

Growth and evolution of petroleum industry in india commerce essay



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The MBA programmed provides student with a fundamental knowledge of business and organizational functions and activities as well as an exposure to strategic thinking of management. As a part of the curriculum we have prepared a “ comprehensive project report” on petroleum industry.

The theoretical knowledge is used only when are apply in our practical study. This report contains a brief about the petroleum industry playing a vital role in the growth of Indian economy. The whole project was accomplished in very systematic manner starting from collection of information through visiting various websites, books, magazines etc and than analyses it in a proper and suitable way.

This report aims to provide information regarding the current position of petroleum industry in India. It’s growth, challenges and issues in highly competitive market by adopting liberalization and globalization polices which are affecting the Indian economy particularly in petroleum sector.

ACKNOWLEDGEMENT

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Finally we also thankful all our friends to helped us directly and indirectly in our project. We have also devoted with our best possible effort to complete the project.

Declaration

We Thakkar Nikita, Makwana Snehal hereby declare that the COMPREHENSIVE PROJECT REPORT entitled “ Petroleum Industry” in is a result of our own work and our indebtedness to other work publications, references, if any, have been duly acknowledged.

Place: ---- (Signature)

Date: ---- (Name of Student)

EXECUTIVE SUMMARY

The project titled as “ Petroleum Industry” has been undertaken with an objective of analyzing the economic growth in the india market & its role for the development of the country. It represents India’s energy needs and is the most valuable public as well as private enterprise.

As a collective result of private sector and public sector refinery investments in the recentpast, India will become known by 2012 as Asia’s largest refined product exporter, surpassing Singapore. India will stay one of Asia’s two largest refined product exporters for the anticipated future.

India is suddenly become a global petroleum producing center because of having increasing the depth of product flows and strengthening supply

chains especially clean transport fuels and for high-end industrial product. It also have far-reaching implications for regional product markets.

The business of India's large scale export oriented refining sector marks the increase of rate of a basic shift in the design of global refining in which growing economies increasingly look to production hubs in Asia and the Middle East to supply incremental refined product demand.

Growth and Evolution of Petroleum Industry in India

The petroleum industry is include the global processes of extraction, exploration, refining, transporting (often by pipelines and oil tankers), and marketing petroleum products. The largest volume products of the industry are gasoline (petrol) and fuel oil. Petroleum (oil) is also the raw material for many chemical products, including solvents, pharmaceuticals, pesticides, fertilizers, and plastics.

The origin of the Indian oil & gas industry can be traced back to the late 19th century, when oil was first struck at Digboi in Assam in 1889. In view of the significance of the gas & oil sector for overall economic growth, the Government of India announced in 1954 that petroleum would be the core sector industry.

1954, petroleum exploration & production activity was controlled by the government-owned National Oil Companies (NOCs), namely Oil India Private Ltd (OIL) and Oil & Natural Gas Corporation (ONGC). India's refining capacity has more than trebled in the last 13 years. Reliance Industry is the first refinery industry in Jamnagar in 1999, India has an installed capacity of around 193.5 million tpa in April, 2011.

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The growth is likely to continue with refining capacities expected to touch 255 million tpa by 2012-13 and 302 million tpa by 2017-18, with a slew of projects announced by both the private and public sector. Today, private sector accounts for 76.5 million tpa (around 39.5 per cent) and public sector oil companies account for close to 117 million tpa (around 60.5 per cent).

There has been a healthy growth in India's petroleum refining capacity in the last five years, is as described by the given table below:-

Domestic crude oil production [million tpa]

2005-06

2006-07

2007-08

2008-09

2009-10

(Provisional)

Total consumption

113.2

120.7

128.9

133.6

138.2

Products from indigenous crude

26. 6

28. 4

28. 2

27. 0

27. 2

Indigenous crude processing

28. 3

30. 2

30. 0

28. 8

28. 9

Products from fractionators

4. 2

4. 0

4. 1

4. 2

4. 4

Total indigenous production

30. 8

32. 4

32. 3

31. 2

31. 6

Import dependence (%)

72. 8

73. 2

75. 0

76. 7

77. 2

Self-sufficiency (%)

27. 2

27. 0

25. 0

23. 3

22. 8

The capacity utilization of Indian refiners for the last few years is described in the table. Indian refiners have also operated at higher operating rates or capacity utilization compared to their regional/global peers implying efficiency in operations.

But, import of India's refining industry is growing, as the domestic crude oil production is stable at around 30 million tpa for the last few years.

Generally, GDP growth rates and petroleum product consumption are linked. But, in our case, factors like availability of better roads, more fuel efficient vehicles, improvements in mass urban transport modes and increased availability of natural gas for industrial sector contributed to more moderate growth in recent times. Indian refineries are clocking higher Gross Refining Margins compared to regional benchmarks a clear sign for competitiveness in refining operations.

If all the planned projects materialize, India will have an exportable surplus petroleum product of around 100 million tpa by 2012 and 140 million.

Product profile

This section provides a brief description of the technology and production process. An understanding of these issues is critical as it helps understand industry structure.

Crude oil is a liquid mixture of hydrocarbons chemical compounds consisting roughly of six parts of carbon and one of hydrogen, both of which are fuels; it generally also carries small quantities of salts sulphur, oxygen, metals and nitrogen.

The principal products obtained from the crude oil are:-

Petrol:-

Petrol is used to fuel internal combustion engines, mainly vehicular. It is early use as a killer of lice and their eggs has completely disappeared.

Liquefied petroleum gas (LPG):-

LPG is mostly a combination of propane and butane. It is heavier than air, and liquefies under pressure. It is used as a household cooking fuel, vehicular fuel and refrigerant; 4 million vehicles are estimated to be powered by LPG in the world.

Kerosene:-

Kerosene is also known as paraffin, is used as an illuminant and cooking fuel in India and other poor countries, and as a space heating fuel in industrial countries.

Jet fuel:-

It is used in jet planes, is closely akin to kerosene.

Naphtha:-

Naphtha is used to make additives for high-octane petrol, and to make polymeric plastics and urea, a nitrogenous fertilizer.

Lubricating oil:-

It consists of greases and viscous oils used to lubricate moving parts in automobiles, industry, railway engines and carriages and marine engines.

Petroleum coke:-

It is mostly used as fuel, but is also used to make dry cell batteries and electrodes.

High-speed diesel oil:-

It is used in engines running at 750 revolutions per minute (rpm) or more. It is mostly used in diesel-powered vehicles.

Light diesel:-

It is used in the diesel engines running at lower speed – mainly irrigation pumps and generation sets.

Furnace oil:-

It is made by diluting residual fuel oil from refining with middle distillates such as diesel oil. It is used in bunkers, boilers, furnaces, heaters, or as fertilizer feedstock.

Demand determination of the Industry

Petroleum industry in the country has undergone major transformation in the past several years. The country is now net exporter of petroleum products.

Globalization of Indian economy along with high international oil prices which are a pass-through in the bulk sector has induced improvement in energy efficiency and shift of demand from liquid to natural gas (LNG).

Further, improvement in road infrastructure and better vehicles has had a sobering effect on the demand for road transportation fuels. Low demand in transport fuels like HSD and MS is also due to factors like expansion of city gas distribution networks i. e. CNG.

Demand determination factors:-

The Demand determination factors are based on mainly two approaches.

Top-down Approach and Bottom-up Approach.

Top-down Approach: – Overall energy requirements with share of different fuels in the primary commercial energy basket by linking GDP with energy elasticity.

Bottom-up Approach: – End use approach considering the impact of different parameters. While assessing the requirements factors like impact of Metro rail, CNG expansion, impact of high oil prices, conservation/efficiency improvement issues, aviation policy of the Government, Railways freight policy, growth of passenger and cargo traffic, fleet expansion plan of airlines, National Highways Authority of India (NHAI) road construction projects, construction of freight corridor, electrification plans of railway tracks vehicle population growth, impact of gas, technological improvements in engine designs, improved fuel efficiency, impact of auto LPG etc. have been measured.

The demand of gas is continues to be influenced by the cost economics vis-à-vis alternative fuels pertaining to each of the end use sectors in India.

The power and fertilizer is also the dynamics of these sectors. Currently the consumption of natural gas is shared by the fertilizer and power sector to the tune of 29% and 40% respectively.

The power sector is one of the continuous major consumer of natural gas. There has set target of 70, 000 generation s forecasted by he ministry of power for the next 5 year period ending 2012.

The industry like Petrochemicals/Refineries and Internal Consumption sectors are estimates that the annual economic growth rate of about 7%.

Similarly, the iron/steel sector is also estimates same rate for economic growth.

Currently the demand for petroleum product is 131. 8 MMT in 2011-12 which will increased by 160. 2 in 2016-17.

The demand for petroleum product is also depend on the availability of the different products like petrol diesel kerosene naphtha etc.

Their prices are the main factor of determining demand of these products.

The petroleum refineries must considered the price parity and export parity which considered the change in price of petroleum products which depend on the past experience.

Players in the Industry

The various competitors are available in the petroleum industry which including the government and private sector. most of the petroleum

companies are huge operations and with billion dollar balance sheet. The oil and gas production and distribution is dominated by government owned companies which are heavily regulated excepting for Reliance Industries. After liberalizing the operations of the companies like Indian Oil Corporation Ltd (IOCL), Hindustan Petroleum Corp. Ltd (HPCL) and Bharat Petroleum Corp. Ltd (BPCL) run billions of dollars in losses as they are forced to sell petroleum products at below their cost.

The policies of government are mostly informal compensating these companies through money transfers and bonds. Some government companies like OIL India, ONGC and GAIL which operates in the production and have to bear less of the subsidy burden have grown and performed very well. In the private sector companies like Aban Great Offshore, Essar and Reliance have managed to grow rapidly as well with changeable degrees of success.

Here is the list of the major petroleum Companies in India:-

Indian Oil Corporation Ltd (IOCL):-

The IOCL covers the whole hydrocarbon value chain from, pipeline transportation, marketing of petroleum products to exploration & production of crude oil & gas, marketing of natural gas, petrochemicals and refining. The sales turn over of Indian oil was Rs 271, 074 corer and profits of Rs. 10, 221 corer in 2009-10. Indian oil's cross-country network of crude oil and product pipelines across 10, 899 km and the largest in the country, meets the crucial energy needs of the consumers in an economical, environment and efficient manner.

GAIL India:-

GAIL (India) Limited, is India's Natural Gas company, integrating all aspects of the Natural Gas value chain right from discovery to marketing. It emphasizes on clean fuel industrialization, creating a square of green energy corridors that connect major consumption centers with major gas fields in India. GAIL is growing its business to become a player in the International market. The company's revenue earned in 2009-10 was Rs 24, 000 corer with net profit of 11%. It is a well managed fast growing company with high competitive barriers in India.

Reliance Industries:-

It is India's largest private petroleum company. The company achieving the remarkable growth in the last decade and is diversifying into Retail. In market top more than \$30 billion it is India's most valued company. It is also highly petroleum exporting company of India. The company is one of the largest oil refining and petrochemical complexes in the world at Jamnagar.

Bharat Petroleum Corp. Ltd (BPCL):-

it is the major distribution of petroleum, cooking gas and diesel in the Indian market. The company's revenue of Rs 36, 000 corer and net profit of 0. 5%. due to the government control The company suffer low margins and terrible stock price performance. Which forces the company to sell the product at below the cost? Even after the liberalization with increased global crude prices increasing the losses very much. The company produces a various range of products, from petrochemicals and solvents to aircraft fuel and

specialty lubricants and markets them to several international and domestic airlines and hundreds of industries.

Hindustan Petroleum Corp. Ltd (HPCL):-

The company operates the largest refinery in the country producing Oils of international standards. This Refinery accounts for 40% of the India's total Oil production. The company has two major refineries producing a large variety of petroleum fuels & specialties. one in Mumbai and the other in Vishakhapatnam. It's huge marketing network consists of its zonal & regional offices facilitated by a supply & distribution infrastructure comprising terminals, aviation service stations, retail outlets, pipeline networks and LPG distributorships. The company's market share accounts for about 20% and 10% of the nation's refining capacity. The company revenue earned was Rs 34, 000 corer and net profit margin of 0. 65% in 2010.

ONGC Corporation:-

The company ranks 3rd in petroleum Exploration & Production industry. It produces 803 Million Metric Tones of crude and 485 Billion Cubic Meters of Natural Gas from 111 fields. It is the biggest multinational company with 40 oil and gas projects in 15 countries. The company earned Rs. 20, 000 corer with net profit margin of 34% in 2010. NGC holds the largest share of hydrocarbon in India & contributes over 79% of Indian's oil and gas production.

Distribution channel of the industry

The petroleum distribution segment is rapidly adopting different kinds of supply chain solution. From crude oil selection to petroleum product

distribution at the retail outlet it is chain with many links. The refining margins, the lead time associated with fundamental functions like product trading and crude buying unpredictability in oil prices make the entire process challenging. Implementation of these solution on a wide spread installations, however, is what the world is watching, as vast petroleum companies fight to “ chain” the business. The petroleum industry has a vital need for both integration and implementation skills for taking the best value out of the differ distribution channel available.

Underground, the gas station is quite modern. The tanks for super unleaded and for regular (the midgrade fuel) are larger than the normal tanks. Each tank is equipped with an electronic level check that conveys real time information about its status through a cable to the station’s management system and then to the main inventory management system for the oil company whose products the gas station markets.

The travels from the distribution channel push to demand pull is taking place in the section, where once the challenge was in getting the best deals on buying crude, the focus is shifting to give customer what he wants.

The petroleum business is separated into refining and distribution segments. The focuses more on the distribution segment.

There is a specific change to focus in the industry toward the distribution segment. The big oil companies have started monitoring the inventories of crude oil or any other petroleum products. The issues at the refining level are: which products to make in what quantity? Which crude to use? Which

units to run? While the issues at the customer facing end or at the gas station are basic, namely run outs & refines.

The important functions within the distribution channel are optimization across alternative means of transportation, demand forecasting, replenishment method to avoid retains/run outs & finally scheduling, which sequences the dispatch.

Marketing and Distribution of Petroleum Products in India:-

The public sector oil marketing companies (OMCs) which include Hindustan Petroleum Corporation Ltd. (HPCL), Indian Oil Corporation Ltd. (IOCL) and Bharat Petroleum Corporation Ltd. (BPCL) are primarily responsible for the marketing and distribution of petroleum products in India.

With the opening of retail sector for the private players, Shell, Essar and Reliance Industries Ltd. (RIL) have also entered the retail marketing related to petroleum products.

The marketing and distribution infrastructure in the petroleum sector include – liquefied petroleum gas (LPG) distributorships, petrol/diesel stations, lubricants and greases outlets

IOCL is the market leader in terms of marketing and distribution of petroleum products.

Retail outlets in India:-

The number of retail outlets (ROs) in India has increased from 31, 650 in April 2006 to 40, 819 in January 2011.

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IOCL has the widest network of ROs across India with 19, 057 ROs as in January 2011.

The number of LPG distributors in India has increased to 9, 686 as in 2010 from 6, 477 in 20011.

India's Navratna oil marketing companies - Indian Oil, BPCL and HPCL- are set to report another quarter of heavy losses as they have failed to get compensation from the government for selling fuels below cost.

The three oil marketing companies (OMCs) sell diesel, LPG for domestic use and kerosene through public distribution system at prices that are substantially below their costs, in accordance with the permission of their majority shareholder.

In return, a small part of their losses is made good by discounts from upstream like ONGC and Oil India. The larger share of losses is made good by the government. During the June '12 quarter, the three oil marketers together had posted an unique net loss of . Rs40, 536 corer as the dues from government did not arrive.

The company is expecting most of the demand for Piped natural gas to come from domestic and commercial consumer sector. Limitation on subsidized LPG cylinders is expected to be a boon for its Piped natural gas business.

Consumers might come forward to get a Piped natural gas connection as its rates would be economical compared to LPG cylinders. " The running cost of Piped natural gas would be about 10 percent less than the cost of LPG. Piped natural gas is safer and more eco-friendly fuel for the user.

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As oil marketing companies move advance forcefully to decrease their distribution channels for LPG cylinders, the next few months will certainly prove trying for consumers.

Currently, oil companies in India are going through a tough task of maintaining positive margins in a very unstable market of crude prices and increasing distribution cost. Oil companies also need to be prepared for active pricing scenarios for the coming future.

Hence, the immediate need is to have a complete real time visibility of sales and inventory for perfect demand forecasts. Integration of different systems and different data to provide single consistent view and information to the oil company management thus forming a strong foundation for effective decision making.

Key issues and current trends

Issues in petroleum industries:-

The global economy is a dynamic and ever-growing one in spite of the high cost of energy. This in turn is forging the demand for petrochemicals. The strong growth in demand is not backed by a sufficient supply so the cost is still to come down. Operating rates of major petrochemical product segments are very high presently.

Problems faced by the India petrochemical industry:-

The manufacturing units mostly use outdated format of technology and are not able to produce optimally

There is a requirement for the modernization of equipments

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Excise duty on synthetic fiber should be rationalized

Anticipation of reservation on Small Scale Units

Plastic waste to be recycled and the littering habits to be discouraged

India requires advantage on feedstock, so the import cost has to be brought down

The industry should have access to the primary amenities of infrastructure

One of the big issues is the difficulty in predicting the advance price, which will succeed in the market in the future months. Some indications are of course available with the futures prices prevailing in the exchanges. Some companies hedge their margins or crude prices by doing paper trading. The forward price is a vital input in the optimization process and can actually make the model for a particular product maximization based on its price.

Current trends in petroleum industry

Petroleum has proven to be the most flexible fuel source ever discovered, situated at the core of the modern industrial economy. While the industry is strong, it is subject to some very significant stresses:-

- Industry consolidation (24 mergers and acquisitions since 1997)
- Global industrial expansion resulting in increased petroleum demand
- Tight supplies of economically extractable oil
- Political instability and terrorism

- High per-barrel price that accelerates development of alternative energies
- Safety and the need to protect workers in “ hostile” environments
- Speed required to establish a presence in new markets
- Need to spread infrastructure risk among competitors

These stressors are causing oil companies to change the way they do business. From their cooperation with competitors to their massive investments in technology, from a renewed focus on safety and the environment to serious investigation of alternative fuels, these firms are reshaping the industry. How they manage these changes also influences how they view their real estate holdings and how they house the scientists and engineers who play a vital role in this transformation.

The challenges oil and gas companies face are having a significant impact on how they view their real estate holdings and what kind of workplaces they provide their employees. These are important issues since many companies in this sector have vast real estate holdings. More and more these companies are managing these holdings from an enterprise-wide perspective, running their facilities like any other part of the business. They are realizing that facilities and furnishings can be a strategic tool for achieving the organization’s business goals. That focus has several implications for the workplace.

Petroleum includes all petroleum-based products, such as gasoline, oil, diesel fuel, kerosene, refined cleaners, and solvents. Organizations involved in upstream (exploring and extracting) and downstream activities (refining and <https://assignbuster.com/growth-and-evolution-of-petroleum-industry-in-india-commerce-essay/>

marketing) for these petroleum products are among some of the most profitable companies in the world.

Whether they are involved in upstream or downstream activities, whether they are public corporations or state-owned companies, players in the oil industry must operate within the context of significant issues and major trends that are shaping the long-term outlook for oil.

Oil companies public corporations and state and non-state-owned enterprises are faced with increasing demand for petroleum products due to global industrial expansion.

On the one hand, labors to get the “ conservative” oil (produced from underground hydrocarbon reservoirs by means of production wells) have prompted oil companies to invest ever more heavily in technology and equipment. On the other, these firms have increased investments in producing “ unusual” oil, including oil sands, shale oil, and extra heavy crude oil, some of which require additional processing to produce artificial crude.

To spread the risk of investing in costly technology, equipment, and processes firms are entering into joint-venture relationships designed to spread infrastructure risk among competitors in order for the entire industry to remain healthy. In some cases, firms have required mergers or acquisitions in order to expand resources for highly technical exploration and advanced production.

- Other changes on the energy scene, particularly increasing prices for both oil and gas, are prompting several companies to take a broader view of their business. They are transforming themselves through investments in alternative energy sources, including solar, wind, biomass, geothermal energy, and fuel cell technology.

The realization that alternative fuels and renewable energy technologies will play an increasingly important role as a bridge between the current focus on hydrocarbons and the clean, cheap promise of hydrogen has prompted many oil companies to invest heavily in these areas.

Using technology to boost productivity

The technology that oil companies provide their employees is principal perimeter, especially where operational efficiencies can be obtained.

Management requires solid standard metrics in order to justify investing in technology.

India has steadily established itself in the core of the international production of petrochemical and petrochemical related products in the present state of affairs. With the economic growth cycle slowing down in the United States, the Asian developing nations, especially India, would preferably stand in the global petrochemical market as a producer of these products. This is one of the major challenges facing India petrochemical industry.

PESTEL analysis

PESTEL analysis stands for " Political, Economic, Social, Technological, Environmental and Legal analysis and describes a framework of macro-environmental factors used in the environmental component of strategic management. It is a part of the external analysis when conducting strategic analysis and gives an overview of the different macro environmental factors that the company has to take into consideration.

Political:-

Political factors are degree to government intervenes in the economy. Specifically, political factors include areas such as tax policy, labor law, law, trade, tariffs, and political stability. Political factors may also consist of goods and services which the government wants to provide or be provided and those that the government does not want to be provided. Besides, governments have great authority on the health education, and infrastructure of a nation.

Economical:-

Economic factors include growth, interest, exchange and the inflation. These factors have major impacts on how businesses run and make decisions. For example, interest rates affect a firm's cost of capital and therefore to what degree a business grows and expands. Exchange rates affect the costs of exporting goods and the supply and price of imported goods in an economy.

Social:-

Social factors include the cultural aspects and include health consciousness, population growth rate, age distribution, career attitudes and

emphasis on safety. Trends in social factors affect the demand for a company's products and how that company operates. For example, an old population may imply a smaller and less willing workforce (thus increasing the cost of labor). Moreover; companies may change a variety of management strategies to adapt to these social trends (such as recruiting older workers).

Technological:-

Technological factors include ecological and environmental aspects, such as R&D activity, automation, technology incentives and the rate of technological change. They can find out barriers to entry, minimum efficient production level and influence outsourcing decisions. In addition, technological shifts can affect costs, quality, and lead to innovation.

Environmental:-

Environmental factors include weather, climate. Additionally, increasing awareness to climate change is affecting how companies operate and the products they offer it is both creating new markets and diminishing or destroying existing ones.

Legal:-

Legal factors include discrimination, consumer, antitrust, employment law, and health. These factors can affect how a company operates, its costs, and the demand for its products.

Conclusion

Crude oil is one of the most necessitated worldwide required commodities. Any smallest amount fluctuation in crude oil prices can have both direct and indirect pressure on the economy of the countries. The instability of crude oil prices group many companies away. Therefore, prices have been regularly and closely monito