve higher productivity with the same or lower costs compared to others, it will help increase profits or make better use of a fixed investment over a certain period.

To measure a company's efficiency, several indicators are commonly used, such as the current ratio, return on assets (ROA), return on equity (ROE), earnings per share (EPS), price-to-earnings ratio (P/E), net profit growth from operations, and book value per share (BVPS). Additionally, tools like the performance lens, balanced scorecard (BSC), and performance pyramid are also used to provide a broader evaluation.

3.3. Foundational Theory

3.3.1. Agency Theory

In 1976, Jensen and Meckling introduced Agency Theory, which explores the relationship between business owners and their appointed managers. According to the theory, these two parties may have different goals and motivations, which can lead to conflicts of interest. Building on this idea, the author suggests that companies where the CEO also holds the position of Chairman of the Board may be more likely to engage in EM. This dual role can give managers greater control over financial information. On the other hand, several governance factors - such as a larger board size, the presence of foreign directors, frequent board meetings, and a higher proportion of independent directors - can serve as checks on such behavior. These elements provide broader oversight and more diverse perspectives, helping to reduce the likelihood of profit manipulation and promote financial transparency in the market.

3.3.2. Signaling Theory

Originally introduced by Spence (1973), signaling theory helps explain how individuals or organizations share information in markets where not everyone knows the same things. When it comes to EM, this theory suggests that companies may use certain financial behaviors to send messages about their situation to investors. These signals can shape how investors see the firm. In some cases, this can be a useful way for management to highlight positive developments. But if this approach is used too aggressively, especially to mask real problems, it can backfire. The market might lose trust, and the firm could suffer in the long run.

3.3.3. Asymmetric Information Theory

George Akerlof's (1970) theory of asymmetric information points out that in many markets, one side often knows more than the other. This imbalance can open the door for EM. For example, company managers might have detailed insights into financial performance before results are publicly shared. Meanwhile, investors and shareholders are left making decisions based on limited or delayed information.

3.3.4. Crisis Management Theory

During crisis periods like the COVID-19 pandemic, many businesses face falling revenues and unstable finances. Crisis management theory highlights how, in such situations, companies might turn to earnings management as a short-term coping strategy. Adjusting profits can help stabilize the firm's image, reassure investors, and maintain confidence. However, this approach needs to be used carefully, as it may create challenges down the line if not handled transparently.

4. Research Model and Hypotheses

4.1. Dependent Variable

Earning Management: To measure EM through accrual accounting, the study uses total accruals. The estimation model is implemented following the three-step approach of Dechow et al. (1995) and Kothari et al. (2005) as follows:

- Total Accruals Calculation (TACC):

$$TACC_{it} = \text{Net Income}_{it} - \text{Cash Flow from Operations}_{it}$$

Where:

$TACC_{it}$ = Total accruals form firm i in year t

Net Income_{it} = Net Income of firm i in year t

$\text{Cash Flow from Operations}_{it}$ = Cash flow form operations for firm i in year t

- Non-Discretionary Accruals Estimaion (NDA):

$$NDA_{it} = \alpha_1 \left(\frac{1}{\text{Assets}_{i,t-1}} \right) + \alpha_2 \left(\frac{\Delta \text{Revenue}_{it} - \Delta \text{Receivables}_{it}}{\text{Assets}_{i,t-1}} \right) + \alpha_3 \left(\frac{\text{PPE}_{it}}{\text{Assets}_{i,t-1}} \right) + \epsilon_{it}$$

Where:

NDA_{it} = Non-discretionary accruals

$\text{Assets}_{i,t-1}$ = Total assets at the start of year t

$\Delta \text{Revenue}_{it}$ = Change in revenue

$\Delta \text{Receivables}_{it}$ = Change in receivables

PPE_{it} = Property, plant, and equipment

- Discretionary Accruals Calculation (DA):

$$DA_{it} = TACC_{it} - NDA_{it}$$

This framework enables precise isolation of EM activities, serving as the basis for further analysis of its impact on financial performance indicators.

4.2. Independent and Control Variables

ROA and ROE are widely recognized and essential indicators for assessing financial performance based on accounting information globally. This study will be developed using three accounting-based indicators: ROA, ROE, and EPS, along with one additional indicator: Operating Margin (OM):

H_1 : *Discretionary Accruals (DA) are negatively correlated with future ROA.*

This factor is measured by the ratio of net profit after tax to the company's total assets. Bui and Ngo (2017) found a negative relationship between ROA and EM behavior. Based on signaling theory and prior research findings, this study hypothesizes that DA will negatively affect ROA in the future.

H_2 : *DA is negatively correlated with future ROE.*

H_3 : *DA is positively correlated with EPS.*

H_4 : *DA is positively correlated with OM in the future.*

Operating Margin (OM) reflects the ratio of net income to net revenue for the corresponding financial year. This metric not only indicates how profit adjustments have been managed during a specific period but also illustrates the broader implications of these adjustments on subsequent financial years.

4.3. Research Model Development

Based on the hypotheses outlined above, the research team has synthesized the following comprehensive model to empirically evaluate these relationships. This model aims to bridge the theoretical insights with practical implications by examining the interconnections among discretionary accruals, financial performance indicators, and corporate strategies across temporal dimensions.

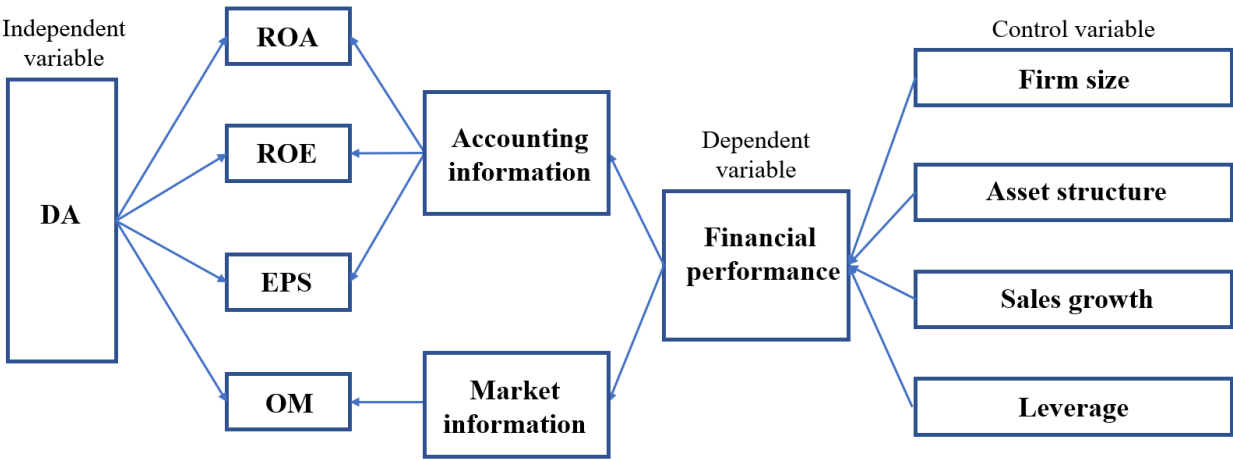


Figure 1. Model research.

In the model, control variables include: Firm size (SIZE), Sales growth (SG), Leverage (LEV), and Asset structure (AS).

5. Research Results and Discussion

5.1. Research Data

The study focuses on 35 listed companies on the HNX and HOSE stock exchanges, operating in the food, beverage, and tobacco sectors in Vietnam. Financial data from these companies was analyzed from 2016 to 2023, totaling 280 observations. The aim is to clarify the changes and fluctuations in EM and the relationship between EM and business performance in two distinct periods: before and after the pandemic.

5.2. Model Results

5.2.1. Correlation Matrix

Table 1. Correlation Matrix.

	ROA	ROE	EPS	OM	DA	SIZE	LEV	SG	AS
ROA	1,0000								
ROE	0,8442	1,0000							
EPS	0,6947	0,6107	1,0000						
OM	0,5036	0,5143	0,4399	1,0000					
DA	-0,3164	-0,2873	-0,2682	-0,0830	1,0000				
SIZE	-0,0830	-0,0830	-0,0830	-0,0830	-0,0830	1,0000			
LEV	0,0364	0,0166	-0,1417	-0,1025	0,0020	-0,2061	1,0000		
SG	0,0260	0,0734	0,0127	0,0386	-0,4387	0,1357	-0,0667	1,0000	
AS	0,0399	0,0790	-0,0135	0,0399	-0,2414	0,0899	0,0337	-0,0131	1,0000

Source: STATA Output.

The results of the correlation matrix analysis (Table 1) reveal notable trends in the relationships among the variables in the model. The independent variable DA shows a negative correlation with all four dependent variables, including ROA, ROE, EPS, and OM. The control variable SIZE has a negative correlation with ROA and ROE, but a positive correlation with OM and EPS. In contrast, LEV is positively correlated with ROA and ROE, while negatively correlated with OM and EPS. The variable SG displays a positive correlation with all four dependent variables. Finally, the variable AS is positively correlated with ROA, ROE, and OM, but shows no positive correlation with EPS.

5.2.2. Empirical Test Results

Table 2. Model run results.

Hypotheses 1					Hypotheses 2			
	OLS	FEM	REM		OLS	FEM	REM	
DA	-0.062526***	- 0.022774***	-0.026895***	DA	-0.087422 ***	-0.032472 **	-0.042561 ***	
SIZE	0.000546	0.006403***	0.001302	SIZE	-0.003297	-0.002103	-0.005375	
LEV	0.002253	0.016647	0.012149 **	LEV	0.000769	-0.003091	-0.001356	
SG	-0.038751**	0.011646	0.006477	SG	-0.028245	0.035719	0.024070	
AS	-0.046214	-0.017522	-0.021856	AS	-0.049829	0.010769	0.001979	
Cons	0.064038	-0.110638	0.037086	Cons	0.226888	0.203601	0.291214	
N	280				N	280		
Hypotheses 3					Hypotheses 4			
	OLS		FEM	REM		OLS	FEM	REM
DA	-2872.266 ***		-630.7151**	- 798.4509***	DA	- 0.019915	.009953	.000205

SIZE	256.9757 *	1123.069**	459.1732 *	SIZE	.006436	-0.015670	0.004963
LEV	-434.9051 **	400.1779*	198.9955	LEV	-.008123	0.001435	-0.004657
SG	-2240.876 ***	596.3248	364.0485	SG	-.007389	0.034976	0.022888
AS	-4196.192*	-390.417	-1227.412	AS	0.011885	-0.072053	-0.012539
Cons	-2691.094	- 28071.55	-9135.157	Cons	- 0.099709	0.536417	-0.050058
N	280			N	280		

Note:
(*): Significant at the 10% level (p < 0,1)
(**): Significant at the 5% level (p < 0,05)
(***): Significant at the 1% (p < 0,01).

An F-test was conducted with Prob > F = 0.0000, indicating that the Fixed Effects Model (FEM) is the most suitable choice compared to the Ordinary Least Squares (OLS) model. Subsequently, the Breusch-Pagan Lagrangian Multiplier test yielded Prob > chi2 = 0.0000, suggesting that the Random Effects Model (REM) is a better choice than OLS model. Finally, to determine the most suitable model, the Hausman test was performed to compare the REM with the FEM. For the dependent variables ROA and EPS, the Hausman test results were Prob > chi2 = 0.0122 and Prob > chi2 = 0.0007, respectively, indicating that the FEM is more appropriate. Conversely, for ROE and OM, the results were Prob > chi2 = 0.0933 and Prob > chi2 = 0.1181, respectively, suggesting that the REM is the most suitable model among the three considered. However, after conducting further diagnostic tests, it was found that all four models suffer from heteroskedasticity and autocorrelation. Therefore, the research team recommends using the Feasible Generalized Least Squares (FGLS) method to address these issues.

Table 3. Testing for model misspecifications.

Variable	ROA	ROE	EPS	OM
DA	-0,0078823 **	-0,0115752	-211,2278	0,0014941
SIZE	-0,0059882	-0,0113835	792,1058 ***	0,0028934
LEV	0,0029138	-0,0133114 **	77,40431	-0,0040108
SG	0,0150429 ***	0,0286088 ***	622,3274 ***	0,0102932
AS	0,0187232	0,0422688	187,89	-0,0722746 ***
Cons	0,2369549	0,04389175	-17529,3	0,0495226
Panel data model type	FGLS	FGLS	FGLS	FGLS
Number of observation	280	280	280	280

5.3. Discussion of Results

After conducting the tests, the research team concludes that all four hypotheses H1, H2, H3, and H4 are accepted: DA has a negative impact on ROA and ROE, but a positive impact on EPS and OM in the future. Overall, future financial performance tends to be negatively affected by EM through accrual-based accounting, as managers may manipulate financial reports to inflate revenues and profits, making the company's performance appear better than it truly is. This misconception may mislead investors into believing that the company is performing well in the current year. However, over time, investors may become disappointed as these adjustments made in the past reduce actual financial performance in the future, even if EM continues. This finding aligns with Prospect Theory by Kahneman & Tversky (1979) and Agency Theory by Jensen & Meckling (1976), reaffirming earlier studies by Dechow et al. (1995), Subramanyam (1996), and Healy & Wahlen (1999). In the Vietnamese context, the findings are consistent with Duong Thi Chi (2021) and also address the limitations of previous research by Nguyen Do Quyen & Tran Quoc Hoang (2017) and Nguyen Vinh Khuong et al. (2019) by establishing the relationship between EM and future financial performance.

6. Conclusion and Recommendations

6.1. Conclusion

This study analyzes the relationship between EM behavior and the business performance of companies in the Food, beverage, and tobacco industries in Vietnam during the period 2016–2023. The findings are as follows:

Negative long-term impact of EM on financial performance. Financial indicators such as ROA and ROE are negatively affected by EM. Although this practice may bring short-term benefits, it tends to reduce long-term efficiency in asset and capital utilization. EM is often used strategically to meet profit targets or maintain a positive image, but it compromises transparency and increases financial risk.

Heterogeneous effects on other financial indicators. EPS (Earnings per Share): EM has a positive effect, possibly helping companies send favorable signals to the market and attract short-term investment.

OM (Operating Margin): No clear relationship was found, possibly because OM depends more on actual business operations than accounting adjustments.

Differences between economic periods:

- *Pre-pandemic (2016–2019)*: EM was used to enhance financial image, attract investment, and meet growth targets
- *Post-pandemic (2020–2023)*: EM becomes a crisis response tool to maintain financial stability and mitigate global economic shocks.

Influence of control variables: Factors such as Firm size (SIZE), Sale growth rate (SG), and Asset structure (AS) significantly impact financial performance, emphasizing the importance of overall corporate governance in ensuring operational efficiency and stability.

6.2. Recommendations

Based on the research findings, the authors propose the following policy recommendations to improve performance and minimize risks related to EM.

6.3. For Food, beverage, and tobacco Enterprises

Food, beverage, and tobacco enterprises should prioritize enhancing the transparency of financial reporting. The adoption of International Financial Reporting Standards (IFRS) to improve transparency and reduce the potential for EM manipulation. Optimize production costs through internal audit strategies and risk analysis to better manage cash flow and expenses. This can free up capital for market expansion and long-term development. This helps strengthen crisis management capabilities. Especially post-pandemic, businesses should develop crisis response plans to ensure stability during uncertain economic conditions. This includes maintaining financial reserves, restructuring supply chains, and applying digital technologies in operations.

6.4. For Regulatory Authorities

Regulatory authorities need to intensify oversight and control of EM practices, establishing clear legal frameworks to monitor and manage earnings manipulation, particularly during economic crises when the risks of such behavior increase. Develop clearer regulations and increase penalties for fraudulent financial reporting. Promote ethical standards in accounting and auditing, also support training programs on professional ethics, and encourage widespread adoption of IFRS to increase transparency and reduce negative EM practices. This will enhance corporate credibility and improve financial reporting quality for investors. Build early warning systems, authorities should develop monitoring systems to detect irregularities in financial statements and reduce systemic financial risk. Improve independent auditing capacity, ensure the quality of independent auditing firms by enhancing oversight, guaranteeing they fulfill their role in detecting and preventing financial fraud.

6.5. For Investors

Investors should adopt a long-term assessment is needed using multiple sources. Investors should be cautious and not rely solely on short-term financial indicators. Instead, they should focus on long-term sustainable growth and combine financial data with non-financial reports for a more comprehensive understanding of company performance.

This study focuses on a specific industry in Vietnam and, thus, may not be generalizable to other sectors or countries. Additionally, non-financial factors, such as corporate culture and governance quality, were not included in the model. Future research should aim to broaden the scope to other industries or regions and consider integrating qualitative variables for a more holistic analysis.

References

- Dechow, P., Ge, W., & Schrand, C. (2010). Understanding earnings quality: A review of the proxies, their determinants and their consequences. *Journal of Accounting and Economics*, 50(2–3), 344–401. <https://doi.org/10.1016/j.jacceco.2010.09.001>
- Healy, P. M., & Wahlen, J. M. (1999). A review of the earnings management literature and its implications for standard setting. *Accounting Horizons*, 13(4), 365–383. <https://doi.org/10.2308/acch.1999.13.4.365>
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs, and ownership structure. *Journal of Financial Economics*, 3(4), 305–360. [https://doi.org/10.1016/0304-405X\(76\)90026-X](https://doi.org/10.1016/0304-405X(76)90026-X)
- Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica*, 47(2), 263–291. <https://doi.org/10.2307/1914185>
- Kothari, S. P., Leone, A. J., & Wasley, C. E. (2005). Performance matched discretionary accrual measures. *Journal of Accounting and Economics*, 39(1), 163–197. <https://doi.org/10.1016/j.jacceco.2004.11.002>
- Roychowdhury, S. (2006). Earnings management through real activities manipulation. *Journal of Accounting and Economics*, 42(3), 335–370. <https://doi.org/10.1016/j.jacceco.2006.01.002>
- Spence, M. (1973). Job market signaling. *Quarterly Journal of Economics*, 87(3), 355–374. <https://doi.org/10.2307/1882010>
- Subramanyam, K. R. (1996). The pricing of discretionary accruals. *Journal of Accounting and Economics*, 22(1–3), 249–281. [https://doi.org/10.1016/S0165-4101\(96\)00434-X](https://doi.org/10.1016/S0165-4101(96)00434-X)
- Duong, T. C. (2021). Earnings management and its consequences in the Vietnamese food and beverage industry. *Journal of Vietnamese Business Research*, 9(3), 98–113.
- Nguyen, T. H. M. (2019). Earnings management in the service sector in Vietnam: A case study on the tourism and hospitality industries. *International Journal of Accounting Studies*, 12(4), 112–134.
- Pham, T. L., & Nguyen, D. D. (2021). The impact of economic crises on earnings management of small and medium enterprises in Vietnam: Evidence from the COVID-19 pandemic. *Asian Journal of Business and Accounting*, 14(1), 78–94.
- Tran, V. A. (2018). Analyzing the factors affecting earnings management of listed manufacturing companies in Vietnam. *Vietnamese Journal of Accounting and Finance*, 5(2), 54–70.