

The Influence of Intellectual Capital on the Market Value: Evidences from Food and Beverage Company in Indonesia

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Abstract- The present study investigated the relationship between human capital, structural capital, capital employed and market value with the mediating intervention of supply chain management in Indonesia. This study uses purposive sampling method with 34 total sample companies and applies the VAIC method in carrying out its measurements. The measurement of market value used in this study is market to book value. The result shows that IC as a whole has significant positive effect on market value. Human capital has significant positive effect on market value. Structural capital does not significantly affect the market value of the company. Capital employed has significant negative effect on the market value.

Keywords; Human capital, Structural capital, Capital employed, Supply chain management, Market value

1. Background

The rapid development in business creates great competition between companies. To win the competition, many methods are carried out. Every private and public economic sector must have certain competitive advantages compared to its competitors. These advantages can be various ways, such as creating products with unique designs, the use of modern technology, organizational design, and using existing resources effectively, efficiently and economically. [1] argues that in the current economic era, companies use intangible resources such as technology, knowledge, innovation in organizational processes to compete.

Nowadays, the main activity of a company is market value enhancement [2]. Knowledge, information, technology are the most dominating resources in the world. According to [3], in the current economic era, companies use as technology, knowledge, and innovation in organizational processes to compete. Knowledge can increase competitive advantages and create value for companies called Intellectual Capital (IC).

According to [4], the competence, ability, and innovation of employees in structuring and implementing certain activities. Structural capital (SC) is a company's ability in infrastructure, organizational structure, business processes and corporate culture that supports employees performing optimally. Capital employed (CE) like as investors, suppliers, customers, countries and communities. [5] explains that it is also in relation with knowledge-based material or assets of companies, or the results of the process of transforming knowledge that can be seen in the corporate intellectual assets. These intellectual assets can be customers, patents, trademarks, brand equity, and databases. Furthermore, [6] states it is noticed as key player for the companies.

Many researchers have conducted research about IC such as [6, 7]. Based on previous research that shows contradictory results, it is interesting to do a review by conducting research measures the market value in Indonesia.

It is dominant that IC positively plays an important role in the market value, while the mediating role of supply chain management is also pertinent to be mentioned. Factors of IC are being formed in the market value via supply chain management, whereas the term supply chain management not only play mediating role but also an important factor which is prevalent between all the factors that fall in the extent of chain management. [8]. The possible role of human capital is important for discussing the market values whether in the stock exchange or the competitive markets, although supply chain management has a significant role in the distribution of human capital within the organization or the markets [9]. Ventures center around discovering better ways to deal with improve their association's presentation. They are especially keen on making sure about supported suitability and accomplishment in the information period into which the world has entered. It is more important to know where the required capital is needed [24], through the process of information via supply chain management it is quite dominating to employ such capital in the required era. Moreover, structural capital is always required where the

companies are about to grow, the channel of understanding when structural capital is also possible through supply chain management a complete channel of distributing information through pending flaws [10].

As indicated by [4], the fitness, capacity, and advancement of workers in organizing and executing certain exercises. Basic capital (SC) is an organization's capacity in foundation, hierarchical structure, business forms and corporate culture that underpins workers performing ideally. Capital utilized (CE) like as speculators, providers, clients, nations and networks. [5] clarifies that it is likewise in connection with information based material or resources of organizations, or the consequences of the way toward changing information that can be found in the corporate scholarly resources. These scholarly resources can be clients, licenses, trademarks, brand value, and databases. The worries influence business undertakings, countries, nearby governments and districts the same. Dynamic pioneers look to shape and position the association's advantages, main thrusts and exercises to stay serious. Visit disillusionments with past administration activities persuade administrators to get new understandings of the essential instruments that oversee present-day markets and associations. Besides, [6] states it is seen as key player for the organizations.

Numerous investigators have directed research about scholarly capital, for example, [6, 7]. In light of past research that shows opposing outcomes, it is intriguing to do a survey by directing exploration quantifies the market an incentive in Indonesia. At the point when sought after in seclusion, as ordinarily is the situation, these one-dimensional activities regularly lead to brief execution enhancements followed by decreased viability and unfortunate symptoms. As opposed to the significance of such faddish interests, an overview of CEOs of huge US organizations highlighted the basic job that information and scholarly capital plays inside the advanced endeavor. 2 The CEOs concurred that "information is our most significant resource. Food and beverage industry is one of the highly developed industries in every country, including Indonesia. The food and beverage industry is also a labor-intensive industry because it absorbs a lot of labor. By those facts, the development of the food and beverage industry still has good prospects, especially for the domestic market. [11].

2. Hypotheses development

Besides Market value measured by Market to Book Value (MBV) that is obtained by comparing market value of the company with the book value (book value-BV) and is usually reflected in the market value of the company's shares. Market value (MV) is the overall value of shares owned by a company. In other words, Market value (MV) is the amount that must be paid to buy the company as a whole. Market to Book Value (MBV) aims to measure its differentiation. If it turns out as too far or quite significant,

then it indicates that there are "hidden assets" that are not listed in the company's financial statements. This means that the values reported in the financial statements are meaningless. If the data are used as a basis for decision making, it can be misleading because the value of the company listed in the financial statements is not the actual value of the company. Various attempts have been made to equalize the values of both. One of the ways is to increase the book value of the company. If the book value rises, the MBV ratio will also rise, so as to increase market perception of the value of the company. The book value of a company can be increased by carrying out various efficiencies that can increase revenue and reduce company costs by utilizing the company's resources as efficiently and as fully as possible [12].

One of the theories underlying this research is stakeholder theory. If the organization does not want to use the information and cannot play a direct role in the survival of the company [11]. Stakeholder theory assumes that the company will choose to reveal voluntary disclosure about their intellectual, social, and environmental-related performance beyond and above mandatory disclosure requirements. Because of such feelings, endeavors to oversee information and scholarly capital, are presently sought after with extensive accomplishment by many driving associations. 3 In 1996, Europe and the US saw various administration meetings dedicated to scholarly capital administration (ICM) and information the executives (KM). The significant administration counseling firms are giving ICM and KM administrations to customers and the unit of in-house rehearses is developing quickly. The increase of the value also impacts the corporate activities, and minimize losses to stakeholders. As companies that are reporting their activities, usually prefers it [13]. Shareholders, workers, suppliers, banks, customers and the government play an important role in the organization as a stakeholder. That is why the company must consider all of the needs of the stakeholders. This theory expects company management to report company activities to stakeholders, which contain the impact of these activities on their company, even though they later choose not to use that information [14].

[15] Proposed that organization used the available resources in value creation strategies. Unique resources and capabilities of the company have various names, and a combination of company experience based on knowledge-based perspectives [17]. The value creation from an organization does not originate from the dynamics of the organization's industry, but from organizational processes, which lead to special endowment funds from owned resources competing companies [16]. According to [17], in order to compete, organizations need two main things. First, the companies have advantages in their own. Second, the companies have the ability to manage these resources effectively. The combination of assets and abilities will

create specific competencies of a company, so as to have a competitive advantage compared to its competitors.

Many researchers have used supply chain management as a tool to analyze the variation of organizational value and market values. The process of supply chain management not only acts through an information sharing between the organizations but also known for the supply of required data or values that can be significant for analyzing the structural values [25]. When the capital is employed it is merely important to understand the fields are covered, although the channel of supply chain management could better perform within the IC that can influence the market value [18]. The studies have endorsed the measurement of values in the organizations, where supply chain management is considered an important factor mediating among the company or market values. Studies also highlighted financial markets a significant era to determine the company values, the major flaw that arises among the companies and financial markets are lack of information sharing, where the broader term of supply chain management plays a significant role between the companies and financial markets. Financial statements enumerate the company values through accounting measures, while the data states company standing in the market where the understanding of such statements for company values are critically examined in many studies through the process of supply chain management. Moreover, supply chain management also has restricted the options of misleading circumstances that can put a drastic impact on the organizational values. [19]. In the competitive market, the use of intellectuals can insert important aspects in the competitive environment, while the supply chain management amid stock exchange and organization could help to capture the best advantage conditions. Data that enumerate the value of an organization is important in elaborating on the conditions of companies in the financial markets, while supply chain management has been founded in many studies for the arrangement of such data [20]

This creates a challenge for accountants to identify, measure and disclose asset in financial statements [22]. Traditional accounting which is used as the base for making financial statements is considered not enough in providing information about IC [23]. These improvements result from the force increased in the course of the most recent decade as associations have progressively understood that information and scholarly resources and capital must be overseen purposely, efficiently and with mastery to endure. 4 Progressive supervisors have perceived that the undertaking's practicality relies straightforwardly upon: 1. the serious nature of its information based scholarly capital and resources; and 2. the fruitful utilization of these advantages in its operational exercises to understand their incentive to satisfy the undertaking's goals. On the other

hand, the users of financial statements need quantitative and qualitative information as an evaluation of the company's performance as well as information about IC owned by the company [26]. Traditional accounting practices are only able to recognize its wealth statements, such as patents, trademarks and goodwill [21].

[28] consistent with another views of IC (IC) authors, [28] argues that total salary and wage costs are indicators of a company's human capital (HC). Structural capital efficiency (SCE) measures the amount of structural capital (SC) needed to produce 1 rupiah of value added (VA) and is an indicator of how successful structural capital (SC) is in creating value. Structural capital (SC) is not an independent measurement as human capital (HC) and structural capital (SC) are depended on value creation [27].

The company must be able to manage its resources optimally in an effort to create added value for the company in the interests of the stakeholders. These resources include physical assets and intellectual assets. If the company can manage its intellectual assets well, then the market perception of the value of the company will increase. One of the intellectual assets owned by the company is human resources. If market knows that the human resources in a company are well managed, then the market valuation of the company will increase. For company, employees are the company's key resources. If the market knows that the company's employees are well managed so that the companies can develop the abilities and skills, and also can produce highly skilled employees, then with the support of such employees, the company will develop. Based on the concept of Resource-based theory (RBT), highly skilled employees are the company's key resources that can create competitive advantage. Companies that have a competitive advantage will certainly be able to compete with their business partners and the company's sustainability will be guaranteed.

VAIC is an appropriate measure for a company's intellectual abilities, but based on [15] research indicates that the three components of VAIC have the power to explain the company's market value more than the overall VAIC. In the effort of value creation, it is necessary to utilize all the potential of the company. The added value generated from the value creation process will create a competitive advantage for the company. By having a competitive advantage, the market perception of the value of the company will increase because companies that has it.

Hypotheses 1: Human Capital has a positive association with Market Value.

Hypotheses 2: Social Capital has a positive association with Market Value.

Hypotheses 3: Capital Employed has a positive association with Market Value.

Hypotheses 4: Supply Chain Management (SCM) positively mediates in the accusation between Human Capital and the Market Value.

Hypotheses 5: Supply Chain Management (SCM) positively mediates in the accusation between Social Capital and the Market Value.

Hypotheses 6: Supply Chain Management (SCM) positively mediates in the accusation between Capital Employed and the Market Value.

3. Methodology

The present study investigated the relationship between human capital, structural capital, capital employed and market value with the mediating intervention of supply chain management in Indonesia. This study uses purposive sampling method with 34 total sample companies and applies the VAIC method in carrying out its measurements. The unit of analysis for the current study is the individual employees of selected 34 companies. The questionnaire method was adopted to collect the data from the respondents. Thus, 520 questionnaires were distributed by personal visit to the respondents and after two weeks only 410 were returned that is approximately 78.84 per cent response rate. The PLS-SEM was used to test the hypotheses that were developed in earlier chapter. The predictors of the study includes the human capital (HC) that have 2 items, structural capital (SC) that has 2 items, and capital employed (CE) that has 2 items. In addition, mediator variable used by the study namely supply chain management (SCM) that has 2 items and dependent variable named as market value (MV) has 2 items. These variables are shown in Figure 1.

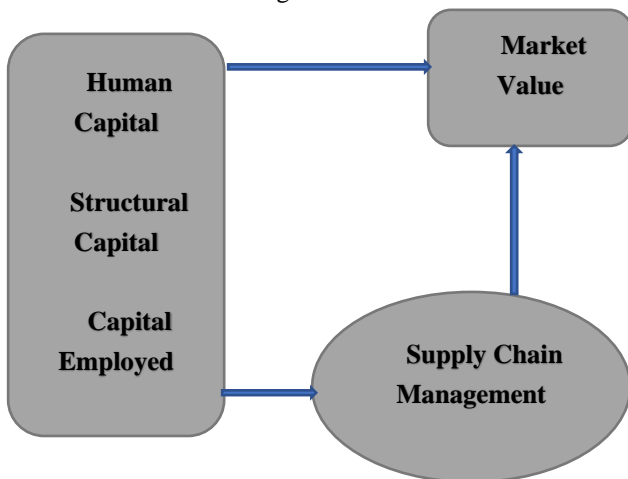


Figure 1. Theoretical framework

4. Results

The findings show firstly the convergent validity related to the correlation among the items and show that convergent validity is valid and high correlation among items because the figures of Alpha and CR are more than 0.70 while loadings and AVE are more than 0.50. These values are shown in Table 1.

Table 1. Convergent validity

Items	Loadings	Alpha	CR	AVE
CE2	0.634	0.746	0.811	0.592
CE3	0.857			
CE4	0.800			
HC1	0.724	0.859	0.891	0.540
HC2	0.727			
HC3	0.704			
HC4	0.713			
HC5	0.742			
HC6	0.745			
HC7	0.787			
MV1	0.632	0.767	0.871	0.698
MV2	0.923			
MV3	0.917			
SC1	0.703	0.817	0.871	0.575
SC2	0.785			
SC3	0.791			
SC4	0.805			
SC5	0.699			
SCM1	0.760	0.802	0.870	0.626
SCM2	0.815			
SCM3	0.784			
SCM4	0.805			

The findings show secondly the discriminant validity related to the correlation among the variables and show that discriminant validity is valid and no high correlation among variables because the figures of Heterotrait Monotrait ratios are not more than 0.85. These values are shown in Table 2.

Table 2. Heterotrait Monotrait ratio

	CE	HC	MV	SC	SCM
CE					
HC	0.237				
MV	0.337	0.737			
SC	0.286	0.651	0.763		
SCM	0.430	0.618	0.753	0.746	

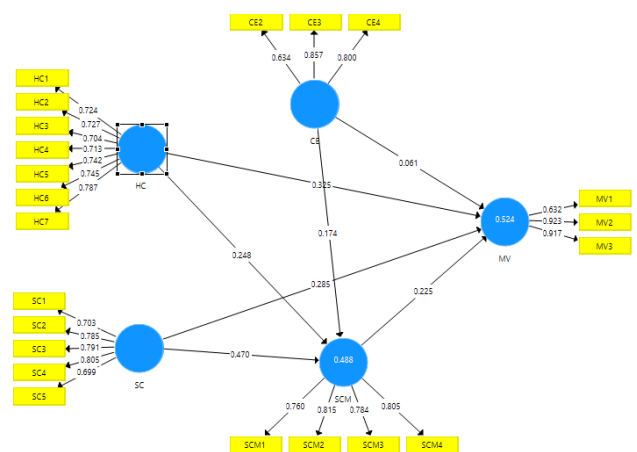


Figure 2. Measurement model assessment

The findings also show the path analysis and the figures show that human capital and structural capital have positive association with market value and accept H1 and H2. However, working capital has insignificant nexus with the market value and reject H3. Moreover, supply chain management positively mediate among the nexus of human capital and market value and accept H4. Furthermore, supply chain management also positively mediate among

the nexus of structural capital and market value and accept H5. In addition, supply chain management positively mediate among the nexus of capital employed and market value and accept H6. These relationships are shown in Table 3.

Table 3. Path analysis

	Beta	S.D.	t-statistics	p-values
CE -> MV	0.061	0.037	1.648	0.103
CE -> SCM	0.174	0.040	4.316	0.000
HC -> MV	0.325	0.047	6.889	0.000
HC -> SCM	0.248	0.050	4.940	0.000
SC -> MV	0.285	0.049	5.874	0.000
SC -> SCM	0.470	0.043	10.934	0.000
CE -> SCM -> MV	0.039	0.014	2.900	0.005
HC -> SCM -> MV	0.056	0.017	3.190	0.002
SC -> SCM -> MV	0.106	0.028	3.722	0.000

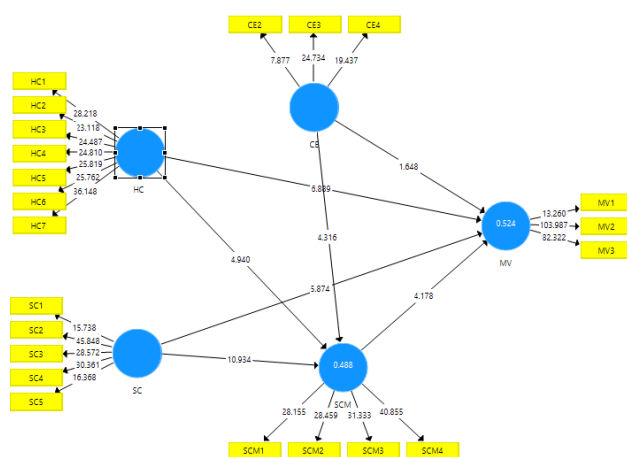


Figure 3. Structural model assessment

5. Discussion and conclusion

The IC has a significant effect on the market value. So that market value will increase. In appreciating the market value, investors will consider the influence of intellectual assets owned by the company. The existence of information about IC owned by a company may be one of the main factors. So in assessing a company's value, investors also consider the company's intellectual resources. This fact is alleged that IC has become an interesting theme to be developed in order to create value of a company. Thus, it can be concluded that for companies which go public in stock exchange especially for the food and beverage sector in Indonesia, the focus of investors is not only on physical and financial capital, but also focusing on IC owned by the company.

The partial test results show that the human capital variable has a significant influence on the market value of the company. This identifies that IC contributes strongly to stakeholder theory that emphasizes accounting earnings and value added accuracy in determining returns. The results of this study are the same as the research conducted which states that human capital efficiency (HCE) affects the market value measured using market to book value. Resource-based theory (RBT), in order to compete,

companies must have superior resources that can create added value for companies, in this case is human capital (HU). In addition, companies must be able to manage these resources so that competitive advantage is achieved.

It is our conviction that ICM and KM are a long way from the tight administration activities. They are on a very basic level unique in relation to the trends in the two destinations and extensions. They are expansive, multi-dimensional, and spread most parts of the venture's exercises. Conversely, the crazes have picked up ubiquity by concentrating on a restricted extension to improve the difficult setting. Competitive advantage is one ways to win the business competition, so companies that have competitive advantages are able to survive in the business environment. This has an impact on market perceptions of the company's value that will increase. This result is not parallel with who stated that human capital efficiency (HCE) does not significantly influence market valuation as measured by market to book value.

The SC variable shows that SCE has no relationship. The results of this study are different from research conducted by [26] which states that SCE has a significant effect on market value as measured by market to book value. Furthermore, the results of this study are the same as the research conducted by [27] which states that there is no significant effect on market valuation as measured by market to book value. The SCE is not an appropriate measurement because it only reflects the added value of structural capital. SCE ignores 2 other things which are innovative capital and relational capital.

Some studies had been founded stating influencing factors that do influence market values, while the role of IC is usual in many studies describing the mediating role of supply chain management among intellectual capita and market values. Although supply chain management term significantly performs an important role among markets and organizations not only to capture competitive advantage but also for stakeholders [18].

The capital employed variable has a significant negative effect on the company's market value. This identifies that IC makes a strong contribution to stakeholder theory that emphasizes accounting profit and value added accuracy in determining returns. The like as research [26] which defines a positive relation. In other words, CEE has a significant negative effect on MBV. It means that the high value of capital employed efficiency (CEE) allows a decrease in the value of MBV. Capital employed efficiency (CEE) is the added value which is created from the efficiency of physical assets. The value of capital employed efficiency (CEE) is obtained by dividing VA (output-input) with CE (Book value of the net assets). Output is the total sales plus other income, while inputs are expenses (other than employee expenses). MBV is measured by the market value of common stock (MV) divided by book value (BV).

Market Value of Common Stock (MV) is obtained from the number of shares multiplied by the share price at the end of the year. BV is the shareholder's equity. High value of capital employed efficiency (CEE) is not followed by an increase in MBV. This can be explained if the company's sales increase, the company profit will rise. With the increase in sales, the value of capital employed efficiency (CEE) will be higher because the added value obtained is higher and the value of CE (Book value of the net assets) decreases. Thus, the efficiency of physical assets will get better. However, the rise in sales will increase company profits and shareholder equity. The rise of value of equity (BV) will have an impact on the declining MBV. This means that information regarding the efficient use of the company's physical assets cannot be captured by the market, causing the decreased MBV ratio. The results of this study are not in accordance with the results of which states that the capital employed efficiency (CEE) has a significant positive effect on the market-to-book value ratio. The results of this study are different with research conducted which states that capital employed efficiency (CEE) has no significant effect on market valuation as measured by market to book value.

Based on the test results above, it can be concluded that IC has a significant positive effect on the company's market value. Human capital has a significant influence on the market value of the company, while structural capital has no significant effect on the market value of the company. Capital employed has a significant negative effect on the market value of the company. The limitation of this study is based on the manufacturing companies listed on the Indonesia Stock Exchange. The samples used in this study are 34 food and beverage companies. Researcher uses 3 years data from 2016-2018, which can be said to have a fairly short period. The independent variable and the dependent variable in this study are limited and there are still other factors that can affect the market value of the company.

Although supply chain management is an important era that plays a significant role between the stakeholder and values of companies, there are many other factors where the mediating role could better perform for significant conclusions. Some facts are clear where the proxy terms of IC are not significant in influencing the market value of food and beverages [29], while supply chain management is significantly mediating among the market values and all proxy terms that are influencing the market values. Where the significant role if IC is pertinent to mention [31], many other factors also prevail that do impact the market values in the stock exchange, while supply chain management positively results amid all the factors influencing markets [9]. While concluding, supply chain management also refers to some important contexts of beneficial investments to ascertain significant market values [30]

From the results of the study and the limitations of the researcher, the advice that can be given from this study is to add periods, samples and other independent variables for further research. For companies, these are the factor which needs to be paid attention more, so that companies have strong competitive advantage while competition is getting tougher year by year. In addition, for investors tend to be more careful in investing money. By carefully choosing the right company, the investment will be beneficial.

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