

The Effect of Market Attractiveness and Value Creation on the Performance of Fertilizer Companies in Indonesia

Indarto Pamoengkas and Sulaeman Rahman
Faculty of Economics and Business, Universitas Padjajaran

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Abstract: In the business development of both organic and inorganic fertilizers in Indonesia, companies have not shown a high performance, while the demand for fertilizers continues to grow. This condition was allegedly caused by issues related to the development of the value creation in the fertilizer industry. Other aspects that are thought to have an impact on these conditions are related to adapting the attractiveness of the fertilizer market. Based on this background, this research aims at examining the effect of market attractiveness and value creation on the performance of fertilizer companies in Indonesia.

This research used a quantitative research approach. The unit of analysis in this research was fertilizer producers in Indonesia, especially producers registered with the Ministry of Agriculture. Observations were carried out using a cross section/one shot in the time horizon, which was year 2019. The observation unit was the management of fertilizer producer companies in Indonesia. The population in this research was all fertilizer producer totaling 55 companies, and a census was carried out on all fertilizer producers in Indonesia. Verification analysis was used to measure quantitative data and hypothesis testing was conducted using PLS (Partial Least Square).

The results showed that market attractiveness and value creation had a significant effect on company performance, where value creation had a greater influence than market attractiveness. The dominant value creation dimension in improving company performance was business domain, and then followed by business partners, and customer benefits. While the most dominant dimension of market attractiveness in driving company performance was market access, followed by market strength, and intensity of competition.

The results of this research have implications for the management of fertilizer companies in Indonesia that improving company performance rests on the development of value creation, especially in the aspect of the business domain, which is supported by the adaptation of market attractiveness especially in terms of market access.

1 INTRODUCTION

At the international level, the fertilizer market competition in 2018 was still high due to oversupply faced by the international urea market. This condition had resulted in difficulties in competing for fertilizer producers who had uncompetitive selling prices. The international prices of urea and ammonia hit their lowest point in 2017, but turned rebounded in 2018 before going down again in H1 2019.

The high climate of competition in the international fertilizer market was indicated from the expansion of the establishment of new factories, especially in areas that had low to medium production cost advantages. The increase in the expansion of factory establishment was not directly proportional to

the growth in consumption levels, which caused oversupply market conditions. Another implication was that products with uncompetitive prices lost market share.

According to data from the Association of Indonesian Fertilizer Producers (APPI – *Asosiasi Produsen Pupuk Indonesia*), the consumption of urea fertilizer throughout 2018 was the largest in the last 10 years with an achievement of 6,26 million tons, exceeding the realization of urea fertilizer consumption in 2017 which was 5.97 million tons. The large amount of consumption was caused by several factors, including the long rainy season that encouraged farmers to produce more. The national urea consumption in 2018 was dominated by the agriculture (4.10 million tons), plantation (1.56

million tons), and industrial sectors (600 thousand tons). Meanwhile, the export of urea fertilizer throughout 2017 decreased by 39% to 766 thousand tons compared to the previous year of 1.25 million tons, later then improved in 2018 by achieving 1.14 million. This fluctuation was mainly due to the unstable market price of urea and ammonia. Nonetheless, the total urea consumption for the domestic and export markets in 2018 increased by 10% to 7.40 million tons compared to the previous year of 6.73 million tons. Meanwhile, NPK fertilizer consumption also rose by 7.8% to 2.8 million tons compared to the previous year of 2.59 million tons.

Urea fertilizer production fluctuated in the 2010-2018 period. The fertilizer produced by PT Pupuk Indonesia (PTPI) was dominated by urea, followed by NPK and other fertilizers. However, production had already fluctuated from 2013 to 2018.

PTPI fertilizer sales were divided into two segments, namely the subsidized and non-subsidized segments. PTPI's subsidized fertilizer sales performance increased from 2013 to 2018. However, the non-subsidized segment fluctuated from time to time. The performance of export sales even showed a weakening in line with fluctuations in prices of fertilizer and ammonia commodities. The description indicated problems in the performance of fertilizer companies in Indonesia. According to Wheelen & Hunger (2015), company performance is related to sales, market share and profitability.

The aforementioned conditions were considered to be related to value creation. This thought was based on a literature review of previous research, such as the findings of Sanchez et al. (2010) which showed that producer organization learning is a direct factor to the positive ability of customer value creation, which is understood from a functionalist perspective that directly enhances the business performance of producers. In addition, Rodgers (2010) found that corporate value creation causes performance gaps, which are explained by seven organizational variables focus on the entire organization, consisting of vision, mission, core values, goals, strategies, organizational flexibility and risk.

Conceptually, Kotler & Keller (2012: 79) explained that customer value creation focuses on customers, core competencies in business domains, and collaborative networks at business partners. So that, companies can create customer value, if they are able to focus on providing benefits to customers, have superior core competencies, and have good business partners in their collaborative network. While empirically, indications such as the lack of effort to develop collaboration with business partners were

found. By paying attention to the high international competition climate, each fertilizer producer is required to operate efficiently, and be more responsive to opportunities and take anticipatory steps to continue to grow sustainably. Fertilizer companies continued to make efforts to obtain gas contracts at competitive prices.

Other aspects that are thought to be related to problems in the performance of fertilizer companies were the aspect of adapting market attractiveness. Ju & Zhao (2009) found that the intensity of industrial competition positively moderated the influence of slacking organizations on performance.

Best (2013) suggested that the attractiveness of segments are based primarily on three important considerations, namely market demand, intensity of competition, and market access. The measures of market attractiveness are market forces, competitive intensity, and market access. While the results of the observations indicated that fertilizer companies in producing and marketing fertilizers had not been based on observations of market forces, such as the extent of the market coverage, the extent of the customer's purchasing power, and whether customers have characteristics as loyal customers.

Based on the background, this research aims at examining the effect of market attractiveness and value creation on the performance of fertilizer companies in Indonesia.

2 LITERATURE REVIEW

2.1 Market Attractiveness

Walker, Mullins and Boyd (2011) revealed that the measuring factors of market attractiveness are customers' needs and behavior, market size, market growth rate, and macro trends (demographic, socio-cultural, economic, political/legal, technological, and natural trends). Meanwhile, the measuring factors to determine the position of the competitors are opportunity for competitive advantage, firm and competitor capabilities and resources, and the attractiveness of the industry where they complete (threat of new entrants, or new substitutes, buyer power, supplier of power, competitive rivalry, and industry capacity).

Best (2013) suggested that the attractiveness of segments is based primarily on three important considerations, namely an assessment of market demand, competition intensity, and market access. According to Best (2013), market attractiveness can

be measured by market forces, competitive intensity, and market access.

There are three factors that shape market attractiveness, namely:

1. Market forces with indicators of market coverage served (market size), level of product/service growth (growth rate), strength of buyer power, and customer loyalty
2. Competitive intensity with indicators of number of competitors, competitor prices, ease of entering the market, and service products or service substitutes.
3. Market access with indicators of customer access, familiarity with products/services of the company, ease in getting products/services (channel access), sales requirements, and ease in managing and developing markets (company fit)

While, according to Huser (2012), market attractiveness is a multidimensional phenomenon that includes:

- a. Market size
- b. Market growth
- c. Market potential / dynamics (prospective)
- d. Others: distribution of small/medium goals (diversification), off-season distribution, length of stay, and price insensitivity

On the other hand, Hubbard and Beamish (2011) revealed that market attractiveness can be measured based on the condition of the company's competitors, customer demand, supporting and infrastructure conditions, and supplier conditions.

Based on the description of the concept of market attractiveness, market attractiveness in this research refers to the Best's (2013) description, hence it was measured by the dimensions of market strength, intensity of competition, and market access.

2.2 Value Creation

Kotler & Keller (2016:43) developed the concept of holistic marketing. Holistic marketing is based on the development, design, and implementation of various marketing programs, processes, and activities that are broad and interdependent. Holistic marketing requires an integrated perspective in understanding various issues related to marketing. Therefore, holistic marketing recognizes and adjusts the scope and complexity of various marketing activities. Holistic marketing has four broad components, namely relationship marketing, integrated marketing, internal marketing, and performance marketing.

The holistic marketing dimensions relates to the business task of delivering customer value to an advantage. Marketers can succeed if they adjust the

value delivery process and select, provide, and communicate superior value to the buyer. Kotler & Keller (2012:79) explained that customer value creation focuses on customers, core competencies in business domains, and collaborative networks with business partners. Therefore, companies can create customer value, if they are able to focus on providing benefits to customers, have superior core competencies, and have good business partners in their collaborative network.

Value creation activities are related to business strategy. Hubbard & Beamish (2011:36) explained that business strategies are related to value creation that results in customer value, namely the difference between what is sacrificed in costs and what is received in a number of benefits derived from the performance of a product or service received from the organization. According to Bowman & Ambrosini (2000), value creation is related to innovation that increases benefits for consumers; from the consumer's perspective, value creation is related to increasing value that can have an impact on increasing consumer loyalty.

Based on the description of the concept, the value creation in this research was measured by the dimensions of benefits for customers, business domains, and business partners.

2.3 Company Performance

The concept of performance was explained by Wheelen et al. (2015) as the end result of an activity. Performance is related to the objectives formulated in the strategies as part of the management process.

In measuring performance, David (2013) used quantitative criteria in the form of financial ratios to compare company performance in several periods, to compare company performance with competitor performance, and to compare the company's performance towards the industry average. Financial ratios that are used to evaluate strategies are Return on Investment (ROI), Return on Equity (ROE), Profit Margin, Market Share, Debt to Equity, Earnings per Share, Sales Growth, and Assets Growth.

Hassabelnaby, Hwang & Vonderembse (2012) measured company performance with the dimensions of financial performance (Return on Assets/ROA) and nonfinancial performance (Quality). Huang (2010) measured company performance based on financial performance, measured by ROA, while Fonseka et al. (2013) measured company performance through accounting-based performance measure, and ROI.

Based on the concepts and dimensions of company performance, the company performance variable in this research was measured by the dimensions of sales, profitability, and market share.

2.4 Hypothesis

H : Market attractiveness and value creation affect company performance.

3 METHODOLOGY

This research examined the fertilizer industry in Indonesia using a quantitative research approach focused on the numerical assessment of the learned phenomenon. Quantitative research is more systematic, planned, structured, clear from the beginning to the end of the research. This quantitative approach is used to identify all concepts of the research objectives (Malhotra, 2010). Quantitative research seeks to test a theory by specifying hypotheses, and then collecting data to support or refute the theory. The data were collected using special instruments designed to assess behavior, and the information was analyzed using statistical procedures and hypothesis testing.

Observations were carried out using a cross section/one shot in the time horizon, meaning that the information or data obtained was the result of research conducted at one time, namely in 2019.

According to Sekaran (2010: 132), the unit of analysis is level of aggregation of the data collected during the subsequent data analysis stage. The units of analysis in this research were companies of both organic and inorganic fertilizers. Thus, the population in this research was all fertilizer producers totaling 55 companies. Based on this population, a census of all fertilizer producers in Indonesia was conducted. The observation units used as the respondent in this research were the managers or management of fertilizer producer companies in Indonesia. Verification analysis was used to measure quantitative data and hypothesis testing using the PLS (Partial Least Square).

4 RESULT AND FINDING

The following explains about the results of analysis based on PLS method.

4.1 Result of Model Analysis Using PLS

4.1.1 Evaluation of Measurement Model (Outer Model)

The measurement model in this research used SmartPLS program. The outer model analyzed the relationship between latent variables and indicators. Tests were carried out on external models include:

- Convergent Validity: The value of convergent validity was the value of loading factor on the latent variable with its indicators. The expected value was > 0.7.
- Composite Reliability: The data had high reliability with the composite reliability > 0.7.
- Average Variance Extracted (AVE). The expected AVE value was > 0.5.

Table 1: Reliability

Construct	AVE	Composite Reliability	Cronbach's Alpha
PERFORMANCE	0.504	0.854	0.794
MARKET ATTRACTIVENESS	0.558	0.902	0.880
VALUE CREATION	0.529	0.854	0.802

Table 1 depicted the reliability test of variables. The values obtained were AVE > 0.5. Cronbach's Alpha > 0.7 and Composite Reliability > 0.7. Therefore, the research variables had good reliability.

Table 2: Convergent Validity Dimension-Indicator (1st order)

Indicator <- Dimension	Original Sample (O)	Standard Error (STERR)	T Statistics (O/STERR)	Conclusion
CP1 <- Sales	0.886	0.028	32.073	Valid
CP2 <- Sales	0.914	0.014	64.873	Valid
CP3 <- Profitability	0.803	0.048	16.701	Valid
CP4 <- Profitability	0.849	0.020	41.606	Valid
CP5 <- Market share	0.924	0.023	41.022	Valid
CP6 <- Market share	0.907	0.024	37.764	Valid
MA1 <- Market forces	0.762	0.035	21.817	Valid
MA2 <- Market forces	0.709	0.053	13.333	Valid
MA3 <- Market forces	0.613	0.074	8.280	Valid

MA4 Market forces	<-	0.758	0.047	16.057	Valid
MA5 Intensity	<-	0.654	0.055	11.837	Valid
MA6 Intensity	<-	0.771	0.062	12.416	Valid
MA7 Intensity	<-	0.864	0.024	36.257	Valid
MA8 Market Access	<-	0.777	0.040	19.416	Valid
MA9 Market Access	<-	0.638	0.078	8.191	Valid
MA10 Market Access	<-	0.658	0.068	9.724	Valid
MA11 Market Access	<-	0.717	0.041	17.357	Valid
VC1 Customer benefit	<-	0.839	0.045	18.679	Valid
VC2 Customer benefit	<-	0.848	0.031	27.037	Valid
VC3 Customer benefit	<-	0.665	0.088	7.559	Valid
VC4 Business domain	<-	0.811	0.055	14.741	Valid
VC5 Business domain	<-	0.677	0.093	7.264	Valid
VC6 Business domain	<-	0.608	0.118	5.161	Valid
VC7 Business Partner	<-	0.920	0.021	43.335	Valid
VC8 Business Partner	<-	0.930	0.017	54.576	Valid

The value of convergen validity was the value of the loading factor in the latent variable with its indicators. The value of loading factor was > 0.5, meaning that the indicator was a valid mesurement for latent variables in first order.

Table 3: Convergent Validity of Latent Variables-Dimensions (2nd order)

	Original Sample (O)	Standard Error (STERR)	T Statistics (O/STERR)	Conclusion
MARKET ATTRACTIVENESS Intensity	0.894	0.018	49.306	Valid
MARKET ATTRACTIVENESS Market Access	0.965	0.006	162.779	Valid
MARKET ATTRACTIVENESS >Market forces	0.954	0.009	105.485	Valid
VALUE CREATION Business Partner	0.679	0.082	8.255	Valid
VALUE CREATION Business domain	0.911	0.020	45.789	Valid
VALUE CREATION Customer benefit	0.883	0.020	44.170	Valid
PERFORMANCE Market share	0.551	0.133	4.158	Valid
PERFORMANCE Profitability	0.953	0.008	112.319	Valid
PERFORMANCE -> Sales	0.890	0.023	38.195	Valid

The value of loading factor was > 0.5, meaning that the indicator was a valid mesurement for latent variables in second order.

4.1.2 Evaluation of Structural Model (Inner Model)

The evaluation of inner model was tested in three ways, namely R², Q² and GoF. According to Chin (1998), the value of R² amounted to 0.67 was categorized as strong, 0.33 as medium, and 0.19 as weak. The Q² value of 0.02 was categorized as minor, 0.15 as medium, and 0.35 as large, and they were only used for the endogenous construct with reflective indicator. The value of GoF was considered small if it was < 0.1, medium if it was 0.1-0.25, and large if it was > 0.38 (Tenenhaus, 2004).

Table 4: Inner Model Test

Variable	R ²	Q ²	GoF
PERFORMANCE	0.541	0.434	0.487
MARKET ATTRACTIVENESS		0.450	
VALUE CREATION		0.431	

Table 4 depicted that the R² value of company performance as endogenous variables were in the medium criteria (> 0.33), and Q² values were in the large criteria (> 0.35), and GoF was in the large criteria (> 0.35). Therefore, it could be concluded that the research model was supported by the empirical condition, so that the model was fit.

Based on the test results of R², Q² and GoF, the resulting model could be considered as robust.

Therefore, the hypothesis testing was able to be conducted.

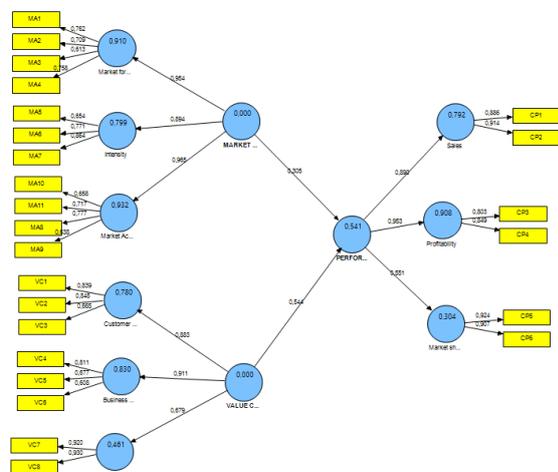


Figure 1: Complete path diagram the of research model

Based on the research framework, then the structural model obtained was:

$$\eta_1 = 0.305\xi_1 + 0.544\xi_2 + \zeta_1$$

- η_1 = company performance
- ξ_1 = market attractiveness
- ξ_2 = value creation
- ζ_1 = Residual

4.2 Hypothesis Testing

Table 5 presents the results of hypothesis testing both simultaneously and partially.

Table 5: Simultaneous Testing of Hypothesis

Hypothesis	R ²	F	Conclusion
Market Attractiveness and Value Creation -> Performance	0.541	30.667*	Hypothesis accepted

*significant at $\alpha=0.05$ ($F_{table}=3.175$)

Table 5 depicted that there was simultaneous influence of market attractiveness and value creation on company performance amounted to 54.1% with degree of confidence of 95% ($\alpha=0.05$), while the rest of 45.9% was affected by other factors not examined in this research.

Table 6: Partial Testing of Hypothesis

Hypothesis	γ	SE (γ)	t	R ²	Conclusion
Market Attractiveness -> Performance	0.305	0.096	3.161*	0.169	Hypothesis was accepted
Value Creation -> Performance	0.544	0.082	6.382*	0.372	Hypothesis was accepted

*significant at $\alpha = 0.05$ ($t_{table}=1.68$)

Partially, market attractiveness and value creation had a significant influence on company performance, in which value creation had a greater influence ($R^2=37.2\%$).

Based on the results of the hypothesis testing, then the research findings are described as follows.

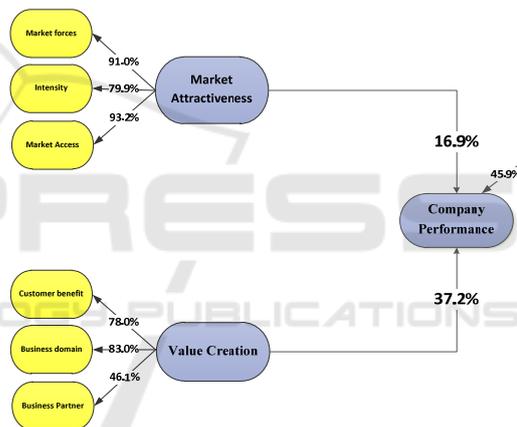


Figure 2 : Research Findings

The hypothesis testing results revealed that market attractiveness and value creation had an effect on company performance, thus the hypothesis was accepted. The results of statistical tests showed that value creation had a greater influence than market attractiveness on the achievement of company performance in the fertilizer industry in Indonesia.

Value creation was formed by three dimensions, namely customer benefits, business domains, and business partners. From these dimensions, the business domain had the highest influence (83%), followed by customer benefits (78%), and business partners (46.1%). Business domains were related to the creation of distinctive product characteristics compared to competitors, the creation of standards for on-time and delays, and an increase in the company's understanding of product trends in the future. These

aspects had the highest implications in improving the performance of fertilizer companies in Indonesia. The second dimension that supported the achievement of business performance was customer benefits relating to the creation of product variations, the creation of additional benefits, and the improvement of quality standards. Meanwhile, the creation of business partners' value was related to the creation of partnerships with customers and business networks with competent parties.

Market attractiveness was formed by three dimensions, namely market forces, competitive intensity, and market access. From these dimensions, market access had the highest influence (93.2%), followed by market forces (91%), and competitive intensity (79.9%). These results illustrated that the achievement of company performance produced by companies were able to adapt market attractiveness, especially in terms of market access aspects. Adaptation of market access was mainly related to the condition of the customer, the extent to which the customer recognizes the company's products, distribution channels, and the company's understanding of product trends. The introduction of market attractiveness also needed to be supported by adaptation of market forces and competitive intensity. Market forces were related to market coverage, market growth, market forces, and market characteristics. Meanwhile competitiveness is related to the growth in the number of competitors, price competition, and the quality of substitute products. These aspects support the companies' efforts to analyze the extent to which the attractiveness of the market in the fertilizer industry as an appropriate strategy for winning the competition so as to produce optimal company performance.

The research results revealed that company performance was dominantly formed by value creation, which was supported by the adaptation of market attractiveness. The results of this research supported the findings of Sanchez et al. (2010), which showed that producer organization learning was a direct factor to the positive ability of customer value creation, which was understood from a functionalist perspective that directly enhanced the business performance of producers. In addition, Rodgers (2010) found that corporate value creation affected performance gaps, which were explained by seven organizational variables focuses on the entire organization consisting of vision, mission, core values, goals, strategies, organizational flexibility and risk; and Ju & Zhao (2009) found that the intensity of industrial competition positively moderated the influence of slack organizations on performance.

5 CONCLUSION AND RECOMMENDATION

The hypothesis testing results revealed that market attractiveness and value creation had an effect on company performance, thus the hypothesis was accepted. The results of statistical tests showed that value creation had a greater influence than market attractiveness on the achievement of company performance in the fertilizer industry in Indonesia.

The results of this research have implications for the management of fertilizer companies in Indonesia that struggle to improve company performance are based on the development of value creation which is supported by the adaptation of market attractiveness. Value creation development is prioritized on the business domain aspect, followed by development in the aspects of customer benefits and business partners. Business domains are related to the creation of distinctive product characteristics compared to competitors, the creation of standards for meeting on-time delivery, and increasing the company's understanding of product trends in the future. Meanwhile, market attractiveness adaptations are prioritized on aspects of market access, followed by adaptation to aspects of the market forces, and competitive intensity. Adapting market access is emphasized in aspects of customer conditions, the extent to which customers recognize company products, distribution channels, and the company's understanding of product trends.

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