

## **The Effect of Intellectual Capital, Company Size, and Leverage on Profitability in Poultry Industry Subsector Companies Listed on the Indonesia Stock Exchange**

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### **ABSTRACT**

This study aims to examine the effect of intellectual capital, firm size, and leverage on profitability in poultry industry sub-sector companies listed on the Indonesia Stock Exchange for the period 2012-2020. The analysis used in this study uses a fixed effect model with panel data regression analysis. The results showed that Intellectual Capital had no significant effect on profitability. Company size has a negative and significant effect on profitability (ROA). Leverage (DER) has a negative and significant effect on changes in Profitability (ROA) of Intellectual Capital (VAIC), Firm Size (FSZ) and Leverage (DER) together have a positive and significant effect on changes in Profitability (ROA) in listed Poultry Companies on the Indonesia Stock Exchange (IDX) during the period 2012-2020. The coefficient of determination shows the result of 81.36%.

**Keywords:** Intellectual Capital; Firm Size; Leverage; Profitability

### **INTRODUCTION**

The manufacturing industry is an industry that dominates companies listed on the Indonesia Stock Exchange (IDX) (Abas et al., 2020; Hadiningtiyas & Mahmud, 2017; Margaretha & Supartika, 2016; Septyanto et al., 2020; Soebyakto & Sinulingga, 2018). Around 131 companies in the manufacturing industry are grouped into several industrial sub-categories. The number of companies in the industry, as well as the current economic conditions have created a tight competition between manufacturing companies, including companies in the consumer goods sector (Jasmani et al., 2020; Jasmani & Sunarsi, 2020; Sutrisno & Sunarsi, 2019). Consumer goods companies are non-cyclical companies, meaning that this industrial sector is relatively more stable and not easily affected by seasons or changes in economic conditions such as inflation. Even though inflation occurs, the smooth running of consumer goods industry products will still be guaranteed, because this industry operates in the basic human field (Min et al., 2019; Nagy et al., 2018; Neumann et al., 2021; Rapaccini et al., 2020).

This is because the public's need for consumption will not stop under any circumstances, seeing this condition, many companies want to enter the sector, so that competition cannot be avoided. For this reason, consumer goods companies must be able to regulate and manage their companies well and can survive in intense competition in order to give confidence to investors that the company can be used as an investment target with promising future prospects and to achieve company goals.

One of the goals of a company is to get maximum profit. To achieve this goal, management with a high level of effectiveness is needed in order to maximize the profits earned by the company, financial managers need to know the factors that have a major influence in obtaining

company profits by knowing the influence of each factor the company can determine steps to overcome problems and minimize the negative impacts that arise.

The company's profitability ratios can monitor the company's development from time to time. A high level of profitability in a company means that the efficiency of the use of capital is also high. used by the company. So every company will try to increase its profitability, because the higher the level of profitability of a company, the company's survival will be more guaranteed. An increase in the company's profitability makes managers have to maintain the factors that can provide profits to the company. These factors are very important in advancing the development of the company by increasing profits and avoiding the risk of bankruptcy of the company.

The rapid progress of the world economy is followed by advances in technology and continuous growth of innovation. This progress resulted in a high level of business strategy competition between companies. In facing this competition, companies are starting to realize that the ability to compete in the industry lies not only in its tangible assets, but also on intangible assets. Companies that change their business based on labor (labor based business) to business based on knowledge (knowledge based business) as a form of intangible asset, are the company's efforts to survive and compete competitively with other companies.

Labor-based business uses the principle of a labor-intensive company, which means that the more employees the company has, the more productive the company will be so that the company can grow. Meanwhile, companies that apply knowledge-based business principles will create a way to manage knowledge as a means to earn their income (Siregar & Dewi, 2019). By using science and technology, a way of using other resources efficiently and economically is obtained which will later give them a competitive advantage (Arini & Musdholifah, 2018).

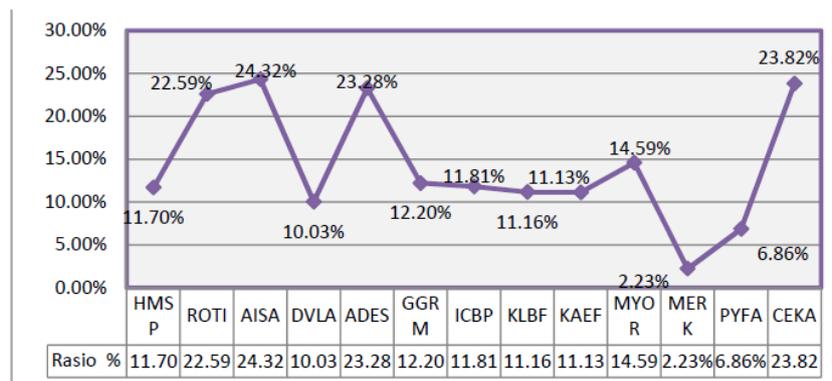
The importance of the role and contribution of intangible assets can be seen from the comparison between book value and market value in knowledge-based companies. One approach used in the valuation and measurement of intangible assets is Intellectual Capital (Nuryaman, 2015). The company's long-term goal is to optimize the value of the company which is reflected in the market price of its shares. An increase in the difference between the stock price and the book value of the assets owned by the company indicates a hidden value. If the value of the company is assessed from the physical only, the results will not match the market value because there are values other than physical or intangible that affect it.

In Indonesia, there are still no specific regulations governing the recognition, measurement and disclosure of Intellectual Capital (IC). Intellectual Capital (IC) began to develop, especially after the emergence of PSAK No. 19 (revised 2010) which took effect on January 1, 2011 replacing PSAK No. 19 (revised 2000): Intangible Assets. This PSAK determines the accounting treatment of intangible assets that are not specifically regulated in other PSAKs. This Statement regulates the procedures for recognizing, measuring and disclosing intangible assets. Although not explicitly stated as Intellectual Capital (IC), but more or less Intellectual Capital (IC) has received attention. According to PSAK No. 19, intangible assets are non-monetary assets that can be identified and do not have a physical form and are held for use in producing or delivering goods or services, rented out to other parties, or for administrative purposes.

Paragraph 09 of PSAK No. 19 mentions several examples of intangible assets, including science and technology, design and implementation of new systems or processes, licenses, intellectual property rights, market knowledge and trademarks (including product brands/brand names). In addition, computer software, patents, copyrights, animated films, customer lists, forest concession rights, import quotas, franchises, relationships with suppliers or customers, customer

loyalty, marketing rights and market share are also added. Although PSAK 19 (revised 2010) which implicitly mentions Intellectual Capital (IC) and has been introduced since 2000, in the world of practice Intellectual Capital is still not widely known in Indonesia. Companies in Indonesia tend to use conventional based in building their business. So that the resulting product is still poor in technology content, besides that these companies have not given more attention to human capital, structural capital and customer/physical capital. Even though all of these are elements of building the company's Intellectual Capital (IC).

Growth is an important indicator of market acceptance of the company's fund products or services, where the income generated from sales can be used to measure the level of sales growth. Sales growth reflects the manifestation of past investment success and can be used as a predictor of future growth. Sales growth is also an indicator of demand and competitiveness of companies in an industry. The growth rate of a company will affect the ability to maintain profits in financing opportunities in the future. By knowing how much sales growth, the company can predict how much profit it will get. To measure sales growth, it is calculated by current sales minus previous sales times one hundred percent. From the condition of achieving the percentage of profitability ratios in consumption sector companies, it can be illustrated in the figure 1.



Source: IDX Consumer Goods Manufacturing Sector, 2018 (processed)

**Figure 1. Development of Average Company Growth in Consumer Goods Sector Companies in 2012-2016**

In the graph above, it can be seen that during 2012-2016 the average growth of manufacturing companies in the consumer goods sector experienced fluctuating developments. The highest percentage of company growth was obtained by PT Tiga Pilar Sejahtera Food Tbk which reached 24.32%, while the lowest achievement occurred at PT Merck Indonesia Tbk which reached 2.23%.

Company size affects the company's ability to obtain additional external capital to finance the company's operational activities. The size of the company describes the size of a company (Lestari & Khafid, 2021). Larger companies will find it easier to obtain external funds in the form of large amounts of debt so that it will help the company's operational activities and cause company productivity to increase so that company profitability will also increase.

Profit is the company's ability to fulfill obligations to its funders which shows the value or prospects of the company in the future. Therefore, investors will only invest their funds in companies that have a good reputation. Companies that have a good reputation are companies that are able to increase company profits and provide dividends constantly to shareholders. The

higher the profit achieved by the company, the higher the share price of the company. Research on sales growth that has been carried out (Kartikasari & Merianti, 2016) argues that sales growth has a positive and significant effect on profitability. However, different results were found by Santoso and Juniarti (2014) who found that sales growth had a negative and insignificant effect on company profitability.

Research on Firm Size that has been conducted by (Ramlah, 2021), found that size has a dominant influence on company profitability. Similar results were also found by (Abas et al., 2020) found that firm size had no significant effect on profitability. In the research of (Raharjo & Haryanto, 2015) found that Leverage proxied by DER has a positive and significant effect on company profitability. In contrast to research conducted by (Coricelli et al., 2012) stated that Leverage has a negative influence on company profitability, because a high level of leverage will have a high risk which is characterized by greater debt. Based on this description, this study aims to determine the effect of intellectual capital, company growth, company size and leverage on profitability in companies in the consumption sector of the poultry industry sub-sector listed on the Indonesian stock exchange in 2012-2020.

## METHOD

This research is quantitative research. This data was analyzed using a data panel conducted on the Indonesia Stock Exchange in 2012-2020. This study examines how the influence of company size and debt policy on profitability with firm value as an intervening variable in poultry industry companies listed on the Indonesia Stock Exchange (IDX) during the period 2012-2020. The population used in this study are poultry companies listed on the Indonesia Stock Exchange during the period 2012-2020. part of a population is a sample. The sampling method used in this study is to use a non-probability sampling method with the selected sampling technique is purposive sampling. is a pre-determined sampling technique based on the aims and objectives of the study and selected based on certain criteria. The company's criteria included in the sampling of this research are: 1) The sample from this study is a poultry company that has been listed on the Indonesia Stock Exchange (IDX) during the period 2012-2020 and has not withdrawn from the stock (go-private). 2) The sample has a complete annual report for the period January 1 to December 31 for the time period 2012-2020, this is used for data uniformity and partial distortion of time. 3) The sample is poultry companies that have financial reports and annual reports published continuously during the period 2012-2020.

Based on the sample selection criteria above, there are 4 poultry companies as samples in this study as shown in table 2. which will then be analyzed using panel data regression.

**Table 2**  
**Research Sample**

No.	Stock code	Company name
1	SIPD	PT Sreeya Sewu Indonesia Tbk
2	CPIN	PT Charoen Pokphan Indonesia Tbk
3	MAIN	PT Malindo Feedmill Tbk
4	JPFA	PT Japfa Comfeed Indonesia Tbk

Sumber: BEI

## RESULT AND DISCUSSION

### Panel Data Regression

The model used is the Fixed Effect Model (FEM) in the panel data regression method which is used further to estimate and analyze the effect of intellectual capital, firm size and debt policy on profitability, with the output results and conclusions, as follows:

**Table 3**  
*Fixed Effect Model (FEM)*

Variable	Coefficient	Std. Error	t-Statistic	Prob.
VAIC?	0.000560	0.000784	0.714298	0.4808
FSZ?	-0.111820	0.017470	-6.400605	0.0000
DER?	-0.114752	0.018179	-6.312293	0.0000
C	3.530999	0.526423	6.707527	0.0000
Fixed Effects (Cross)				
SIPD--C	-0.132386			
CPIN--C	0.100520			
MAIN--C	-0.083944			
JPFA--C	0.115810			
Effects Specification				
Cross-section fixed (dummy variables)				
Weighted Statistics				
R-squared	0.813617	Mean dependent var		0.119738
Adjusted R-squared	0.775055	S.D. dependent var		0.130863
S.E. of regression	0.045891	Sum squared resid		0.061075
F-statistic	21.09890	Durbin-Watson stat		1.732720
Prob(F-statistic)	0.000000			
Unweighted Statistics				
R-squared	0.641337	Mean dependent var		0.061792
Sum squared resid	0.062402	Durbin-Watson stat		2.046639

Source: Eviews data processing results 9

### Panel Data Regression Model Partially (t-test)

The results of the estimation of the influence of intellectual capital, firm size and debt policy on profitability using the Fixed Effect Model (FEM) can be written in the following equation:

*Estimation Equation:*

$$ROA = C(1)*VAIC + C(2)*FSZ + C(3)*DER + C4$$

*Substituted Coefficients:*

$$ROA = 0.000560*VAIC - 0.111820*FSZ - 0.114752*DER + 3.530999$$

$C_i =$  Konstanta *Fixed Effect* Perusahaan Ke-i,  $i = 1, \dots, 4$

**Table 4**  
**Estimated Factors Affecting ROA**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
VAIC?	0.000560	0.000784	0.714298	0.4808
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Sum squared resid	0.062402	Durbin-Watson stat		2.046639

Source: Eviews 9 data processing results

From the above equation, further testing of each Fixed Effect Model regression coefficient that affects Profitability (ROA) using the t test. The t-test was used to determine whether each of the independent variables used in this study could partially affect profitability (ROA) as the

dependent variable significantly with a 95% confidence level or alpha equal to 5% ( $\alpha = 0.05$ ). For the effect of the variables VAIC, Firm Size (FSZ) and Debt to Equity Ratio (DER) on PBV with ROA as the intervening variable, each will be interpreted and compared with the research hypothesis.,

### **The Effect of Intellectual Capital (VAIC) on Profitability (ROA)**

Based on the t-test, it shows that the Intellectual Capital (VAIC) variable has no significant effect on profitability (ROA) in poultry companies for the 2012-2020 period, with a regression coefficient value of 0.000560, this is indicated by a t-statistic probability value of 0.714298 and a probability value ( Prob.) of 0.4808 is greater than  $\alpha = 0.05$  ( $0.4808 > 0.05$ ) so that H1 is rejected or H0 is accepted. The regression coefficient value of the variable Intellectual Capital (VAIC) on ROA is 0.000560, indicating that every increase in the variable Intellectual Capital (VAIC) achieved by poultry companies will result in an increase in ROA of poultry companies, but this increase has no significant effect.

### **The Effect of Firm Size (FSZ) on Profitability (ROA)**

Based on the t-test shows that the variable Firm Size (FSZ) has a negative and significant effect on Profitability (ROA) in poultry companies for the period 2012-2020, with a regression coefficient value of -0.111820, this is indicated by a probability value of t-statistic of -6.400605 and the probability value (Prob.) of 0.0000 is smaller than  $\alpha = 0.05$  ( $0.0000 < 0.05$ ) so that H1 is accepted or H0 is rejected. The regression coefficient value of the Company Size (FSZ) variable on ROA Profitability is -6.400605, indicating that every increase in Company Size (FSZ) achieved by poultry companies will result in a significant decrease in profitability (ROA) of poultry companies.

### **Effect of Leverage (DER) on Profitability (ROA)**

Based on the t-test shows that the DER variable has a negative and significant effect on profitability (ROA) in poultry companies for the 2012-2020 period, with a regression coefficient value of -0.114752, this is indicated by the t-statistic probability value of -6.312293 and the probability value (Prob .) of 0.0000 is smaller than  $\alpha = 0.05$  ( $0.0000 < 0.05$ ) so that H1 is accepted or H0 is rejected. The regression coefficient value of DER variable to ROA is -0.114752, indicating that every increase in Leverage (DER) achieved by poultry companies will result in a decrease in ROA of poultry companies.

### **Effect of Intellectual Capital (VAIC), Firm Size (FSZ) and Leverage (DER) together on Profitability (ROA)**

Based on the regression coefficient test of Fixed Effect Model (FEM) panel data, jointly testing the independent variables, namely Intellectual Capital (VAIC), Firm Size (FSZ) and Leverage (DER) on Profitability (ROA) which is entered into the research model using F test (Simultaneous Test). The results of the F test show the F-Statistic value of 21.09890 with a probability value (Prob F-Statistic) of 0.000000 which is smaller than  $\alpha = 0.05$  ( $0.000000 < 0.05$ ) which means H0 is rejected or H1 is accepted. This shows that the variables Intellectual Capital

(VAIC), Firm Size (FSZ) and Leverage (DER) together have a significant positive effect on the profitability (ROA) of poultry companies listed on the Indonesia Stock Exchange (IDX).

### **Coefficient of Determination Test**

For testing the coefficient of determination (R<sup>2</sup>) or produces a value of 0.813617, which means that the variation of changes in the ups and downs of Return On Equity (ROA) can be explained by the variables of Firm Size (FSZ) and Debt Policy (DER) of 81.36% while the rest is 18.64 % can be explained by other variables not examined in this study.

### **CONCLUSION**

Intellectual Capital (VAIC) has no significant effect on Profitability (ROA) of Poultry Companies listed on the Indonesia Stock Exchange (IDX) during the period 2012-2020. Company Size (FSZ) has a negative and significant effect on Profitability (ROA) of Poultry Companies listed on the Indonesia Stock Exchange (IDX) during the period 2012-2020. Leverage (DER) has a negative and significant effect on changes in Profitability (ROA) of Poultry Companies listed on the Indonesia Stock Exchange (IDX) during the period 2012-2020. Intellectual Capital (VAIC), Company Size (FSZ) and Leverage (DER) together have a positive and significant effect on changes in Profitability (ROA) in Poultry Companies listed on the Indonesia Stock Exchange (IDX) during the period 2012-2020.

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