
STRATEGY OF COMPETITIVENESS OF UREA INDUSTRY IN THE INTERNATIONAL MARKET AND ITS IMPLICATION TOWARD THE DEVELOPMENT OF UREA INDUSTRY IN INDONESIA

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ABSTRACT : *The aim of research is to find out and analyze the variable influencing the competitiveness and the strategy to increase the competitiveness and to formulate the competitiveness model of urea industry in the international market. The problems face by the urea industry are the gas raw material, the old plant, the old technology and the domestic selling price policy. The price policy (domestic price and export price) and the distribution policy (production volume and export volume) are significantly influencing the income and the profit of company and will be influencing toward the competitiveness. The insignificant domestic price influences the selling price (income) and the domestic policy of price regulation which is the same as the export price that will increase the income and the competitiveness. Research design is a case study, during the period Dec 2013 to June 2014 and analysis of the factors that influence the competitiveness by multiple linear regression, market structure analysis using the Herfindahl index and concentration ratio (CR4), Comparative advantage using the Revealed Comparative Advantage (RCA) and SWOT analysis, competitive advantage using Porter Diamond theory and to develop the strategy and model of competitiveness, it is used the Analytic Network Process (ANP). The analysis result of the Structure of Urea Market tends to the direction of Oligopoly with the moderate concentration level shown with the average value of Herfindahl Index of 0.0808 and the value of CR4 45.01 %. The Urea Industry of Indonesia has the comparative advantage is shown by the value of Revealed Comparative Advantage (RCA) of 2.07 which is higher than from China as the main competitor in Asia. The analysis result of competitive advantage of Porter's Diamond Theory is that as a whole the attributes of resource and domestic demand have the competitive advantage. The support and government and the opportunity factor help the forming of competitive advantage. From the SWOT Matrix, the position of urea industry on Indonesia is in the quadrant II (Stability) having the opportunity and the big market strength. The strategy priority of the analysis of ANP is the development of technology, then the development of export market, the change of subsidy regulation and the strategy of the business communication with the other urea producer country. The research showed the need of revitalization of urea industry with the development of technology, market development and business communication with urea producer countries to increase competitiveness in the international market.*

KEYWORDS : Price policy, Market structure, Competitiveness, Comparative and Competitive Advantage, RCA, Porter's Diamond, SWOT, Analytic Network Process (ANP).

INTRODUCTION

The research about competitiveness is essential to measure strength in market competition and, in fact, there has been many studies conducting such an experiment. Pristia (2007) conducted an analysis about the cement industry rivalry using Revealed Comparative Advantage (RCA) method, the result indicated that the cement industry in Indonesia has a strong competitiveness in the international/global market. Riza (2009) conducted an analysis regarding the competitiveness of the Indonesian cocoa industries using the RCA method to analyze competitiveness and Porter's Diamond showed that the Indonesian cocoa industries still lack competence. Dwinata (2008) did a research about the competitiveness of Crude Palm Oil Industries in Indonesia at the international market. The outcome of his research indicated that generally most attributes such as resources and condition regarding domestic demand have their own competitive advantage. Other studies include competition among pulp industries and agricultural commodities (Wartono 1999, Sandaya 1998, Sukmawati 1999). Previously, no one has been reviewing the competitiveness of urea industry.

The study of the urea industry competitiveness is very important because the problem facing the industry urea can causes was not optimal profits. Problems faced by the fertilizer industry amongst all: the difficulty to get the guarantee of gas raw material, the age of old plant and the technology used is still the old technology so the consumption of gas raw material is still high and the policy of domestic selling price is causing the loss of opportunity to get profit. Indonesia is the biggest urea producer in ASEAN with the discharged capacity of 7,284,000 ton. In 2012 the total urea production is of 6,851,000 ton or 94 % from the production capacity, while the allocation for subsidy is of 4,100,000 ton (Ministry of Agriculture of RI, 2011), for domestic plantation and industry it is of 1,724,000 ton and the remained production of 1,027,000 ton is exported. With the finished of new factory development in 2014, the production will be added of 1,000,000 ton and the export potential will also be added into 2,000,000 ton which will color the competitive map of the production business of the fertilizer industry in the international market. With such market condition, the urea producer countries will compete to export the products so that the fertilizer industry of Indonesia should increase its competitiveness.

Urea industry includes in the processing industry sector giving the main contribution toward the Gross Domestic Product (PDB) after the sectors of Agriculture, Forestry, Fishery and Mining (BPS 2012). In the processing industry, the oil and natural gas industry contributes 15 % and non oil and natural gas industry of 85 %. In the group of non oil and natural gas processing industry, the group of fertilizer industry occupies no 1 order from 9 industrial groups having opportunity to produce the country's foreign exchange.

Research Problem

The competitiveness of an industry or a Country refers to the ability of productivity of the industry or the Country (Kotabe, 2000). If a company has the strong competitiveness so it can create the superiority to compete of the company among the competitors, so the company can survive in a certain term by getting the sufficient profit. The problems faced the fertilizer industry in Indonesia which are very basic namely the first is the availability the natural gas. The second problem faced by the fertilizer industry is the age of plant which is already old, and the technology is still using

the old technology so that the consumption of gas is high. Other problem is the policy of selling price for subsidy with the determination of very low.

From the above explanation of problems, what to be studied and analyzed are:

1. Is the urea industry of Indonesia having the comparative advantage and the competitive advantage ?
2. What strategy is needed to strengthen the competitiveness of urea industry of Indonesia in the international market?
3. How is the model of competitiveness of the urea industry of Indonesia in the international market?

Research Purpose

Based on the background and problem identification above, the purpose of research is to find out and analyze the influence of :

1. To analyze the comparative and competitive advantage of the urea industry of Indonesia in the international market.
2. To formulate the strategy to strengthen the competitiveness of the urea industry of Indonesia in the international market.
3. To formulate the model of competitiveness of the national urea industry in the international market.

Scope of Research

This research will be held for 6 months. The stage of research covers the collection of primary data and secondary data, the evaluation and selection of data, the analysis of data, continued by the discussion and reporting of research result. The primary data for the need of analysis of ANP are obtained from conducting the interview with the representative expert of the fertilizing issue in Indonesia (Ministries of Agriculture, Industry, Trade, Ministries Coordinator of Economy, PT Pupuk Indonesia, Indonesian Fertilizer Producer Association and Representatives of farmer)

LITERATURE REVIEW

Concept of Competitiveness

The competition of business world at the moment requires the company to see further ahead to anticipate various possibilities that can influence the development of company (Krishnan 2011). To win the competition in the market is based on three important things namely the product sold has a good quality, the selling price is under the market price and the type follows the model that always develops (Julian 2003).

Comparative Advantage

The term of competitiveness is begun with the concept of comparative advantage from *Ricardo* in the 18th century, stated that a country will obtain the benefit from the trade with other country if the country can produce the goods more efficiently. Porter (1990) conveyed the concept of competitive advantage as the form of perfecting of the comparative advantage concept where there were five important factor achieving the competitive advantage known as the contributor on the innovation activity namely new technologies, new or shifting buyer needs, emerge of the new industrial segmen, shifting input cost or availability, changes in government regulation. According

to Warr (1994) the comparative advantage and the competitive advantage were in the position which equipped each other and can form the basic for developing the competitive advantage (Khemani 1997). While according to Ortmann (2000) the comparative advantage explained how the trade could give the benefit for the country by the way to use the natural resources which were more efficient when the trade became very limited.

Competitive Advantage

The concept of competitive advantage according to Day and Wensley (1988) focused on the superior skill and or the superior resources. Then according to Grant (1995) the competitive advantage was the capability to exceed the competitors on the main target from a performance of company namely profitability and market share. So that the indicator of competitive advantage which is the most popular is Market Share and Profitability (Jacobson and Aaker 1985 ; Szymansky *et.al.*1993). The competitive advantage is meant by Pass and Lowes (1994) as the ownership of the company on various assets with the characteristics giving the advantage toward the competitors. The analysis of competitive advantage can be used as tool in measuring the private advantage that the economic activity measured with the market price and the valid exchange value. The factors determining the competitive advantage of a national industry are resource condition, demand condition, supporting condition and related to competition, structure, and strategy of company (Porter 1990). The attributes supported by the role of opportunity and the role of government together with forming a system known by the National Diamond System.

Measurement of Competitiveness

To analyze the comparative advantage it is often used by RCA (Revealed Comparative Advantage) method. RCA is the index measuring the export performance of a commodity from a country by evaluating the role of export of a commodity in the total export of the country, compared to the commodity segment in the world trade (Ballasa 1989). The index of RCA is the indicator which can show the change of comparative advantage or the change of industrial competitiveness level of a country in the global market.

Model of Competitiveness

1. Model of Generic Competition Strategy from Porter

The competitive advantage of a company in an industry is determined by the reach of its competition. If the strategy of low cost and differentiation fulfills the wide target market, the strategy is known by the cost leadership and differentiation.

2. Diamond Porter's Model

This model consists of main attributes from a Country formed like diamond explaining the factors that determine the company's advantage in the dominant global industry related to the Country or certain regional environment. The first dimension from this model is the production factor (factor condition) which is the input needed for competing in every industry. The second dimension is the demand conditions, marked by the characteristic and measurement from the need of buyers in the host market for goods and industrial services. The third dimension is represented by the related and supporting industries and the fourth dimension is strategy, structure and competition of company to determine the growth of certain industry.

3. Model 9 of International Competitiveness Factor (Dong-Sung Cho)

According to Dong-Sung Cho it is necessary to have a model which can show not only as much as the level of resource had by a Country, but who can create the resource and when should the resources be created. The difference of model developed is located on the factor outside the diamond box covering manpower, bureaucracy and politician, entrepreneurship and manager, technician and professional designer and the factor of access and opportunity in conducting something for the community

4. Company's Competition Model

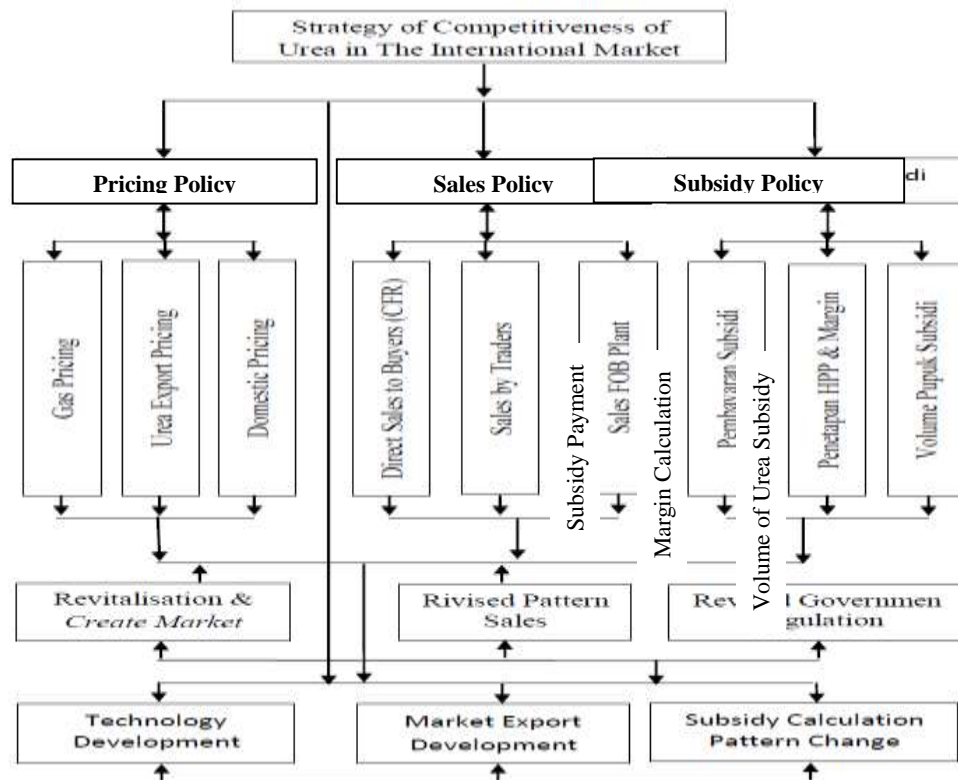
In order that the company's business has the uniqueness of competitiveness, the company needs to form the model of competition wanted as the attempt to create the continuity of company's competitiveness. Grunert (2000) developed a model of company's competition that can be made the reference in the research among the companies which have marketed their products in the international market.

Previous research on Competitiveness.

The various study use of ANP can be utilize to formulate suitable model for competitiveness of urea industry. The advantage of using ANP especially for observing the relationship between clusters model. The ANP method is used to view upon the relationship between stakeholders in order to design a strategic model competitiveness of urea industry, which was obtained from depth interview with the urea industry experts. Factors affecting urea products along with the problems and solutions using were discussed with the experts in order to design strategic model framework for the urea industries using Analytic Network Processes (ANP).

Sandaya (1998) studied competitiveness in shrimp and tuna industries using Porter's Five Model Competitiveness analysis, Analytical Hierarchy Process (AHP) and Analytical Network Process (ANP), The Internal Factors Evaluation (IFE) Matrix and The External Factors Evaluation (EFE) Matrix. The outcome showed that both shrimp and tuna industries have similar IFE and EFE scores and strategic model of shrimp and tuna competition in Indonesia. According to Li-Hua and Simon (2007) it is important to know how far Chinese companies are able to compete with other companies operating in China, and which marketing strategy needs to be enhanced by evaluating the importance of corporate rivalries, knowing the competition using Diamond Porter model with Analytical Network Process (ANP). The end result is the importance on how Chinese companies can develop innovation system and technology in order to compete in the global rivalry. And then Sledge (2005) conducted a research using Diamond Porter model that connects international competition with global competitiveness on the automobile production. The strategies' priority uses Analytical Hierarchy Process (AHP) and Analytical Network Process (ANP). Initial framework ANP models urea product competitiveness in the international market used as a basis for depth interviews with experts is as figure 1.

Research competitiveness of urea industry in Indonesia is expected to improve the urea business and make a positive contribution to all stakeholders and the environment.



Picture 1. Initial Framework Model Urea Industry Competitiveness

The Results of previous research on competitiveness summarized as follows :

- Competition models used in research in general use Diamond Porter and Porter Five's Model Competitiveness and some research combining analysis model Diamond Porter, SWOT matrixs and BCG matrixs.
- Other models used are development of the model Diamond Porter that Double Diamond Porter are applied to the study of manufacturing in Korea.
- The measurement of competitiveness in general use RCA, RCA#, Market Share, Net Export Index.
- To determine a strategy for competing priorities, some research using Analytical Network Process (ANP) and Analytical Hierarchy Process (AHP)

METHOD

Time and Activity of Research

This research was conducted for 6 months, and started in the month of December 2013. As a whole, the research activity starting from the data collection to the result during the period of December 2013 to June 2014.

Research Design

The research design was case study which analysis in-dept and detail the urea industry in Indonesia. This research has been conducted in Jakarta and time frame for research was over

seventh months from December 2013 – June 2014. Respondents or expert of this research selected based on their expertise in the urea industry, as well as their involvement as a stakeholder in the urea industry. Primary data sampling has been done by in-depth interview and structured questionnaires with selected expert. Designing of urea industrial strategy model used Analytical Network Process (ANP).

The main exporter countries taken as the sample are Russia, Ukraine, Egypt, Iran, Kuwait, Oman, Qatar, Saudi Arabia, China, Malaysia, Indonesia, Canada and Venezuela. While the main importer countries are India, Bangladesh, South Korea, Thailand, Philippine, Australia, New Zealand, USA, Brazil and Mexico.

Data Collection Technique

The data collection source from the secondary data of Statistic Bureau (BPS), Ministry of Trade, Ministry of Agriculture, Bank Central Indonesia and statement from the mass media and from the internal company of BUMN fertilizer, international publication published by the world fertilizer magazine. While the primary data for the need of analysis by doing the depth interview with the experts respondents are amongst all:

1. Direktorat General of Infrastructure and Agricultural, Ministry of Agriculture
2. Direktorat General of Food Crops, Ministry of Agriculture
3. Director General of Foreign Trade
4. Direktorat General of Manufacture Industry, Ministry of Industry
5. Deputy of Coordinating for Commerce and Entrepreneurship, Ministry Coordinating Economy
6. President Director of PT.Pupuk Indonesia (Persero)
7. Secretary General of Asosiasi Produsen Pupuk Indonesia.
8. Representative Farmers (KTNA)

Technique and Data Analysis

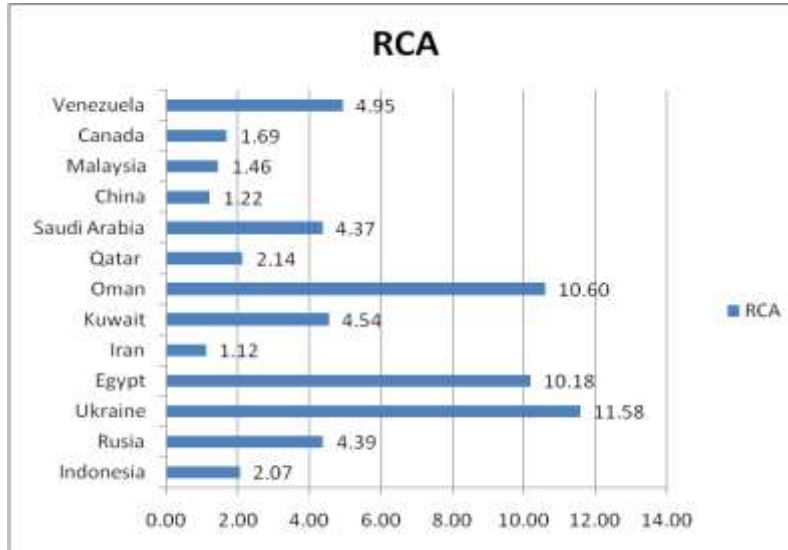
The competitiveness model framework was designed with Analytic Network Process (ANP) and then further consulted with the expert stakeholders. Afterwards the framework is reconfirmed by expert stakeholders through depth interview and then cluster relationship is constructed within the ANP framework. The ANP model was then made into a pairwise comparison toward constructed and analyzed nodes using Super Decision Software. Advantages in using ANP is comprehensiveness technique allows to input all of the relevant criteria and allows more complex relationship between levels and attributes (Saaty 2003). The general framework that will be discussed with expert stakeholders is the initial feedback network that consists of 5 clusters is as follows: goals, aspects, problems, solutions, and strategies. The aspects that will be the initial framework is the most influential. The most influential aspect on competitiveness of urea industries is pricing policy, distribution policy, and subsidy policy.

RESULT AND DISCUSSION

Analysis of Comparative Advantage

Comparative advantage of the urea fertilizer industry of Indonesia in the international market is measured using Revealed Comparative Advantage(RCA) to compare the position of

competitiveness of Indonesia with other urea exporter countries. The result of calculation of the average value of RCA of the urea exporter countries in 2003-2012 is as follows:

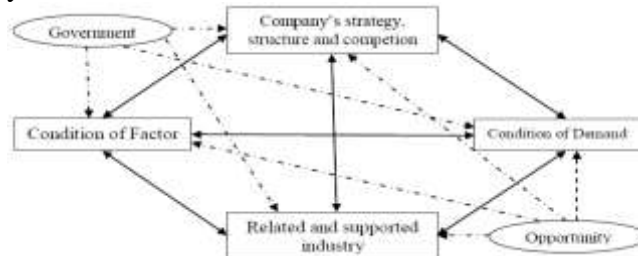


Picture 2. RCA of Urea Exporter Countries 2003-2012

The countries of Ukraine, Egypt and Oman have the value of RCA averagely along the year of 2003-2012 the highest with the value of 10.18 to 11.58 and the countries of Russia, Kuwait, Saudi Arabia and Venezuela have the value of RCA of 4.37 to 4.95. While the position of Indonesia has the value of RCA is of 2.07 above the value of RCA China, Malaysia, Iran and Canada.

Analysis of Competitive Advantage

Analysis of competitive of the urea fertilizer industry of Indonesia is conducted using the approach of Porter's Diamond theory. According to Porter (1990) there are four main factors determining the industrial competitiveness in a country namely condition of resource factor, demand condition, condition of related industry with supporting industry, and condition of structure, competitiveness and strategy of company.



Resource Factor Condition

Indonesia at the moment has the reserve of natural gas of 187.09 TSCF with the production rate of 8.2 MMSCFD and this reserve suffices for 62 years ahead. The reserve of natural gas as the urea raw material in the world is as 6,186 TSCF and that which is the biggest is in the area of Russia with the total reserve of 1,680 TSCF or 27.16 % of the world reserve and the reserve of natural gas owned by Indonesia is of 1.52 % (Fertecon, 2013). The data from Ministry of Industry

are that the need of natural gas for the fertilizer industry of Indonesia in the year of 2012 is of 797 MMSCFD per day. The need of natural gas for the fertilizer industry in the coming year is projected to increase of achieving 821 MMSCFD in 2015, 1,110 MMSCFD in the year of 2020 and 1,292 MMSCFD in the year of 2025. The need for fertilizer industry has been provided in accord with the revitalization program of the fertilizer industry through the contract with the price of \$ 5.5-6.0/MMBTU.

The condition of resource factor fulfills the requirement in fulfilling the need of raw material of urea fertilizer industry so that the domestic demand condition is quite sufficient with the availability of natural gas raw material and the utility of factory maximally because of the availability of human resource and technology resource. The condition of resource factor with the demand condition has the supporting relatedness.

Demand Condition

The high domestic demand and urea export cause the big need of gas raw material, the thing causes the increase of input which amongst all is the result of supporting industry and related industry. The world urea need is increasing along with the increase of the consumption of the agricultural product and the attempt to increase the agricultural product. The relatedness and supporting each other among the demand condition and related industry and supporting industry are because of the high demand of urea export in the international market causing the increase of the need of production helper material produced by supporting industry and related industry. The increase of income of the supporting industry and the related industry is determined by the condition of market demand.

Condition of related Industry and supporting Industry

Related industry is the industry which is on the production system vertically. This industry starts from the procurement of gas raw material, helper material, packing material to marketing. Besides the related industry, there is also the supporting industry giving indirect contribution in the production vertically. The existence of supporting industry and related industry having the global competitiveness will influence the competitiveness of its main industry.

In the condition of related industry and supporting industry with competition, structure, and strategy, there is the relatedness which is not supporting each other. This happens because there is no direct contribution from related industry and supporting industry toward the creation of market structure or the happening of market competition. The structure of urea market which is oligopoly causes the supporting industry and the related industry facing the difficulty to increase the income because of the limited demand.

Condition of Competition, Structure and Strategy

Urea production is prioritized to fulfill the domestic need for the agricultural sector (70 %) and the rest for filling the export market. The domestic market structure is the monopoly and the export market is in the structure of oligopoly market. The existing strategy to support the development of fertilizer industry of Indonesia is :

- 1.Strategy for selling price regulation

Domestic urea selling price regulation for subsidy urea is determined by Government through the determination of selling cost price in the level of retailer and the government also determines the highest retailer price in the kiosk level. The difference between the selling cost price and the highest retailer price is paid by the government to the fertilizer industry in form of fertilizer subsidy. The role of government in determining the urea volume subsidized is very much influencing how big is the profit of fertilizer industry. More and more big the volume for subsidy the fertilizer industry is increasingly big to lose its chance to gain profit. For the selling price of domestic non subsidy, the strategy used is referring to the international market price with the concept of war zone. With this strategy, the selling price follows the market price and gives the margin contribution which is higher compared to the price set by the government. Likewise the determination of selling price for export refers to the international market price with the priority of destination country giving higher contribution of profit.

2. Distribution Strategy

Distributing of domestic subsidized urea is determined in the Rules of Trade Minister with the least cost distribution and the administrative units pattern from each factory owned by the fertilizer industry. The strategy of the distribution of non subsidized urea for export is done through the plant having the port to serve the ship with the capacity above 10,000 ton namely the ports of Bontang (East Kalimantan) and Gresik (East Java). The selling pattern is done with the transfer requirement of FOB Plant.

3. Promotional Strategy

Through the product introduction promotion directly to the consumer in form of plot demonstration as the entry mode is done to open the market. The industry of urea fertilizer has done this promotion in Myanmar and Philippines. The information is also done through the electronic media advertising, newspaper, international exhibition and seminar and membership in Association or International Body of fertilizer producer. In the condition of resource factor also, there is relatedness and supporting each other with the condition of competition, structure and strategy. This is seen from the promotional strategy in the urea introduction as the element needed for plants to increase the production.

Role of Government

Government plays important role in supporting the component in increasing the competitiveness of urea fertilizer industry in Indonesia. The government support develops the fertilizer industry by guaranteeing the availability of gas raw material and building the factory for replacing the factory which has attained the age of more than 20 years to increase efficiency and increase the competitiveness. The role of government to revitalize the fertilizer industry was determined in the President Instruction No.2 2010 which instructed to the related Ministers, Governors, and Regents to conduct the steps of revitalization of the fertilizer industry and to increase the competitiveness of fertilizer industry. Instructing to the Minister of Energy and Mineral Resources to prioritize the allocation of fulfillment of the need of natural gas for the raw material for fertilizer industry and determining the price which is based on the result of agreement of the related institution.

Role of Opportunity

The impact of role of opportunity is asymmetry or only valid one way to the four main factors from the theory of Diamond Porters. The opportunity factor is often something big outside the strength of an industry in influencing the competitive advantage amongst all the political decisions and the patent right.

From the result of component analysis of Porter's Diamond that the role of opportunity has a supporting relatedness with the entire main components. The role of opportunity supports the condition of resource factor namely the increasing of food need in line with the addition of people is need the increase of food production which can be fulfilled with the availability of anorganic (urea) fertilizer. The role of opportunity also supports the condition of related industry and supporting industry which is shown with the increase of need of the gas raw material which increases the performance of related industry and supporting industry. Likewise the role of opportunity also supports the condition of demand factor along with the increase of food need will increase the need of urea fertilizer to support the food production. The role of opportunity also supports the condition factor of competition, structure and strategy where there is an opportunity of fertilizer industry of Indonesia to control the market in Southeast Asia, East Asia, Latin America and Australia because of the availability of sufficient goods continuously, since there is a support from government.

Formulation of Competitiveness Strategy of Fertilizer Industry of Indonesia.

Analysis of Strategy with Matrix of SWOT

Result of SWOT analysis for fertilizer industry 2012 can be described that the position of urea fertilizer industry of Indonesia is on quadrant II (*Stability*) where the company has the big opportunity and strength of market but on the other side it faces some constraints or internal weaknesses. The focus of company's strategy is to minimize the internal problems of company (contract and price of gas raw material, revitalization for plant efficiency and the development of technology) and to support the policy of aggressive growth (Growth Oriented Strategy) though the strategy of market penetration by the opening of new market, market research and product development. From the matrix SWOT, to determine the priority of strategy chosen so that it can give the best alternative in increasing the competitiveness of urea industry of Indonesia done using Analytic Network Process (SWOT-ANP) as follows:

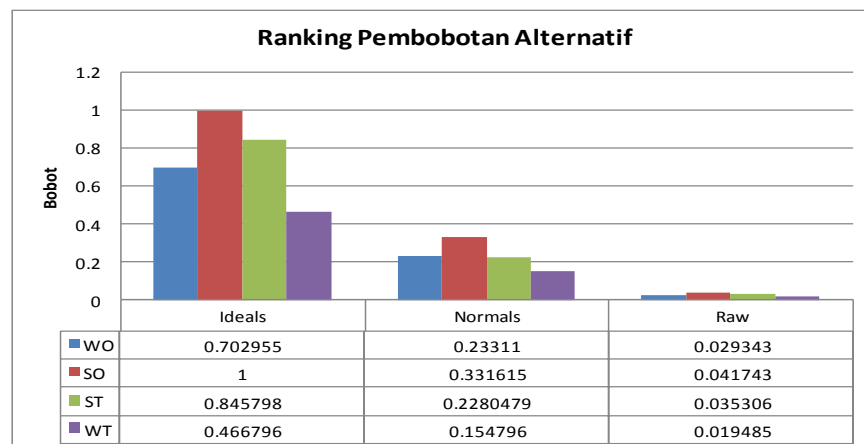
<p>Internal</p>	<p>Strength (S)</p> <ul style="list-style-type: none"> - Plant is close to the gas raw material (S1) - Having the strategic big port for export (S2) - Having the sar dist (S3) - Having 14 factory (S4) - Having HR having skill and ability in the 	<p>Weakness (W)</p> <ul style="list-style-type: none"> - Price of gas is higher than other country (W1) - In some factories, the age and technology are old so the efficient level and the productivity are low (2)

External	field of fertilizer industry (S5) - Having the market segment and the brand image of good product (S6)	- Production is prioritized for domestic and the rest for non subsidy (W3) - Operational cost in USD and revenue in Rupiah (W4)
Opportunity (O) - Need/demand is quite big (O1) - Development in the agricultural sector is continued (O2) - World urea price is relatively good (O3) - Government program for revitalization of fertilizer industry (O4) - The availability of technology of economical energy (O5) - The high trust of the 3rd party for the project's funding (O6)	Strategy of S-O - Optimization of factory in order the production can reach 90 % for increasing the competitiveness in the global market. - Development of technology by revitalization program is finished right on time to increase the value of competitiveness.	Strategy of W-O - Seeking the new gas source. - Revitalization of fertilizer industry. - Lessening the urea allocation and it is substituted of NPK, to increase of farmer extension. - The change of subsidy regulation, the calculation of allocation volume.
Threat (T) - Gas price tends to be up and the payment with the foreign exchange (T1) - Supply of natural gas for limited contract for long term (T2) - Development of new factory which is more efficient abroad (T3) - Certainty of volume for PSO (T4) - Margin for PSO to threat the business activity of company (T5)	Strategy of S-T - Development of market in the area of Australia, US and Latin America with the long term contract directly to the buyer abroad. - Selling pattern of cfr to destination country.	Strategy of W-T - Increasing the cooperative pattern with other urea producer country through promotion in the form of demonstration plot - Development of information system of market price.

Picture 3. SWOT Matrix Urea Industry

Goal	Determining the increase strategy of the competitiveness of urea industry in the international market
Criteria	Strengths, Weaknesses, Opportunities, Threats
Sub Criteria	S1,S2,S3,S4,S5,S6,W1,W2,W3,W4, O1,O2,O3,O4,O5,O6,T1,T2,T3,T4,T5
Alternative	SO, WO, ST, WT

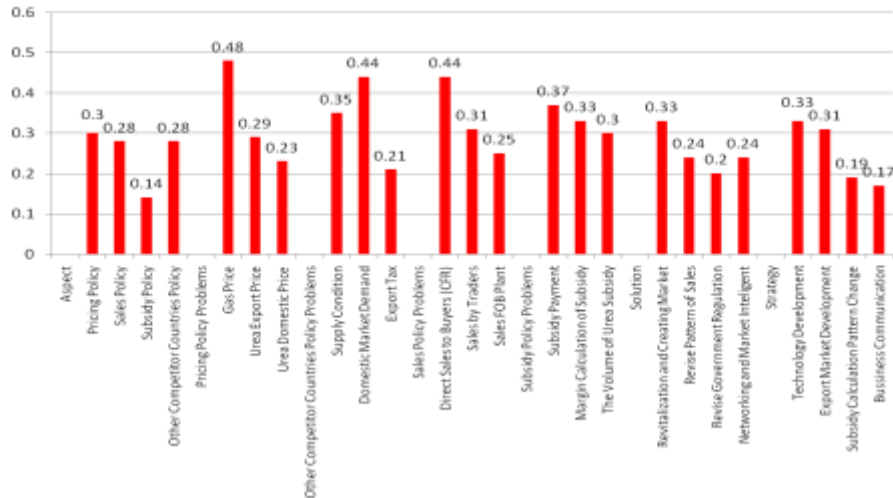
The calculation result of SWOT-ANP seems that the biggest quality from the existing alternative is the strategy of S-O namely the development of technology with the revitalization program will increase the user efficiency of gas raw material and the optimization of factory so that it can increase the value of competitiveness. The next order is the strategy of S-T namely the development of export market by carrying out the selling or direct contract with buyer from abroad, followed by W-O namely the change of subsidy regulaton of the calculation of allocation volume and the strategy of W-T namely to increase the cooperative pattern with the other urea producer country through promotion in form of demonstration plot. The prioritized quality obtained shows the alternative interest chosen. With the biggest quality chosen to become the strategy which is the most potential to be done.



Picture 4. Strategic alternative in SWOT-ANP

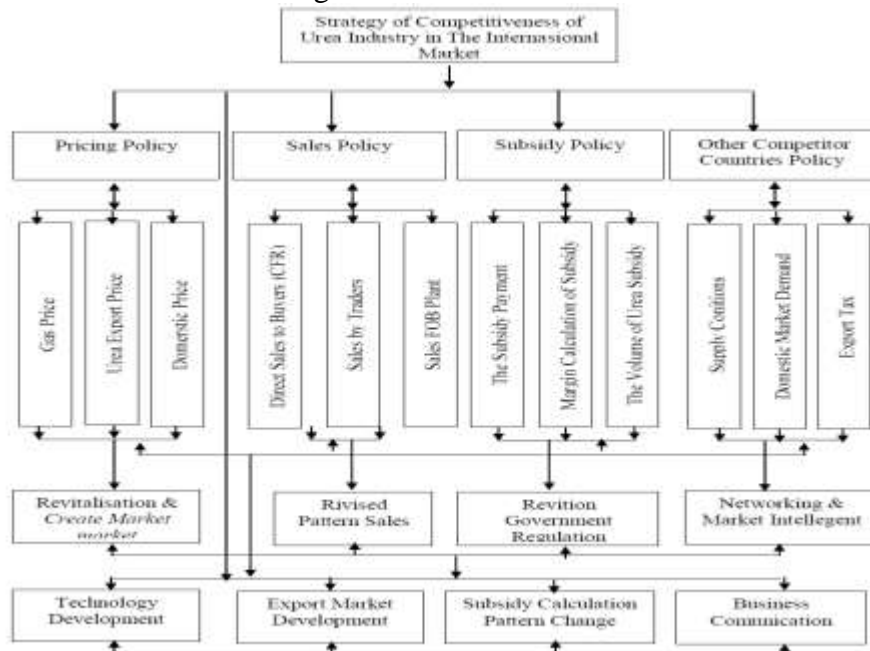
Competitiveness Model of Urea in the International Market

From the result of Depth Interview with the experts and the result of pairwaishing of opinion of the experts, some analysis results are obtained as shown figure 5.



Picture 5. Limiting Super Matrix ANP

Summarize into four implementation alternative strategies for urea industry using of superdecisions software, the first priority was technology development and innovation of produkts (33,37 %), and the second was export market development and direct sales to the export destination country (31,18 %), changes in the pattern of subsidy calculation (19,80 %) and business communication by producing countries (16,69 %). From some elements of influence network analyzed previously and the opinion analysis of experts, the competitiveness model of urea industry on Indonesia is as shown in figure 6.



Picture 6. Competitiveness Model Urea Industri of Indonesia in Internasional Market.

STRATEGIC IMPLICATIONS

According to previous results and discussions, there are several steps that must be done in order for urea industries in Indonesia to compete with other urea producing countries:

1. Technological developments by revitalization starting from 2013 to 2018 will hopefully increase the production volume. By 2018, urea production will reach 8.925.000 ton and exports will reach 2.455.00 ton, or in other words, there will be a 239% rise from 2012's export. The end of revitalization, natural gas consumption will be 27-28 ton urea. By 2018, Indonesia will be the largest urea producer in Asia replacing China's position. Other competing countries are the Middle East; Saudi Arabia, Qatar, Oman, Iran, and Russia.
2. On the ANP construction model resulting several analysis from experts that are very to be followed up. Priority elements that needs to be increased industrial competitiveness in urea industries in Indonesia is the availability of natural gas as the main component for urea, the implementation of direct export using Cost and Freight pattern for market development, domestic consumption from China as world's largest urea exporting country. The proposed solution for these problematic elements is urea industry revitalization to the construction of new plants, development of the market, revision of subsidies regulation, and expansion market network to identify supplies condition from rival countries.

CONCLUSION AND RECOMMENDATIONS

From the analysis result which has been done about the increase strategy of competitiveness of urea industry of Indonesia in the international market, it is result the basic conclusions in this research as follows:

1. Urea industry of Indonesia has the comparative advantage, shown through the calculation of the value of Revealed Comparative Advantage (RCA) which is more than one. In 2012, the value of RCA Indonesia is of 2.28 which is the biggest from the urea export countries in Asia and the biggest values of RCA is the countries of Middle East namely Qatar of 9.15 and Oman of 8.01.
2. Urea industry of Indonesia has the competitive advantage send from some factors of resource condition through the availability of gas reserve as the urea raw material, the location of factory which is close to the source of gas raw material, the experiencing manpower, having the market segment and the product's brand image which is good. The constraint factor from the increase of competitiveness of fertilizer industry is the price of gas raw material which is relatively more expensive than the other urea producer countries, some of factories have been old so that the use of gas raw material are inefficient and the production is still prioritized for subsidy.

3. Strategy to increase the competitiveness of urea industry of Indonesia in the international market is the development of factory technology, the development of exported market, the change of subsidy calculation pattern and to conduct the effective business communication with urea exporter countries.

SUGGESTION AND RECOMMENDATION

In general from the result of research after conducted the indepth analysis by paying attention to the results of opinion of the experts, it can be suggested the things as follows:

1. From the production side, the urea industry in Indonesia needs to continues the plant revitalization to change or rejuvenate the plant which in general have been old and inefficient in the use of gas . To build the new plant in the location which is close to the source of raw material by making an attempt for gas availability for the long term contract.
2. Development of technology for the alternative substitution of gas from the gasification process of coal, for this program it is necessary to condut the special study about the technology development of coal gasification by studying from China which has used to this technology.
3. After finishing the development of the plant rejuvenation in 2018, the production will be up so it is necessary to anticipate to the market development by doing the direct long term contract with the buyer which has mastered the distribution network in the country. The price uses the formula based on the international price in each region.
4. For expanding the marketing network and the market intelligent, it is necessary to do the business communication with the business actor in the urea importer countries in South Asia, Australia, United States of America and the countries of Latin America.
5. If having been available the quantitative data among urea exporter countries needed to do the analysis about the comparison of competitiveness has been equipped, it is necessary to do the further quantitative research.

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