

## Influence of Cost Structure and Operational Efficiency on Tax Avoidance Behavior in Food and Beverage MSMEs

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### Abstract

This study aims to analyze the influence of cost structure and operational efficiency on tax avoidance among micro, small, and medium enterprises (MSMEs) in the food and beverage sector across several regions of Indonesia. This study employs a quantitative approach with a purposive sampling method. Data were collected through questionnaires distributed to MSME operators who met the predetermined sampling criteria. The data were analyzed using multiple linear regression. The results indicate that cost structure and operational efficiency simultaneously have a significant effect on tax avoidance. Partially, cost structure has a positive and significant effect on tax avoidance, indicating that MSMEs with higher cost structures tend to exhibit a greater tendency toward tax avoidance. In contrast, operational efficiency does not have a significant effect on tax avoidance. The research model explains a portion of the variation in tax avoidance, while the remaining variation is influenced by other factors outside the model. These findings indicate that cost structure is a more dominant factor in influencing tax avoidance tendencies among MSMEs in the food and beverage sector. Therefore, MSME operators are encouraged to improve cost recording practices, financial management, and their understanding of tax regulations to support tax compliance and sustainable business development.

**Keywords:** *Cost Structure; MSMEs; Operational Efficiency; Tax Avoidance*

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### Introduction

The increasing operational cost pressures faced by Micro, Small, and Medium Enterprises (MSMEs) in the food and beverage (F&B) sector have created significant challenges in maintaining profitability. Rising production costs and operational expenses can adversely affect the financial performance of MSMEs, resulting in a decline in net income Aldila (2025). Despite these challenges, MSMEs operating in the F&B sector have experienced substantial growth in recent years. MSMEs contribute more than 61% to Indonesia's Gross Domestic Product (GDP) and account for approximately 97% of total employment, highlighting their strategic role in fostering economic growth and enhancing societal welfare Slamet Hariyanto et al. (2026). According to data from the Ministry of Cooperatives and Micro, Small, and Medium Enterprises, Indonesia has approximately 62.9 million MSME units, representing 99.99% of all business entities, while large enterprises account for only 0.01% of the total business population Chuari (2026).

This rapid growth has been accompanied by increasingly intense competition among business actors, compelling MSMEs to continuously innovate and improve operational efficiency in order to sustain competitiveness and ensure business continuity Rahadian Dzaki et al. (2025). Alongside industrial development, competition within the F&B sector is no longer limited to local markets but has expanded to a broader global scale. This situation is largely driven by the increasing influx of imported products into the domestic market, which has intensified competitive pressures within the industry Sukmadiana & Faeni (2025).

Amid rising cost pressures and intensifying competition, MSMEs are required not only to focus on increasing sales but also to effectively manage cost components that may erode profitability. Consequently, cost structure and operational efficiency have become critical internal factors influencing business performance. Cost structure refers to the composition of expenditures incurred by MSMEs in conducting operational activities, whereas operational efficiency reflects the ability of enterprises to optimize available resources in generating maximum output at minimum cost.

One of the most significant expenses and a frequent concern for management is taxation. Taxes represent mandatory contributions imposed on both individuals and business entities by the government. As taxpayers, individuals and MSMEs are obligated to pay taxes based on their income, including salaries and net profits earned Laila & Rosyati (2025). Nevertheless, some MSMEs tend to perceive taxes as a financial burden that reduces profitability, leading them to seek strategies to minimize tax liabilities. Such perceptions may encourage management to engage in tax avoidance practices as an effort to maintain business profitability. Tax avoidance refers to legal strategies employed to reduce tax obligations within the framework of existing tax regulations.

Numerous studies have examined tax avoidance from various perspectives. Previous research indicates that profitability, leverage, and firm size significantly influence tax avoidance practices among manufacturing MSMEs operating in the food and beverage sector Anggie & Mahpudin (2024). Furthermore, Lusiawati & Melatnebar (2025) found that sales growth, return on assets, and capital intensity significantly affect tax avoidance among food and beverage manufacturing companies listed on the Indonesia Stock Exchange. These findings indirectly suggest that an enterprise's financial and operational characteristics may influence its ability to optimize tax-related expenses.

Despite the growing body of literature, inconsistencies remain regarding the determinants of tax avoidance, particularly those associated with cost structure

and operational efficiency. Moreover, empirical studies examining the influence of cost structure and operational efficiency on tax avoidance among Indonesian MSMEs in the food and beverage sector remain relatively limited. These factors are crucial because they are directly related to resource management and business sustainability. Therefore, this study aims to analyze the effect of cost structure and operational efficiency on tax avoidance among MSMEs operating in the food and beverage sector across several regions of Indonesia. The findings are expected to provide empirical evidence that contributes to the development of taxation research and serve as a valuable reference for MSME practitioners in managing their tax obligations more effectively.

## **Literature Review**

### **Agency Theory**

Agency Theory, proposed by Jensen et al. (1976), explains the contractual relationship between a principal and an agent, in which the principal delegates authority to the agent to manage resources and make decisions on the principal's behalf. Within this relationship, conflicts of interest frequently arise because each party seeks to maximize its own utility. Such conflicts may lead to opportunistic behavior that can potentially disadvantage one of the parties involved Jensen et al. (1976).

In the context of this study, the application of Agency Theory is relatively limited, considering that most Micro, Small, and Medium Enterprises (MSMEs) are directly managed by their owners, making the separation between principals and agents less explicit. Nevertheless, this theory remains relevant for explaining the divergence of interests between tax authorities, which expect a high level of tax compliance, and MSME owners, who seek to maintain business profitability through the management of various operational expenses, including tax obligations. These conflicting interests may influence taxpayers' behavior, particularly in decision-making related to tax avoidance practices.

### **Tax Compliance Theory**

Tax compliance refers to the attitudes and behaviors of taxpayers in fulfilling all tax obligations in accordance with prevailing tax laws and administrative regulations voluntarily and without coercion. Tax Compliance Theory suggests that taxpayer compliance is influenced by both intrinsic factors, such as awareness, tax knowledge, and moral responsibility, and extrinsic factors, including sanctions, monitoring mechanisms, the quality of services provided by tax authorities, and trust in government institutions. Prior studies also indicate that tax knowledge plays an important role in strengthening MSME tax compliance, while tax compliance research in Indonesia continues to emphasise the importance of awareness, institutional trust, and taxpayer education Kumala et

al. (2024); Prastiwi (2021). In the taxation context, taxpayer compliance is not solely driven by the threat of penalties but is also affected by the level of trust in government and perceptions of fairness within the existing tax system Saragih & Rusdi (2026).

This theory implies that taxpayers are more likely to comply with tax regulations when they perceive the taxation system as fair, transparent, and beneficial. Conversely, negative perceptions regarding taxation may encourage taxpayers to seek legal strategies to reduce their tax burden, including engaging in tax avoidance activities.

### **Tax Avoidance**

Tax avoidance refers to actions undertaken to legally minimize tax liabilities without violating applicable laws and regulations. It is considered a legitimate activity because it involves taking advantage of loopholes or weaknesses in tax laws and regulations to reduce the amount of tax payable. By lowering tax expenses, tax avoidance may increase the profitability of MSMEs and potentially enhance their value, which may be reflected in market performance Karimah & Taufiq (2016).

Tax avoidance differs from tax evasion, which involves the illegal concealment or misrepresentation of taxable income and is subject to legal sanctions. While tax avoidance operates within the boundaries of the law, tax evasion constitutes a violation of tax regulations and may result in administrative or criminal penalties Lauwrence et al. (2025).

Tax avoidance is often discussed alongside tax planning and tax evasion due to their common objective of reducing tax burdens. However, these concepts differ significantly in terms of their approach and legal implications. Tax planning represents a systematic and strategic effort to manage tax obligations by utilizing incentives, deductions, exemptions, and other provisions explicitly permitted under tax regulations. As such, tax planning is fully consistent with both the letter and spirit of tax laws. In contrast, tax avoidance seeks to minimize tax liabilities by exploiting gaps or ambiguities in tax regulations while remaining within legal boundaries. Although legally permissible, tax avoidance is frequently viewed as contrary to the underlying intent of tax legislation. Meanwhile, tax evasion involves deliberate violations of tax laws through actions such as concealing income, overstating expenses, or failing to report taxable transactions. Unlike tax avoidance and tax planning, tax evasion is an illegal practice that may result in administrative sanctions, financial penalties, or criminal prosecution Dwi Putri et al. (2025). Therefore, the key distinction among these concepts lies in the degree of compliance with tax regulations and the legal consequences arising from their implementation.

### **Taxation**

Taxes constitute the primary source of government revenue, as various governmental activities, including national development programs, largely depend on income generated from the taxation sector Ilhamsyah et al. (2016). According to Prof. Dr. H. Rochmat Soemitro, S.H., as cited in Sutedi (2022), taxation refers to the transfer of wealth from citizens to the state treasury to finance routine government expenditures, with any surplus allocated to public savings that serve as a major source of funding for public investment.

Based on this definition, taxes can be understood as mandatory contributions paid by individuals and business entities to the government in accordance with statutory regulations, without receiving direct compensation in return. Tax revenues are utilized to support government administration, infrastructure development, public services, and various other state expenditures.

For Micro, Small, and Medium Enterprises (MSMEs), taxes are often perceived as a financial burden that may reduce net profits. The higher the profits earned by MSMEs, the greater the tax obligations they are required to fulfil. Consequently, MSMEs frequently adopt various tax management strategies to minimise their tax burden while remaining compliant with applicable tax regulations. Cost structure is also an important consideration in MSME financial management because the composition of production costs, operating expenses, and break-even conditions can determine profitability and business sustainability Savitri et al. (2021); Rika Surianto Zalukhu et al. (2024). As a result, tax avoidance is often employed as one of the strategies to maintain profitability and ensure business sustainability.

Following the implementation of the Law on the Harmonization of Tax Regulations (Harmonisasi Peraturan Perpajakan/HPP Law), tax avoidance practices among MSMEs have attracted increasing attention. The rising tax burden, including the increase in the Value Added Tax (VAT) rate, has encouraged MSME owners to adopt various tax management strategies aimed at maintaining profitability and sustaining business operations Erinda et al. (2025).

### **Cost Structure**

Cost structure represents the overall composition of expenses incurred in the operation of a business model. It serves as an important indicator for measuring the level of expenditure borne by micro, small, and medium enterprises (MSMEs) in conducting their business operations (Savitri et al. (2021). The analysis of cost structure involves identifying and measuring the proportion of variable costs and fixed costs relative to total costs Rika Surianto Zalukhu et al. (2024).

Drawing upon Agency Theory, substantial operational cost pressures may reduce profitability and encourage business entities to adopt cost-management

strategies aimed at preserving financial performance. One such strategy may include tax avoidance practices. Empirical evidence from Aditya & Suparyati (2025) demonstrates that operational costs have a significant effect on tax avoidance among MSMEs. This finding suggests that higher operational cost burdens may influence managerial decisions regarding tax planning strategies to maintain profit stability. Accordingly, the cost structure of MSMEs is expected to have a significant influence on tax avoidance behavior. **H1:** Cost structure significantly influences tax avoidance among Micro, Small, and Medium Enterprises (MSMEs) operating in the food and beverage sector.

### Operational Efficiency

Operational efficiency refers to the ability of MSMEs to generate optimal output while utilizing the minimum amount of resources without compromising the quality of products or services provided Ariyandi (2025). According to Lestari (2022), operational efficiency is the capability of MSMEs to conduct their business activities in a manner that achieves the desired outcomes at the lowest possible cost, thereby maximizing profitability. Therefore, MSMEs are expected to continuously improve operational efficiency in order to enhance their financial performance and sustain business growth. Previous research conducted by Nurhasan (2023) found that operational efficiency has a significant influence on tax avoidance practices. The findings suggest that MSMEs with higher levels of operational efficiency tend to engage in tax management strategies aimed at maintaining profitability and improving overall business performance. This indicates that operational efficiency may be associated with the tax avoidance behavior of MSMEs. **H2:** Operational efficiency significantly influences tax avoidance among Micro, Small, and Medium Enterprises (MSMEs) operating in the food and beverage sector.

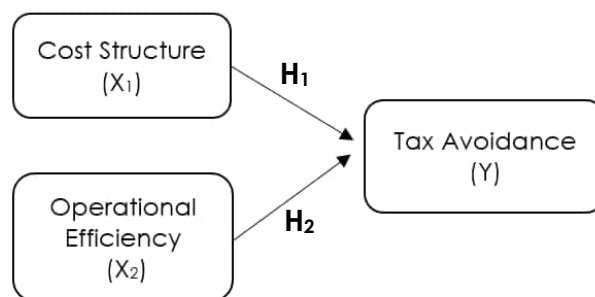


Figure 1 Conceptual Framework of the Study

Based on the theoretical review and previous empirical studies, the conceptual framework of this research illustrates the relationship between cost structure and operational efficiency on tax avoidance among MSMEs in the food and beverage sector. The relationships among the variables are described as follows:

1. Cost Structure ( $X_1$ )

Cost structure refers to the total costs incurred by MSMEs in conducting their operational activities. The magnitude of these costs may affect business profitability and encourage business owners to adopt tax avoidance strategies in order to reduce their tax burden.

2. Operational Efficiency ( $X_2$ )

Operational efficiency reflects the ability of MSMEs to utilize available resources optimally in order to generate maximum output at minimum cost. The level of operational efficiency achieved by MSMEs is expected to influence their financial condition and decision-making processes related to tax management and compliance.

3. Tax Avoidance ( $Y$ )

Tax avoidance refers to the legal practice of minimizing tax liabilities by taking advantage of provisions within the existing tax regulations without violating applicable laws and regulations.

4. Relationships Among Variables

This study assumes that cost structure and operational efficiency are internal factors that may influence tax avoidance practices among MSMEs in the food and beverage sector. Higher cost pressures borne by MSMEs are expected to increase the likelihood of business owners adopting tax avoidance strategies. Furthermore, the level of operational efficiency achieved by MSMEs is also presumed to affect managerial decisions regarding the management of tax obligations.

## Methods

### Research Location and Period

This study was conducted among Micro, Small, and Medium Enterprises (MSMEs) operating in the food and beverage sector across several regions in Indonesia. Data collection was carried out from May 26 to May 29, 2026, through the distribution of questionnaires to respondents who met the established research criteria.

### Research Type and Approach

This study employed a quantitative approach using a causal associative research design. The quantitative approach was selected because the study aims to examine the relationships and effects among variables through statistical analysis. Meanwhile, the causal associative design was utilized to investigate the effects of cost structure and operational efficiency on tax avoidance behavior among MSMEs in the food and beverage sector.

### Data Sources and Sampling Technique

The population of this study consisted of all MSMEs operating in the food and beverage sector across several regions in Indonesia. The sampling technique employed was purposive sampling, which involves selecting respondents based on specific criteria relevant to the research objectives. The criteria for respondents were as follows:

1. MSMEs operating in the food and beverage sector.
2. MSMEs that have been actively operating for at least one year.
3. Business owners or managers who possess adequate knowledge of the operational, financial, and taxation aspects of the business.
4. MSMEs that maintain basic financial records or business financial statements.
5. Willingness to participate as respondents and complete the questionnaire in full.

### Respondent Profile

The majority of respondents represented businesses that had been operating for one to five years. The most common types of businesses were ready-to-serve food and beverage enterprises, including cafés, restaurants, beverage outlets, and catering services. Most respondents reported monthly revenues ranging from IDR 5,000,000 to more than IDR 10,000,000. Furthermore, the majority of respondents had obtained a Taxpayer Identification Number (NPWP), indicating compliance with tax obligations.

### Data Collection Technique

Data were collected through the distribution of questionnaires to owners or managers of MSMEs in the food and beverage sector. The questionnaire was designed using a five-point Likert scale to measure respondents' perceptions regarding cost structure, operational efficiency, and tax avoidance. In addition, this study employed a literature review by examining relevant scientific journals, books, and previous studies related to cost structure, operational efficiency, and tax avoidance to strengthen the theoretical foundation of the research.

### Operationalization of Variables

The independent variables in this study were Cost Structure ( $X_1$ ) and Operational Efficiency ( $X_2$ ), while the dependent variable was Tax Avoidance ( $Y$ ). Each variable was measured using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Table 1 Operationalization of Variables

| No. | Variable                 | Indicator                          | Item Code | Statement                                                                                  |
|-----|--------------------------|------------------------------------|-----------|--------------------------------------------------------------------------------------------|
| 1   | Cost Structure ( $X_1$ ) | Business Cost Composition          | X1.1      | Raw material costs constitute the largest expenditure in my business operations.           |
| 2   |                          | Sensitivity to Cost Changes        | X1.2      | Increases in raw material costs affect the profitability of my business.                   |
| 3   |                          | Impact of Costs on Tax Obligations | X1.3      | The magnitude of business costs affects my business's ability to meet its tax obligations. |

|   |                                  |                                               |      |                                                                                          |
|---|----------------------------------|-----------------------------------------------|------|------------------------------------------------------------------------------------------|
| 4 | Operational Efficiency ( $X_2$ ) | <b>Knowledge of Operational Costs</b>         | X2.1 | I strive to reduce operational costs in order to maintain stable business profitability. |
| 5 |                                  | <b>Efficiency in Raw Material Utilization</b> | X2.2 | I utilize raw materials efficiently in my business operations.                           |
| 6 |                                  | <b>Optimization of Operational Costs</b>      | X2.3 | I continuously seek ways to optimize operational costs and improve cost efficiency.      |
| 7 | Tax Avoidance                    | <b>Efficient Tax Management</b>               | Y1.1 | I strive to manage my business tax payments efficiently.                                 |
| 8 |                                  | <b>Legal Utilization of Tax Regulations</b>   | Y1.2 | I utilize applicable tax regulations to legally reduce my business tax burden.           |
| 9 |                                  | <b>Perceptions Toward Tax Obligations</b>     | Y1.3 | Taxes are perceived as a financial burden that reduces my business profitability.        |

Source: Primary Data Processed by the Authors (2026).

### Research Ethics

This study was conducted in accordance with established research ethics principles. All respondents were provided with a clear explanation of the research objectives and were assured of the confidentiality of their identities and the information they provided. Participation in the study was entirely voluntary, and no respondent was subjected to any form of coercion. Given that tax avoidance is a sensitive topic related to taxation, all data collected were used solely for academic purposes and analyzed in aggregate form. The identities of respondents and the businesses involved were not disclosed at any stage of the research process.

### Data Analysis Technique

This study employed a quantitative data analysis approach using the Statistical Package for the Social Sciences (SPSS) software. Prior to hypothesis testing, data quality tests were conducted, including validity and reliability tests, to ensure that the research instruments were appropriate and reliable for data collection. Subsequently, classical assumption tests were performed, consisting of normality, multicollinearity, and heteroscedasticity tests, to verify that the regression model satisfied the required statistical assumptions.

Hypothesis testing was carried out using the partial test (t-test) to examine the effect of each independent variable on the dependent variable, and the simultaneous test (F-test) to assess the combined effect of the independent

variables on tax avoidance. The multiple linear regression model employed in this study is expressed as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + e$$

Note:

Y = Tax Avoidance

$\beta_1$  = Regression coefficient of Cost Structure

$\alpha$  = Constant

$\beta_2$  = Regression coefficient of Operational Efficiency

$X_1$  = Cost Structure

e = Error term

$X_2$  = Operational Efficiency

## Result and Discussion

### Profile of Respondents

The respondents in this study consisted of MSME owners and managers operating in the food and beverage sector who met the predetermined sampling criteria. To provide an overview of the respondents' profiles, their characteristics were classified based on several categories, including type of business, length of business operation, and average monthly revenue.

The profile of respondents indicates that the majority of MSMEs operate in the food business sector, accounting for 27 respondents (52.9%). This is followed by beverage businesses with 10 respondents (19.6%) and bakery and pastry businesses with 9 respondents (17.6%). These findings suggest that the food sector dominates the MSME landscape represented in this study.

In terms of business age, most respondents have been operating their businesses for less than one year, comprising 18 respondents (35.3%), followed closely by those operating for 1–3 years with 17 respondents (33.3%). Meanwhile, businesses operating for more than six years account for 10 respondents (19.6%), whereas only 6 respondents (11.8%) have been operating for 4–6 years. This distribution indicates that the majority of the sampled MSMEs are relatively young enterprises that are still in the early stages of business development.

Regarding monthly revenue, the largest proportion of respondents reported earnings below IDR 5,000,000 per month, representing 20 respondents (39.2%). This was followed by respondents earning between IDR 5,000,000 and IDR 10,000,000 per month, totaling 19 respondents (37.3%). Meanwhile, 12 respondents (23.5%) reported monthly revenues exceeding IDR 10,000,000. These findings indicate that most MSMEs in the sample operate on a relatively small scale, as reflected by their monthly revenue levels.

### Descriptive Statistics

Descriptive statistical analysis was conducted to provide an overview of the characteristics of the research variables, including Cost Structure ( $X_1$ ), Operational Efficiency ( $X_2$ ), and Tax Avoidance ( $Y$ ). The descriptive statistics include the minimum value, maximum value, mean, and standard deviation of each variable. The results of the descriptive statistical analysis are presented in Table 4.

Table 2 Descriptive Statistics

| Variable               | Mean | Median | Mode              | Std. Deviation |
|------------------------|------|--------|-------------------|----------------|
| Cost Structure         | 13.4 | 14     | 14.0 <sup>a</sup> | 1.56           |
| Operational Efficiency | 12.7 | 13     | 13.0              | 1.99           |
| Tax Avoidance          | 16.9 | 17     | 19.0              | 2.49           |

Source: Primary Data Processed by the Authors (2026)

Based on Table 4, the Cost Structure variable has a mean value of 13.4, with a median of 14 and a mode of 14. These results indicate that most respondents provided responses corresponding to a score of 14. The standard deviation of 1.56 suggests that respondents' answers regarding the Cost Structure variable were relatively homogeneous and exhibited limited variability. The Operational Efficiency variable has a mean value of 12.7, a median of 13, and a mode of 13. These findings indicate that the majority of respondents assessed this variable at a score of 13. The standard deviation of 1.99 reflects a moderate degree of variation in respondents' responses; however, the differences remain relatively small.

For the Tax Avoidance variable, the mean value was 16.9, with a median of 17 and a mode of 19. This indicates that the most frequently occurring score was 19. The standard deviation of 2.49 suggests that responses related to Tax Avoidance were more diverse compared to those of the other two variables. Overall, all three variables exhibit standard deviation values that are lower than their respective mean values. This indicates that the data are relatively well distributed and do not demonstrate excessive variability. Therefore, the dataset is considered suitable for further statistical analysis.

### Validity and Reliability Test

The validity and reliability tests were conducted to evaluate the quality of the research instrument. The validity test was performed to determine whether each questionnaire item accurately measures the intended construct. An item is considered valid if its calculated  $r$ -value exceeds the critical  $r$ -value. Meanwhile, the reliability test was conducted to determine the consistency of the research instrument in measuring the variables under investigation. An instrument is considered reliable if it produces consistent measurement results when

administered under relatively similar conditions. In this study, reliability was assessed using the Cronbach's Alpha method.

*Table 3 Validity and Reliability Test Results*

| Variabel                                 | Item | Calculated r-value | Critical r-value | Cronbach's Alpha | Conclusion |
|------------------------------------------|------|--------------------|------------------|------------------|------------|
| Cost Structure (X <sub>1</sub> )         | X1.1 | .823               | .276             | .717             | Valid      |
|                                          | X1.2 | .705               | .276             |                  | Valid      |
|                                          | X1.3 | .752               | .276             |                  | Valid      |
| Operational Efficiency (X <sub>2</sub> ) | X2.1 | .742               | .276             | .601             | Valid      |
|                                          | X2.2 | .782               | .276             |                  | Valid      |
|                                          | X2.3 | .627               | .276             |                  | Valid      |
| Tax Avoidance (Y)                        | Y1.1 | .755               | .276             | .720             | Valid      |
|                                          | Y1.2 | .822               | .276             |                  | Valid      |
|                                          | Y1.3 | .703               | .276             |                  | Valid      |

Source: Primary Data Processed by the Authors (2026)

As presented in Table 3, all questionnaire items measuring the Cost Structure (X<sub>1</sub>), Operational Efficiency (X<sub>2</sub>), and Tax Avoidance (Y) variables have calculated r-values exceeding the critical r-value of 0.276, indicating that all items satisfy the validity criterion. The corrected item-total correlation coefficients ranged from 0.705 to 0.823 for the Cost Structure variable, 0.627 to 0.782 for the Operational Efficiency variable, and 0.703 to 0.822 for the Tax Avoidance variable. Furthermore, the Cronbach's Alpha values for the Cost Structure, Operational Efficiency, and Tax Avoidance variables are 0.717, 0.601, and 0.720, respectively. Since all Cronbach's Alpha values exceed the minimum acceptable threshold of 0.60, the research instrument is considered reliable. Overall, these findings confirm that the questionnaire is both valid and reliable and is therefore suitable for subsequent statistical analyses.

### Multiple Linear Regression Analysis

Multiple linear regression analysis is a statistical method used to examine the effect of Cost Structure (X<sub>1</sub>) and Operational Efficiency (X<sub>2</sub>) on Tax Avoidance (Y). The following presents the results of the multiple linear regression analysis:

### Simultaneous Significance Test (F-Test)

*Table 4 Simultaneous Significance Test (F-Test)*

| ANOVA <sup>a</sup> |                |    |             |       |                   |
|--------------------|----------------|----|-------------|-------|-------------------|
| Model              | Sum of Squares | df | Mean Square | F     | Sig.              |
| 1 Regression       | 28.112         | 2  | 14.056      | 6.313 | .004 <sup>b</sup> |
| Residual           | 106.869        | 48 | 2.226       |       |                   |
| Total              | 134.980        | 50 |             |       |                   |

Based on the ANOVA results presented in Table 9, the calculated F-value is 6.313 with a significance level of 0.004. This significance value is lower than the predetermined significance level of 0.05 ( $0.004 < 0.05$ ). Therefore, it can be concluded that Cost Structure and Operational Efficiency simultaneously have a significant effect on Tax Avoidance.

These findings indicate that the regression model developed in this study is able to explain the relationship between the independent variables and the dependent variable. Accordingly, the variation in Tax Avoidance is not only influenced by a single variable, but also by the combined effect of Cost Structure and Operational Efficiency included in the research model. Thus, the third hypothesis (H3) is accepted.

### Individual Significance Test (t-Test)

Table 5 Individual Significance Test (t-Test)

| Coefficients <sup>a</sup>                |                 |                        |                                |       |       |
|------------------------------------------|-----------------|------------------------|--------------------------------|-------|-------|
| Model                                    | Unstandardize B | Coefficient Std. Error | Standardized Coefficients Beta | t     | Sig.  |
| (Constant)                               | 6.837           | 2.139                  |                                | 3.196 | .002  |
| 1 Cost Structure (X <sub>1</sub> )       | .484            | .136                   | .459                           | 3.546 | <.001 |
| Operational Efficiency (X <sub>2</sub> ) | -.025           | .107                   | -.030                          | -.232 | .817  |
| a. Dependent Variable: Tax Avoidance     |                 |                        |                                |       |       |

Source: Primary Data Processed by the Authors (2026)

Based on the results presented in Table 10, several conclusions can be drawn as follows:

- Based on the multiple linear regression analysis, the following regression equation was obtained:  

$$Y = 6.837 + 0.484X_1 - 0.025X_2$$
- The equation indicates that the constant value is 6.837. This means that if the variables Cost Structure (X<sub>1</sub>) and Operational Efficiency (X<sub>2</sub>) are assumed to be constant or equal to zero, the value of Tax Avoidance (Y) is 6.837. The regression coefficient of Cost Structure (X<sub>1</sub>), which is 0.484, indicates a positive relationship with Tax Avoidance, whereas the regression coefficient of Operational Efficiency (X<sub>2</sub>), which is -0.025, indicates a negative relationship with Tax Avoidance.
- The test of the effect of Cost Structure (X<sub>1</sub>) on Tax Avoidance (Y) shows a regression coefficient of 0.484 with a significance value of < 0.001. Since the significance value is lower than 0.05 ( $< 0.001 < 0.05$ ), it can be concluded that Cost Structure (X<sub>1</sub>) has a significant effect on Tax Avoidance (Y). The positive coefficient indicates that the relationship between the two variables is unidirectional, meaning that the higher the company's Cost Structure, the higher the tendency for Tax Avoidance. Therefore, the first hypothesis (H1) is accepted.

- d. The test of the effect of Operational Efficiency ( $X_2$ ) on Tax Avoidance ( $Y$ ) shows a regression coefficient of  $-0.025$  with a significance value of  $0.817$ . Since the significance value is greater than  $0.05$  ( $0.817 > 0.05$ ), it can be concluded that Operational Efficiency ( $X_2$ ) does not have a significant effect on Tax Avoidance ( $Y$ ). Although the coefficient indicates a negative relationship, it is not statistically significant; therefore, changes in Operational Efficiency cannot meaningfully explain changes in Tax Avoidance. Accordingly, the second hypothesis ( $H_2$ ) is rejected.

Based on the t-test results, it can be concluded that Cost Structure is the only variable that has a significant effect on Tax Avoidance, while Operational Efficiency does not show a significant effect. These findings indicate that companies' tendency to engage in Tax Avoidance is more strongly influenced by Cost Structure conditions than by their level of Operational Efficiency.

### Coefficient of Determination Test

The coefficient of determination is a measure used to determine the extent to which the independent variables, namely Cost Structure ( $X_1$ ) and Operational Efficiency ( $X_2$ ), contribute to the dependent variable, Tax Avoidance ( $Y$ ). The value of the coefficient of determination is presented in Table below.

Table 6 Coefficient of Determination Test

| Model Summary                                                  |                   |          |                   |                            |
|----------------------------------------------------------------|-------------------|----------|-------------------|----------------------------|
| Model                                                          | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
| 1                                                              | .456 <sup>a</sup> | .208     | .175              | 1.492                      |
| Predictors: (Constant), Operational Efficiency, Cost Structure |                   |          |                   |                            |

Based on the Model Summary, the R Square value is  $0.208$  or  $20.8\%$ . This indicates that the variables Cost Structure and Operational Efficiency are able to explain  $20.8\%$  of the variation in Tax Avoidance, while the remaining  $79.2\%$  is explained by other factors outside the research model that were not included in this study. The Adjusted R Square value of  $0.175$  indicates that after adjusting for the number of independent variables used, the model's explanatory power for Tax Avoidance is  $17.5\%$ .

### Normality Assumption Test

The normality test aims to determine whether the residual data in the regression model are normally distributed. A good regression model is one in which the residuals are normally distributed. In this study, the normality test was conducted using the Kolmogorov–Smirnov (K-S) method. Based on the normality test results using the Kolmogorov–Smirnov method, the Kolmogorov–Smirnov statistic value is  $0.159$  with a significance value (p-value) of  $0.150$ . This significance value is greater than the predetermined significance level of  $0.05$  ( $0.150 > 0.05$ ). Therefore, it can be concluded that the residuals in the regression model are normally distributed.

### **Heteroscedasticity Assumption Test**

The heteroscedasticity test aims to determine whether there is inequality in the variance of residuals across observations in the regression model. A good regression model is one that does not exhibit heteroscedasticity. In this study, the heteroscedasticity test was conducted using the Glejser test. Based on the Glejser test results, the Cost Structure variable ( $X_1$ ) has a significance value of 0.710, while the Operational Efficiency variable ( $X_2$ ) has a significance value of 0.731. Both significance values are greater than 0.05. Therefore, it can be concluded that the independent variables do not have a significant effect on the absolute residuals. These results indicate that the regression model does not exhibit heteroscedasticity. In other words, the variance of the residuals in the regression model is relatively constant across all levels of observation. Thus, the heteroscedasticity assumption in this study has been satisfied, meaning that the regression model is appropriate for further analysis and hypothesis testing.

### **Multicollinearity Assumption Test**

The multicollinearity test aims to determine whether there is a high correlation among the independent variables in the regression model. A good regression model is one that does not exhibit multicollinearity symptoms. This test is conducted by examining the Tolerance and Variance Inflation Factor (VIF) values. It is known that the VIF value of the independent variables included in the model is 1.02 ( $< 10$ ). Therefore, it can be concluded that there is no multicollinearity problem in the data, or in other words, the multicollinearity assumption has been satisfied.

### **Discussion**

#### **Cost Structure and Tax Avoidance**

The findings indicate that Cost Structure has a positive and statistically significant effect on Tax Avoidance among MSMEs in the food and beverage sector. This result suggests that higher operating costs are associated with a greater tendency among business owners to engage in tax avoidance practices. As operating expenses increase, the profit margin available to business owners may decline, creating greater pressure to manage overall expenditures, including tax-related costs.

This relationship may arise because MSMEs generally operate with relatively limited financial resources and narrow profit margins. In such circumstances, increases in production, labor, raw material, distribution, and other operating costs may reduce the financial flexibility of the business. Business owners may therefore become more motivated to identify available tax-planning alternatives within the applicable regulatory framework to reduce their tax burden and preserve business profitability. Accordingly, cost pressure may serve

as an economic consideration that shapes taxation decisions among MSME owners.

From the perspective of Agency Theory, the finding can be interpreted through the economic interests of decision makers in maintaining favorable business outcomes. When operating costs increase and reduce expected profits, managers or business owners have stronger incentives to manage expenses that can affect after-tax income. Tax avoidance may therefore be viewed as one mechanism through which decision makers attempt to minimize tax liabilities while remaining within the boundaries of applicable tax regulations. In the MSME context, however, such decisions are often made directly by owner-managers, making the economic motivation to maintain profitability particularly relevant.

The finding is consistent with Aditya and Suparyati (2025), who reported that operational costs influence tax avoidance behavior. Their study indicates that increasing cost burdens may encourage management to undertake tax-planning practices as an effort to maintain profit stability. The present finding therefore reinforces the argument that internal financial conditions, particularly the structure and magnitude of business costs, can play an important role in shaping tax-related decisions.

From a practical perspective, the result highlights the importance of systematic cost management and accurate financial recording among MSMEs. Proper classification and documentation of business expenses can help owners evaluate operational efficiency while ensuring that deductible expenses and tax obligations are calculated appropriately. Improving tax literacy is equally important so that MSME owners can distinguish legitimate tax planning from practices that may create compliance risks. Effective cost management should therefore be accompanied by adequate knowledge of taxation to support both financial sustainability and regulatory compliance.

### **Operational Efficiency and Tax Avoidance**

In contrast, Operational Efficiency does not have a statistically significant effect on Tax Avoidance among MSMEs in the food and beverage sector. This finding suggests that differences in the ability of MSMEs to utilize their operational resources efficiently do not necessarily translate into differences in tax avoidance behavior. Operational efficiency may improve the way businesses manage inputs, processes, and outputs, but such improvements appear insufficient to directly shape taxation decisions.

One possible explanation is that MSME owners tend to prioritize immediate operational concerns, such as maintaining sales, controlling production costs, retaining customers, managing cash flow, and responding to market competition. Consequently, improvements in operational efficiency may

primarily be directed toward sustaining day-to-day business activities rather than toward developing more sophisticated tax-management strategies. An MSME can therefore operate efficiently without necessarily having the knowledge, motivation, or capability to engage in tax avoidance.

The absence of a significant relationship may also reflect the relatively limited taxation knowledge and administrative resources available to many MSMEs. Operational capability and taxation capability represent different managerial domains. A business owner may be effective in managing inventory, labor, production processes, or customer service but still possess limited knowledge of tax regulations and tax-planning alternatives. Consequently, tax avoidance decisions may depend more strongly on other factors, such as profitability, financial pressure, tax literacy, perceptions of the tax system, and access to professional tax advice.

This finding differs from Nurhasan (2023), who found that efficiency affects tax avoidance. The difference may be explained by the distinct characteristics of the research settings. Nurhasan (2023) examined the banking sector, where financial reporting, internal control, taxation systems, and managerial structures are generally more formalized and sophisticated. In contrast, MSMEs in the food and beverage sector typically operate on a smaller scale, with simpler organizational structures and more limited financial and taxation resources. These contextual differences may explain why operational efficiency does not translate into tax avoidance behavior in the present study.

The finding implies that improvements in operational efficiency alone may not be sufficient to influence the tax behavior of MSMEs. Greater attention should therefore be directed toward strengthening tax literacy, record-keeping practices, and access to reliable taxation information. Training, tax education, and professional assistance may help MSME owners integrate efficient business management with appropriate tax compliance. In this way, improvements in operational performance can be accompanied by responsible taxation practices that support long-term business sustainability.

### **Conclusion and Recommendations**

This study examined the effects of Cost Structure and Operational Efficiency on Tax Avoidance among MSMEs in the food and beverage sector. The findings demonstrate that Cost Structure has a positive and statistically significant effect on Tax Avoidance, indicating that greater cost pressures are associated with a stronger tendency among MSME owners to undertake tax-management practices. In contrast, Operational Efficiency has no statistically significant effect on Tax Avoidance, suggesting that improvements in operational efficiency do not necessarily translate into changes in tax avoidance behavior.

Collectively, Cost Structure and Operational Efficiency contribute to explaining variations in Tax Avoidance. However, the coefficient of determination ( $R^2$ ) of 20.8% indicates that the model has relatively limited explanatory power, with the remaining 79.2% of the variance attributable to factors not included in the model and other unexplained variation. The study is also limited by its focus on food and beverage MSMEs and its reliance on self-reported questionnaire data. Given the sensitive nature of tax avoidance, respondents' answers may also be affected by subjective perceptions or social desirability.

Based on these findings, MSME owners should strengthen cost management and maintain accurate financial records to support more appropriate tax-related decisions and compliance with applicable regulations. Government agencies and other relevant stakeholders should also expand tax education, advisory services, and accessible assistance programs to improve MSMEs' tax literacy and compliance. Future research should consider additional determinants of tax avoidance, such as profitability, firm size, leverage, tax knowledge, tax morale, and perceptions of tax enforcement. Larger samples, broader geographical coverage, and alternative data sources may also provide a more comprehensive understanding of tax avoidance behavior among MSMEs.

### **Generative AI Use Statement**

Generative AI was used solely to improve the language, clarity, and readability of the manuscript. It was not used to collect or modify respondent data, perform the statistical analysis, test the hypotheses, or determine the research findings. All statistical results, interpretations, references, and conclusions were independently reviewed and verified by the authors.

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