

Importance of petroleum to the economy



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Petroleum became important during the mid -1800s with the increased use of petroleum products such as kerosene for light. The industry soon started growing and the market was introduced with automobile and the internal combustion engine. Petroleum Exporting Countries Organisation (OPEC), a multinational organization has been established to co-ordinate the petroleum policies of its member and to provide the member states with technical and economic aid. [2]

The price of petroleum as quoted in news generally refers to the spot price per barrel (159 liters) of either WTI/light crude as traded on the New York Mercantile Exchange (NYMEX) for delivery at Cushing, Oklahoma, or of Brent as traded on the Intercontinental Exchange (ICE, into which the International Petroleum Exchange has been incorporated) for delivery at SullomVoe. [3]

The price of a barrel of oil is highly dependent on both its grade, determined by factors such as its specific gravity or API and its sulphur content, and its location. Other important benchmarks include Dubai, Tapis, and the OPEC basket. The Energy Information Administration(EIA) uses the imported refiner acquisition cost, the weighted average cost of all oil imported into the US, as its “ world oil price”.

Petroleum products’ demand has changed drastically in both quantitative and qualitative terms. Each and every second, prices for oil change as they are very volatile. Consumption of petroleum products depends a lot on global macroeconomic conditions and has a positive relationship with economic growth. Higher economic growth implies higher demand for petroleum

products. High oil prices generally have a large negative impact on the global economic growth, according to the International Energy Agency. [4]

In Mauritius, it is the State Trading Corporation (STC) that imports all of our requirements and hands them over to Oil companies, namely, Shell, Total, Chevron and Indian Oil, for storage and distribution. STC pays for the imports and gets paid when it sells the products to the Oil companies. [5]

STC shall operate a Price Stabilization Account for each product in order to shield the market from price fluctuations. Monthly price shocks on commodities crucial to the conduct of economic and social activities ought to be avoided if at all possible. They come in the way of longer-term planning of all economic activities as well as the family budget and therefore affect the country and all its citizens directly. [5]

Since 2004, it was the Automatic Pricing Mechanism (APM) which decided the prices in Mauritius. However, numerous weaknesses of this mechanism were seen, creating conflicts between the public and the APM committee. Prices were increasing when it was not necessary, especially when the world market prices were going down and the trend was always price increase after price decrease and so on. Price decreases were falling by a very small percentage and were very rare. [5]

To correct this imperfection and the doubts of the public about an unfair pricing mechanism, the APM was replaced by the Petroleum Pricing Committee (PPC) whereby the committee will meet once every 4 months to monitor oil purchase and sale, to examine price trends around the world and then decide if prices need to be reviewed or not. [5]

Market forces determine the price of petroleum products on the world market. The price at the pump is calculated by STC based on the purchase price, taxes and levies and the profit margins for distributors and retailers. The Petroleum Pricing Committee verifies and approves the processes in a very transparent manner and finally recommends to the Minister for the fixing of the new retail price.

Gasoline and Gasoil are expensive even in oil producing countries because of the growing demand in emerging economies such as India and China. When compared to most countries in the world, Mauritius is said not to be that expensive despite the geographical remoteness and the small size of the market.

Problem Statement

The concept of pricing mechanism of oil and petroleum has often been surrounded with confusion. It is important to understand what different prices really mean. It is necessary to analyse the process of convergence and understand what the 'spot' price really means in the context of oil market, although the futures price often converges to the 'spot' price.

The Minister of Industry and Commerce, Showkutally Soodhun specifies that the committee will have full opportunity to check all the documents and the truthfulness of the figures and thus ensure that all parameters were taken into account by the previous committee of the APM, that the PPC will work in full transparency while publishing everything on the website of the State Trading Corporation. There will be full details of all elements that come into play in accounting for the fuel prices.

However, most people in the country either do not have the required knowledge to use a computer, some do not have a computer at all, and others do not have access to the internet. Many people do not know how the pricing mechanism works. Even if the PPC is said to work in transparency no detailed is made public about the formulae considered in pricing the petroleum products, no cashflows or financial statements are known, the public is not reassured about whether their money are rightly used.

The middle class people cannot afford to pay high prices especially when their income is low with most of it going into the basic food necessities. This may create social problems like disputes in the family, domestic violence, increases in social vices like thefts. One important aspect is that other countries may have high taxes on their oil, but this is compensated by their high income and the high value of their currency. Our currency has a really low value, which is why we pay higher prices for petrol, during financial crisis and in periods of inflation. This may lead to economic problems in the near future with lower investments and hence slowing economic growth.

Aims and Objectives

The aim of this research paper is to decrease the difficulties faced by the population because of the rising prices of petrol and to understand the mismatch of supply and demand situation. A clearer pricing system is required and this study can also help in enhancing the performance of petroleum market in the country.

Objective:

To make the whole population aware of the petroleum and oil pricing mechanism

To change the working principle of the petroleum pricing mechanism

To provide alternatives to help decrease the effect of the high petrol price

Methodology

The target population for the study is the population at large, though higher emphasis is laid on the population owning a vehicle.

Every Research Report requires information as the basis for analysis.

Information sources can be categorised as either primary or secondary data.

Primary data is original data that has been collected by a researcher by whatever means appropriate in the answer of a specific research question.

Secondary data is data that has been collected by others for their own purposes, but which may be used by a researcher for his or her different purposes.

There are two different types of data that are likely to be collected: qualitative data, such as opinions, and quantitative data such as measurements.

Qualitative data include verbal narrative pieces of data; quantitative data are anything that can be measured and expressed in numbers. Quantitative data analysis often contains descriptive statistics and inferential statistics.

Descriptive statistics include measures of central tendency (averages – mean, median and mode) and measures of variability about the average

(range and standard deviation). These give the reader a ' picture' of the data collected and used in the research project. Inferential statistics are the outcomes of statistical tests, helping deductions to be made from the data collected, to test hypotheses set and relating findings to the sample or population. [6]

Questionnaire is usually designed specifically for the study in question. Unlike a test, which yields only a total score, or an inventory, in which each item is interpreted as a part of a scale or group of items, a questionnaire yields many separate pieces of information. Analysis usually consists of tabulation or cross-tabulation of responses to individual items—rarely are more elaborate procedures used.

Questionnaires are most often used direct (person-to-person) contact with respondents is not possible or necessary. It is probably the single most widely-used data source. Some experts have estimated that as many as half the research studies conducted use a questionnaire as a part of the data collection process.

Voluntary and informed participation of individuals or communities is necessary for research. Their participation should be based on informed consent; the greater the risk to participants, the greater is the need for it. Informed consent is essential to protect the participants, not the researchers and institutions.

The sample size will consist of 50 of working and non-working people and the aim is to pick a representative sample free from bias. A Nonprobability (Convenience) sampling will be chosen. It involves the selection of elements

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based on assumptions regarding the population of interest, which forms the criteria for selection. Hence, because the selection of elements is nonrandom, nonprobability sampling does not allow the estimation of sampling errors. [7]

Convenience sampling is often used for a case study. Convenience sampling (sometimes known as grab or opportunity sampling) is a type of nonprobability sampling which involves the sample being drawn from that part of the population which is close to hand. That is, a sample population selected because it is readily available and convenient. Also, snowballing method would be used to carry out the survey. Scientifically, it is impossible to have ideal samples; the best compromise is to include a sample with widest possible range of variation in the phenomena, settings, or people under study. [8]

Data Collection

A particular observation technique will be designed for the research topic, describing and discussing the aims of the survey, the nature of the survey (what/who/how/when will be questioned?) and the method of recording (e. g. field notes or using a structured observation schedule). A draft ethics protocol will also be provided (getting informed consent, being honest, not forcing anyone to take part, giving participants the right to withdraw, protecting them from harm, feeding back the results, maintaining confidentiality). The 'ethics protocol' approval should take the form of the document that will be issued to potential participants in order to obtain

informed consent, which would cover issues such as confidentiality, right to withdraw, feedback, etc as appropriate.

For a QUESTIONNAIRE survey it is often preferable to incorporate the ethical provisions in the introduction to the questionnaire form itself, i. e. telling informants what the project is about (informed consent), giving them the choice not to respond to individual items or the form as a whole (right to withdraw), setting out how feedback may be obtained (debriefing), describing the provisions for confidentiality (particularly if the form is not anonymous), etc. This section of the questionnaire is in effect the ‘ethics protocol’ and can be submitted for approval.

Questionnaire Analysis

Each completed form will be numbered after having them back. Then the easy stuff will be sorted out first, i. e. the answers to closed-ended questions which you can simply count in order to give you frequencies

According to the design of the questionnaire, the respondents will have to tick the code by ticking the appropriate number which can then be entered into the spreadsheet. It’s not difficult to find out how many respondents gave each sort of answer. These numbers can easily be turned into percentages (showing what percentage of the respondents gave each sort of response). These figures are already very useful as analytical tools.

It helps to make sure when designing questionnaire that it is amenable to computer analysis. For quantifiable data, MS Works and Excel spreadsheets

will all produce a wide range of computations and forms of presentation such as graphs and charts as well as carrying out some statistical operations.

Benefits of Research

This research will be useful and helpful to many stakeholders in the country.

First of all, the society at large would get to know and understand the procedure behind pricing petroleum and oil. The society benefits in the way that they will get value for money and would not be exploited into paying higher prices for the oil and petrol, in the end, they would have fairness and would know where, why and how their money are being spent.

The government as well would benefit from this research since it would help the government officials to have a better idea about how to price the petroleum and oil so as to maximize the benefit of the public. Another benefit would be is that both parties (the government and the public) would know about the expectations of each other and hence would know how to better satisfy those expectations.

Also, transport cost forms part of a large percentage in the budget for companies. Investors (both local and foreigners) would be more attracted to invest in the country when the pricing mechanism is clear with lower prices. As a result, there would be more economic growth in the country, standard of living of the population would increase, and unemployment level may fall.

The indirect benefits of this research would be decrease in prices of the commodities that the people consume since the reduced transportation cost would lead to lower cost of production. The society would benefit as they

would have more income left, their savings in bank may increase, hence the bank would have more loans to give to investors. As a whole investment would increase leading to economic booms.

Time plan

A Gantt chart is a representation through graphs of the duration of tasks against the progression of time. It is a useful tool when planning and scheduling projects and helpful when monitoring a project's progress. There is a variety of Gantt charts namely the Basic Gantt, Multiple milestones, daily Gantt, Baseline Gantt, Timeline Gantt, Summary Gantt, Stoplight Gantt among others. [9]

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Budget analysis

25/03/11

27/03/11

28/03/11

30/03/11

31/03/11

01/04/11

Budget Analysis

List of items

Estimated cost (Rs)

Printing

200

Travelling

325

Internet

600

Telephone bill

150

TOTAL

1275