



Proposed Marketing Strategy to Enter Methanol Market as Diversification for National Gas Company

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ABSTRACT: Methanol is a key material used as feedstock in the chemical industry which is mainly produced from natural gas and coal. Indonesia is well-known for its natural resources including the large reserves of natural gas which become the third largest in the Asia-Pacific. However, Indonesia and even Asia are having gaps between production and demand that need to be fulfilled. Indonesia only has one methanol producer and still importing a large amount of it despite the increasing demand. A national natural gas company is considering the possibility to produce methanol in order to fulfill the gaps as well as diversification to give adding value to natural gas and also commercialize the oversupply of natural gas from the termination of the export contract. The objective of this research is to find the best business strategy for the company considering various challenges and opportunities. The methodology used in this research is qualitative and quantitative methods using secondary data and primary data. The primary data is collected through a qualitative questionnaire that involved companies that confirm the obstacles in sourcing methanol. The collected data is used to conduct external and internal analysis through PESTEL, Porter's Five Forces, Customer Analysis, and VRIO Framework. The identified opportunities and challenges are then used to generate strategy through TOWS Matrix and 4P Marketing Mix. As a result, it is recommended for the company that will become a methanol supplier to set a competitive product price, choose a strategic place with high access to resources, promote the sustainability impact and multiplier effect to attract stakeholders and shareholders, and utilize the existing customer channel of natural gas to commercialize the new product.

KEYWORDS: B2B, Diversification, Methanol, Marketing Strategy, Natural Gas.

INTRODUCTION

Indonesia is well-known for its natural resources including the large reserves of natural gas. In 2021, natural gas reserves in Indonesia reached 49.7 trillion cubic feet (Tcf) in total which become the third-largest in the Asia-Pacific region, after China and Australia [1]. Natural gas can be converted into derivative products such as methanol and ammonia which could become a strong asset to support the national petrochemical industry. Methanol is a key material used as feedstock in the chemical industry since it can be converted into formaldehyde, DME, olefins, polypropylene, and other derivatives which the end products can be used in many sectors. It is reported that the global methanol demand is increasing every year with a 4.5% CAGR [2]. However, there are gaps between production and demand that need to be fulfilled. The gap also occurred in Indonesia where the domestic methanol demand reached 1.2 million tons in 2020 with insufficient supply. Indonesia has only one local natural gas-based methanol producer in Bontang, East Kalimantan with a maximum production capacity of 660 thousand tons per annum. Consequently, Indonesia is still importing methanol with an average of 700 thousand tons per annum while the projection of methanol consumption will reach 6.2 million tons in 2030 [3, 4]. Methanol is mainly produced from natural gas and coal as feedstock. Considering the resource and its sustainability, natural gas companies have the opportunity to produce methanol in order to fulfill the gaps. Besides, the company could diversify its businesses through methanol production and commercialize the natural gas oversupply from the termination of the export contract. On top of that, methanol will be a value-added product that has a 4.5x higher index price compared to natural gas [5].

The purpose of this research is to analyze the prospect of natural gas-based methanol in Indonesia and develop a business strategy for entering the methanol business. Thus, the writer will provide analyses of opportunities and challenges with the proposed strategy. This research can provide benefits for the company to find the potential market, maximize opportunities, and anticipate threats in order to be successful and contribute to the development of the petrochemical industry in Indonesia.



BUSINESS ISSUE EXPLORATION

A. Theoretical Framework

The market fit concept is used as the theoretical framework in this study. Market fit is defined as the contribution of organizational assets (capability configuration) of an organization moderated by the external environment such as competitive intensity and market volatility. Capability configuration is a result of the interaction of strategy, marketing planning, and decision-making in the firm [6]. Therefore, this study is conducted to analyze if methanol could be categorized as a market fit product based on the market and the company's internal capability.

B. Research Method

This research uses qualitative and quantitative methods in addressing business issues and solutions. The qualitative method is used to analyze the market situation and the company's capability through secondary data and an open-ended questionnaire. An open-ended questionnaire is used to understand the pain points of potential customers and their willingness to buy. Two companies that use methanol in their production process were involved in the process of collecting primary data. On the other hand, the quantitative method is used to forecast the methanol price as a pricing strategy through regression correlation.

C. Research Design

To achieve the objective of this study, the framework below is developed to visualize and briefly explain the research design. After the problem is recognized, external and internal analysis is conducted to formulate strategies.

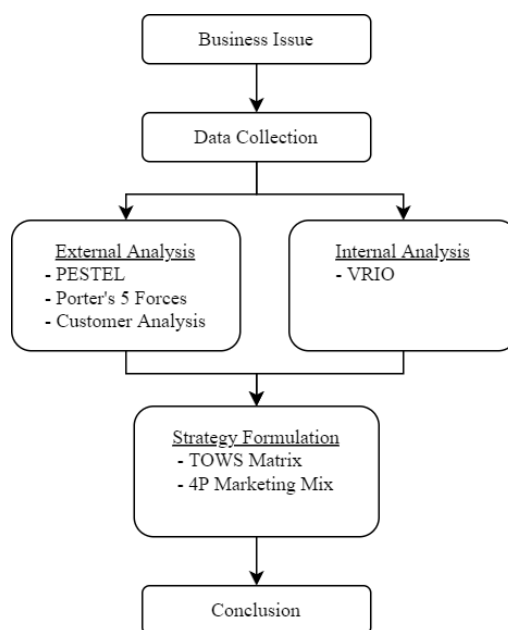


Figure 1. Research Design

DATA ANALYSIS

A. PESTEL Analysis

Political

The oil and gas industry is highly regulated wherein a change in government policy could influence the industry. However, the government shows its support to develop Indonesia's petrochemical industry through Government Regulation No.14 of 2015 concerning the National Industry Development Master Plan (RIPIN) 2015-2035. This regulation stated that the oil and gas and coal-based basic chemical industry is included as a priority industry. In addition, the 2020-2024 National Medium-Term Development Plan (RPJMN) stated that the chemical industry is included in the top five priority sub-sectors of industry 4.0 and become a national priority project. Support from the government gives the opportunity to create a methanol business to develop the national petrochemical industry.



Economic

Indonesia's economy is predicted to perform well. However, the global inflation and increasing interest rate during the recovery from the COVID-19 pandemic could be a big challenge for the methanol business and be considered a threat. A higher interest rate will result in higher interest payments, less profit, and an uncompetitive product price. Additionally, the cost of the imported materials required to construct the methanol plant will also increase during this uncertain period which could increase the total investment cost. Considering the feedstock price, the Decree of the Minister of Energy and Mineral Resources No. 89/2020 about the implementation of US\$ 6 per MMBTU natural gas price for the petrochemical industry will be beneficial. However, the price of methanol which correlates to the crude oil price is volatile and needs to be anticipated.

Sociocultural

Rising awareness of ESG has impacted businesses. A survey showed that 83% of consumers think companies should be actively shaping ESG best practices, 91% of business leaders believe their company has a responsibility to act on ESG issues, and 86% of employees prefer to support or work for companies that care about the same issues they do [7]. This becomes an opportunity for the methanol business which also concerns the emission issues.

Technological

The technology to convert natural gas to methanol is maturely developed, which becomes an opportunity for the company since it will be ready for use and will not require a huge investment compared to the newly developed one.

Environmental

The production process of methanol needs natural resources including natural gas and water. The natural gas will be used as the feedstock and fuel, while the water will be processed as steam to produce syngas. Therefore, the natural resources needed for the methanol plant should be available and accessible during the project life. The risk of drought during the dry season in Indonesia could impede the manufacturing of methanol due to a lack of steam produced from water. The dry season can be considered a threat. In addition, the adequacy of natural gas supply should be anticipated. The operations of the methanol plant may be impacted by the rising natural gas use in other industries and declining reserves that cause scarcity in feedstock and fuel for the methanol plant.

Legal

The government gives facilities to the petrochemical industry through the Regulation of Minister of Finance No.35/PMK.010/2018 concerning the provision of corporate income tax deduction facility and Government Regulation No.78 of 2019 concerning income tax facility for capital investment in certain businesses and/or certain regions. However, the specific regulation of natural gas allocation for the methanol industry has not yet been established which poses a threat.

B. Porter's Five Forces Analysis

Threat of New Entrants

The threat of new entrants to the methanol business is medium regarding high capital investment to build a new plant and strict government regulation for natural gas-based business. On the other hand, the government wants to develop the petrochemical industry in Indonesia which could be an opportunity for any investors to get support from them.

Threat of Substitutes

Methanol is rarely substituted by other chemicals due to different chemical characteristics. However, as an olefin feedstock, naphtha is more commonly used compared to methanol which gives a low threat. Although it is rarely substituted, the natural gas-based methanol with conventional technology that is considered grey methanol will compete with coal-based methanol, blue methanol, and green methanol.

Bargaining Power of Buyers

Considering the high demand, the methanol supply in Indonesia is very limited. Although considered a standardized or undifferentiated product, methanol in Indonesia is always absorbed by industries in need and is even inadequate to fulfill national demand. Therefore, most of the methanol is being imported showing that the bargaining power of buyers is low.

Bargaining Power of Suppliers

Methanol can be produced from natural gas, coal, or biomass which contains methane. Due to the limitation of biomass and its technology to produce methanol, natural gas and coal are the only feedstocks available in Indonesia and each of them needs specific technology to produce methanol. There are several major players in Indonesia's coal business, while the player in natural gas



distribution is very limited. Despite the government's strict regulation of natural gas pricing in Indonesia, suppliers still have high bargaining power due to high switching costs.

Rivalry among Existing Competitors

The industry rivalry among existing competitors is low considering that there is only one established methanol manufacturer in Indonesia. The thing that should be anticipated is the competition from distributors of imported methanol which offer greater benefits. However, locally sourced methanol should be more attractive to local customers due to cheaper distribution costs.

C. Customer Analysis

The customer analysis is conducted to know the potential market of the industry using methanol in Indonesia. Business-to-business (B2B) market segmentation is used in this analysis as the product is not targeted to a homogeneous mass. Considering that methanol is a standardized product, feature-based segmentation is applicable due to its advantages of being easy to implement and actionable. Feature-based segmentation is usually divided based on company size, location, and activity which is also called firmographics. The potential customers of methanol are segmented depending on their location after being identified based on their products, whether they produce methanol derivatives or use methanol as a feedstock in the production. It is identified the potential market of methanol is present in 12 provinces of Indonesia covering the petrochemical and fuel industry which the product consists of ethylene, propylene, polypropylene, formaldehyde, and biodiesel.

In order to understand methanol needs in Indonesia, formaldehyde and biodiesel factories as the potential customers were asked about their annual demand for methanol and willingness to buy at a certain price through an open-ended qualitative questionnaire. The survey shows that a biodiesel plant with a production capacity of 420,000 tonnes per year needs 34,000 MT of methanol, while the formaldehyde plant with a production capacity of 90,000 tonnes per year needs 50,000 MT of methanol. Both are importing methanol from overseas such as Malaysia, China, and Middle East countries due to the limited supply in Indonesia. Both respondents are willing to buy from local suppliers if they offer a cheaper price with fast delivery, which is offered at US\$ 300 – 380 per MT. Furthermore, methanol has the potential to be exported to other countries such as China, Thailand, the Philippines, Vietnam, Malaysia, and Australia which become the importer of Indonesia’s methanol totaling 246,269 TPA in 2020. With 98,591 TPA, China is Indonesia's largest methanol importer [8].

D. VRIO Analysis

The internal analysis is conducted using VRIO Framework to find out the firm’s capabilities and analyze the sustainable competitive advantage of the firm.

Table 1. VRIO Analysis

Resources & Capability	Valuable	Rare	Inimitable	Organized	Value Creation
High-skilled employees	✓				Competitive Parity
Financial capability	✓				
Good partnership	✓				
Good reputation	✓	✓	✓		Unused Competitive Advantage
Project management skill	✓	✓	✓		
Subsidiaries	✓	✓	✓		
Asset and Infrastructure	✓	✓	✓	✓	Sustainable Competitive Advantage
Technology mastery	✓	✓	✓	✓	

BUSINESS SOLUTION

A. TOWS Matrix

Based on the conducted external and internal analysis, the identified threats and opportunities were mapped into TOWS Matrix and linked to the company’s strengths and weaknesses. The result of the analysis is developed into strategies below.



Table 2. TOWS Matrix

	<p>STRENGTHS</p> <p>S.1 Market leader in the natural gas business.</p> <p>S.2 Highest infrastructure share in Indonesia</p> <p>S.3 Good financial capability</p>	<p>WEAKNESSES</p> <p>W.1 Lack of experience in the petrochemical business.</p> <p>W.2 Slow execution of new business initiatives.</p>
<p>OPPORTUNITIES</p> <p>O.1 Petrochemical industry is one of the priority projects by governments.</p> <p>O.2 Increasing demand for methanol and fulfilling the gap</p> <p>O.3 Increasing investment realization of natural gas downstream business</p> <p>O.4 Society increasing awareness of ESG</p> <p>O.5 Maturely developed technology</p> <p>O.6 Government facilities on tax and natural gas price</p>	<p>SO STRATEGY</p> <p>SO.1 Aligning the project with the government program (S.3, O.1, O.2)</p> <p>SO.2 Promoting the sustainability impact and multiplier effect to attract stakeholders and shareholders (S.1, O.3, O.4)</p> <p>SO.3 Setting a competitive product price (S.2, O.5, O.6)</p> <p>SO.4 Utilize the existing customer channel of natural gas to commercialize the new product (S.1, O.2)</p>	<p>WO STRATEGY</p> <p>WO.1 Collaborate with petrochemical experts (W.1, O.1, O.5)</p> <p>WO.2 Joint operations with the existing petrochemical manufacturer (W.1, O.2)</p> <p>WO.3 Joint venture with other firms to create a subsidiary (W.1, O.3)</p>
<p>THREATS</p> <p>T.1 Increasing interest rate</p> <p>T.2 Rising material costs</p> <p>T.3 Change in methanol price due to market mechanism</p> <p>T.4 Drought during the dry season</p> <p>T.5 Unestablished specific regulation of natural gas allocation for the methanol industry</p>	<p>ST STRATEGY</p> <p>ST.1 Reduce the percentage of debt financing and switch to equity (S.3, T.1)</p> <p>ST.2 Choosing a strategic place with high access to resources (S.2, T.4, T.5)</p> <p>ST.3 Sourcing natural gas from a well with production surplus (S.2, T.5)</p>	<p>WT STRATEGY</p> <p>WT.1 Create a clear project management plan (W.2, T.1, T.2)</p> <p>WT.2 Setting long-term contracts with gas suppliers and methanol buyers (W.2, T.3)</p>

B. 4P Marketing Mix

Methanol is available in a variety of purity grades such as raw methanol, grade A, and grade AA which differs from the distillation process. Raw methanol is rarely commercialized, while grade A is usually commercialized as a solvent. Since methanol has a large market for chemical synthesis, the product that will be produced is AA Grade Methanol. Methanol with AA grade has specification of >99.85% purity, <10 mg/kg ethanol content, <20 mg/kg acetone content, and <0.10 wt% water content. The specification differs from grade A methanol which the ethanol content is unregulated, with <30 mg/kg acetone content, and <0.15 wt% water content [9].

The pricing of the product will be based on the production cost with the desired margin (cost-based pricing) and then adjusted to the market price to compete (value-based pricing). Building a methanol plant needs a huge investment and the project should be feasible considering the feedstock price and final product price. Since methanol price is correlated to the crude oil price, the regression correlation of both commodities was analyzed using historical prices from 1995 to 2021. The regression formula turned out to be $y = 2.0249x + 139.27$ with R-square of 0.5857. Then, the projected methanol prices over 20-year were calculated using the regression formula linked to the available forecasted crude oil price. The result shows that the desired price for methanol is US\$300 – 380 per ton for 2025 – 2042. The forecasted price is competitive compared to the market leader price which reached US\$ 480 per ton for Asia in early 2022 [10].

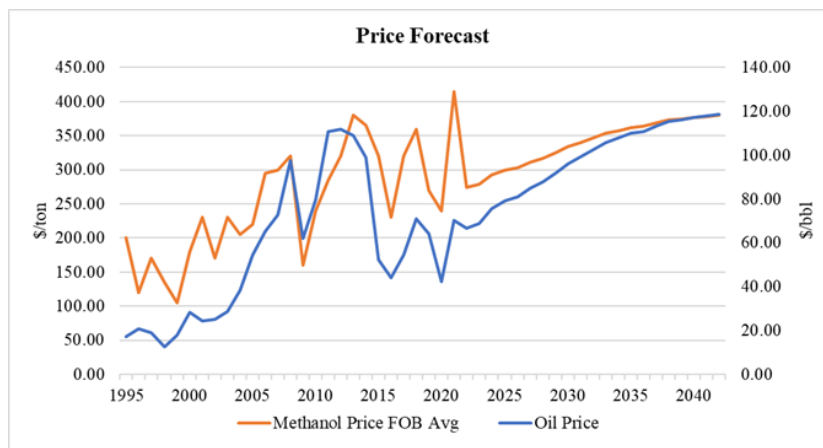


Figure 3. Methanol Price Forecast

Considering the place, the methanol plant should be built in a location with good access to natural resources, distribution facilities, and near the location of the target market to save distribution costs. Riau Island and Banten are two possible provinces with the largest potential markets and existing natural gas pipeline infrastructures for constructing a methanol plant. To distribute the goods, both provinces have access to seaports, albeit Banten Port is more frequently used for international trade. Additionally, with a total capacity of 5,226,200 TPA, Banten has a larger potential market for methanol derivatives compared to Riau Island which has 3,690,000 TPA capacity. Since the potential market is highly located in the Banten area, the manufacturing plant should be located there and the customers could get the product by visiting the office at the plant. Other than that, the product will be sent to the customers' place.

The promotion activity should be focused on increasing awareness of methanol as a new product through a combination of offline and online channels. An official website that contains information about the company, products, and services should be presented. Prospective customers will find obtaining the information they need on the website easier while checking the company's credibility. Participation in conferences and exhibitions is needed to promote the product while providing a space for salespeople and potential customers to directly interact. Sales teams that are assigned across the country are needed to be nearer to the customers. The company also should make use of its natural gas customers database as well as continue to visit factories to present the new product. Consultative selling in direct selling will be used to understand the customers' needs.

CONCLUSION

Petrochemical industry development is one of the government's priority projects in making Indonesia 4.0, and demand for methanol continues to rise despite the lack of domestic supply. This presents a chance to enter the methanol market given the prospective market and government support. In addition, the government facilities on tax and natural gas prices, society's increasing awareness of ESG, company's financial and infrastructure capability will also become an advantage in running the methanol business. The company could gain attention and attract investments for taking part in the energy transition. Increasing material costs and interest costs of building a methanol plant could become challenges due to increasing inflation and interest rates since the COVID-19 pandemic recovery. The volatility of global methanol prices and the possibility of drought during the dry season also should be anticipated. Additionally, the government has not yet set a regulation of natural gas allocation for the methanol industry to ensure sufficiency in comparison to other industries. The company's lacking experience in the petrochemical business, especially natural gas derivatives, also adds to the challenge.

Aligning the TOWS matrix and 4P marketing mix, some strategies that can be implemented are setting a competitive product price which is forecasted to be US\$ 300 – 380 per MT, choosing a strategic place with high access to resources such as in Banten, promoting the sustainability impact and multiplier effect to attract stakeholders and shareholder, and utilizing the existing customer channel of natural gas to commercialize the new product.



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