ABSTRACT

The issue of energy crisis faced by Indonesia that will be worse and worse in next ten years due to the diminishing of the petroleum reserve results in a must to make use of an alternative energy as a substitute energy for petroleum. Besides, the use of petroleum-based fuel can deteriorate the air quality because its exhaust gas contains substances that can damage the environment. In this case, industries are the great consumers of petroleum fuel and contribute to the lowering of the air quality. Therefore, we are demanded to reduce the use of the non-environmentally-friendly energy and increase the use of the more-environmentally friendly energy. Considering that the research on the use of petroleum gas in the industrial sector has never been conducted, then we need an examination of the potential of the petroleum gas use as an alternative energy in the industrial sector based on the market research. To estimate the chance of the petroleum gas use in future, markov analysis is conducted to quantify the potential of the petroleum gas use next one year.

This research is to find out the current condition of the petroleum gas in the industrial sector, the characteristics of the petroleum gas consumers and of the potential consumers of the petroleum gas, to identify the inhibiting factors and the impetus or driving factor of the petroleum gas use, to select the effective promotional media for each group of consumers, to know the importance level of the attributes considered by consumers in selecting fuel, to quantify the magnitude of opportunity of the petroleum gas use in industries for those already know or for those not already know, and measure the magnitude of the saving obtained from the petroleum gas use. In the solution/accomplishment, we need some methods (among others): Descriptive statistic, crosstabs analysis, entropy, cluster and discriminant analysis, pair comparison, and markov chain.

The results obtained from this research is a description about the current condition of customers and of the potential customers, constituting the characteristics, impetus factors and inhibiting factors, the attributes of importance in selecting the fuel and the magnitude of the chance of the companies decision to use the petroleum gas. Then both will be used as a base to formulate a strategy of the petroleum gas use as an alternative fuel on the industrial sector, that is by conducting a more intensive promotion and socialization by pay attention to the attributes considered as important by the respondents, and the explanation about the investment cost which will be spent for the piping installation. Besides, government can provide a lessening in taxes or in budget in order to expand the piping network as an effort to market the petroleum gas.

Keyword: petroleum gas, industry, fuel, market research, markov chain.