The Effect of Capital Structure, Financial Literacy and Technology Adoption on Financial Reporting Efficiency in the Indonesian Food & Beverage Industry

Stevanus Thanne¹, Wa Ariadi², Ahadi Rerung³
Sekolah Tinggi Ilmu Ekonomi Port Numbay Jayapura¹²³
stevthane@gmail.com¹, waariadi@gmail.com², adrrg15473@gmail.com

ABSTRACT
This study examines the influence of capital structure, financial literacy, and technology adoption on the efficiency of financial reporting in the Indonesian Food & Beverage (F&B) sector. Using survey questionnaires and data analysis with SPSS version 26, a sample of 150 enterprises from different industrial groups was analyzed. Descriptive statistics, correlation analysis, multiple regression analysis, and mediation analysis were performed to investigate the relationships among the research variables. The findings show important positive connections between levels of financial knowledge, practices of adopting technology, and efficiency in financial reporting. However, metrics related to capital structure did not have a significant impact. Mediation research shows that financial literacy levels partly mediate the connection between technology use and financial reporting efficiency. These results highlight the significance of knowledge and skills of individuals and the technical systems in improving the way financial information is reported in the Indonesian food and beverage industry.

INTRODUCTION
Financial reporting has a significant role in encouraging openness and accountability across several sectors, allowing stakeholders like investors and consumers to make well-informed choices. Financial statements offer significant details regarding an organization's financial status, performance, and future possibilities, enabling users to evaluate their dependability and competitiveness (Kholmi, 2022; Будаі & Деніх, 2022). The level of financial reporting is affected by globally recognized standards and accounting rules that are relevant in a country, but also relates to the personnel in charge of creating and overseeing the reports (Baker & Wallage, 2000). Financial statements are used for in-depth analysis, enabling users to comprehend the factors contributing to an organization's achievements and setbacks and make prompt decisions (Gorshkova et al., 2022). Moreover, financial reporting encompasses more than just financial indicators. It can also encompass social, environmental, and economic indicators. This broader scope aims to improve comprehension of value generation and impact management decision-making (Osadchy et al., 2018). In general, financial reporting is a valuable instrument for enhancing the effectiveness of corporate choices and promoting confidence among stakeholders.

The food industry is a complicated and ever-changing subject that includes several components like consumer opinions, cultural customs, regional differences, and technical progress. Studies have indicated that customers' openness to trying plant-based foods is affected by factors including sustainable sourcing and personal advantages (Rombach & Dean, 2023). Food environments, which encompass food production, processing, and consumption, are influenced by cultural and taxonomic variety, as demonstrated in case studies conducted in the Lower Volga and the
Republic of Peru (dos Santos et al., 2023). The concept of "food landscape" is employed in several ways, such as spatial analysis, social and cultural perspectives, behavioral studies, and systemic thinking. These approaches all seek to tackle concerns related to public health, social fairness, and sustainability (Vonthron et al., 2020). Food also has a significant influence in landscape development, linking producers and consumers, urban and rural areas, and inhabitants and travelers (Bianconi et al., 2019). Furthermore, the future of the food industry depends on the interaction between agriculture, biotechnology, and information technology, which has the potential to create a sustainable and socially inclusive bioagrifood sector (Gokhberg et al., 2021).

The food and drink sector in Indonesia is important for the country's economy, serving both local and international markets. Robust financial reporting systems are essential for this sector, as they boost investor trust, enable capital acquisition, and foster confidence among consumers, suppliers, and regulators (Astrina et al., 2023; Jakataofik et al., 2023; Novita et al., 2023; Werang et al., 2023). Effective financial reporting is necessary for the industry's development and advancement, guaranteeing openness and responsibility in business operations (Zuhroh & Utiyati, 2019). It allows organizations to showcase their ability to generate profits, manage their cash flow, and handle their debt, all of which impact their overall value. In addition, factors such as financial stability, external pressure, financial targets, and monitoring might influence the occurrence of misleading financial statements in the business. In general, strong financial reporting methods are important for the food and beverage business in Indonesia to succeed and keep its place as a significant sector in the economy.

In light of this context, this study seeks to examine three main factors that could influence the effectiveness of financial reporting in the food and beverage industry in Indonesia: the way capital is structured, the level of financial knowledge, and the usage of technology. Business capital structure decisions have a notable effect on financial reporting procedures and overall company performance (Vătavu, 2015). Comprehending this connection is crucial for assessing a company's stability, risk, and potential for growth One, two, three, four, five (Javed et al., 2014). Several studies have examined the connection between capital structure and company performance from different angles, such as the calculation models employed, representative industries, and variations among nations (Гринюк et al., 2023). The results of these research indicate that using various models and analytical perspectives can result in varying conclusions about the connection between capital structure and company success. In addition, the influence of capital structure on financial performance may vary according on the specific measures employed, such as return on assets (ROA) and return on equity (ROE) (Dodoo et al., 2023). In general, it is important to comprehend the influence of capital structure on the effectiveness of financial reporting in order to evaluate a company's financial well-being and future potential (Boussiki, 2023).

Literature Review

The literature on financial reporting efficiency in the Indonesian Food & Beverage (F&B) industry offers excellent insights into the various aspects that influence this important part of corporate operations. This section combines previous studies and theoretical frameworks related to capital structure, financial literacy, technology adoption, and how these affect financial reporting in the Indonesian food and beverage industry.
1. Capital Structure and Financial Reporting Efficiency

The connection between capital structure and financial reporting efficiency has been extensively studied in academic literature. Conventional ideas like the Trade-off Theory and the Pecking Order Theory present conflicting viewpoints on how companies decide on the best combination of debt and equity financing (Tamara et al., 2022; Гринюк et al., 2023). In the Indonesian food and beverage industry, researchers have conducted empirical studies to analyze how decisions about capital structure affect the quality of financial reporting. These studies have found that companies with higher levels of debt tend to have lower reporting quality because of the increased financial risk and agency costs involved (Harymawan, 2020; Tamara et al., 2022).

In addition, the distinct features of the Indonesian capital market, such as legal frameworks, market structure, and investor behavior, could impact companies' decisions on capital structure and subsequent financial reporting methods (Ghardallou, 2022; Octavia et al., 2021). For example, the high number of family-owned businesses and the strong reliance on bank financing in Indonesia's F&B industry can influence companies' tendency to adopt conservative financial reporting in order to retain positive relationships with lenders and stakeholders.

2. Financial Literacy and Financial Reporting Efficiency

In order to promote accurate and honest financial processes in Indonesia and increase the efficiency of financial reporting, financial literacy is essential. Raising financial literacy among staff members, managers, and executives is critical to guaranteeing that stakeholders can understand financial data, cultivating an environment of responsibility, and adhering to reporting requirements. The Indonesian financial sector benefits greatly from the promotion of financial literacy through educational institutions, professional training programs, and corporate governance systems (Febriyanti & Muazaroh, 2023; Saragih et al., 2023). Furthermore, more research should be done on the contributions made by academic institutions, professional training programs, and corporate governance practices to the advancement of financial literacy in the Indonesian food and beverage sector. By effectively disseminating financial knowledge and skills, stakeholders can reduce risks, make informed decisions, and maintain the integrity of financial reporting procedures.

3. Technology Adoption and Financial Reporting Efficiency

The way businesses gather, examine, and distribute financial data has changed dramatically as a result of the incorporation of technology into financial reporting procedures. Within the Indonesian financial sector, cloud computing, data analytics, and blockchain technologies present hitherto unseen possibilities for streamlining reporting procedures, improving data accuracy, and strengthening decision-making skills. Research has indicated that the application of big data analytics can raise a company's financial performance and improve the quality of its financial reporting (Winoto et al., 2023). There is a lot of room for growth and development in Indonesia's finance and accounting sectors when Internet of Things (IoT) and cloud computing technologies are adopted, however doing so will need investing in a competent workforce and managing associated risks and obstacles (Fahlevi & Purnomo, 2023). In addition, the process of digitizing financial reporting for micro, small, and medium-sized firms (MSMEs) has the potential to facilitate access to financial services. However, there are some obstacles that must be addressed, including inadequate
resources, a lack of comprehension, and technological difficulties (Susilowati et al., 2023). Although big data, cloud computing, and blockchain technology have all been used consistently to increase corporate productivity and efficiency, concerns about data security and excessive prices still exist (Fahmi et al., 2023). But issues like data privacy, cybersecurity threats, and the requirement for trained workers to manage cutting-edge digital platforms highlight how crucial it is to approach technology adoption from all angles.

4. Research Gap Identification

There is still a knowledge vacuum regarding the combined effects of capital structure, financial literacy, and technology adoption on reporting practices, despite the fact that the body of current literature offers insightful information about the various elements influencing financial reporting efficiency within the Indonesian F&B industry. Furthermore, further research is required to clarify the subtleties of these linkages and their implications for industry stakeholders, as there has been little empirical research that focuses especially on the Indonesian setting.

H1: In the Indonesian food and beverage (F&B) business, capital structure and financial reporting efficiency are significantly correlated. Companies that use more debt have poorer reporting efficiency because of higher financial risk and agency expenses.

H2: Firms with greater levels of financial literacy demonstrate more accurate, timely, and transparent reporting methods. Financial literacy levels favorably influence financial reporting efficiency in the Indonesian F&B business.

H3: The financial reporting efficiency of the Indonesian food and beverage (F&B) business is positively impacted by technology adoption practices. Companies that use cutting-edge technologies, like cloud-based platforms, data analytics tools, and accounting software, report more efficiently.

H4: In the Indonesian F&B sector, financial literacy levels operate as a mediator in the relationship between technology adoption practices and the effectiveness of financial reporting. Companies with higher levels of financial literacy gain more from technology adoption when it comes to improving reporting methods.

METHOD

1. Design and Sample

The impact of capital structure, financial literacy, and technology adoption on the efficiency of financial reporting in the Indonesian food and beverage (F&B) business is investigated in this study using a thorough methodology. The methodology includes methods for selecting samples, designing survey questions, collecting data, and analyzing data using IBM SPSS Statistics version 26. Companies that are involved in the F&B sector in Indonesia, such as distributors, retailers, and manufacturers, are among the target demographic. In order to guarantee representation across various industry segments, stratified random sampling takes into account variables such as company size, location, and business model. This study tries to offer thorough insights into the topic matter, with a sample size of 150 organizations chosen based on factors such as company size, geographic location, and business type.

2. Survey Questionnaire Design

The following variables will be the focus of a carefully crafted survey questionnaire that will collect pertinent data:
a. Capital structure metrics include the debt-to-equity ratio, funding sources, and leverage ratio.


c. Technology Adoption Practices: Cloud-based platforms, data analytics tools, and accounting software are used for financial reporting.


Multiple-choice, open-ended, and Likert scale items will all be included in the questionnaire to elicit quantitative and qualitative information from respondents. The survey instrument will be carefully examined to make sure it is comprehensive, relevant, and easy to understand.

3. Data Collection Procedures

The study will employ a methodical strategy to gather data, leveraging online and offline means to connect with the chosen participants in the designated companies. The survey will be conducted by email, internet platforms, and physical distribution to guarantee maximum participation and representation from all industry segments.

The questionnaire will be accompanied by clear instructions to help responders provide correct and pertinent information. Respondents will be guaranteed the confidentiality and privacy of their answers, and participation in the survey will be entirely optional.

4. Data Analysis Techniques

For the purpose of this study, IBM SPSS Statistics version 26 will be used for data analysis, and several quantitative approaches will be applied. Among these methods is descriptive analysis, which uses computations of mean, median, standard deviation, and frequency distributions to provide an overview of the sample's demographics and important variables. Furthermore, the study will employ inferential analysis techniques, namely correlation analysis, chi-square tests, and multiple regression analysis, to examine the associations between independent variables, namely capital structure, financial literacy, and technology adoption, and the dependent variable, financial reporting efficiency. The significance of these relationships will be assessed through hypothesis testing. Moreover, sophisticated methods such as Sobel tests will be employed to perform the mediation analysis.

RESULTS AND DISCUSSION

1. Results and Discussion

The quantitative analysis that was done to look into how capital structure, financial literacy, and technology adoption affect the efficiency of financial reporting in the Indonesian food and beverage (F&B) business is presented in this section. The research aims, extant literature, and implications for industry stakeholders are taken into consideration when discussing the findings.

2. Descriptive Analysis:

The demographic features of the sample and the important variables under investigation were compiled using descriptive statistics. The sample consisted of 150 businesses that were involved in several aspects of the F&B industry in Indonesia,
such as distributors, retailers, and producers. The sample's demographic distribution is shown in table 1 below:

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company Size</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Small Enterprises</td>
<td>45</td>
<td>30%</td>
</tr>
<tr>
<td>Medium Enterprises</td>
<td>60</td>
<td>40%</td>
</tr>
<tr>
<td>Large Enterprises</td>
<td>45</td>
<td>30%</td>
</tr>
<tr>
<td>Geographical Location</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jakarta</td>
<td>52</td>
<td>35%</td>
</tr>
<tr>
<td>West Java</td>
<td>38</td>
<td>25%</td>
</tr>
<tr>
<td>Central Java</td>
<td>30</td>
<td>20%</td>
</tr>
<tr>
<td>Other Provinces</td>
<td>30</td>
<td>20%</td>
</tr>
<tr>
<td>Business Model</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manufacturers</td>
<td>68</td>
<td>45%</td>
</tr>
<tr>
<td>Distributors</td>
<td>45</td>
<td>30%</td>
</tr>
<tr>
<td>Retailers</td>
<td>37</td>
<td>25%</td>
</tr>
</tbody>
</table>

The given characteristics provide light on how the sample of companies was distributed across many categories, such as company size, geography, and business style. This allows for an understanding of the diversity and representation of the Indonesian Food & Beverage (F&B) industry in the study. A fair representation of the various sizes is reflected in the distribution, with medium-sized businesses making up the greatest percentage (40%) and demonstrating a thorough awareness of financial reporting procedures across a range of operational scales. Geographically, the majority (35%) is made up of Jakarta, with the remaining provinces being in West Java, Central Java, and other regions. This ensures that the insights come from a variety of places with distinct economic, regulatory, and cultural dynamics. In addition, the distribution across various business models shows a varied value chain, with producers accounting for the greatest share (45%), followed by distributors and retailers, who offer insights into the financial reporting methods across the value chain of the food and beverage industry.

3. Inferential Analysis

The associations between the dependent variable (financial reporting efficiency) and the independent variables (capital structure, financial literacy, and technology adoption) were investigated using inferential statistical techniques such as multiple regression analysis and correlation analysis.

4. Correlation Analysis

   Significant relationships between the study variables were found via preliminary correlation analysis. The correlation coefficients are shown in the following table:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Financial Literacy</th>
<th>Technology Adoption</th>
<th>Capital Structure</th>
<th>Financial Reporting Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Literacy</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technology Adoption</td>
<td>0.456**</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capital Structure</td>
<td>0.184</td>
<td>0.213</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Financial Reporting Efficiency</td>
<td>0.483**</td>
<td>0.384*</td>
<td>0.124</td>
<td>1.00</td>
</tr>
</tbody>
</table>
According to the correlation study, there are strong positive relationships between the efficiency of financial reporting and financial literacy levels (r = 0.483, p < 0.01) as well as between the efficiency of financial reporting and technology adoption practices (r = 0.384, p < 0.05). However, it was discovered that there was no significant link (r = 0.124, p > 0.05) between capital structure measures and financial reporting efficiency.

5. Multiple Regression Analysis

To learn more about how capital structure, financial literacy, and technology adoption affect the effectiveness of financial reporting, a multiple regression analysis was carried out. The following table displays the regression analysis's findings:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient (β)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Literacy</td>
<td>0.364</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Technology Adoption</td>
<td>0.284</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Capital Structure</td>
<td>0.083</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td>Constant</td>
<td></td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

The findings show that technology adoption practices (β = 0.284, p < 0.01) and financial literacy levels (β = 0.364, p < 0.001) were significant determinants of financial reporting efficiency. Nonetheless, there was no discernible impact of capital structure measures (β = 0.083, p > 0.05) on the effectiveness of financial reporting.

These results imply that, regardless of their capital structure choices, companies in the Indonesian F&B sector that have higher degrees of financial literacy and better technological use typically have higher financial reporting efficiency.

6. Mediation Analysis

To find out if financial literacy levels influence the relationship between technology adoption practices and the effectiveness of financial reporting, mediation analysis was done. The mediation analysis's findings are given in table 4 below:

<table>
<thead>
<tr>
<th>Mediation Model</th>
<th>Indirect Effect (β)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology Adoption → Financial Literacy → Financial Reporting Efficiency</td>
<td>0.213</td>
<td>&lt;0.05</td>
</tr>
</tbody>
</table>

Through financial literacy levels, the mediation study showed a substantial indirect influence (β = 0.213, p < 0.05) of technology use on financial reporting efficiency. This implies that companies who implement technology at a faster rate may improve financial literacy and so indirectly increase the efficiency of their financial reporting.

7. Coefficient of Determination (R-squared)

One measure of the percentage of variance in the dependent variable—financial reporting efficiency—that can be explained by the independent variables in the regression model, which are capital structure, financial literacy, and technology adoption, is the coefficient of determination (R-squared). The R-squared value in our multiple regression study provides information on the overall suitability of the model and the combined ability of the independent variables to predict changes in the dependent variable. With an adjusted R-squared value of 0.615, the independent factors included in the regression model—financial literacy levels and technology adoption practices.
adoption practices—account for roughly 61.5% of the variability in financial reporting efficiency within the Indonesian F&B business. Measuring error or things that are not measured could be the cause of the remaining variability.

**Discussion**

The discussion chapter provides a forum for delving more deeply into the implications of the study findings, placing them in the context of previously published works, and providing industry stakeholders with an understanding of their practical value. The main conclusions from the results section are summarized in this section, along with a thorough examination of their ramifications.

1. **Understanding the Role of Financial Literacy**

The strong positive correlation between financial reporting efficiency and financial literacy levels highlights the vital role that financial expertise and knowledge play in promoting improvements in reporting procedures within the Indonesian food and beverage (F&B) sector. Making decisions, managing risks, and adhering to reporting requirements all depend on financial literacy (Febriyanti & Muazaroh, 2023; Lusardi & Messy, 2023). Several tactics can be used to increase financial literacy among industry stakeholders, such as staff members, managers, and executives. To increase financial literacy and proficiency, educational programs and activities can be created (ADDO et al., 2022; SARSOUR et al., 2023). Offering specialised financial literacy classes and seminars can also be achieved through collaboration with academic institutions (Nugraha et al., 2017). The objective of these endeavors is to enhance the degree of financial literacy and cultivate an environment of responsibility and openness in institutions. Giving people the financial literacy they need enables them to successfully manage risks, make well-informed decisions, and adhere to reporting requirements—all of which eventually improve the industry’s overall financial health.

2. **Harnessing the Power of Technology Adoption**

The favorable relationship that exists between the financial reporting efficiency and technology adoption methods highlights how technology may revolutionize the Indonesian F&B industry by improving data accuracy, speeding reporting procedures, and enabling real-time decision-making. The global trend of digital transformation is being driven by advancements in automation, data analytics, and cloud computing technologies. The results are consistent with the wider trend of digital transformation occurring in many industries, which is being fueled by developments in automation, data analytics, and cloud computing technology. Digital technologies can help the oil and gas industry by guaranteeing safety, increasing operational reliability, and optimizing hydrocarbon recovery (Khairuddin et al., 2022). Digital transformation has the potential to improve the shipping industry as well, as it may leverage domain expertise based on linkages between data and a strategy that is data-driven (Zeynalli et al., 2019). Furthermore, as a result of digitalization, all facets of business and society are changing, enabling recently established businesses to develop novel value propositions through the use of digital technology (Lang & Lang, 2021). Furthermore, new technologies like blockchain, artificial intelligence, cloud computing, and data analytics are used to examine digital business transformation, offering a wide range
of applications in various industries (Akter et al., 2022). These results demonstrate the prospects and practical effects of digitalization in a variety of industries.

3. Exploring the Role of Capital Structure

Even though this study’s non-significant association was found, there is always need for more research on how capital structure affects financial reporting efficiency. Conventional theories like Pecking Order Theory and Trade-off Theory shed light on the factors that influence capital structure choices in the Indonesian setting. Studies have revealed that a number of factors, including debt tax shielding, business size, growth, profitability, and liquidity, have a major impact on capital structure decisions made by manufacturing enterprises in Indonesia (Mendes et al., n.d.). Furthermore, it has been discovered that the capital structure of businesses in the Food and Beverage Industry Sector listed on the Indonesia Stock Exchange is positively impacted by both asset structure and profitability (Oktaviyanti & Sumartik, 2023). Moreover, a number of variables, including bank size, growth, profitability, corporation tax, and collateral, affect the capital structure of Indonesian banks (Mardani & Indrawati, 2023). These results emphasize how crucial it is to take into account a variety of theories and elements when analyzing capital structure choices in the Indonesian setting.

4. Practical Implications and Recommendations

Concluding the discussion, the practical recommendations based on research findings should be made to industry practitioners, politicians, and researchers. Improving capital structure choices, encouraging technology usage, and raising financial literacy are some strategies that can be put forth to advance sustainable growth in the Indonesian F&B sector and enhance reporting procedures.

CONCLUSION

To sum up, this study offers significant understandings into the factors that influence the effectiveness of financial reporting in the food and beverage (F&B) sector in Indonesia. The results show that whereas capital structure choices seem to have less of an impact, financial literacy and technology adoption play important roles in promoting improvements in reporting standards. It is important to invest in human capital and technological infrastructure since companies that have higher financial literacy and use technology more frequently also tend to have more efficient financial reporting. Additionally, the mediation clarifies the intricate interactions among these variables and emphasizes the necessity of customized approaches depending on the size of the organization and the dynamics of the sector. Firms can improve transparency, accountability, and decision-making skills by tackling the issues raised and taking advantage of the opportunities brought about by financial literacy and technology adoption. This will ultimately promote sustainable growth and competitiveness within the Indonesian F&B sector.

Reference


6(4), 1048–1054.
Гринюк, Н., Докієнко, Л., Левченко, В., & Тринчук, В. (2023). Capital structure as a criterion of efficient management of the corporation’s financial resources. Financial and Credit Activity Problems of Theory and Practice, 2(49), 326–337.