

DRIVERS OF FIRM VALUE IN INDONESIA'S FOOD AND BEVERAGE SECTOR: THE ROLE OF CAPITAL STRUCTURE AND INTELLECTUAL CAPITAL

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Abstract

This study aims to examine the influence of capital structure and intellectual capital on firm value, with firm size and firm growth as moderating variables. Focusing on food and beverage companies listed in Indonesia, the study analyzes 66 firms using multiple regression analysis. The findings reveal that both capital structure and intellectual capital have a significant positive impact on firm value. Furthermore, firm size significantly moderates these relationships, weakening the influence of both capital structure and intellectual capital as firms become larger. However, firm growth does not show a significant moderating effect. These results underscore the importance of aligning financial and intellectual strategies with firm-specific characteristics to maximize value creation. This research contributes to the literature by integrating financial and intangible resource perspectives, offering insights for managers and investors in optimizing strategic decisions in the food and beverage sector.

Keyword: Capital Structure, Intellectual Capital, Firm Value, Firm Size, Firm Growth.

Abstrak

Penelitian ini bertujuan untuk menganalisis pengaruh struktur modal dan modal intelektual terhadap nilai perusahaan, dengan ukuran perusahaan dan pertumbuhan perusahaan sebagai variabel moderasi. Fokus penelitian ini adalah pada perusahaan makanan dan minuman yang terdaftar di Indonesia, dengan jumlah sampel sebanyak 66 perusahaan yang dianalisis menggunakan regresi berganda. Hasil penelitian menunjukkan bahwa struktur modal dan modal intelektual berpengaruh positif signifikan terhadap nilai perusahaan. Selain itu, ukuran perusahaan terbukti memoderasi hubungan tersebut secara signifikan, di mana pengaruh struktur modal dan modal intelektual terhadap nilai perusahaan melemah seiring bertambahnya ukuran perusahaan. Sementara itu, pertumbuhan perusahaan tidak menunjukkan efek moderasi yang signifikan. Temuan ini menekankan pentingnya penyesuaian strategi keuangan dan pengelolaan aset intelektual dengan karakteristik internal perusahaan guna memaksimalkan penciptaan nilai. Penelitian ini memberikan kontribusi pada literatur dengan menggabungkan perspektif sumber daya finansial dan tidak berwujud, serta menawarkan wawasan praktis bagi manajer dan investor dalam pengambilan keputusan strategis di sektor makanan dan minuman.

Kata kunci: Struktur Modal, Modal Intelektual, Nilai Perusahaan, Ukuran Perusahaan, Pertumbuhan Perusahaan.

1. Introduction

In an increasingly dynamic and competitive global business landscape, corporate value has become a fundamental benchmark that reflects not only current financial performance but also the prospects for long-term sustainability and growth. A high corporate value serves as an indicator of financial health and investment attractiveness, which in turn facilitates access to funding, enhances market competitiveness, and provides strategic flexibility in navigating various challenges [1], [2]. Therefore, for any business entity, the pursuit of increasing and sustaining corporate value constitutes a core objective that underlies a wide range of managerial and strategic decisions.

This pursuit becomes even more complex when examined within the food and beverage sector—one of the most resilient pillars of the economy and a critical contributor to meeting the basic needs of society. In Indonesia, this sector continues to demonstrate steady growth and a significant contribution to the national gross domestic product (GDP), even amidst global economic fluctuations [3], [4]. However, the unique characteristics of this sector also bring forth a distinct set of challenges and dynamics. Companies in the food and beverage industry face intense market competition, rapidly changing consumer preferences that demand continuous product innovation, as well as growing public and regulatory attention to issues such as sustainability, food safety, and ethical production

practices [5], [6]. In this context, a company's ability to manage and optimize both tangible and intangible resources becomes a critical determinant of its success in creating and maintaining corporate value.

In the effort to maximize corporate value, capital structure and intellectual capital are two key factors that often receive significant managerial attention. Capital structure refers to the composition of a company's financing, particularly the proportion of debt and equity used to fund operational and investment activities [7], [8]. Decisions related to capital structure are critical because they directly affect the cost of capital, financial risk, and investor perceptions regarding the company's stability and future prospects. An optimal capital structure can reduce funding costs while increasing shareholder returns, thereby making a positive contribution to enhancing corporate value.

Capital structure is also one of the primary indicators used by prospective investors to assess the investment feasibility of a business entity. This is because it reflects the relationship among equity, total debt, and total assets—three components that are essential in evaluating a company's level of risk, return potential, and projected revenue. Furthermore, the level of risk and potential return indicated by the capital structure significantly influences investor interest in the company's shares. The greater the return potential, accompanied by well-managed risk, the higher the demand for the company's stock is likely to be. This increased demand for shares ultimately has a positive impact on overall corporate value [9]. Research findings by [10], [11], [12], [13] indicate that capital structure has a positive effect on firm value. In contrast, studies by [14], [15], [16] suggest that capital structure has a negative impact on firm value.

On the other hand, in today's knowledge-based economy, intellectual capital has been recognized as a strategic asset that is no less important than physical assets [17]. Intellectual capital encompasses intangible assets such as employee knowledge, skills, experience, brand, reputation, systems, processes, and relationships with customers and suppliers. For companies in the food and beverage industry, intellectual capital may take the form of innovative recipes, strong and widely recognized brands, efficient distribution systems, or research and development teams capable of creating market-driven new products. The effective management and utilization of intellectual capital is believed to enhance competitiveness, foster innovation, and ultimately contribute significantly to increasing firm value [18].

Intellectual capital can serve as a key source of competitive advantage. When managed efficiently, it can support a company's success by generating stakeholder wealth—reflected in the enhancement of corporate value [19]. Studies by [16] and [17] show a significant positive relationship between intellectual capital and firm value. However, findings in this area are not universally consistent. For instance, research by [22] found a

negative relationship between intellectual capital and firm value.

Despite the fact that capital structure and intellectual capital are generally recognized as contributing positively to firm value, the effectiveness of their influence may vary depending on firm-specific characteristics, including firm size and firm's growth. The informational content of financing decisions diminishes as firm size increases [23], [24], [25]. In smaller firms, high information asymmetry makes issuing debt as a strong-signal to the market about management's confidence in the future performance. Investors interpret increased leverage as a credible signal of firm quality, thereby enhancing firm value [23].

In contrast, larger firms typically face less information asymmetry due to greater transparency, analyst coverage, and public scrutiny [24]. As a result, capital structure changes in large firms convey less new information to the market, reducing their signaling impact on firm value [25]. Therefore, firm size weakens the signaling effect of capital structure, attenuating its influence on firm value as firms grow larger.

In addition, a firm's growth rate can also play a critical role in determining how capital structure policies affect firm value. In firms with high growth, market participants already perceive strong future prospects, reducing the need to rely on capital structure—such as increased debt—as an additional signal of firm quality. Consequently, the signaling power of capital structure diminishes in high-growth firms, and its impact on firm value becomes less pronounced. In contrast, in low-growth firms where future prospects are less certain, changes in capital structure may carry more informational value, making the relationship between leverage and firm value stronger [26]. Thus, firm growth moderates the signaling effect of capital structure, weakening its influence on firm value as growth increases.

In smaller firms, intellectual capital—such as employee expertise, innovation capacity, and customer relationships—tends to be more visible and closely tied to the firm's performance, making it a key driver of value in the eyes of stakeholders [27], [28]. These firms often rely heavily on trust-based relationships and knowledge assets to build reputation and gain competitive advantage. However, as firms grow larger, the visibility and direct influence of intellectual capital on firm value may diminish due to organizational complexity, formalized processes, and diversified stakeholder interests [28]. In large firms, value creation may be more strongly associated with scale efficiencies and structural assets rather than intangible knowledge-based resources [28]. Therefore, firm size may weaken the positive influence of intellectual capital on firm value by diluting the immediacy and relevance of stakeholder relationships tied to intangible assets.

A company's growth rate reflects its potential for future expansion, investment needs, and attractiveness to

stakeholders. Intellectual capital—comprising human, structural, and relational capital—relies heavily on close, trust-based interactions with key stakeholders such as employees, customers, and partners. In firms experiencing rapid growth, these relationships may become strained or less personalized due to organizational expansion, increased complexity, and the challenges of maintaining consistent stakeholder engagement across a larger scale. As a result, the ability of intellectual capital to directly influence firm value may diminish as growth accelerates [28]. Therefore, firm growth moderates this relationship by weakening the effectiveness of stakeholder-driven value creation linked to intellectual capital.

The purpose of this study is to analyze the influence of capital structure and intellectual capital on firm value within food and beverage companies. Furthermore, this research aims to examine whether firm size and firm growth moderate the effects of capital structure and intellectual capital on firm value. This study contributes to the existing literature by simultaneously investigating the impact of both capital structure and intellectual capital as determinants of firm value. Additionally, it offers a new perspective by considering internal firm characteristics, such as size and growth, as factors that may strengthen or weaken these relationships. Practically, the findings of this research can serve as a valuable reference for managers and investors when making strategic decisions, particularly in the food and beverage sector.

2. Literature Review and Hypothesis Development

Signaling Theory

Signaling theory explains managerial actions in providing company financial information that can be used by users of financial statements to assess corporate performance. Signaling theory describes how companies can effectively convey relevant signals to both financial and non-financial statement users. The theory also serves as a reference point for investors in determining whether a company is a viable investment option [29], [30].

Signaling theory posits that companies send signals in the form of information that investors use to evaluate and make investment decisions. These signals reflect what managers have done to achieve their goals, primarily the maximization of profits. In this context, signaling theory explains how companies communicate both financial and non-financial signals to stakeholders [31].

This theory has implications for the company's optimal capital structure, pointing to two possible interpretations: either the company has favorable prospects or it does not [32]. Therefore, signaling theory can be understood as a framework that influences firm value—where the stronger and more positive the signal, the better the perceived performance of the firm.

When a company performs well, this is often reflected in a rising stock price. As the stock price increases, so does

the firm value. A higher firm value not only reflects the market's confidence in the company's current performance, but also indicates strong future prospects [21]. Consequently, investors make investment decisions based on expected returns and associated risks [32].

Stakeholder theory

Stakeholder theory posits that a company's sustainability is supported by various stakeholders, including customers, suppliers, creditors, shareholders, government entities, employees, analysts, and other parties who influence the company's decisions regarding the disclosure of financial information. All stakeholders have the right to access information about the company's activities [33], [34]. In response, companies are expected to implement appropriate managerial actions and utilize economic resources efficiently to improve financial performance and firm value, aligning with stakeholder expectations [34].

Stakeholder theory emphasizes that stakeholders are entitled to receive information related to the company's operations. The core objective of this theory is to assist managers in understanding the stakeholder environment and to manage the relationships within that environment effectively. This approach fosters a reciprocal relationship between the company and its stakeholders, whereby managers are expected to not only serve stakeholder interests but also meet their own managerial goals [33].

Based on this definition, stakeholder theory asserts that company interests are not solely confined to owners or management, but also include the broader range of stakeholders who contribute to the organization. Consequently, companies are expected to respond by engaging in efficient and strategic resource management activities aimed at enhancing financial performance and firm value in accordance with stakeholder expectations [11].

Hypothesis Development

Capital Structure and Firm Value

In enhancing firm value, the use of capital structure plays a crucial role. Managerial decisions are essential in determining the appropriate capital structure to combine funding sources used in business operations. Identifying an optimal capital structure is a challenging task, as the financing choice may lead to additional costs if misjudged. The use of debt capital allows a larger portion of the company's operational profits to be passed on to investors. Therefore, the more debt a company issues, the higher its firm value and stock price tend to be [9]. In other words, a higher capital structure (i.e., higher leverage) is associated with an increase in firm value. This suggests that the greater the use of debt, the higher the firm value, as investors often perceive debt usage as a signal of strong future business prospects [9].

According to signaling theory, the capital structure—particularly the use of debt—serves as a signal to

investors, indicating the company's strong performance and favorable future outlook. Capital structure refers to the ratio of a firm's financing that comes from debt. Companies with rapidly growing operations often require substantial financial resources. Thus, they need external funding to meet financing demands for business expansion. Firms that demonstrate strong long-term performance typically offer higher returns to investors, which ultimately contributes to an increase in firm value [11].

Empirical studies conducted by [9], [11], [12], [13] confirm that capital structure has a positive influence on firm value. This indicates that an increase in capital structure can lead to an increase in firm value.

H1: Capital structure positively influences firm value.

Intellectual Capital and Firm Value

Intellectual capital is a valuable resource for companies and plays a significant role in enhancing firm value [19]. One of the strengths of intellectual capital lies in its ability to serve as a determinant of firm value, potentially increasing the firm's market worth. Investors tend to pay a premium for shares of companies with higher intellectual capital compared to others. A higher stock price, in turn, reflects a higher firm value [19].

According to stakeholder theory, all business activities should aim to create value by leveraging intellectual resources to gain competitive advantage and promote sustained value creation [35]. The theory emphasizes that companies are not solely responsible for maximizing shareholder wealth but must also generate benefits for all stakeholders. Meeting stakeholders' interests and maintaining strong stakeholder relationships are essential to achieving organizational goals. A firm that possesses intellectual capital with competitive advantage can continuously create value and enhance firm performance [19].

Empirical research by [19] and [21] confirms that intellectual capital has a positive impact on firm value, indicating that improving intellectual capital can lead to an increase in the firm's market valuation.

H2: Intellectual capital positively influences firm value

Capital Structure, Firm Size and Firm Value

Financing decisions, particularly those related to capital structure, often carry informational content that can influence investors' perceptions of a firm's value. However, research has shown that the signaling power of such financial decisions tends to diminish as firm size increases [23], [24], [25].

In smaller firms, high levels of information asymmetry make the issuance of debt a powerful signal of managerial confidence in the firm's future performance. Investors typically interpret increased leverage as a credible indicator of firm quality, which in turn enhances firm value [23].

In contrast, larger firms generally face lower information asymmetry due to greater transparency, broader analyst coverage, and heightened public scrutiny [24]. As a result, changes in capital structure for large firms provide less new information to the market, thereby reducing their signaling effect on firm value [25].

Therefore, firm size acts as a moderating variable that weakens the relationship between capital structure and firm value. As firms grow larger, the signaling effect of financing decisions diminishes, making the influence of capital structure on firm value less pronounced compared to smaller firms.

H3: Firm size weakens the impact of capital structure on firm value.

Capital Structure, Firm Growth and Firm Value

From the perspective of signaling theory, the hypothesis that firm growth moderates the relationship between capital structure and firm value is grounded in the notion that growth itself acts as a strong positive signal to investors [36]. In high-growth firms, the market generally perceives favorable future prospects, thereby reducing the reliance on capital structure—such as increased debt—as an additional indicator of firm quality. As a result, the signaling function of capital structure becomes less significant, and its effect on firm value is diminished.

Conversely, in low-growth firms where the outlook is more uncertain, changes in capital structure may convey more meaningful information to the market. In such cases, increased leverage could be interpreted as a sign of managerial confidence, thereby strengthening the relationship between capital structure and firm value [26]. Therefore, firm growth serves as a moderating factor that weakens the influence of capital structure on firm value as the level of growth increases.

H4: Firm growth weakens the impact of capital structure on firm value.

Intellectual Capital, Firm Size and Firm Value

Under stakeholder theory, the hypothesis that firm size moderates and weakens the relationship between intellectual capital and firm value is grounded in the view that stakeholder relationships are central to value creation and sustainability [37]. In smaller firms, intellectual capital—such as employee expertise, innovation capabilities, and strong customer relationships—is often more visible and directly linked to firm performance. These intangible assets play a critical role in shaping stakeholder perceptions and are seen as key drivers of competitive advantage [27], [28]. Moreover, smaller firms tend to rely more on trust-based interactions and personal knowledge networks to build reputation and long-term stakeholder value.

However, as firms expand, the visibility and direct impact of intellectual capital may become less pronounced due to increased organizational complexity, formalized structures, and broader stakeholder interests

[28]. In large organizations, value creation is more likely to be associated with tangible resources such as economies of scale, infrastructure, and process efficiencies, rather than with human or relational capital. As a result, firm size may dilute the effectiveness of intellectual capital in influencing firm value, as its role becomes less immediate and less central to stakeholder engagement. Thus, firm size may act as a dampening moderator that weakens the positive relationship between intellectual capital and firm value.

H5: Firm size weakens the impact of intellectual capital on firm value.

Intellectual Capital, Firm Growth and Firm Value

Within the framework of stakeholder theory, firm value is shaped not only by shareholder interests but also by the quality of a firm's relationships with its stakeholders. Intellectual capital—which includes human capital, structural capital, and relational capital—derives much of its value from close, trust-based engagement with key stakeholders such as employees, customers, and business partners [38].

However, as firms undergo rapid growth, these stakeholder relationships often become more difficult to maintain. Organizational expansion can lead to increased complexity, reduced personalization in interactions, and weakened stakeholder engagement. These challenges can limit the firm's ability to fully leverage its intellectual capital in enhancing firm value [28]. Consequently, firm growth may act as a moderating factor that weakens the positive impact of intellectual capital on firm value by disrupting the stakeholder-driven value creation process.

H6: Firm growth weakens the impact of intellectual capital on firm value.

3. Research Method

This study employs a quantitative research approach with the population consisting of food and beverage companies listed on the Indonesia Stock Exchange (IDX). The research covers a four-year period from 2019 to 2023. The sampling technique used in this study is purposive sampling, which involves selecting samples based on specific characteristics relevant to the research population. The criteria for sample selection are as follows:

1. Food and beverage companies listed on the Indonesia Stock Exchange (IDX) during the period 2019–2023.
2. Companies that published their financial statements consistently from 2019 to 2023.
3. Companies that presented their financial statements in Indonesian Rupiah (IDR).
4. Companies that recorded positive net income in each year from 2019 to 2023

Variable Measurement

Table 1 presents the measurements of the variables examined in this study.

Table 1. Variable Measurement

Variable	Measurement
Firm Value	Firm value is measured using the Price to Book Value (PBV) ratio, which compares the market price per share to the book value per share (Krisnando & Novitasari, 2021).
Capital Structure	Capital structure is measured using the Debt-to-Equity Ratio (DER), which compares total liabilities to total equity (Krisnando & Novitasari, 2021).
Intellectual Capital	To measure the extent of intellectual capital, the Value-Added Intellectual Coefficient (VAIC) is used. VAIC assesses a company's ability to create value added through the efficiency of three key components: Value Added Capital Employed (VACA), Value Added Human Capital (VAHU), and Structural Capital Value Added (STVA) (Chandra & Djajadikerta, 2018).
Firm Size	Firm size is measured by total assets and expressed as the natural logarithm (LN) of total assets (Wardhani et al. 2021).
Firm Growth	Firm growth is measured by the change in total assets. Asset growth is calculated as the difference between the total assets of the company in the current period and the previous period, divided by the total assets of the previous period (Krisnando & Novitasari, 2021).

4. Discussion

The data used in this study are secondary data, with a total of 20 companies selected as samples. Considering the five-year observation period (2019–2023), the total number of observations was 100, chosen through purposive sampling. However, after conducting tests, 34 observations were identified as outliers and excluded, leaving 66 observations that met the required criteria and were deemed suitable for further analysis.

First, the descriptive statistics for the variables used in this study—Firm Value, Capital Structure, Intellectual Capital, Firm Size, and Firm Growth—are presented in Table 2. This analysis provides an overview of the central tendency and dispersion of the data, which includes the minimum, maximum, mean, and standard deviation values.

Table 2. Descriptive Statistics

Variables	N	Mean	Max	Min	Std. Dev.
Firm Value	66	2.727	6.710	0.230	1.695
Capital Structure	66	0.653	1.370	0.110	0.389
Intellectual Capital	66	3.604	6.660	1.750	1.401
Firm Size	66	28.427	31.290	26.250	1.197
Firm Growth	66	0.098	0.390	-0.210	0.130

Source: *Output Eviews13 (2025)*

The Chow and Hausman tests were conducted to determine the most appropriate estimation model for the regression analysis. The Chow test is used to compare the fixed effect model and the common effect model. The decision rule is as follows: if the p-value is less than 0.05, the fixed effect model is preferred; otherwise, the common effect model is more suitable. The results of the Chow test are presented in Table 3.

Table 3. Chow Test

Effects Test	Statistic	d.f.	Prob.
Cross-section F	21.185101	(16,43)	0.0000
Cross-section Chi-Square	144.151920	16	0.0000

Source: *Output Eviews13 (2025)*

Table 3 shows that the Chow test produces a probability value of 0.0000, which is less than 0.05 ($0.0000 < 0.05$), indicating that the fixed effect model is more appropriate than the common effect model. Following this, the Hausman test is conducted to determine whether the fixed effect or random effect model is more suitable. According to the decision rule, if the probability value is less than 0.05, the fixed effect model is selected; otherwise, the random effect model is chosen.

Table 4. Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	20.478031	6	0.0023

Source: *Output Eviews13 (2025)*

Table 5 reports a Hausman test probability value of 0.0023, which is less than 0.05 ($0.0023 < 0.05$), indicating that the fixed effect model is the preferred model. With this result, the testing process is concluded, and the appropriate panel data regression model selected for further analysis is the Fixed Effect Model (FEM).

Hypothesis Testing

Coefficient of Determination Test

Table 5 shows that the coefficient of determination (Adjusted R²) is 0.857706, indicating that 85.77% of the variation in firm performance is explained by the variables in the model—Firm Value, Capital Structure, Intellectual Capital, Firm Size, and Firm Growth. The remaining 14.23% is attributable to other factors not included in the model. Additionally, the F-statistical test yields a probability value of 0.00000, which is less than 0.05 ($0.00000 < 0.05$), confirming that the model is statistically significant as a whole.

Table 5. Coefficient of Determination dan F-Test

R-squared	0.905867	Mean dependent var	2.727273
Adjusted R-squared	0.857706	SD dependent var	1.695480

SE of regression	0.639566	Sum squared resid	17.58890
F-statistic	18.80919	Durbin-Watson stat	3.141498
Prob(F-statistic)	0.000000		

Source: *Output Eviews13 (2025)*

t-Test Results

Table 6 presents the results of the partial t-test, which examines the individual effect of each variable on firm value:

Table 6. Statistical Results t-test

Variable	C	Std. Error	t-Statistic	Prob.
C	1.070	0.607	1.760	0.085
Capital Structure	31.024	10.297	3.012	0.004
Intellectual Capital	9.356	3.600	2.598	0.012
Capital Structure* Firm Size	-1.076	0.369	-2.912	0.005
Capital Structure* Firm Growth	-0.062	1.184	-0.052	0.958
Intellectual Capital* Firm Size	-0.313	0.125	-2.499	0.016
Intellectual Capital* Firm Growth	-0.430	0.275	-1.561	0.125

Source: *Output Eviews13 (2025)*

Capital Structure has a coefficient of 31.024 with a p-value of 0.004, which is less than 0.05. This indicates that capital structure has a significant positive effect on firm value. The positive coefficient suggests that an increase in capital structure leads to an increase in firm value. Therefore, **H₁ is accepted**.

The findings of this study support the notion that capital structure significantly influences firm value. This aligns with prior research [9], [11], [12], [13] which demonstrates that firms with higher leverage tend to exhibit higher firm value. The use of debt is often interpreted by investors as a positive signal regarding the company's future prospects, consistent with signaling theory. A well-managed capital structure enables firms to optimize financing for growth and enhance returns to shareholders. Conversely, this result differs from the findings of [39] and [40], who found no significant relationship between capital structure and firm value.

Intellectual Capital shows a coefficient of 9.356 with a p-value of 0.012, also below the 0.05 significance level. This means intellectual capital significantly affects firm value. The positive coefficient implies that

improvements in intellectual capital contribute to higher firm value, so **H₂ is accepted**.

This study finds that intellectual capital has a significant effect on firm value, supporting prior research by [19], [21]. Firms with strong intellectual capital tend to be valued more highly by investors, as these intangible assets signal innovation, efficiency, and long-term potential. Stakeholder theory also supports this view, emphasizing the role of intellectual resources in sustaining value creation and building competitive advantage. Companies that manage intellectual capital effectively are better positioned to meet stakeholder expectations and drive organizational success. However, this result contrasts with findings by [41], who reported no significant relationship between intellectual capital and firm value.

The interaction between Capital Structure and Firm Size has a negative coefficient of -1.076 with a p-value of 0.005, indicating a statistically significant moderation effect. The negative coefficient suggests that the positive influence of capital structure on firm value weakens as firm size increases. Therefore, **H₃ is accepted**.

The findings of this study align with previous research indicating that the impact of financing decisions on firm value varies depending on firm size. In smaller firms, where information asymmetry is relatively high, increased leverage is often perceived as a strong signal of management's confidence in the firm's future prospects, thereby positively influencing firm value [23]. Conversely, in larger firms, greater transparency and stricter public scrutiny reduce the amount of new information conveyed by financing decisions [24], [25]. Consequently, firm size acts as a moderating factor that weakens the relationship between capital structure and firm value, diminishing the signaling effect of financing choices as firms grow larger.

The interaction between Capital Structure and Firm Growth has a coefficient of -0.062 with a p-value of 0.958, which is not significant. This implies that firm growth does not significantly moderate the relationship between capital structure and firm value. Hence, **H₄ is rejected**.

Signaling theory posits that financing decisions—particularly the use of debt—can convey management's confidence in future performance to external stakeholders. While high-growth firms may already signal positive prospects through their performance, this does not necessarily diminish or enhance the credibility or impact of debt as a signal. Similarly, in low-growth firms, debt may still function as a credible commitment to efficiency and discipline. Thus, the relationship between capital structure and firm value is presumed to be stable across different growth contexts, indicating that firm growth does not significantly influence how capital structure is interpreted by the market [42], [43].

The interaction between Intellectual Capital and Firm Size has a negative coefficient of -0.313 with a p-value

of 0.016, indicating a significant moderation effect. The negative coefficient shows that as firm size increases, the positive effect of intellectual capital on firm value diminishes. Therefore, **H₅ is accepted**.

According to stakeholder theory, firm size moderates the relationship between intellectual capital and firm value by influencing how stakeholder interactions shape value creation [37]. In smaller firms, intellectual capital—such as employee expertise and strong customer relationships—is more visible and directly impacts performance, serving as a key driver of competitive advantage [27], [28]. These firms rely heavily on trust and personal networks to build long-term stakeholder value.

In contrast, larger firms face greater complexity and formalization, which can reduce the direct influence of intellectual capital on firm value [28]. Here, tangible assets like economies of scale and operational efficiencies often play a bigger role in value creation. As a result, firm size tends to weaken the positive effect of intellectual capital on firm value by diluting its immediate impact on stakeholder engagement.

Finally, the interaction between Intellectual Capital and Firm Growth has a coefficient of -0.430 with a p-value of 0.125, which is not statistically significant. This suggests that firm growth does not significantly moderate the relationship between intellectual capital and firm value. Therefore, **H₆ is rejected**.

Intellectual capital—encompassing human, structural, and relational resources—is closely tied to stakeholder engagement, trust, and knowledge exchange. According to stakeholder theory, these relationships are foundational to firm value, and their importance persists whether a firm is experiencing rapid growth or stable development. Even as a firm expands, the ability to manage and leverage intellectual capital to meet stakeholder expectations and sustain value creation remains critical. Therefore, firm growth does not significantly alter the strength or relevance of the link between intellectual capital and firm value, suggesting a stable relationship regardless of growth dynamics [44], [45].

5. Conclusion

This study investigates how capital structure and intellectual capital influence firm value in food and beverage companies, while also exploring the moderating roles of firm size and firm growth. The findings demonstrate that both capital structure and intellectual capital play significant roles in enhancing firm value. A well-managed capital structure is perceived as a positive signal by investors, indicating confidence in future performance and financial discipline. Likewise, intellectual capital—through human expertise, innovation, and stakeholder relationships—contributes to long-term value creation and competitive advantage.

Firm size emerges as a crucial moderating factor. As firms grow larger, the positive effects of both capital structure and intellectual capital on firm value tend to weaken. In larger firms, increased transparency and organizational complexity reduce the signaling power of debt and diminish the visibility of intangible assets. This suggests that internal characteristics such as firm size influence how stakeholders interpret and respond to financial and intellectual resources.

On the other hand, firm growth does not appear to significantly alter these relationships. The strategic use of debt and the value of intellectual capital remain relevant regardless of whether a firm is growing rapidly or maintaining a stable pace. This indicates that while firm growth may reflect broader strategic positioning, it does not fundamentally change the role of these key drivers in determining firm value.

Overall, the study highlights the importance of aligning capital structure and intellectual capital strategies with firm-specific characteristics, particularly firm size, to optimize value creation in the food and beverage industry. These insights provide practical implications for managers and investors in designing more effective financial and intangible asset management strategies.

This study has several limitations. First, it focuses solely on food and beverage companies, which may limit the generalizability of the findings to other sectors with different characteristics and capital intensity. Future research is encouraged to expand the scope to other industries and incorporate additional moderating or mediating variables that may influence the relationship between financial and intellectual resources and firm value. Second, the moderating variables examined are limited to firm size and firm growth, while other contextual factors such as industry competition, ownership structure, or market conditions may also play significant roles.

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