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Firm Performance: A Panel Study on the Indonesian Food and Beverage Industry

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Abstract

Purpose: This study aims to examine how human capital efficiency, structural capital, and capital employed affect the business performance of companies in Indonesia's food and beverage sector.

Methodology/approach: The research was conducted using secondary data collected from the financial statements of food and beverage companies listed on the Indonesia Stock Exchange for the years 2018-2022. The data analysis was carried out using panel data regression and hypothesis testing with EViews software version 12.

Results and Findings: The results show that both human capital efficiency and structural capital have a significant impact on business performance. However, capital employed efficiency does not have a significant effect. Human and structural capital are found to contribute positively to innovation, productivity, and competitive advantage.

Conclusions: This study shows that the efficiency of human resources has a positive effect on the performance of companies in the Indonesian food and beverage industry, while the efficiency of capital use is not significant, so it is important for companies and the government to focus on developing human resources, innovation, and more optimal capital management.

Limitations: The study is limited to publicly listed food and beverage companies in Indonesia and relies solely on financial data, without incorporating qualitative or industry-specific operational factors.

Contribution: This study makes a significant contribution to the field of strategic management and intellectual capital by providing empirical evidence that both human and structural capital are vital to business performance. It offers practical insights for company managers, policymakers, and researchers interested in enhancing firm value through human capital investment and capital efficiency.

Keywords: *Capital Employed, Firm Performance, Human Capital, Structural Capital.*

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1. Introduction

The food and beverage industry contributes significantly to Indonesia's GDP. In 2022, it accounted for approximately 8.5% of the total non-oil and gas GDP (Worldbank.org). The industry employs millions across various sectors, including agriculture, manufacturing, distribution, and retail. In 2021, the food and beverage industry employed an estimated 14.1 million people, making it one of the largest employment sectors in Indonesia. According to KPMG.com, the industry is expected to sustain future growth due to population growth, more disposable incomes, and urbanization. The industry is widely regarded as a lucrative sector. The average profit margin for publicly traded food and beverage

companies in Indonesia was approximately 5% in 2021. Human capital efficiency (HCE) is a critical factor in determining a company's performance. As one of the key economic sectors that contribute significantly, companies in Indonesia's food and beverage industry must prioritize this aspect of human capital to enhance profitability. Previous research has shown that human capital has a positive effect on firm performance in companies and the manufacturing sector (Sunarto & Pratiwi, 2022). These studies suggest that channeling resources to enhance human resource development, such as providing training to employees and increasing motivation, can lead to higher levels of value creation and profitability for entities in the food and beverage industry (Feliana & Novita, 2018; Salsabila & Rejeki, 2021) . Nevertheless, there are still areas of research that need to be addressed regarding the extent to which factors of human capital efficiency, such as Value Added Human Capital (VAHU) and Structural Capital Value Added, impact Return on Assets (ROA) in companies within the industry (Salsabila & Rejeki, 2021).

Intangible assets, such as intellectual capital, are becoming increasingly important for companies in enhancing performance and competitiveness. Structural capital, a crucial element of intellectual capital, encompasses the processes, procedures, and infrastructure that facilitate employee performance (Nafisa, Akhyar, & Matriadi, 2023). The efficiency of structural capital plays a crucial role in determining a company's profitability and financial performance (S. Kumar, Colombage, & Rao, 2017). Previous studies have examined the impact of structural capital efficiency on a company's performance. The results of this research indicate an increase in value and a significant positive effect on profitability, as measured by return on assets (ROA), which is also observed for structural capital value added (SCA)(Adelin, Rinofah, & Kusumawardhani, 2023; Susila, Heryanda, & Putra, 2020) In contrast, other studies have found that capital structure exerts no substantial influence on profitability (Soetanto & Liem, 2019; Surono & Akbar, 2020).

One indicator of company performance that is often used is Return on Assets (ROA). ROA measures a company's ability to generate net income from its total assets. Return on assets (ROA) can be impacted by various factors, including capital structure, asset turnover, and the effective utilization of money invested in assets. The Capital Employed Efficiency (CEE) ratio measures the effectiveness of capital invested in assets. CEE measures the efficiency with which a corporation uses its invested capital in assets to create income. The efficiency of capital employed exerts a beneficial and significant influence on the return on assets of firms within the industrial sector. Likewise, CEE has a significant impact on the stock returns of manufacturing companies.

In this study, we used a panel data regression analysis approach to evaluate the impact of human capital efficiency, structural capital, and capital employed on the performance of companies in the food and beverage industry in Indonesia. The data sources we used come from the financial statements of companies listed on the Indonesia Stock Exchange during the period from 2018 to 2022, which allowed us to conduct a comprehensive analysis based on publicly available data. The research results indicate that the efficiency of human capital and structural capital has a significant impact on company performance, whereas the efficiency of capital employed does not exhibit the same effect. These findings make a significant contribution to the existing literature and offer practical implications that can help companies focus their investments in strategic areas, such as human resource development and capital management, thereby enhancing efficiency and profitability.

In the era of a knowledge-based economy, intellectual capital, including structural capital efficiency, is becoming increasingly important for corporate competitiveness. Enhancing structural capital efficiency can lead to increased profitability and improved financial performance for the organization. Nevertheless, there are still areas of research that need to be addressed regarding the impact of capital efficiency on ROA in Indonesia's food and beverage sector. Hence, additional investigation is required to determine how the effectiveness of human and structural capital impacts firm performance, guiding organizations in enhancing their resource management methods.

2. Literature Review and Hypothesis Development

2.1 Resource-based view

The Resource-Based View (RBV) is a theory in strategic management that emphasizes the importance of a company's internal resources as the primary factor in achieving a competitive advantage and superior performance(Bhat & Sharma, 2021). This theory argues that not all resources have the same value, and unique, rare, inimitable, and irreplaceable resources can provide a sustainable competitive advantage. In the context of research on the influence of human capital, structural capital, and efficiency of capital employed on firm performance in the food and beverage sector, RBV is highly relevant(Aidara et al., 2021). Human capital, which includes employees' knowledge, skills, and abilities, is considered a highly valuable and unique resource. Companies with a skilled and knowledgeable workforce can develop better products and services, thereby enhancing performance and competitiveness.

Additionally, structural capital, encompassing organizational systems, processes, and culture, can enhance operational efficiency and effectiveness. Substantial structural capital becomes a resource that competitors cannot replicate, providing a competitive advantage. On the other hand, capital efficiency, which encompasses financial and physical resources, is also valuable (Grant, 1991). Companies that can effectively utilize their assets will achieve better financial performance. Thus, RBV provides a strong framework for understanding how the management and development of internal resources can contribute to company performance, emphasizing that the success of companies depends not only on external factors but also on their ability to utilize and manage their resources (Rishi, Dwivedi, & Ghosal, 2022).

The application of the Resource-Based View (RBV) theory in this study can be further developed through the VRIO framework approach, which consists of four main aspects: Value (valuable), Rarity (rare), Imitability (difficult to replicate), and Organization (well-organized). Through this framework, the relationship between tangible and intangible resources to Return on Assets (ROA) can be analyzed more critically(Galbreath, 2005). Human capital fulfills all elements of VRIO because it has strategic value in encouraging innovation, is rare because not all companies have a high-quality workforce, is difficult to replicate because it includes specific experience and knowledge, and will provide maximum results if supported by an organizational system that supports employee development and retention(Prieto, Phipps, & Kungu, 2020). Structural capital, such as information systems, work procedures, and organizational culture, can also meet the VRIO criteria when it provides a competitive advantage that is not easily replicated and improves the efficiency of asset management.

Tangible resources, in this case, capital use efficiency, reflect how optimally a company manages its physical and financial assets. While tangible assets tend to be more accessible to many companies, the way organizations manage and utilize them is a key differentiator in performance achievement(Teece, 2019). Companies that can effectively organize and synergize the use of their assets will generate a higher Return on Assets compared to other companies with a similar amount of assets (Shahfira & Hasanuh, 2021). The use of the VRIO framework provides a strong conceptual foundation for explaining how a combination of strategically managed resources can result in a sustained competitive advantage, as well as demonstrating that a company's performance is determined not only by the quantity of resources but also by the quality of its management.

2.2 Human Capital on Firm Performance

Human capital refers to a company's knowledge, skills, and capabilities of its workforce, which can contribute to its overall performance(Teece, 2019). According to the literature, effective human capital management can increase profitability, productivity, and corporate value. This is especially crucial in the food and beverage sector, as product and service excellence is primarily determined by the capabilities and insights of employees (AbuKhalifeh, Som, & AlBattat, 2013). One study, which investigated the effect of human capital on the profitability, productivity, and firm value of Indonesian food and beverage companies, concluded that intellectual capital significantly benefits all three performance measures(Pratama & Innayah, 2019). This suggests that the effective management and development of human capital can be a critical driver of success in the industry.

Research on factors affecting the performance of intellectual capital in manufacturing companies in Indonesia, including the food and beverage sector, shows that human resources are the main element in intellectual capital that can drive the creation of new business innovations and sustainable competitive advantage in the long term (Kianto, Andreeva, & Pavlov, 2013). By investing in their workforce, companies can enhance their performance and market competitiveness (Kartika, Edison, & Maryani, 2024). Several previous studies have yielded mixed results on the relationship between human capital and company performance, suggesting that theoretical tensions are important for further investigation. Several other studies have found that increased investment in human capital is not always directly proportional to a company's financial performance, especially if it is not balanced with an effective management system or adequate structural support(Sutisna, Pasolo, Sutisman, & Mariana, 2023). This raises the question of whether the success of human capital depends entirely on the quality of its resources or is also influenced by the organizational context and the industry sector in which the company operates.

This inconsistency creates an opportunity for further study, particularly in the context of the Indonesian food and beverage industry, which has unique market dynamics and pressures. The high demands on product quality, fast service, and innovative adaptation make the role of human capital increasingly crucial but also complex. Therefore, this study not only aims to affirm the importance of human capital as a strategic resource, but also to test whether its influence on company performance can be consistently proven in the context of labor-intensive and service-intensive sectors, such as the food and beverage industry. This approach is expected to bridge the differences in previous study results and make a theoretical contribution to a deeper understanding of the role of human capital in creating a sustainable competitive advantage.
H_1: Human capital substantially influences firm performance.

2.3 Structural Capital Efficiency on Firm Performance

Structural capital, which refers to the non-human knowledge assets within an organization, can play a crucial role in enhancing the performance of these companies (Malik, 2021). Existing research suggests that effectively managing a company's capital structure is crucial for its survival and profitability. Proper capital structure management enables companies to allocate their funds effectively for operational activities, thereby supporting their growth (Afolabi, Oyelakan, & Akinwale, 2019; Shahar & Manja, 2018). Additionally, an optimal capital structure can help food and beverage companies generate higher profits, increasing investor confidence in the company's prospects (Fatima & Yasmin, 2022; Ingracia, Wijayanto, & Saryadi, 2022).

Profitability and asset structure have a positive impact on capital structure. At the same time, company size had a negative impact on food and beverage sector companies in Indonesia listed on the Indonesia Stock Exchange from 2016 to 2019 (Yanti & Munir, 2021). Firms with higher profitability ratios and a greater proportion of tangible assets are likely to have a more stable capital structure, which may enhance their overall performance. Changes in the capital structure can impact cash flow, potentially affecting the company's financial performance(Penuam, Burhan, & Subiyantoro, 2021). The company's size also affects performance by capital structure (Mohammadhosseini & Rajashekar, 2019; Susila et al., 2020) . Moreover, research has shown that a company's capital structure, particularly the balance between debt and equity financing, can significantly impact its financial performance. Effective management of this capital structure can help food and beverage companies in Indonesia improve their net sales and net income (Nafisa et al., 2023; Yanti & Munir, 2021). However, the size of the company has a negative impact on its capital structure, while an increase in the debt ratio does not necessarily lead to improved performance (Hussain, Yu, Liu, & Ling, 2021; Imelda & Himelda, 2021). This indicates that the effectiveness of the capital structure is highly dependent on the company's internal context and the sectoral dynamics it faces.

These differences in results reflect tensions within the theoretical frameworks used, such as compromise theory and financing sequence theory, which are not always able to explain the real conditions in a particular industry. The food and beverage industry, for example, exhibits distinctive characteristics, including high working capital requirements, fluctuating profit margins, and a dependence on stable

supply chains. This condition makes decisions regarding capital structure management more complex and context-dependent. Therefore, this study aims to provide a more in-depth explanation of the relationship between capital structure and financial performance, considering the industry's characteristics, in order to fill the theoretical gap and address the discrepancies in results from previous research.

H_2: Structural capital substantially influences firm performance.

2.4 Capital Employed Efficiency on Firm Performance

Capital employed is crucial to evaluating a company's financial well-being and capacity to generate profits. It represents all the company's resources to generate revenue (Harahap, Septiani, & Endri, 2020). Efficient management of capital employed can lead to improved financial performance, allowing companies to maximize the use of their assets and generate higher revenues and profits (Y. Kumar, 2017). Within the Indonesian food and beverage industry, the available research suggests that the efficient management of capital employed is a critical factor in measuring a company's financial performance (Herdiyana, Sumarno, & Endri, 2021). Companies that can effectively utilize their resources, maintain an optimal capital structure, and optimize their asset turnover ratios are more likely to achieve superior financial results and enhance their competitive position within the industry.

The current research on the correlation between capital employed and the success of food and beverage enterprises in Indonesia offers valuable insights. These studies have examined the impact of various financial indicators, such as capital structure, liquidity, sales growth, and profitability, on the overall performance of the industry (Nur Alyaa & Nur, 2023; Pujarani & Hadi, 2021). The current assets or working capital amount is not necessarily a benchmark for a company to generate significant profits, as profit is heavily dependent on effective working capital management, mainly through efficient accounts receivable and inventory turnover (Melani & Musqori, 2019). Additionally, the total asset turnover ratio (TATO) measures the effectiveness of a company's asset utilization and is a key determinant of its financial performance. Companies that can create more significant income from their assets typically exhibit higher profitability as they can optimize the utilization of their resources (Doğan & Kevser, 2020; Nariswari & Nugraha, 2020; Wulandari, br Bukit, Manik, Napitupulu, & Tambunan, 2022). However, other studies reveal that under certain conditions, asset utilization efficiency is not always directly proportional to improved financial performance, especially if the cost structure remains high, market demand is unstable, or the asset turnover rate is low (Growe, DeBruine, Lee, & Tudón Maldonado, 2014; Mangesti Rahayu, 2019). These findings raise theoretical tensions because they suggest that the efficiency of capital employed cannot be considered a single determinant of a company's profitability.

This difference indicates the need for a more contextual and in-depth approach to developing hypotheses. Not all companies with high asset turnover rates will show superior performance if other managerial and operational aspects are not supportive. In the food and beverage sector, characterized by high competition and rapidly changing consumer demand dynamics, the influence of capital employed can be moderated by variables such as supply chain efficiency, the accuracy of production strategies, and the ability to manage liquidity effectively. Therefore, this study aims to provide a more holistic understanding of the role of capital employed in financial performance by taking into account the theoretical tensions and empirical variations that arise from previous studies.

H_3: Capital employed efficiency has a significant impact on firm performance.

3. Methods

This study aims to illustrate these aspects using an associative research design and a quantitative methodology approach. This study also examines the relationship between Return on Assets (ROA) as the dependent variable and three independent variables, namely Human Capital Efficiency (HCE), Structural Capital Efficiency (SCE), and Customer Capital Efficiency (CEE). In addition, two control variables, Growth and TATO, were utilized. The data is secondary, derived from the financial statements of food and beverage companies registered on the Indonesia Stock Exchange for the years 2018 to 2022. All are consistent with purposive sampling; thus, the sample is an example of non-

probability sampling. Table 2 shows that the dependent, independent, and control variables have been constructed.

Table 1. Sample Criteria

No	Sample Criteria	Number of Samples
1	Food and beverage companies listed in the Indonesian Stock Exchange (2018-2022) are equal to 5 years.	26
2	Companies with incomplete annual reports	(14)
3	Companies with complete annual reports	12
4	Number of observations (12 companies x 5 years)	60

Source: data processed (2024)

The analysis method involves panel data regression and hypothesis testing using Eviews software version 12. This study will test two model equations, namely model 1, which does not include control variables, and model 2, which includes control variables.

$ROA_{it} = a + \beta_1 (HCE_{it}) + \beta_2 (SCE_{it}) + \beta_3 (CEE_{it}) + \varepsilon$ ..... (Model 1)
$ROA_{it} = a + \beta_1 (HCE_{it}) + \beta_2 (SCE_{it}) + \beta_3 (CEE_{it}) + \beta_4 (growth_{it}) + \beta_5 (TATO_{it}) + \varepsilon$ ... (Model 2)

Table 2. Variable Measurements

Variables	Measurements	Acronyms	Data
Firms Performance	$\frac{net\ income}{total\ assets}$	ROA	ratio
Human capital efficiency	$\frac{value\ added}{human\ capital}$	HCE	ratio
Structural capital efficiency	$\frac{structural\ capital}{value\ added}$	SCE	ratio
Capital employed efficiency	$\frac{value\ added}{capital\ employed}$	CEE	ratio
Sales growth	$\frac{sales_t - sales_{t-1}}{sales_{t-1}}$	Growth	ratio
Total assets turnover	$\frac{total\ sales}{total\ assests}$	TATO	ratio

Source: (Halim, 2023)

4. Results and Discussion

Table 3. Descriptive Statistics

Variables	**Mean**	**Median**	**Max.**	**Min.**	**Std. Dev**
ROA	0.120	0.099	0.607	-0.067	0.127
HCE	2.168	1.732	6.398	0.264	1.499
SCE	0.222	0.422	0.843	-2.778	0.702
CEE	4.242	4.908	8.218	0.541	2.088
TATO	0.931	0.899	1.869	0.109	0.210
GROWTH	-0.062	-0.095	0.869	-0.890	0.207

Source: data processed (2024)

The mean ROA score of 12% indicates that, on average, the companies in the research sample are capable of generating a profit of 12 cents for each dollar of assets they possess. It is a crucial metric that measures a company's effectiveness in utilizing its assets to produce revenues. ROA of 12% is considered favorable in various sectors, suggesting that the companies included in the analysis are

generally capable of generating substantial profits from their owned assets. For several variables (HCE, SCE, CEE, TATO), it is clear that the standard deviation is lower than the mean, indicating that the variables have a uniform distribution, or, in other words, the data show minimal variability. Meanwhile, other variables have a standard deviation that surpasses the mean, suggesting that these variables are heterogeneous. This suggests that the population they represent exhibits diverse features and characteristics. After testing the model's accuracy, based on Table 5, the selected model is model 1, also known as the random effect model, because the adjusted R-squared value of model 1 is more significant than that of model 2 (0.559 > 0.544).

4.1 Classical Assumption Test

In the regression of the data panel using the Random Effects approach analyzed with the Generalized Least Squares (GLS) method, one of the important methodological considerations is related to the assumption of a normal distribution of the error term. However, according to the GLS model, parameter estimation remains consistent even if the error does not follow a normal distribution, as long as basic assumptions such as exogeneity (the absence of correlation between errors and independent variables) and homoskedasticity (constant error variance) are met (Wooldridge, 2002). This means that, in the context of a study with a sizable sample, the normal distribution of error terms is not an absolute requirement for obtaining a statistically valid estimate.

Table 4. Multicollinearity Test

	HCE	SCE	CEE
HCE	1.000	0.142	0.621
SCE	0.142	1.000	-0.124
CEE	0.621	-0.124	1.000

Based on Table 3, which presents the correlation between the variables Human Capital Efficiency (HCE), Structural Capital Efficiency (SCE), and Capital Employed Efficiency (CEE), it can be concluded that there is no strong indication of multicollinearity. This can be seen from the value of the correlation coefficient between variables, which is below the general threshold of 0.80 (Ratmono, 2017). The correlation between HCE and CEE of 0.621 indicates a fairly strong relationship, but it is still within the tolerance limit. In contrast, the correlations between HCE and SCE (0.142) and between SCE and CEE (- 0.124) both show weak relationships. Thus, there is no high linear relationship between independent variables that can cause distortions in regression estimation. Therefore, the variables HCE, SCE, and CEE are worthy of inclusion in the regression model, without concern for serious multicollinearity problems.

Table 5. Autocorrelation Test

Durbin-Watson stat	1.862188	Prob(F-statistic)	0.000000

Based on Table 4 of the regression outputs shown, the Durbin-Watson value (DW) of 1.862188 indicates that there are no serious autocorrelation problems in the regression model. In the context of regression analysis, a DW value close to 2 indicates the absence of autocorrelation. In contrast, a value close to 0 indicates a positive autocorrelation, and a value close to 4 indicates a negative autocorrelation. With a DW value in the range of 1.5 to 2.5, this model can be considered not to have significant autocorrelations.

Table 6. Regression and Hypothesis Results

Variables	**ROA**	
	Model 1	**Model 2**
C	-2.804 (0.000)***	-2.823 (0.000)***
HCE	1.013 **(0.000)*** **	1.015 (0.000)***
SCE	0.200 **(0.0468)** **	0.198 (0.0554)*

CEE	-0.017 **(0.9459)**	-0.016 (0.9476)
Growth		-0.007 (0.9367)
TATO		0.012 (0.9569)
Adjusted R^2	**0.559**	0.544
F-statistics	**25.977**	15.133
P-value	**0.000**	0.000

The ***, **, and * signify statistical significance at the 1%, 5%, and 10% levels, respectively.
Source: data processed (2024)

Model 1 results indicate that human capital efficiency has a statistically significant positive impact on ROA, as shown in the results provided by Model 1 in Table 3. This is further confirmed by the coefficient value of 1.013 (the coefficient sign is demonstrated as positive) and a p-value of 0.000 (< 0.05 significance level), indicating that the first hypothesis is accepted. The results showed that human capital efficiency has a significantly positive effect on company performance. Skilled and knowledgeable employees are more productive, innovative, and better equipped to help the organization adapt to changing market conditions and technological advancements (Crook, Todd, Combs, Woehr, & Ketchen Jr, 2011; Malyuk, Zotova, & Esser, 2019; Sinaga, 2022). Enhancing human capital efficiency can increase a company's ability to innovate and develop new products or services. Employees with strong intellectual abilities and creativity are more likely to develop novel ideas and solutions that drive the organization's growth and competitiveness (Gao, Hu, & Zhang, 2014; Saparso, Winoto, & Wahyoedi, 2019). Moreover, strategic planning to align human resource initiatives with the company's innovation strategy is crucial in harnessing the full potential of human capital (AlQershi, 2024). Developing high-quality human resources is essential for enhancing intellectual capabilities and boosting productivity. Providing training, education, and opportunities for professional development can help employees enhance their skills and apply them more effectively, leading to greater efficiency and contributions to the organization(Upadhyay, 2023).

Statistical findings indicate that structural capital efficiency exerts a substantial positive influence with a coefficient value (0.200) and p = 0.0468, which is less than. So, it can be said that the second hypothesis is accepted. Effective management of structural capital can lead to several benefits for food and beverage companies. Firstly, it can enhance the company's ability to streamline its operations, reducing costs and overall productivity. It can increase profitability and ROA (Ingracia et al., 2022). Additionally, mature structural capital enables companies to adapt to market changes and capitalize on new opportunities quickly. This agility and responsiveness can give the company a competitive edge, further contributing to its financial performance(Afolabi et al., 2019).

Solid structural capital can also enhance the company's ability to effectively manage and leverage its intellectual resources, such as knowledge, expertise, and innovation capabilities. This can lead to the development of unique and valuable products or services that can command higher prices and generate higher returns for the company (Kianto et al., 2013). Furthermore, the efficient management of structural capital can also lead to improved decision-making processes, better risk management, and more effective resource allocation within the organization. These operational efficiencies can contribute to the company's overall financial performance, as reflected in its ROA. The results of model 1 also suggest that capital employed efficiency has no significant influence due to its p-value larger than 0.05 (0.9459). Thus, the third hypothesis is rejected. Table 1 shows the adjusted R^2 of model 1 of 0.559, which means about 55.9% of the dependent variable ROA can be explained by HCE, SCE, and CEE (other impacts the rest). The research conducted on 24 Islamic People's Financing Banks and pharmaceutical businesses registered on the Indonesia Stock Exchange likewise yielded similar results, indicating that capital utilized efficiency did not have a significant impact on return on assets.

Several factors can cause capital-employed efficiency to have a limited impact on the performance of food and beverage companies in Indonesia. First, the efficiency of capital use by food and beverage companies in Indonesia is not optimal. This indication is evident from the relatively low total asset turnover (TATO) value, which suggests that the company is less effective in utilizing its assets to generate sales. Furthermore, inadequate management of working capital may result in a lack of substantial impact on corporate profitability due to inefficiencies in capital utilization. Food and beverage companies tend to store large amounts of inventory to ensure the continuity of the production process, thereby reducing the efficiency of capital utilization (Gołaś, 2020). A further determinant that might diminish the impact of capital employed efficiency is the suboptimal capital structure of the organization, characterized by high debt utilization that can undermine profitabiliy. Therefore, it can be inferred that the efficiency of capital used does not substantially impact the performance of food and beverage enterprises in Indonesia. This is due mainly to the inefficient utilization of assets, ineffective management of working capital, and inadequate capital structure(Sari, Goh, Elidawati, & Sagala, 2022).

The finding that the efficiency of capital employed has no significant influence on the financial performance of food and beverage companies in Indonesia is noteworthy because it contradicts most previous studies, which have stated otherwise. Although a company owns a large number of assets, not all of them are directly productive in generating revenue, such as idle machinery, buildings that are not being utilized to their full potential, or inventory that is accumulating. This imbalance leads to low total asset turnover, so the efficiency of asset use is not necessarily reflected in the increase in profitability as measured through ROA or ROE (Eti, Ogaji, & Probert, 2006; Lestari, Wahyuni, & Affandi, 2022; Sunaryo, 2020). In addition, the dominance of conventional management practices and the lack of flexibility in working capital management also weaken the influence of capital employed efficiency. Many companies in this sector are still focused on mass production strategies and inventory buildup, which indirectly restrains asset turnover and hinders profit optimization. Reliance on short-term debt with high interest expenses can also erode net income, even if the company appears to be efficient in terms of its asset structure. Furthermore, the differences in accounting policies between companies and external factors such as volatility in raw material prices and market demand instability make the influence of employed capital inconsistent (Krulický & Nováková, 2023; Martini, Ramli, Gustyana, & Nugraha, 2021; Shakespeare, 2020). Thus, these findings suggest that the impact of capital employed efficiency on financial performance warrants further examination through an approach that considers contextual factors, such as management strategies, cost structures, and unique industry dynamics.

5. Conclusions and Suggestions

5.1 Conclusions

The findings of this study suggest that the effectiveness of human capital has a significant and favorable impact on a company's overall success. Proficient and well-informed staff can enhance production and innovation, and assist organizations in adapting to evolving market conditions and technological advancements. This confirms the importance of developing quality human resources through training, education, and professional development. In contrast, capital efficiency does not significantly affect firm performance in Indonesia's food and beverage industry. Factors such as suboptimal asset utilization, ineffective working capital management, and suboptimal capital structure are the leading causes. This study supports the theory that human resource efficiency improves firm performance by encouraging innovation capacity and productivity. This finding aligns with previous studies that highlight human capital as a strategic asset capable of providing a competitive advantage. However, capital utilization efficiency did not show a significant effect, thus questioning the standard view on the importance of capital efficiency in all industry sectors, especially in Indonesia's food and beverage sector.

For businesses, these findings emphasize the importance of investing in human resource development to support improved firm performance. Companies should develop a strategy that aligns human resource development with the company's innovation strategy to maximize human resource potential. Meanwhile, in terms of capital efficiency, companies in the food and beverage sector need to review their working capital management and capital structure to enhance the efficiency of asset utilization and inventory management. In addition, optimizing the capital structure by reducing excessive debt burden

also has the potential to increase company profitability. The government can augment investment in education and training to enhance human capital efficiency. Enhancing the workforce's capabilities enables organizations to achieve higher levels of productivity and efficiency, resulting in an overall rise in ROA. In addition, it is anticipated that the government will be able to implement skill enhancement initiatives that align with industry requirements, thereby enhancing the competitiveness of the labor force and bolstering economic growth. Additionally, it is anticipated that the government will enhance its support for research and development (R&D) to help enterprises improve their efficiency in managing structural capital. Companies can enhance their efficiency and competitiveness by implementing policies that promote innovation and technology adoption.

5.2 Suggestions

This study has several limitations. First, the analysis relies solely on quantitative secondary data derived from publicly available financial statements, which may not fully capture the qualitative dimensions of intellectual capital, such as employee engagement, leadership effectiveness, or innovation culture. Second, the research is confined to food and beverage companies listed on the Indonesia Stock Exchange, which narrows the generalizability of findings to other sectors or non-listed firms, particularly MSMEs that operate under different structural and financial dynamics. Third, the five-year timeframe (2018–2022) may not be sufficient to observe long-term strategic shifts or delayed effects of human and structural capital investments, especially considering external disruptions such as the COVID-19 pandemic. Lastly, the model excludes potential moderating or mediating variables, such as organizational culture, technological adoption, or innovation capability, which might explain the pathways through which intellectual capital affects firm performance.

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