A STUDY ON THE MARKET, CONSUMER ORIENTATION OF FUELLING STATIONS: CASE STUDY ON IGL

By

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DECLARATION

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, contains no material previously published or written by another person nor material which has been accepted for the award of any other degree or diploma of the university or other institute of higher learning, except where due acknowledgement has been made in the text, references.

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THESIS COMPLETION CERTIFICATE

This is to certify that the thesis on **"A Study on the Market, Consumer Orientation of Fuelling Stations: Case Study on IGL"**, by **Aayushman Gupta**, in partial completion of the requirements for the award for the Degree of Doctor of Philosophy (Management) is an original work carried out by him under my supervision and guidance. It is certified that the work has not been submitted anywhere else for the award of any other diploma or degree for this or any other university.

Guide

Dr. Vikas Prakash Singh

(Name and Signature)

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Aayushman Gupta

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ABS	**:**	Accounting Balance Sheet
BPCL	**:**	Bharat Petroleum Company Limited
CAPA	**:**	Centre for Asia Pacific Aviation
CII	**:**	Confederation of Indian Industry
CMBS	**:**	Category Management Business Solution
CMD	**:**	Chairman Managing Director
CNG	**:**	Compressed Natural Gas
COCO	**:**	Company Owned Company Operated
CODO	**:**	Company Owned Dealer Operated
CRM	**:**	Customer Relationship Management
CSR	**:**	Corporate Social Responsibility
DG	**:**	Discussion Guide
EBS	**:**	Economic Balance Sheet
ELM	**:**	Elaboration Likelihood Model
EU	**:**	European Union
FMCG	**:**	Fast Moving Consumer Good
FTC	**:**	Federal Trade Commission
GVR	**:**	Green Vehicle Rebate'
HPCL	**:**	Hindustan Petroleum Company Limited
IBP	**:**	Indo Burma Petroleum Co Limited
ICE	**:**	Internal Combustion Engine

IGL	**:**	Indraprastha Gas Limited
IPCC	**:**	Inter –Governmental Panel on Climate Change
NGO	**:**	Non Government Organization
NGV	**:**	Natural Gas Vehicle
OIL	**:**	Oil India Limited
OMC	**:**	Oil Marketing Company
PLC	**:**	Product Life Cycle
PNGRB	**:**	Petroleum and Natural Gas Regulatory Board
QSR	**:**	Quick Service Restaurants
SKU	**:**	Stock Keeping Unit
TRAI	**:**	Telecom Regulatory Authority of India
USA, US	**:**	United States of America

CHAPTER-1
INTRODUCTION

CHAPTER 1
INTRODUCTION

1.1 BACKGROUND

1.1.1 Business transformation

Businesses and models have transformed and evolved over the years. Business transformation is an outlook and a strategic direction that aims to align the "People, Process, and Technology" initiatives of a company with the consumers in line with the long-term vision of the company.

Many management teams work long hours to keep alive structures and business operations that may no longer have any compelling rationale. Organizations should exist to harness and apply (Coulson-Thomas, 1997) the collective capabilities and potential of people in the pursuit of profitability by identifying and delivering value to customers.

Transformation has been the crux of evolution, always changing with the needs of the population. The pre-historic man was a nomad by nature, picking food and walking on. They moved on from one location to another in search of food and a safe place to stay. As time passed, they started permanent dwellings along the banks of the rivers and exchanged products with each other –people exchanged food for clothes, utensils: Barter system evolved. Over a period as goods became plenty, they started developing coins (currency) and traveled along the river exchanging goods for currency. As years rolled by, reputation of products and place of origin of the products gave rise to trading and traders, who traveled long distances to "Supply" the products in demand. As consumers multiplied and journey time increased, they had to start setting up "Shops, Warehouses". Since consumption grew and human beings started to understand profitability they wanted to sell more, hence they needed to distinguish their products through branding and differentiation. Changing technology, competition, availability of product substitutes, blurring of differentiation, encouraged the consumers to start

demanding “product attributes” and they were even willing to pay a premium for differentiation**.** Business had evolved from trading, manufacturing, supplying to a consumer need generated business process. Since products were quite similar, the differentiation evolved into creating an “imagery of product attributes”, and “experiential marketing". Sustainable growth-the creation of shareholder and societal values along the entire value chain became the requirement for successful businesses in the 21st century and for a sustainable future (Tebo, Paul V, 2005). Companies across the world transformed in some form or the other to adapt to the changing needs. The transformation was either by

a) *Changing appearance - by improving services to customers*

b) *Changing shape – by review and reappraisal of what a business should do, by working with partners and by making better use of all types of resources*

c) *Changing form – by improving the way the business works*

In theory and practice the term business model started being used for a broad range of informal and formal descriptions to represent core aspects of a business, including purpose, offerings, strategies, infrastructure, organizational structures, trading practices, operational processes and policies. This thus reflected management’s hypothesis about what customers want, how they want it, how an enterprise can organize to best meet those needs, get paid for doing so and make a profit. They were also used by managers inside companies to explore possibilities for future development.

Over the years, business models have become much more sophisticated. The bait and hook business model (also referred to as the "razor and blades business model" or the "tied products business model") was introduced in the early 20th century by King C Gillete. This involved offering a basic product at a very low cost, often at a loss (the "bait"), and then charging compensatory recurring amounts for refills or associated products or services (the "hook"). Examples include razor (bait) and blades (hook); cell phones (bait) and air time (hook); computer printers (bait) and ink cartridge refills (hook); cameras (bait) and prints (hook).

With the advent of management gurus, organizations started challenging the assumptions that they were working on. The likes of Peter Drucker, Michael Porter, Philip Kotler and CK Prahlad, encouraged the organizations to transform in order to survive with evolving business models. In the 1950s, new business models came from McDonald's Restaurants and Toyota. In the 1960s, the innovators were Wal-Mart and Hypermarkets. The 1970s saw new business models from FedEx and Toys R Us; in the 1980s the business models came from Blockbuster, Home Depot, Intel, and Dell Computer; in the 1990s from Southwest Airlines, Netflix, eBay, Amazon.com, and Starbucks. Government removed controls and monopolies reworked their models to adapt to the consumer trends.

Even in India as the economy liberalized, the increased consumer awareness led to evolved expectations. Monopolies in the industry of television, airlines, telecom, postal department, and insurance all gave way to successful, prosperous private players. *A key reason for their success was that they kept "consumer expectations in mind and evolved their delivery mechanism to suit the changing consumer lifestyle, paucity of time and shopping habits".*

1.1.2 The Changing Consumer and the Advent of Retail Management

As the consumer becomes more aware, the entire buying experience and thereby retail was being driven by the consumer expectations and customer relation management initiatives (CRM, IIPM Hyderabad, 2009) .The over-riding consumer needs which emerged were

- **Efficiency** today is the biggest driver for the retailers that sell fast moving consumer goods like groceries or socks. The consumer is looking at getting the lowest price, being able to go in and out of the store quickly.
- **Shopping experience of the purchase** and the environment is driving the retailers to create a memorable and comfortable shopping experience. The challenge here is in making the consumer enjoy the store experience, making it friendlier, efficient and accurate. All of it might make the

consumer a repeat buyer at such a location. It is also about the retailer's ability to add value to the purchase –in terms of intangibles.

- **The significance of building brand trust** (Lindstrom, Martin, 2007) is vital to community cohesion. According to Lindstrom M, for marketers, the quality of trust is essential in everything they do and consumers need to trust brands and brands need consumer trust.

Globally and in India, the retailers have had to acknowledge the self-service revolution and the need to meet consumers' needs for greater efficiency and enhanced retail experiences. Retailers are therefore

- Using technology for enabling faster transactions especially at the checkout counters.
- Training their work force to be more consumer friendly.
- Adding product categories to enhance footfalls to generate additional revenue.
- Adding new point-of-sale (POS) add value to consumers. The role of POS has evolved beyond improving efficiency and reducing cost, to delivering opportunities for cross selling with follow-on offers through loyalty programs.

Nowadays consumers are flooded with information throughout the day from the radio, TV, newspapers, internet, mobile and outdoor merchandising media. Even at the point of sale, price comparisons and retail lines have blurred as brands previously available in one store can now be purchased in a variety of formats, like exclusive stores, multi-brand stores and selective outlets. Today's savvy retailers have responded by providing a multi-channel shopping experience for their customers. The quality of customer service is one variable that retailers can manipulate to obtain competitive advantage. *While some firms reduce service costs in order to sell at a lower price, others seek to use the aura of quality service to justify higher pricing or attract an up-scale clientele*.

However, times are changing and the stakes are higher. Retailers focused on thriving in this challenging retail environment must now consider enabling the shopper to interact with them how and when the consumers choose. Today's retailers are constantly trying to match consumer expectations. The retailers have to meet the needs and desires of time-starved customers and communicate at the touch points to deliver a consistent brand experience.

The "proliferation of customer touch points is creating a new pressure for the retailers to rethink their customer strategies". According to Gartner Industry Research (2009) "as an increasing number of customers shop or 'pretail' across channels, a retailer's ability to understand customer segments-particularly the most profitable customers-regardless of where they shop will become a critical competency". In fact, more and more product research is done even before the consumer ever sets foot inside a store. Online research influenced 42 per cent of online and offline sales in 2009 (Forrester Research, 2009). By 2014, this share is expected to grow up-to 53 per cent, which translates to $1.4 trillion in retail spending. In 2010, US consumers will make $2.4 billion in purchases using their mobile phones, up 100 per cent from $1.2 billion in 2009 (ABI Research 2010).

1.1.3 Transformation in the Fuelling Stations

With the emergence of organized retailing (Joe Petrowski, 2009) and a growing demand from consumers for a superior shopping experience, convenience retailing has emerged as a key business area for petroleum companies. This is beneficial for the companies having a wide retail presence, a large existing customer base and strategically located fuelling station sites. Convenience need gaps have become important for the urban consumer and the consumer seeks convenience in shopping so that their time is optimized.

Petrol retail outlets provide the right framework for setting up convenience retail chains (Pricewaterhouse Coopers, 2005) where the consumer has the opportunity of combining shopping with the fuelling occasion. Therefore, the fuelling stations have to strive to remain relevant and exciting to seduce the consumer to visit more regularly, with higher loyalty and maybe with a product range other than fuel.

The pumps have to keep pace with changing consumer expectations, lifestyles, and habit, the changing nature of vehicles, the fill fuel-from petrol, diesel to CNG. The key drivers emerging seem to be the location advantage, followed by the soft-skills (human interface) and additionally non-fuel facilities were very important for consumers to decide the loyalty factor. It is clear that the companies need to build a non-fuel retailing model offering cross services and multi-product offering. Petrol stations are widely recognized to be one of the highest traffic aggregators and retail majors like hypermarkets such as Sainsbury, Tesco and Carrefour have added motor fuels in their basket of services for the convenience of their customers.

Worldwide, petrol station convenience stores for non-fuel retailing have developed into a serious business in itself with companies like Shell, Caltex, and BP running their convenience store chains very profitably. There is no money on pumping gas because of political issues and regulatory requirements in most countries. The top-line is controlled, unless 20 per cent is generated from non-fuel, margin expectations cannot be met (Sanjiv Anand, 2004). Referring to the Course on Petro-retailing at University of Petroleum and Energy Studies (petrol retailing MB 305):

- 60% of the ATM customers buy their fuel from the same fuelling station.
- Survey of fuelling station owners/managers conducted in New Delhi had 87% of them saying that a retail shop adds to the overall ambience of the fuelling station making the consumer believe that the fuelling station is better than the other fuelling stations.
- In response to a question that how much of fuel sales will be lost if the non–fuel retail shops were to be closed; 77% fuelling station owners/managers clearly indicated an expected loss of 15%-25% in petrol sales and around 5%-15% in HSD (high speed diesel) sales.
- At two fuelling stations of a national fuel-retailing company (in India) where McDonald's outlet was commissioned, the company, registered 225-330% of sales growth on weekend .This clearly indicates the footfall at the fuelling station increased due to some non-fuel offering.

From a start where only fuel was, dispensed fuelling stations have evolved into technologically advanced outlets dispensing many non-fuel products. Therefore, a major initiative towards this has been an introduction of non-fuel services and non-fuel products. This has allowed higher margins to the retailers and has helped increase the consumer footfall and the share of consumer wallet. The non-fuel services, food-courts, convenience stores, ATMs and laundry services started at the fuelling stations have been becoming popular. From a state of pure fuel retailing, the services have evolved to diversified offerings, based on local priorities, needs and consumer evolution.

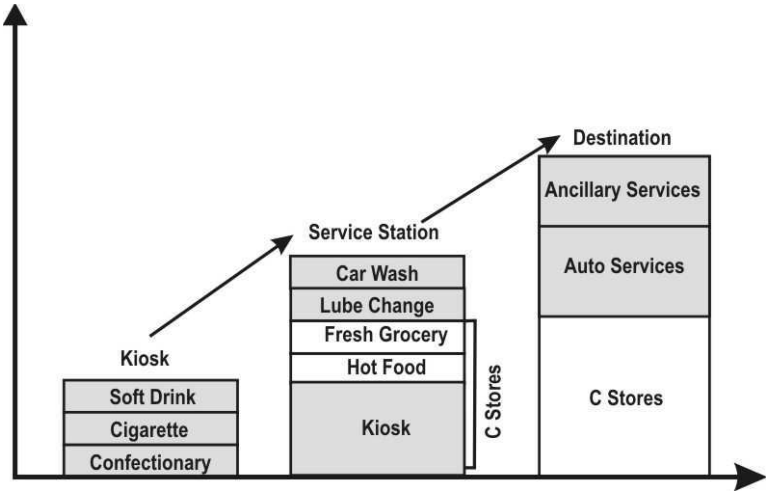

Exhibit 1.1 : The Evolution of Retail Services at a Fuelling Station
Source: Cedar Consulting, "Petroleum Retailing – The future is Now".

1.1.4 The CNG market

Worldwide, there are more than 11 million CNG vehicles on the roads as of end of 2009 (IANGV 2010), and they seem to be creating a revolution (Knox, 2010). Europeans can buy CNG vehicles from seven automakers including General Motors, Ford and Volkswagen. Residents of South America and Asia also enjoy the cost savings and low emissions of CNG. In all, more than 28 CNG models are in production globally by Audi, Fiat, Ford, Honda, Hyundai, Lincoln, Mercedes-Benz, Opel, Peugeot, Renault, Toyota and Volkswagen. Though the U.S. has 10 times more drivers than the top countries, it is running seriously behind on CNG numbers. The CNG market has jumped from 1.7 million to 10.5 million vehicles around the world, with an average growth rate of 30.6% since year 2000. *The rapid*

growth is largely due to global economic factors, the current energy crisis and an increasing environmental awareness. Many countries are using CNG to meet aggressive fuel emissions reduction goals over the next decade.

If the annual growth rate of the CNG market continues at this pace, the impact on oil consumption and fuel emissions will be incredibly significant as early as 2020-especially as large countries such as the U.S. and China expand the use of CNG vehicles to their many consumers. Currently Argentina, Brazil, Pakistan and Italy account for 62.5% of CNG vehicles on the global market. United States, Germany and Russia are developing strategies to boost their numbers over the next decade. With these countries rising to the challenge of meeting energy, economic and environmental demands in their homelands, the global market for natural gas transportation is expected to be a 400 bcm (billion cubic meters)/year industry by 2020. Countries with the highest numbers of CNG vehicles in circulation are strategizing the conversion of their vehicular fleets to smooth the transitions for consumers and *provide a number of incentives – both financial and socioeconomic - toward CNG vehicle development*. The CNG usage in countries of Argentina, Pakistan, Brazil, Europe and Iran is much higher than India even though the population of India is significantly large than any of these countries. In India, Indraprastha Gas Limited -IGL (Christopher S. Weaver, 2004) initiated the CNG (compressed natural gas) drive.

Incorporated in 1998, IGL had as amongst its key objectives

- To provide a clean, environment-friendly alternative as fuel to Delhi's residents, and bring down the alarmingly high levels of pollution.
- Encourage the use of CNG amongst private vehicles, cars being the focus of the business proposition (all the commercial vehicles, buses, autos were converted early due to the supreme court ruling and any new commercial vehicles necessarily had to adopt CNG)

The corporate mission was to establish IGL as a preferred natural gas distribution company, dedicated to the task of providing a cleaner, eco-friendly environment while maximizing shareholders' wealth.

However the growth rate of private vehicles adopting CNG has considerably slowed down to 35% in 2008 over 2007 (IGL Annual Report), from a 173% growth in 2007 over 2006. This has affected profit after tax (PAT) as well. From a PAT growth of 15% in 2007 over 2006, it has a negative growth of -1% in 2008 over 2007.Possibly, new consumers are not coming and the existing consumers are moving back to petrol, diesel. Some premium vehicle manufacturers (Mercedes for example) have started making public statements on the failing consumer imagery of CNG stations and unsatisfactory consumer experience.

Indian oil marketing companies (OMC's) have started initiatives on non-fuel retailing and consumer experience initiatives (Arjun Hira, BPCL, 2005). IGL being in a monopoly situation is yet to take steps in this direction. As per the recommendations of the Integrated Energy Policy (2006)-A competitive market without any entry barriers is theoretically the most efficient way to realize optimal fuel and technology choices for extraction, conversion, transportation, distribution and the end use of energy. The consumer focus & need to build on non-fuel initiatives needs to maybe undergo a complete metamorphosis at IGL. By not being proactive, IGL is also probably moving towards the classic paradigm of monopoly inertia; thereby making the operations less relevant for the shareholders and encouraging consumers to wait eagerly for competition. All of this would increase the propensity of consumers to switch to a more favorable consumer experience, the moment alternatives are available. This has been a visible phenomenon in various sectors viz- airlines, telecom, postal department, banking and to quite an extent in automobiles. Private players and new entrants grabbed market share and market capitalization due to a proactive consumer connect.

In its order dated January 1,2009 Petroleum and Natural Gas Regulatory Board, has given the IGL only a three-year exclusive period of operation in Delhi where the company will have no competition in marketing of gas. So IGL has limited time to connect with its consumer .The mantra – ***connect really well or the consumer disconnects*** has repeatedly proved true across monopolies, sectors and geographies.

1.2 NEED FOR THE RESEARCH

The Delhi CNG market post December 2011 will also be open to competition and the marketing exclusivity given to IGL will end. There is likelihood of competition from Reliance, GAIL and Adani group. Consumers will have the option of moving out from a monopoly, thereby affecting revenue, profit margins for IGL. For IGL since the CNG revenue is over 90%, consumer retention and acquisition of new consumers in a competitive environment will be very critical. So it is important to analyze IGL's performance and understand the factors which influence consumers. Also it is important to understand how all of this impact the economic and financial performance of IGL.

With the changing consumer trends, and reduced free time the consumers are increasingly looking to shop at convenient retail locations and expect more hospitable, pro-active and polite retail service providers. Internationally at fuelling stations and even at some BPCL-In & Out locations consumers go for fuel, snack, water, drink, cola, food or gifts. There is optimum utilization of space to ensure consumer delight, which in turn generates non-fuel revenue. The researcher observes that fuelling stations have to take a cue and look at maximizing the non-fuel revenue and get higher returns from the "prime real estate" they have. This is especially so when the researcher sees that retailing in India is all set to take off in terms of enhanced consumer footfalls, ambience, services, CRM and product propositions. All of this is due to an emerging consuming class-the middle class (the Indian middle class is growing and by 2025, its size would be 583 million, and to put it in perspective it would be nearly twice the size of the United States population).

The researcher has attempted to understand the consumers' expectations and perceptions with respect to the fuelling stations; what all the fuelling stations (which are collectively amongst the largest organized retail chains in India) are attempting to do to manage and leverage on consumer delight; the non-fuel

revenue initiatives taken by the fuelling-stations. Basis all of this what directions can be drawn for IGL. The effort of the thesis is also to encourage a discussion, direction that prompts the relevant authorities to review the evolving consumer trends and thereby enable CNG to tap the huge and growing consuming class.

1.3 OBJECTIVES

In order to remain focused the researcher listed the following objectives:

a) To review and understand how the retailing at fuelling stations has evolved with time.

b) To list factors those motivate the change in services at a fuel filling station.

c) To measure the economic and financial performance of IGL.

d) To recommend a suitable plan for IGL's retail model and enable it to achieve its key objectives.

1.4 RESEARCH PROCESS

The researcher summarized the research work as follows

- To understand the evolving pattern of services at the fuelling stations
- To understand consumer trends in India.
- To identify consumer perceptions and the relevant service differentiators at fuelling stations.
- To review the impact on IGL

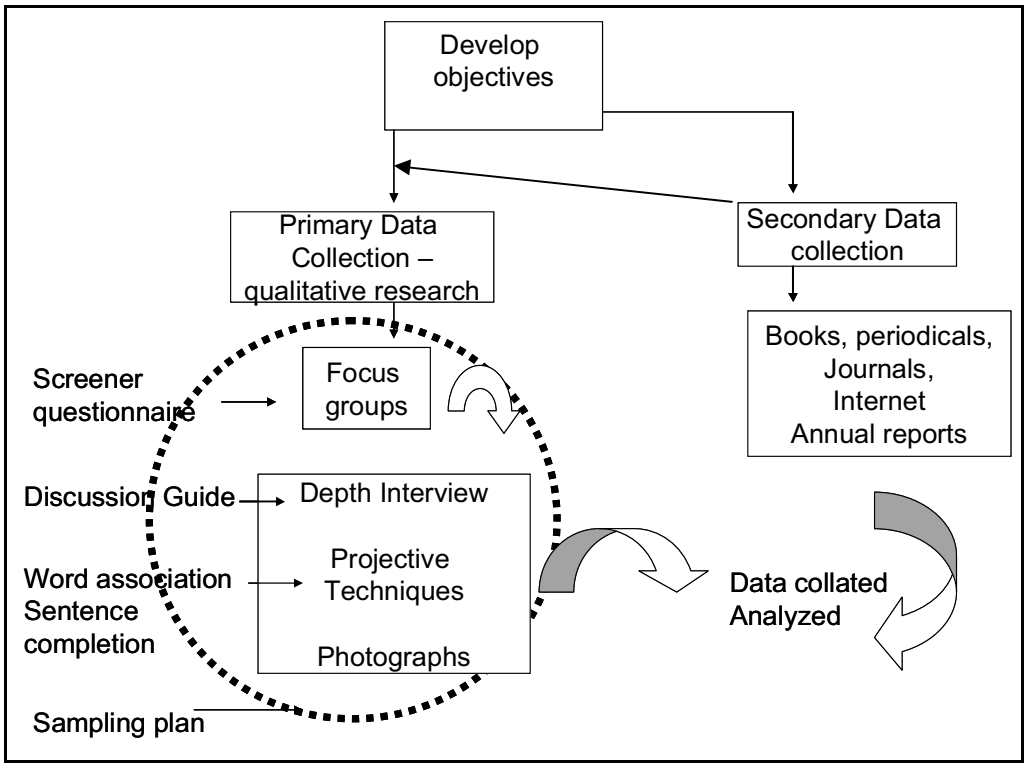

Exhibit 1.2: Research Process

Data sources for the research have been both secondary and primary .The researcher also needs to study the perception, attitude and behavioral aspects of the consumers.

The secondary sources are from published literature

- From consulting companies - Mckinsey, CEDAR consulting, BCG, Technopak
- Annual reports- IGL (2003, 2004, 2005, 2006, 2007, 2008) Reliance, Larsen & Toubro, BPCL, IOC, HPCL.
- Publications, Journals , Books, Internet (detailed in the bibliography)
- Photographs which the researcher took of the fuelling stations

For primary data the researcher uses qualitative research, since the purpose of the research is to come up with thoughts, ideas and aspects (which the respondents feel, are relevant to the product and affect the consumption of the services).

Qualitative research (Stainback & Stainback, 1988) has been known to be of great help in providing insights to the way an individual reacts, observes or perceives a product. In the postmodern era, a number of academicians from the field of consumer behavior have emphasized more on the act of consumption, thereby viewing consumers as a subset of human behavior. Interest in consumer behavior has led to the emergence of terms like experimentalists, postmodernists, or interpretivists; as highlighted by John Sherry in Postmodern Alternatives-"The interpretive turn in consumer research".

The researcher spent a significant amount of time with the respondents in a face-to-face interaction. Focus groups helped arrive at the directions, thoughts, attitudes towards fuelling stations. After this the **data collection techniques** used were-depth interviews, projective techniques, photographs and reactions through personal market visits. All of this helped to identify relevant product related beliefs, attributes and to develop an outline of expectations. The techniques also helped the researcher to develop an outline of consumer attitudes (especially the beliefs and attributes that they associate with particular products and services).

- Focus Groups
  - Each group consisted of eight respondents, for a focused discussion. The respondents were encouraged to discuss their attitudes, likes, dislikes, interests, reactions and usage experience. Each focus group discussion took 1 hour to complete. The tool used was a screener questionnaire, followed by a discussion guide administered to the identified respondents. This enabled identifying the issues related to:
    - consumer habits
    - retailing
    - fuelling stations , perceptions of CNG
    - Possible driving factors that a consumer feel influenced by.
- Depth Interviews
  - A one-to-one interaction was done with a larger set of identified respondents to understand the relevant issues in detail and to arrive at the prioritization of critical parameters. In-depth questionnaire was used

to conduct the interviews. The respondents were encouraged to talk freely about their preferences, attitudes, likes, and dislikes and suggest a wish list in order to provide insights.

- Projective Techniques
  - These were part of the focus group discussions, in-depth questionnaire and helped to tap the underlying motives of individuals. The tools of word associations and sentence completion were used. Moods, reactions were observed to gauge the sentiments arising due to discussions on various aspects.

Sample Size

1. Fuel Station Managers /Owners-Out of a total of 181 CNG fuelling stations in New Delhi, 75 (40%) were included in the sample on the basis of simple random sampling. Further to add relevant insights for petrol/diesel fuelling stations, a total of 75 pumps (in the proximity of CNG pumps) were researched on.
   - Consumers - Consumers driving 4 wheelers at these stations were researched on: 400 consumers for CNG and 400 consumers for petrol/diesel.

Table 1.1: Research plan

	Sampling Unit	**Sample Size**		**Sampling Procedure**
Focus groups	consumer of 4 wheelers	16 groups	8 consumers in each group	convenient sampling
Depth interviews	**Sampling Unit**	**CNG**	**Other OMCs**	Simple Random sampling ; and taking petrol/diesel fuelling stations in locations where CNG was also present. At each pump consumers were met
	▪ Owners, managers	75	75	
	▪ consumers of 4 wheelers	400	400	

- The fieldwork was completed by August 2009.
- Budgets were all personal and spends were done for travel, focus groups, depth interviews, incidentals.
- Help was also solicited of experienced associated, friends in conducting the fieldwork.

To undertake the economic and financial analysis of IGL and measure the impact of all this, the parameters which were reviewed were:

- Gross Profit, PAT, PBDIT.
- Exit of retail investors over the last few years.
- IGL share price movement over the years, beta value, EPS growth comparison.
- Deadweight loss-The concept of deadweight loss was used to understand and to draw attention on the comparison of the Accounting Balance Sheet (ABS) versus the Economic Balance Sheet (EBS).

1.5 LIMITATIONS

The main limitation of this study was that the respondent feedback was limited to Delhi where IGL currently operates and it is not a comment on the other operators of CNG across the country. The research in future could be strengthened by taking a comprehensive study on CNG operators in other cities. Thereafter comparisons can be done on the standards of CNG services amongst different operators.

In addition, a limitation observed was the mindset of the fuelling company officials, which was restricted by the past. The IGL teams were always a little apprehensive of what they wanted to speak about and they were quite concerned about the fact that their viewpoints could be "politically incorrect".

CHAPTER-2
REVIEW OF LITERATURE

CHAPTER 2
REVIEW OF LITERATURE

Philip Kotler says, "Retailing includes all the activities involved in selling goods or services to the final consumers for personal or non business use". Retailing may be understood as the final step in the distribution of merchandise for consumption by the end consumers. The word retail has its origin in French word "retailer" and means "to cut a piece'' or "to break bulk".

As per **"**Wheel of Retailing" **(**Stanley Hollander, 1960):

- New retailers often enter the market place with low prices, margins, and status. The low prices are usually the result of some innovative cost-cutting procedures and soon attract competitors.
- With the passage of time, these businesses strive to broaden their customer base and increase sales. Their operations and facilities increase and become more expensive.
- Businesses may move to better market locations, start carrying higher quality products, or add services and ultimately emerge as a high cost price service retailer.
- New competitors enter with low price, low margin, and low status and follow the same evolutionary process.

2.1 TRANSFORMATION IN RETAIL

The global retailing industry (Datamonitor, 2010) grew by 1.5% in 2009 to reach a value of $10,539.9 billion. In 2014, the global retailing industry is forecast to have a value of $14,175.6 billion, an increase of 34.5% since 2009.

The development of the retailing practices can broadly be classified based on:

- The shopping environment: where a change in retail is attributed to the change in the shopping environment and the ambience of the store in which the retailers operate.

- Cyclical- where the product range and the overall store evolution change follows a pattern and the phase can have definite identifiable attributes associated with them.
- Conflictual: where the competition or conflict between two opposite types of retailers, leads to a new format being developed.

Retailing has evolved over time, across formats across geographies across product categories. In various countries, the geographic location and the physical location of a retail site also became quite critical. Possibly, theory of location (Alfred Weber, 1909) was somehow a precursor to organized retailing where it cited aspects of location advantage.

With time in most well-developed, competitive markets, four types of retail stores can be found namely:

- Traditional mom-and-pop stores.
- National retail-chain department stores.
- Full-line discount stores/specialty stores.

The shopping environment created by retail managers (Turley et al, 2002) has become an important strategic variable. As per Turley it is understood that the necessity for retail managers is to have specific goals for the shopping atmosphere. This has to be kept in mind before creating a store design since the retail environment is capable of eliciting a wide range of behaviours from consumers. Consumers form perceptions of shopping areas based upon the environment which exists, but these perceptions of the external atmosphere are not consistent and vary between individuals. In situations where the merchandise carried by competitive retailers is perceived as similar by consumers, the environment probably becomes even more important.

In fact even the *fuelling stations, which form the largest retail chain in India,* have also been evolving over time. From a start where only fuel was dispensed; they have evolved to retail outlets dispensing many non-fuel products. The importance of non-fuel products has increased with time which has been emphasized by the

various studies from the likes of Mckinsey, AT Kearney, Cedar Consulting, BCG and has been put into practice by international retail giants, viz Shell, Mobil, EXXON, etc. According to India retailing.com's article dated Jan 15, 2009 "There is a striking contrast in the sales mix of oil companies in international market and Indian market. The contribution of non-fuel earnings to the total earnings is 39 per cent and 35 per cent in USA and France. In India the non-fuel revenue contribution is less than 2 per cent of the total fuel sales, so earnings from the non-fuel product categories as of today are negligible to the total earnings".

2.2 EVOLVING FUELLING STATIONS

The global fuel industry while it grows in volume is definitely under pressure on margins and value, (Fuel Retailing Industry Profile: Datamonitor Global 2010, Fuel Retailing Industry Profile: Asia-Pacific, 2010, Datamonitor). The petroleum industry globally and especially in India faces major challenges with low product differentiation, lack of consumer loyalty. *This directly contributes in exerting a downward pressure on margins and profitability.*

Strategists such as Roland Berger (Roland Berger Strategy Consultants, 2006), highlight that the margin, profitability pressure on Oil Marketing Companies (OMCs) has forced them to look at attracting new customers, or expanding the share of wallet of the existing customers. A major initiative towards this has been an introduction of non-fuel services and products which while allowing higher margins to the retailers have also helped increase the consumer footfall and increase the share of consumer wallet. In the process the non-fuel retail services like food-courts, convenience stores, ATM's, laundry services have started becoming popular (AT Kearney 2007, Retail profitability).

The massive transformation in retail trade and non-fuel retailing sweeping across the globe impacted India as well. The combination of increased consumer demand, improved sourcing options and increasing availability of real estate created the foundation for significant growth in the organized retail sector. According to a report (Crisil, 2004):

- Organized retailing constitutes only 2 per cent of the market in India. The share of organized retailing is likely to grow at a faster speed as the drivers of the transformation in retail-such as income growth, the entry of best practice foreign retailers, freeing of real estate markets are already in place in India, the report said. Petroleum retailers including HPCL, IOCL and BPCL have also started initiatives in this direction to be a part of this retail trend. They have been expanding their presence from fuel retail to grocery and convenience stores like In & Out, Speed Mart, Convenio.

"There is no money on pumping gas because of political issues and regulatory requirements in most countries. The top-line is controlled. Unless 20 per cent is generated from non-fuel, margin expectations cannot be met," commented Cedar Consulting regional director (Asia/Middle East) Sanjiv Anand (2004). Cedar has wide experience in working out retail strategies for leading oil companies in Dubai and Emirates. Mr. Anand emphasized that the margin from non-fuel is twice that accruing from the traditional fuel business. Mr. Anand felt that in the Indian context, companies are still trying to figure out the merchandising model. "The Indian companies seem to have got 50 per cent of it right," he added.

2.3 EVOLVING CONSUMER

"Satisfaction of consumers and the way they interpret the same also impacts their loyalty and word-of-mouth publicity. Consumers interpret satisfaction to apply not only to the products they acquire but also to the shopping experience", (Schmidt S.L, Kernan J.B, Journal of Retailing, 1985). They also said that retailers and consumers disagree significantly over the shopping experience that is "guaranteed," but there is less disagreement over the procedures that would accompany an unsatisfactory purchase experience. As markets evolve, retailers adjust their formats and operational strategies to cater to differing shopper needs and trends and thereby maximize retailers' reach in an evolving market. In fact in economic research it is found that individuals will spend money to either benefit others or punish things they consider unfair (DellaVigna, Stefann. Science, 2010). In theories of brand loyalty, decision making, preference, and communication, if

there were no such characteristic as innovativeness consumer behaviour would consist of a series of routinized buying responses to a static set of products. It is the inherent willingness of a consuming population to innovate that gives the marketplace its dynamic nature.

Indian youth is increasingly & primarily seen to shop from a hedonic perspective (Kaur, P, et al Young Consumers, 2007). Urbanization, higher household disposable income, convenience one-stop shopping are other factors that are encouraging this modern trade growth. The retail boom in India brings tremendous opportunities for foreign as well as domestic players. The changing lifestyle of the Indian consumer makes it imperative for the retailers to understand the patterns of consumption. The changing consumption patterns trigger changes in shopping styles of consumers and also the factors that drive people into stores. They importantly serve as new product information seekers, and the retailing firms can directly frame and communicate the requisite product information to them.

Nair, A (2009) avers that from consumer perspective rapid advances witnessed by India in areas like education, communication, information technology and transportation have created a sense of freedom in the minds of people. These advances have led to a paradigm shift in the way Indian consumers behave today, however companies need to remain culturally sensitive. Many global brands attempting to enter Indian market failed because they copied their international strategies whereas India has varied attitudes toward consumption. Consumers are seeking convenience at their doorstep and are willing to travel to selective locations for items of impulse purchase and to exclusive destinations for valuable items. With Indian consumers maturing to self-service formats, reliance on the salesmen is on the decline and an expectation of service standards is building up. Global travel and media have exposed Indians to the western lifestyle (Petrotech, 2009). Opening up of the economy has led to an increase in the product choice available, increase in discretionary spending and modern retailers are experimenting with ways to deliver an international shopping experience to the consumer.

As per Gullen (2008), the world's middle class (the largest consuming class) has, until recently, been located in the triad of Europe, North America and Japan. In the 1970s and 1980s, countries such as South Korea, Brazil, Mexico and Argentina also built sizeable middle-class populations. "Nowadays, it's China and India. The driver is economic growth. As the economy expands, the domestic market starts to become bigger, and it is typically a middle-class market", said Gullen.

As per today's consumer there are three prominent needs: knowledge, authenticity and personal experiences. Creating positive experiences, via knowledge and authenticity, represents the next evolutionary phase of brand success (Burnett, et al, 2007).

Multinationals that have so far viewed developing nations largely as a cheap source of labor, are now poised to benefit again as many of the workers they paid to build their products are increasingly able to afford Western consumer goods. Stephen Kobrin (2008) cautions against making assumptions that the world's new middle class will act exactly as prior generations of middle-class consumers have around the world. Clearly this broad expansion of a middle class with discretionary income to buy more than life's necessities presents a remarkable opportunity for multinational corporations and any domestic company. According to John Zhang (2008), *the middle class in any country is at the forefront of consumption and leads important business trends. Marketers must pay close attention to this population to reap the benefits of an expanding global middle class.* For marketers, the quality of trust is essential in everything they do and consumers need to trust brands and brands need consumer trust (Lindstrom, Martin. Media: Asia's Media & Marketing Newspaper, 2007). A look at the geographic distribution is striking. In 2000, developing countries were home to 56% of the global middle class, but by 2030 that figure is expected to reach 93%. China and India alone will account for two-thirds of the expansion, with China contributing 52% of the increase and India 12%, as shown by the World Bank research. India's middle class-already larger than the population of the United States (US)-continues to grow and to attract consumer goods manufacturers and marketers alike. A report by the McKinsey Global Institute (MGI) (the Bird of Gold May 2007) began with the idea that by 2025 India was forecast to be the fifth biggest consumer market in the world (after the US, Japan, China, United Kingdom). The report said that Indian private and public consumption would increase four fold to

US $1.5-trillion by 2025. Additionally, it said that over the 20 year period from 2005 to 2025, Indian household income would grow an average of 5.3 percent annually. The number of middle class Indian households will grow to 583-million by 2025. To put that figure into perspective, the Indian middle-class would form the third-largest country by itself in terms of population, and nearly twice the current population of the United States.

2.4 CNG Market

Worldwide, there are more than 11 million CNG vehicles on the roads (IANGV, 2009). The vehicles in India are lower than Pakistan even though the size of the population is much larger. So does it mean there are steps to be taken to develop the market further? Countries with the highest numbers of CNG vehicles in circulation are strategizing the conversion of their vehicular fleets to smooth the transitions for consumers and provide a number of incentives-both financial and socioeconomic-towards CNG vehicle development.

The CNG initiatives in India had a driving company, IGL which initiated the same successfully (Christopher S. Weaver, P.E, 2004). The project was started to lay the network for the distribution of natural gas in the National Capital Territory of Delhi to consumers in the domestic, transport, and commercial sectors. With the backing of strong promoters-GAIL (India) Ltd, Bharat Petroleum Corporation Ltd. (BPCL), and the Delhi Government-IGL planned to provide natural gas in the entire capital region. Its key business objectives were to:

- Provide a cleaner, environment friendly alternative auto fuel for residents of Delhi and thus contribute to reduction of the alarmingly high pollution levels.
- Facilitate conversions of commercial and private vehicles to CNG.
- Provide quality service to customers.
- Maximize shareholders' wealth.
- Continuous training and development of the staff to enhance their performance with a high level of commitment.

However the growth rate of private vehicles in 2007 over 2006 was 173 % which slowed down to 35% in 2008. From a PAT growth of 15% in 2007 over 2006 it

had a growth of -1% in 2008/2009. IGL's objective of encouraging private vehicles to adopt CNG seemingly has been slowing down. Mercedes made a public announcement, that they have decided not to launch their CNG version in India; since they do not find the consumer experience at a CNG station very friendly and they feel it reflects a poor imagery.

With the growing consumer awareness on environment and initiatives like the Copenhagen climate change summit 2009, there is possibly an opportunity for IGL to position itself as a "Green Company" to promote clean, green environment. An accentuate strategy involves highlighting existing green attributes in a company's portfolio (Unruh G, Ettenson R, Harvard Business Review, 2010). If one has a substantial product development skills and assets, one can architect new offerings-build them from scratch. For this understanding customers' expectations and competitors' capabilities, the environment stakeholder opportunities are essential to success. In case of IGL the accentuate strategy is a fit.

FIRST STEP	YOUR PORTFOLIO	YOUR CUSTOMERS	YOUR COMPETITORS
What's our strategic goal? • To leverage latent assets? • Broaden appeal to green customers? • Gain green credibility?	How will this affect this positioning of the existing brands? • To Should be green brand create a Strategic halo on the business as a whole?	Are the consumers looking for a green brand? • Does the company have permission to enter "green branding"?	Are the competitors or other brands creating green brands? • Can the company capture the share of voice in the green space?

Exhibit 2.1: The Green Space for the customers?
Source: Unruh, Gregory; Ettenson, Richard, "Growing Green," Harvard Business Review, 2010, Vol. 88 Issue 6

While other OMCs are expressing intent towards non-fuel retailling and consumer experience initiatives; IGL which exists in a monopoly situation has still seemingly made no efforts in the direction of CRM, consumer satisfaction and non–fuel retailling. This also highlights the importance of consumer focus & the utility towards building on non-fuel initiatives from a CNG, IGL perspective. It also means that for IGL there is a need to research the necessity of consumer orientation and the criticality to be proactive towards consumer benefits.

The researcher also observed the need to review whether IGL is moving towards the classic paradigm of monopoly inertia and thereby generating deadweight loss; which might make the operations less relevant for the shareholders and encourage consumers to wait eagerly for competition. All of this would increase the propensity of consumers to switch to a more favorable consumer experience.

The Changing Indian Consumer, Petrotech, 2009, conference concluded that with increased purchasing power and a growing middle class the changes being observed in the consumer behavior and consumption patterns are dramatic. With the increase in number of middle-class people with cars consumption of fuel is going up significantly. There is also an increase in the number of women working and women driving vehicles. Consumers are time-starved.The discretionary time available to many people is perceived as insufficient to accommodate all the desired uses for it (Berry, Leonard L, Journal of Retailing, 1979).

So in spite of the growth in the vehicles and fuel consumption in India , the small size of the CNG market is a concern and there very little research work found to understand the reasons for this and also to review as to why are consumers not adopting CNG in a big way ?

The researcher in the following chapters moves to explore the above in more detail. The effort of the thesis is also to encourage a discussion, direction that prompts the relevant authorities to review the evolving consumer trends and thereby enable CNG to tap the huge and growing consuming class. In order to remain focused the researcher listed the following objectives around which the research work was conducted:

a) To review and understand how the retailing at fuelling stations has evolved with time.

b) To list factors those motivate the change in services at a fuel filling station.

c) To measure the economic and financial performance of IGL.

d) To recommend a suitable plan for IGL's retail model and enable it to achieve its key objectives.

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CHAPTER-3
EVOLUTION OF FUEL RETAILLING

CHAPTER 3

EVOLUTION OF FUEL RETAILLING

3.1 GLOBAL OVERVIEW

The birth of the motor car in the 1890s meant the need for fuel and initially this came in the form of cans that could be bought from ironmongers, chemists and the like.

In 1905, Anglo-American sold 75% of petrol under the brand name Pratts (which later became Esso). The increase in automobile ownership resulted in a greater demand for fuelling stations. The world's first purpose built gas station was constructed at St Louis, in 1905 at 412S. Theresa Avenue. The second gas station was constructed in 1907 by Standard Oil in Seattle, Washington. Early on, they were known to motorists as "fuelling stations". Standard Oil began erecting roadside signs of their logo to advertise their fuelling stations.

After World War 1, with the increased demand for fuel from the increasing numbers of motor vehicles on the road, the need for speedy delivery became high priority and the first roadside Bowser petrol pumps, which were hand-operated, appeared. These roadside pumps were often criticized for being ugly to the country and community, by being placed literally anywhere. Garages, who sold a variety of brands of petrol, therefore tried to accommodate as many pumps as they could on one site, but this too caused chaos through confusion and lack of space.

After 1928, the appearance of petrol stations began to be more carefully controlled (previously, there had been many complaints about the 'untidy' nature of filling stations with their large numbers of petrol pumps and advertising signs).

The formats of fuelling stations have also started modernizing. Older stations tend to use a separate pipe for every kind of available fuel and for every dispenser. During the 1930s and 40s, the pump itself was continuously being developed to produce quicker fuel consumption. The hand pumps were replaced by mechanical versions, and storage facilities for the fuel were hidden away, providing greater access for the motorist to the pump. In 1938, there were two grades of petrol -

standard and premium. Post 1945 as the need for fuel continued to grow, the industry realized the importance of commercialization through recognized trademarks. Consequently, larger petrol stations began to resemble today's modern designs: there would often be a central forecourt, an attendant's kiosk, and an island for the petrol pumps. Hand pumps were being replaced by mechanical and electrical petrol pumps and after 1936 included a 'computing head' mechanism.

The forecourt is the part of a fuelling station where the filling operations are commenced. Fuel dispensers are placed on concrete embankments, as a precautionary measure. Additional elements may be employed, including metal barriers. The area around the fuel dispensers has to have a working and efficient drainage system. Drainage canals in the direct vicinity of the fuel pumps drain all fluids into a waste container.

The trouble was that companies could not force their dealers to comply with every change in design; after all, it was they who had to pay for it all, so if they did not want to paint a new color they did not have to. This can be taken as an explanation for the problems encountered by researchers when trying to pin point the exact color and design for pumps and stations of a specific year. Despite these problems, companies continued to attempt to set visual standards.

There were guidelines, introduced in the 1950s and updated at regular intervals, which were passed on to not just to petrol stations, but also to the rest of the distribution sector (e.g. guidelines on painting road tankers to transport the oil). These guidelines were set out for the colors and the dimensions of logo. Staff was trained for dealing with customers, which included actions such as cleaning the car's windscreen, and finally seeing the customer safely onto the road again. Advertising campaigns also tied in with introduction of its visual standards.

Perhaps the first real change was in 1951/52. With the consumer perception, shopping behavior evolving, companies worked on the basic look and recall of the fuelling stations. Eventually all of it with the consumer evolving matured into a very contemporary retail outlet. What started as mere vending of fuel had

undergone the full cycle to fuel being one of the products that can be sold at a fuelling station facility.

With the advent of electric cars and rechargeable battery operated cars, "gas stations" or "fuelling stations" will soon offer charging docks for these cars. In fact, certain stations in the United States already offer these services. The term "gas station" is mostly used in the United States and Canada, where the fuel is known as "gasoline" or "gas". In some regions of Canada, the term "gas bar" is also frequently used. Elsewhere in the English-speaking world, where the fuel is known as petroleum, the form "petrol station" or "petrol pump" is used. In UK, S Africa, the single noun garage is still commonly used, even though the petrol station may have no service, maintenance facilities which would justify this description. Similarly, in Australia, the term service station ("servo") describes any petrol station. In Japan, it is called a "gasoline stand". In India, it is called a petrol pump or a petrol bunk.

The fuelling station numbers have come down with time in developed countries

- As of 2007, there were 9,271 petrol stations in the U.K, down from about 18,000 in 1992.
- The USA had 121,446 fuelling stations (gas stations) in 2002 according to the Census.
- In Canada, the number is on the decline to about 14,000.

In following countries number of stations is rising

- Turkey - 12,139 petrol stations (2008)
- Mexico - 8,200 PS (2008)
- Nigeria has perhaps 4,700 PS (2007)
- South Africa - around 6,500 PS
- Kenya perhaps has 1,300 PS
- Tanzania - 1,000
- Malawi - 500

In the U.S, a fuelling station that also offers services such as oil changes and mechanical repairs to automobiles is called a service station. Until the 1970s, the vast majority of fuel stations were service stations; now they are only a minority. In the UK, a 'service station' refers to much larger facilities, usually attached to motorways or major trunk routes, which provide food outlets, large parking areas, and often other services such as hotels, arcade games, and shops in addition to 24-hour fuel supplies and a higher standard of restrooms. In New Zealand, a fuelling station is often referred to as a service station, garage, or petrol station, even though the fuelling station may not offer mechanical repairs or assistance with dispensing fuel. Various levels of services are available, including full service, for which assistance in dispensing fuel is offered, as well as offers to check tyre pressure or clean vehicle windscreens. This type of service is becoming uncommon in the country. There is also help service or assisted service, for which customers must request assistance before it is given, and self-service, for which no assistance is available.

There are generally two types of fuelling stations internationally: premium and discount brands

Fuelling stations with premium brands sell well-recognized and often international brands of fuel. Premium brand stations accept plastic money, often issue their own company cards, and may charge higher prices. Many of them have fully automated pay-at-the-pump facilities. Premium gas stations tend to be highly, utilizing tall signs to display their brand logos.

Discount brands are often smaller, regional chains or independent stations, offering lower prices on gasoline. Most purchase wholesale gasoline from independent suppliers or from the major petroleum companies. Lower-priced gas stations are also found at some supermarkets.

Fuelling stations typically offer one of three types of service to their customers:

- **Full service -** An attendant operates the pumps, often wipes the windshield, and sometimes checks the vehicle's oil level and tire pressure, then collects payment (and perhaps a small tip).
- **Minimum service -**An attendant operates the pumps. This is often required due to legislation that prohibits customers from operating the pumps.
- **Self-service -**The customer will perform all required service. Nevertheless, there are varied responses on self-service globally.

Most fuelling stations in USA have offered a choice between full service and self-service. Until the 1970s, full service was the norm, and self-service was rare. The first self service station in Canada in 1949 was operated by independent Henderson Thriftway Petroleum, run by Bill Henderson. Today, few stations advertise full service and those that do usually only provide mini service unless a manager is involved. However, full service stations are more common in wealthy and upscale areas. New Jersey banned self-service gasoline in 1949 after lobbying by service station owners. Proponents of the ban cite safety and jobs as reasons to keep the ban. Likewise, the Oregon statute banning self-service pumps lists seventeen different justifications, including the inflammability of gas, the risk of crime from customers leaving their car, the toxic fumes emitted, and the jobs created by requiring mini service. In addition, the ban on self-service gasoline is seen as part of Oregonian culture.

The petroleum market globally is highly competitive. In North America, it is very competitive. Nearly all fuelling stations in North America advertise their often-changing prices on large signs outside the stations. Some locations have laws requiring such signage. In the United States and Canada, federal, state, provincial, and local sales taxes are usually included in the price. Individual stations in the United States have little if any control over petrol prices. The wholesale price is determined according to area by oil companies, which supply the fuel, and their prices are largely determined by the world markets for oil.

During holiday weekends, when American road travel is at its peak, fuel prices tend to soar and then drop again as the holidays end; this is due to a fluctuation in demand. In European Union (EU) member states, petrol (gas) prices are much higher than in North America due to higher excise, taxation although the base price is also higher than in the U.S.

In other energy-importing countries like Japan, gasoline, petroleum costs are higher than in the USA because of fuel transportation costs or taxes. On the other hand, some of the major oil-producing countries such as the Gulf States, Iran, Iraq, and Venezuela provide subsidized fuel at well below market prices. This practice tends to encourage heavy consumption. Hong Kong has some of the highest pump prices in the world, but most customers are given significant discounts as card members.

Another interesting feature that is different across geographies is the fuel dispenser. In Europe, the customer selects one of several color-coded nozzles depending on the type of fuel required. The filler pipe of unleaded fuel is smaller than the one for leaded (substitute) ones. The tank filler opening has a corresponding diameter. This is to prevent filling the tank with the wrong fuel. Leaded fuel damages the catalytic converter. In some European countries, leaded fuel is no longer generally available, or LRP (lead replacement petrol) may be the only such fuel available. In most stations in the USA and Canada, the pump often has a single nozzle and the customer selects the desired octane grade by pushing a button. Some pumps require the customer to pick up the nozzle first, and then lift a lever underneath it. Others are designed so that lifting the nozzle automatically releases a switch. Some newer stations now have separate nozzles for different types of fuel. Where diesel fuel is provided, it is usually dispensed from a separate nozzle even if the various grades of gasoline share the same nozzle. Motorists occasionally pump into a diesel car by accident. The converse is almost impossible because diesel pumps have a large nozzle with a diameter of $^{15}\!/_{16}$ inches (23.8 mm) which does not fit the 13/16-inch (20.6 mm) filler, and the nozzles are protected by a lock mechanism or a lift-able flap. However, it is possible and does happen occasionally. Diesel in a petrol engine while creating large amounts of smoke does

not normally cause permanent damage if it is drained once the mistake is realized. However even a litre of petrol fuel added to the tank of a modern diesel car can cause irreversible damage to the injection pump and other components through a lack of lubrication. In some cases, the car has to be scrapped because the cost of repairs exceeds its value. The issue is not clear-cut as older diesels using completely mechanical injection can tolerate some petrol-which has historically been used to "thin" diesel fuel in winter.

The entire fuel station normally is classified as an area susceptible to combustion. It is prohibited to use open flames and, in some places, mobile phones on the forecourt of a station because of the risk of igniting gasoline vapor. Most localities ban smoking, open flames and running engines. Since the increased occurrence of static-related fires, many stations now have warnings about leaving the refuelling point. Automobiles can build up static charges by driving on dry pavements. However many tire compounds contain enough carbon black to provide an electrical ground and thus are safer. Ordinarily, vapor concentrations in the area of this filling operation are below the lower explosive limit (LEL) of the product being dispensed, so the static discharge causes no problem. The problem with ungrounded cans results from a combination of vehicular static charge, the potential between the container and the vehicle, and the loose fit between the grounded nozzle and the gas can. This last condition causes a rich vapor concentration in the unfilled volume of the fuel can, and a discharge from the can to the grounded hanging hardware (the nozzle, hose, swivels, and break-a-ways) can thus occur at a most inopportune point. The Petroleum Equipment Institute has recorded incidents of static-related ignition at refueling sites since early 2000. Although myths persist that a faulty mobile phone can cause sparks or a build-up of static electricity in the user, this has not been duplicated under any controlled condition. Nevertheless, super-cautious mobile phone manufacturers and gas stations ask users to switch off their phones. Fortunately, most fueling is done in the open air, and there is not often an explosive concentration of vapors present. The customer fueling area, up to 18 inches (46 cm) above the surface, normally does not have explosive concentrations of vapors, but may from time to time.

3.2 INDIA OVERVIEW

The origin of the petroleum industry in India can be traced back to the end of the 19th century, when petroleum was discovered in Digboi, Assam (northeast India). The industry was initially open for international players and global oil majors such as Caltex, Esso and Burmah Shell were operating in the country.

However, after the oil crisis of the 1970s, the government nationalized the Indian divisions of the international oil companies and the industry became one of the most strictly regulated industries in the country. Subsequently the government also nationalized the refining and marketing sectors and introduced regulatory controls on the production, import, distribution and pricing of (crude oil and petroleum products) by establishing the Oil Coordination Committee (OCC).

The companies that played a major role in shaping the downstream sector for the country have been-BPCL, IOC, HPCL, IBP and IGL for CNG.

BPCL was formed in the 1970s by the Indian government as a part of its nationalization drive for oil companies. Over a period, the government stake in the company was diluted from 100% to 66%. The company has developed an extensive marketing infrastructure and a vast network of retail outlets (under the 'In & Out' and 'Pure for Sure' initiatives) across the country.

Indian Refineries and the Indian Oil Company was set up in 1958 and 1959 respectively with the objective of acquiring competence in oil refining and marketing. In 1964, these two companies merged to form IOCL. They have also initiated non-fuel activities and outlets by the name of Convenios.

HPCL was first incorporated as Standard Vacuum Refining Company of India in 1952 and later named ESSO India. The company was renamed as HPCL in 1974. India's second largest integrated oil refining and marketing company, HPCL has an extensive infrastructure of refineries, cross-country pipelines, LPG bottling plants, and aviation service facilities. It owns a vast network of retail outlets and regional offices. The Indian government is the major shareholder with a 51% stake in the company.

IBP was first incorporated as Indo-Burmah Petroleum in Burma in 1909. The company became a subsidiary of IOC in 1970. The government acquired IOC's stake in 1972 and IBP was established as a separate public sector enterprise. It was classified as an independent oil marketing company in 1989. In 2002, IOC acquired a 33.58% stake in IBP. The principal business of IBP is the storage, marketing and distribution of petroleum products

IGL With the growing need for cleaner air through CNG, IGL was set up through the collaboration of BPCL, GAIL, Delhi Government. The need was to provide safe, convenient and reliable natural gas supply to its customers. This was both in the private and commercial sectors. IGL also embarked to provide a cleaner, environment-friendly alternative as auto fuel to citizens with a CSR objective that this would considerably bring down the alarmingly high levels of pollution

The penetration in fuel retailing, in April 1, 2002, administered price regime was dismantled and retail market was opened to new players with certain restrictions. The main qualification for permission to retail was a committed investment of Rs 2000 cr in petroleum/related infrastructure by the applicant. The government granted permission to Reliance, ESSAR, ONGC, and Numaligarh Refinery. The Petroleum Minister, Ram Naik, said that these companies would set up 8,659 retail outlets including 11 per cent in remote and low service areas. Reliance had been allowed to set up the maximum number of 5,849 retail outlets followed by Essar with 1,700 outlets; ONGC and NRL would set up 600 and 510 outlets. This would be in addition to the existing 18,401 petrol retail outlets in the country. Addressing a press conference, he said Reliance and Essar planned to set up the outlets all over the country while NRL would focus on the northeastern region. However as of today the private players have not been able to compete favorably due to patronage and subsidy the government provided to the government controlled oil companies.

However, the consumers have evolved with the change in global dynamics and retail revolution sweeping across the globe and the Indian markets. Along with their evaluation vehicles became more modern and performance oriented. As a result the oil companies realized the need for brand building. Oil companies

invested heavily in product development and R&D to come out with fuels that would suit the requirements of Indian roads as well as comply with the emission norms. BPCL's Speed was blended with multi-functional additives sourced from Chevron Oronite Company LLC, a Chevron Texaco company. In July 2002, Bharat Petroleum Corporation (BPCL), one of the leading players in the Indian petroleum industry, launched premium grade petrol under the brand name, 'Speed'. This was the first instance of an oil company launching branded fuel in the market. BPCL launched a promotion scheme for Speed, under which anyone buying fuel worth Rs 600 or more got a free BPCL Petro-Card. The company also gave its dealers better incentives to sell the new fuel. A survey conducted by revealed that 44% of customers were influenced by people at the petrol pumps, who convinced them to use Speed. Soon, the two other leading oil companies, Indian Oil Corporation (IOC) and Hindustan Petroleum Corporation Ltd. (HPCL) also launched their own 'new generation' fuels. While IOC's branded petrol was called 'Premium,' HPCL called it 'Power' IOC. In December 2002, another company, IBP, launched a new brand of premium grade petrol 'Josh' and a premium grade high-speed diesel, 'Shakti'.

Within a short span of time, the country had seen the emergence of an entirely new market category in the fuelling stations. The maximum 'action' in the industry was seen on the promotional front. All the companies were adopting various media mix tools to promote their brands. The initial response to these brands was quite encouraging. The marketing efforts of the companies prompted many customers to try out the fuels. In September 2002, HPCL's Director (Marketing), N K Puri remarked that 40% of the consumers in Mumbai and Delhi had already converted to branded fuels and that this figure was expected to go up to 50-60% in the future.

According to industry observers, this trend was in line with the global trends wherein petroleum companies tried to build a loyal customer base by branding petroleum products-petrol and diesel had traditionally not been seen as categories with much scope for product differentiation, branding of these products came as a welcome change.

3.3 FACTORS RELEVANT FOR FUEL RETAILLING AT AN OUTLET

Therefore, from what was reviewed, most fuelling stations are built in a similar manner, with most of the fuelling installation underground, pump machines in the forecourt and a point of service inside a building.

Single or multiple fuel tanks of varying sizes, dependent on the needs of the local market, are usually deployed underground. Local regulations and environmental concerns may require a different method, with some stations storing their fuel in container tanks, entrenched surface tanks or unprotected fuel tanks deployed on the surface. Fuel is usually offloaded direct from a tanker truck into the tanks through a separate valve, located on the fuelling station's perimeter.

Fuel from the tanks travels to the dispenser pumps through a system of underground pipes. For every fuel tank, direct access has to be granted at all times. Most tanks can be accessed through a service canal directly from the forecourt.

3.3.1 Location of a Site

Location stands to be the most critical factor and one of the most complex to decide on. Identification of a sides begins with.

- A feasibility study of the traffic.
- Count of the vehicles.
- Type of vehicles, and class of vehicles over a period.

This is relevant to gauge the fuel potential and the type of fuelling facilities, resources.

Thereafter access to the site is evaluated in terms of :

- The type of area, colony.
- Regular roads or highways.
- Ease of entry.

- Visibility factors from both sides of the traffic are seen. Also seen is the traffic flow segregated by the presence of dividers (as they will be instrumental in aligning and directing the traffic towards the fuelling stations).

Next, to be checked is the size, and its relevance. The ownership and the size of the plot is a very important factor in deciding the type of fuelling station-CODO, COCO.

Thereafter a decision on the kind of facilities to be offered is taken. Nowadays even the consumer profile determines the type of facilities. The facilities of can be:

- Essential facilities.
- Non-essential facilities.

This varies greatly from the type of area, volume and kind of traffic. In fact, this seems to have become a critical component that gives a differentiated edge to the fuelling station.

3.3.2 Type of Control

COCO - Company owned company operated

CODO - Company owned dealer operated, manager operated

DODO - Dealer owned dealer operated

Each type has its own advantages and disadvantages. The factors of accountability are higher when it is run as a business in CODO or DODO formats. In a COCO, format the onus remains on the OMCs to try to liven up the consumer experience and most of the times it is not customized to the need of the location.

3.3.3 Layout Planning

All the above factors are considered when taking an architectural and an investment view. The components of this decision are

- Type of outlet and its control.
- Investment and the ROI estimated.

- Consumer demographics and psychographics.
- Competitive environment with other fuelling stations in the vicinity.
- Skill, resources required and what is available in the area implications.
- Linked retailing services-convenience, grocery outlets, Food services.
- Entertainment area.
- Other Ancillary services.

3.3.4 Dispensing Units

Dispensing units are the visible symbols of quality and quantity to the consumers. They are also viewed as indicators of the technological sophistication of a fuelling station this is a very critical and sensitive factor. It has a major impact on the reputation of the fuelling station and hence its importance. The relevance of technology, up-gradation and maintenance become predominant. The relevant factors here are:

- Type of units.
- Calibration -very important for the accuracy of dispensing of fuel.
- Preventive maintenance to avoid breakdown, since it would lead to direct loss of sale.
- Electrical audits.

3.3.5 Maintenance

Again, it is a sensitive and a core area that helps define the reputation and commercial success of a pump. At times, we have observed that in peak hours the dispensing pumps are not functioning leading to straight loss of revenue. Important factors in maintenance are:

- Tanks need high maintenance of PV valves and regular cleaning.
- Pressure testing for leakages.
- Replacement of manhole seal.

3.3.6 Differentiators

With increasing consumer focus towards brand recognition, differentiators help streamline loyalty, recall and consumer traffic. The factors that are seen here are:

- Hardware-which is the visual manifestation of the outlets, the look and feel, façade, canopy, dispensing units, color scheme, the tiling, technology used.
- Software-activities which interface with the consumer.
- Services and facilities available.
- Commitment of the dealer in terms of consumer orientation, focus towards fulfilling the business objectives.
- Hospitality.

3.3.7 Clearances Required

Various clearances are required for fuelling station are:

- Conversion of land use for commercial use.
- Approvals from the forest, state pollution board, environment board etc.
- Approval of the plan from public works department in case of a state highway or from National Highway Authority in case of NH.
- NOC from local police, fire departments, DM.
- Approval of retail outlet plan from the explosives department.
- Calibration of dispensing units by weights and measures department.
- License to sell from the district food & supplies department.
- Registration with sales tax/vat as applicable.

3.3.8 Customer Loyalty

Loyal customers are always more profitable. Their profit comes from:

- Base profit-the first time.
- Repeat purchase-which increases over time.

- Reduced cost of servicing the old customer.
- Referrals.
- Premium pricing for special products.

Therefore CRM needs to be put in place in its true sense, some initiatives have been taken in terms of loyalty cards.

3.4 NON-FUEL RETAILLING

The fuelling stations today have become a necessary part in the daily lives of a consumer for fuel. With the change in consumer expectation from mere fuel and fuel allied services to impulse purchase and then towards shopping for necessities, the fuelling stations had to change to retain consumer loyalty (Cedar Consulting Anand, S, 2004). The changing retailing environment forced all retailers of any product category to evolve and primarily offer a comfortable shopping environment.

3.4.1 Global Scenario

Countries started to benchmark consumer, retail evolution social index, prosperity, income growth. As companies expanded into nontraditional markets, the barriers between retailers blurred, creating and exploiting new market dynamics.

Fuel + Vehicle Related Retailing	Add on Retailing	Destination Retailing
Fuel + vehicle related products	Basic convenience , impulse products ,enabling non-fuel retailing - soft drinks, snacks, chocolates ,etc	Fast food, bakery outlets ,grocery outlets –strong non-fuel retail
100 % : 0 %	80% : 20%	40% : 60 %
Fuel : Non Fuel Ratio		

Exhibit 3.1: Share of Non-Fuel Retailing Increases with Modernization

This was clearly visible that as the country and economy modernized the consumer need of non-fuel services became more pronounced. From a scenario where

fuelling stations were necessary points of fuel, they started to transform into destination outlets. Country after country the transition of the economy progress, clearly seemed to have a correlation with the increased offering of non-fuel services at the fuelling stations. This transition of consumer expectations in the shopping behavior led the fuel retailers to address their sales of non-fuel products.

Sales of non-fuel products have increased over recent years and since they offer higher profit potential than fuel to the retailing outlet, there is a clear demand to maximize these sales. The importance of this was highlighted with the strategic focus given by Shell on retail management. The Oil business within Shell International is one of its five key divisions. With a retail network of almost 50,000 outlets stretching across 125 countries, the business has annual sales of $100 billion. The development of CMBS (Category Management Business Solution) was started in 1996 with a clear vision (Norman King, Program Manager for CMBS, Shell). According to him, by managing the retail business in a more disciplined fashion, Shell could leverage the huge number of daily customer visits. To achieve this, it needed to create a retail mindset. In practice, this means instituting the right retailer agreements, building the retail network and developing the retail brand. The information enabled Shell to address the key retail issues associated with:

- Improved brand management.
- Improved profit margin.
- Enhanced promotional understanding.

Analysis of implementations in both Netherlands and Germany has revealed significant benefits in margin and turnover improvement, better deals with suppliers and improved product management, re-emphasizing the 80/20 rule: 20 percent of products deliver 80 percent of sales. With this information, Shell could clearly identify which products are not selling; categories were refined and products that did not sell, or took up too much stock room were removed.

Category managers were brought in like that in a retail chain and are now managing fewer products and retail sites have less stock to worry about. Shell has been rolling out a CRM solution, which is Category Management Business

Solution (CMBS) to other operating countries globally, across its global network. Countries that have begun to use CMBS have paid back implementation costs within a year. The strategic competitive position was redefined in the market place with Shell competing with established retailers and is now viewed as a competitor to the supermarket chains rather than other fuel retailers. The only way to improve sales was to encourage customers through the door. With good supplier negotiations leading to better prices for the customer and a well-targeted range of goods and store designs creating strong brand image, Shell has been improving customer satisfaction and exploiting the potential of its non-fuel retail business.

Needless to say, competitive forces model (Porter, M, Competitive Strategy) seemed to have come into play. This is being practiced by all oil majors across the world, and therefore is not an isolated phenomenon.

The researcher observed that across the globe all oil majors were looking at tie-ups, product extensions and the OMCs were competing with retail formats of consumer goods. The new retail formats encouraged consumer footfalls and their purchase patterns increased consumption and margins. This proposition besides consumer attractiveness was profitable.

This choice of alternate products enabled:

- Higher footfalls.
- A varied expanded base of consumer.
- Not only the consumers seeking fuel.
- Higher margins and higher ROCE with a shorter time span.

Various data points available for markets across the world clearly indicated that this resulted in an increased turnover and a higher profitability. The success of this is clearly skewed in favor of developed countries that have adopted the model in entirety. Comparative data conclusively indicates that fuelling stations which seem as a desired destination to the consumers offer higher returns. As a result, these locations started being offered, leased and managed as a business enterprises,

rather than as fuel locations. They were managed by people with motivation to earn profits and address consumer needs.

In fact, even in New Delhi, in independent interactions and surveys fuel pump managers are unanimous in their support to non-fuel retailling

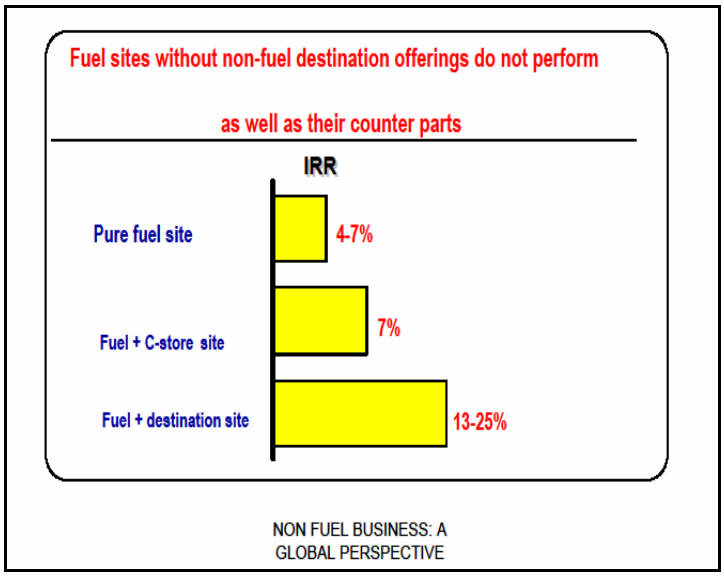


Exhibit 3.2: Non-Fuel Retailling Enhances IRR
Source: Non Fuel Business: A Global Perspective

Conclusive data collated on the returns of fuel companies with destination retail outlets clearly showed the profitability advantage. The linkage between Convenience stores and fuel sales eventually got clearly established and all major fuel retailers like - Shell, Exxon-Mobil, Chevron-Texaco have such stores at most of their fuelling stations. They were called convenience stores as they started focusing on consumer convenience basis the facilities they offered.

This started increasing to an extent that the trend during 2007 was that the fuelling station sites started being branded more with supermarket-branded names, product lines. Virtually all petrol stations owned by the major operators now incorporate a forecourt non-fuel retail shop. Most of the major oil companies have developed their own branding formats for their forecourt outlets, and alongside this, there has been a trend for petrol retailers to form joint ventures with major food retailers and/or convenience store chains.

Retail sales of non-fuel products from forecourt sites rose in value each year between 2003 and 2007, although there was some slowing of growth during this period (particularly in 2006 and 2007). Key Note's original consumer research (Forecourt Retailing , 2008) found that more than four in ten car owners (defined as those from households with at least one car) claimed to be using their car less now than they did a year previously. *However, for almost as many car owners, convenience was more important than shopping around for the cheapest fuel prices.* More than one in four car owners said they sometimes made impulse purchases when paying for fuel at a forecourt shop. A similar proportion said that they sometimes shopped at forecourt outlets even if they did not need fuel. The survey found that, among people with at least one car in their household, the three most popular purchase categories from forecourt outlets-both on fuel-buying occasions and at other times-were the confectioners/tobacconists/newsagents' (CTN) staples.

The formats of the stores in the developed countries have evolved with a consideration of:

- Size.
- The layout.
- The product mix.
- The facilities being offered.
- The brand choices available.
- All of it focusing on the strength of non-fuel brands to attract footfalls.

All of this to maximize revenue needed an efficient layout plan. Al layout plan that worked on the parameters of:

- Relevant product range.
- Visible merchandising and product range.
- Convenient walking, shopping area.
- Right size of parking area - forecourt.

3.4.2 Indian Scenario

However, the concept is very much in the nascent phase in India when compared with the Western countries. According to retailing.com's article dated Jan 15, 2009, "There is a striking contrast in the sales mix of oil companies in international market and Indian market. While the contribution of non-fuel to the earnings is 39 per cent and 35 per cent in USA and France, in India, non-fuel retail contribution is less than 2 per cent of the total fuel sales".

The challenges and objectives to necessitate such a direction, which went on emerging, were:

- Diminishing fuel margins.
- Pressured role of the government in subsidizing the operations.
- Competitive need of growing market share.
- Maximizing the ROI and profitability.
- Optimizing the network.
- Q&Q (Quantity and Quality) becoming a necessary norm for being in business of fuel retailing.
- Evolving Consumer expectations on convenience.
- Consumer's sensitivity towards superior service and convenience shopping.

Fuel : Non Fuel Ratio		
100:0	**80:20**	**40:60**
Typical IRR = 4- 7%	Typical IRR = 7%	Typical IRR = 13-25%
Markets viz : India	Markets viz : Brazil, Itlay	Markets viz :US, France
Fuel + vehicle related products	Basic convenience, impulse products, enabling non-fuel retailing -soft drinks, snacks, chocolates, etc	Fast food, bakery outlets, grocery outlets -strong non-fuel retail
Implication : Develop a sustainable non-fuel model in synergy with the core business		

Exhibit 3.3: Non-Fuel Retailling Could Contribute High Share of Revenue

The changing trends have ensured that the Oil marketing companies (OMCs) in India are today looking at alternate revenue streams seriously (Sahi, RB, 2007). Fuel forecourts with 24x7 convenience retail concepts (merchandise & service retailing) within cities and on the highways offer huge scope for expansion of retail. The concept has the potential to create excitement and initiate activities in small towns and cities as well (India Retail Report 2009). The report also says that modern retailing in India will no more be restricted to the metros and major cities. Oil stations scattered throughout the country's landscape can ensure that smaller towns are also exposed to modern retailing formats. Indian economy had already started aligning with the global direction, India's oil majors can certainly take the lead to fuel the retail growth collaborating with real estate developers, auto companies, consumer brands, retailers and service providers. The face of petro-retailing in India is gradually changing. With the eventual entry of private sector players like the Reliance group and Essar Oil, even public sector players are realizing the need for differentiating factors to bring in the additional revenues. Industry experts say that companies must realize that non-fuel business should be given a critical push to keep the fuelling stations viable in the long run.

There is no money on pumping fuel because of political issues and regulatory requirements in most countries. The top-line is controlled and unless 20 per cent is generated from non-fuel, margin expectations cannot be met, this was highlighted in a report by Cedar Consulting regional director (Asia/Middle East) Sanjiv Anand. Cedar has wide experience in working out retail strategies for leading oil companies in Dubai and Emirates. *Mr. Anand emphasized that the margin from non-fuel is twice that accruing from the traditional fuel business*. In a study conducted by Cedar, for a leading oil company in the Middle-East, it was found that retail merchandising accounted for 78 per cent of total non-fuel revenue, with car wash accounting for 8 %. It is important to get the composition of retail merchandising, sold through Convenience Stores (C-Stores) at gas stations, right. In UK, tobacco accounts for a bulk 37 per cent in a typical C-Store sale, while fresh food and drinks constitute the highest in the Middle-East. Mr. Anand felt that

in the Indian context, companies are still trying to figure out the merchandising model and the Indian companies seem to have got 50 per cent of it right.

From time to time, oil companies have been introducing new services for customers, including branding of fuel. Currently, there are already deals existing between OMCs and other retailers. While Vishal Retail has tied up with Hindustan Petroleum to start forecourt retailing at the HPCL outlets, Indian Oil has inked a deal with Future Group. Bharat Petroleum has tied up with Cinemata to set up cinema halls at its 300 fuel outlets on highways across the country by 2010. Highways in India will never be the same again as oil marketing firms are exploring the potential that lies in the revenue from non-fuel segment. They are planning to put the real estate available at the cumulative 29,000 retail pumps to better use through tie-ups with retail service providers in various segments. Reliance had taken the lead by experimenting with branded road side 'dhaba' within its retail fuel pumps. The first such dhaba called Refresh is on the Mumbai-Ahmedabad highway

There are however skeptical thoughts on the success timeframe for this. Mr. Sinha (IOC-GM, retail sales) cautioned that though retailing at fuel pumps offers huge opportunities, a clear winning model is yet to be established.

HPCL

Head (allied business) PT Suresh had said that non-fuel business constitutes 25 to 30 per cent of the total return from petrol pumps in Mumbai. Nevertheless, the figures for other cities have been dismal, with hardly a five per cent return from the non-fuel business in the smaller cities. Merchandising along with auto care, constitutes a major portion of the non-fuel revenue mix. Most petrol pumps in India have a grocery store. However, companies are gradually moving away from this strategy.

HPCL, for instance, is concentrating on fast food take-away counters. Mr. Suresh added that grocery being a highly discount business has not taken off on full scale in India. Fast food and vehicle related service centers would fetch maximum returns. He also highlighted that returns from this business could give up to an 18

per cent rate of return. Another option before companies is to lease a portion of the petrol pumps to banks to run ATMs. Mr. Suresh also said that oil companies earn from the license fee from banks, which could work out to be higher than the lease amount. He added that HPCL is targeting a 15 per cent return from its non-fuel business in the coming year.

IOC

According to Mr. Behuria, CMD, IOC, people are looking for convenience and oil companies have sites that can lend themselves to convenience stores. Indian Oil he commented saw an opportunity in this since it is a combination of convenience to the customers and ensures that the fuel business does not shift to malls, and there is growth in revenue.

IOC is already into retailing and being the largest oil retailer in the country and they can leverage a strong network to reach customers through their dealers. The CMD observes that "the world over and in India, a lot of shift has taken place to hawk fuel in malls, supermarkets and hypermarkets and non-fuels in fuel pumps. People are looking for convenience and oil companies have sites that can lend themselves to convenience stores". With the changing lifestyles and rising disposable incomes, convenience in shopping along with other facilities such as car-wash and fuel is assuming importance. It already has a presence in retailing through its Convenios in retail outlets but it has not been done in a very organized way and has been so far left to the initiative of the local division or the dealer. There are no major alliance partners nor any proper software has been developed to manage the supply chain and logistics; neither does IOC have a structure to support such an initiative. With retailing beginning to take-off, IOC has been aggressively looking at non-fuel offerings from their retail outlets, which is an opportunity. Therefore, their first objective was an organized non-fuel activity from fuel outlets. Second was a tie-up with the malls and supermarkets to set up fuel pumps and offer services because there is huge parking and consumers could spend huge amount of time there.

IOC is working to have three models:

- One is non-fuel retailing at retail outlets.
- Second is fuel at malls.
- Third is whether IOC should look at entering non-fuel retail as a business model. That would include the first two options and even participating in retail ventures with some of the top-class Indian retail companies.

It could be a combination of all three looking at the size of IOC. The model should have a sub-structure within the organization and IOC is yet to develop the skills to do retailing that requires different set of skills. They seem to feel that if in 10 years it contributes 5 per cent to revenues, it shall be quite in line. Basically, it is a combination of revenue from the consumer by providing convenience products to the consumers. Indian Oil Corporation seems to be driving ahead in pursuit of its non-fuel retailing ambitions.

BPCL

State-owned oil company Bharat Petroleum Corp Ltd (BPCL) is targeting a Rs.20-billion revenue from its non-fuel business over a period 10 years. Leveraging the 8,000 + fuel outlets it has nationwide, BPCL today retails fast moving consumer goods(FMCG), food and banking and financial services, apart from its core business of selling petrol, diesel and lubricants. The company now hopes to increase its non-fuel retail revenue 10 times through six verticals: convenience stores, banking and financial services, food courts, entertainment, bill payment, and travel.

BPCL has 380 convenience stores, selling around 30 household product categories. It now plans to take the number of outlets to 1,000 by 2010-11, and increase the revenue from this vertical to Rs.13 billion. The company's plans of vending liquor would help to nearly double the revenue per square feet. Around 230 petrol bunks house automatic teller machines (ATM). BPCL has also tied up for money changing services. Focus is on the big expansion in the food vertical also. On the last count, they had 35 food outlets of leading chains and this will be increased to 120. There are plans to have 200

dhaba format outlets and 60 food courts by 2010-11.Under the entertainment vertical BPCL will shortly open 120 seat theatres in two large petrol bunks in Gujarat. The theatre housing bunks will be on four-acre plots and will also have food courts. BPCL is planning to have travel kiosks at all fuel outlets and also expand its bill payment service offerings.

With a view to increasing its non-fuel revenue-stream, BPCL has also tied up with Cinemata, a film distribution unit of Sony Entertainment Television, to set up cinema halls at its 300 fuel outlets on highways across the country by 2010. Cinema halls will help boost non-fuel revenues felt the senior management and CMD Mr. Sinha. The movies will be shown to neighboring villages and highway travelers via satellites. The company has transponders and ready infrastructure in place. Each cinema hall will have seating capacity of 150 to 200 and the films in digital format would be beamed at the fuel stations. Bharat petroleum is consciously working towards providing added value to its customers, both in fuel and non-fuel areas.

It is planning to modernize 600 service stations and retail automotive accessories. Additionally, the company has tied up with Hero Honda and Tata Motors to locate their service outlets at select BPCL stations. The expansion strategy is being supported by a new professional cadre recruitment of over 300 employees, including 90-100 MBAs and CAs to form a part of the managerial pool, this comes at a time when around 450 employees have accepted VRS and a good part of the 10,000-plus workforce's clerical staff is being redeployed. BPCL also plans to leverage its Petro Card subscribe database of 18lakh. BPCL's cards are already reaching out to sites, which account for the company's 75% sales. Customer-loyalty programs (CRM) are becoming increasingly critical BPCL's expansion focus would be on over 700 strategic retail sites across the country.

Bharat Petroleum Corporation (BPCL's) Allied Retail Business (ARB) is growing at over 50%, possibly making it the largest non-fuel revenue generator in the oil industry, a top company official said. BPCL also ranks amongst the leading retail networks in the country, offering a basket of services ranging from quick service restaurants to financial and travel-related services. The food & beverages brands,

while bringing in their customer base to the retail outlets, also increase the overall level of customer engagement at the sites. BPCL achieved a major breakthrough by getting into agreements with both joint venture partners of McDonalds operating in India - Hard castle restaurants and Connaught plaza restaurants. Subsequent to the pact, three retail outlet sites were signed up in Bangalore for setting up McDonalds restaurants. BPCL also signed pacts with Nirula's corner house for setting up Nirula's restaurants in the network. These QSR alliances, while enhancing the image of the retail network, will serve as a differentiating customer value proposition.

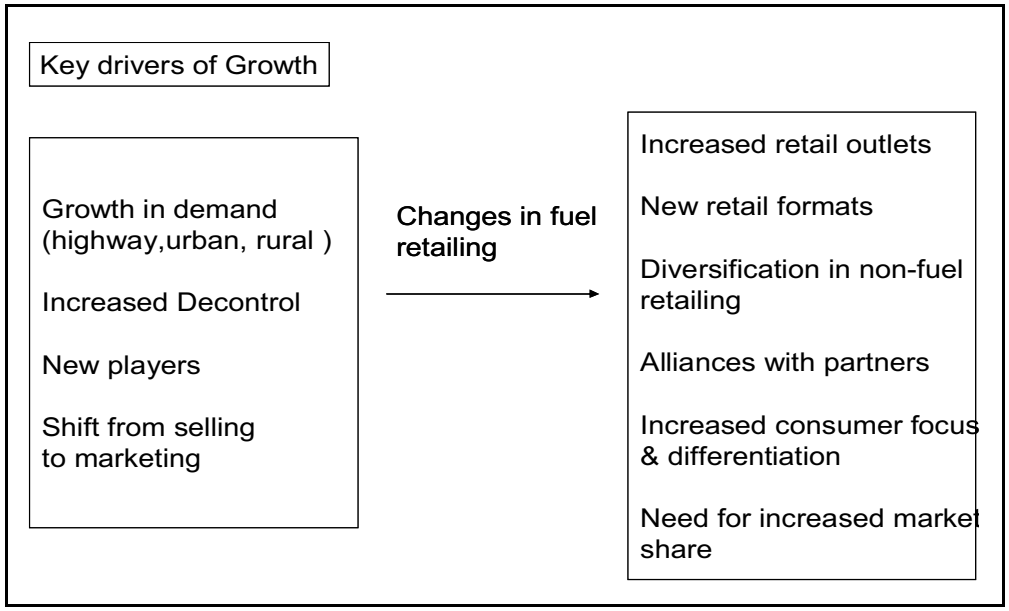


Exhibit 3.4: Altered Nature of Competition

To summarize, with the emergence of organized retailing in the country and a growing demand from consumers for a superior shopping experience, Convenience Retailing has emerged as a key business area for petroleum companies given their wide retail presence, existing customer base and strategically located sites. Convenience need gaps have been felt in various fields and research has shown that the urban consumer today seeks convenience in shopping for their basic requirements so that their precious time is reserved for pursuits that are more fruitful. Petrol retail outlets provide the right framework for setting up convenience

retail chains where the consumer has the opportunity of combining shopping with the fuelling occasion. Therefore, the fuelling stations, which endeavored to start the retail revolution in the energy sector, constantly have to strive to remain relevant and exciting to seduce the consumer to visit more regularly, with higher loyalty and maybe with needs other than fuel .The pumps have to keep pace with changing consumer expectations, lifestyles, and habits. The changing nature of vehicles, the fill fuel-from petrol, diesel to CNG; all of it is changing the way the consumers choose their vehicles, fill fuel, and demand services.

The key drivers emerging seem to be the location advantage, followed by soft-skills (human interface) of the service delivery and then the facilities. This was further accentuated in a qualitative research by A.T. Kearney that highlighted that besides the fuel stations location, additional non-fuel facilities were very important for consumers. The fuel retailing companies need to build a non-fuel retailing model offering cross services and multi-product offering. Petrol stations are widely recognized to be one of the highest traffic aggregators and retail majors like hypermarkets such as Sainsbury, Tesco and Carrefour have added motor fuels in their basket of services for the convenience of their customers. Hence, along with strategic locations, the availability of footfall in the petrol retail outlets gives petroleum retail companies the competitive advantage.

Worldwide, petrol station convenience stores have developed into a serious business in itself with companies like Shell, Caltex, BP running their convenience store chains very profitably. According to the survey conducted to link, ATM with fuel has established that about 60% of the ATM customers buy their fuel from the same fuelling station (Petrol retailing MB 305). The survey has clearly shown retention of sales at fuelling stations with allied services in an otherwise declining market. A Survey of dealers conducted in New Delhi also had 87% of the dealers saying that a shop adds to the overall ambience of the fuelling station making the consumer believe that our fuelling station is better than the others. That is how it increases the fuelling outlet's sale. In response to a question that how much of fuel sales will be lost the non-fuel retail shops were to be closed, they clearly indicated an expected loss of 15%-25% in MS sales and around 5%-15% in HSD sales. At

two fuelling stations of national oil, company where McDonald's outlet was commissioned the company registered 225-330% of sales growth on weekends. This clearly indicates purchase of fuel, while the footfall at the fuelling station is due to some non-fuel offering. (Petro-retailling MB 305).

Though efforts are being made in this direction, the fact remains that in India for fuelling stations the non-fuel revenue is still 2% of the total revenue. While the Indian consumer aligns with the global consumer in terms of needs and expectations, the fuel stations have to respond faster. Maybe this is more for want of a dedicated mind-set that is PSU and APM free. In fact, the researcher observes that at IGL there seems to be a complete absence of such initiatives. However, the policy makers of the country are looking to work towards an enabling environment. IEP (2006) also emphasized, "An Enabling Environment for Competitive Efficiency". Apart from pricing policies, an environment that allows multiple players in each element of the energy value chain to compete on transparent and equal terms for efficiency gains. This plays an important role to see that competitive markets develop and mature in a competitive environment.

CHAPTER-4

IMPACT OF CHANGING CONSUMER BEHAVIOR ON RETAILLING

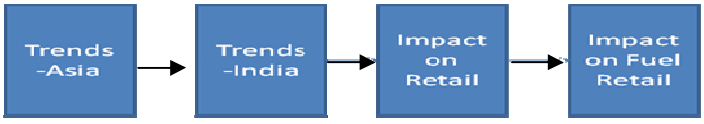
CHAPTER 4

IMPACT OF CHANGING CONSUMER BEHAVIOR ON RETAILLING

There is a considerable change in the way retailing has evolved. By understanding these dynamics and anticipating new ones, retailers in Asia (Accenture, Retail Trends, 2008) can develop ways to differentiate themselves and cultivate distinctive capabilities that help achieve high performance. According to Accenture:

- Retailization is spreading across sectors.
- The demographic and psychographic shift, and consumers are gravitating towards products and services which offer more customization, encourage “green", give product convenience and attention.
- Retailers are being challenged to customize their offerings and the shopping environment to meet the changing demands.

Retail chains, fuel-marketing companies are also taking steps to adapt to these trends. It was now important for the researcher to understand, review the consumer trends, beliefs and to review the progression of the Indian consumer.



4.1 TRENDS

Asia is moving rapidly towards becoming not only the world’s largest producer of goods but also the largest productive workforce. Marketers and policy makers everywhere are keen to know how to exploit the rapid transformation happening here.

The researcher began with a macro perspective on the big environmental changes occurring in Asia today, then examined the consumers more closely with selected insights about youth and women, and finally ended with a discussion on some thoughts on how marketers can devise strategies to deal with this exciting new opportunity.

The researcher has resisted the temptation to quote extensive demographic data and focus instead on consumer issues. Nonetheless, Asia is not one entity, and any attempt at addressing it as one, must necessarily become comprehensive.

4.1.1 The Changing Meta Trends

To simplify the myriad changes taking place here, the researcher has used the concept of Meta Trends. It is a transformational or transcendent phenomenon, not simply a big, pervasive one and it implies multidimensional or catalytic change, as opposed to a linear or sequential change. It happens because of an evolutionary system and wide developments that occur simultaneously in a number of individual demographic, economic, and technological areas. Instead of each being an individual freestanding global trend, it is a composition of trends. Three meta trends transforming this region are:

Economic Growth and Globalization: High GDP growth, increased income is resulting in higher disposable income. As a result, the consumers prefer more evolved products. Besides the basic "dal and roti", they want good vegetables, more ice cream and more movies. Products that were considered a luxury (like an air conditioner) are a basic need today. Consumers shop in retail malls for comfort, competitive choice, better products and are competitive .Earlier watching movies was a once in few months activity, however the PVR's have changed it to a comfortable weekly movie watching experience with popcorn and coke (a family of four easily spends Rs 1000).

Universal Connectivity and the Death of Distance: Some of the biggest changes are shrinking of distances due to internet connectivity, mobile phones, Ipads, laptops, and increased ease of information access through the internet powered by

search engines. Information of products, prices, booking, e-transactions are encouraging the retailers to stock such products. A consumer on the move travelling in a vehicle in a new area would be very keen to access information on the closest available fuelling station. The GIS maps, mobile maps make all this possible

Social Adaptation: The forces of modernization-economic growth, connectivity, women's education, urbanization, and institutional order - are producing dramatic social change. Consumer demand higher quality, respect for their time, safety, dependability on quality-quantity, clean shopping areas, and customized products. Consumers prefer companies, which are conscious of CSR activities and are environment friendly, promote "green". In order to adjust to these environmental changes better, people tend to utilize specific psychological modes of adaptation. That is why we have various product sizes in food, clothes; tickets for movies or airlines are dynamic in fares; CSR initiative of "Jago Re" for Tata Tea has positioned them firmly with the youth as a respectable, desirable company; the "Pulse Polio" campaign is one of the most visible brands and successful initiatives; "CRY" cards are more desirable.

Women too are changing rapidly in Asia. With increased education, many more of them are now working, seeking independence, greater decision-making power, and control of their lives. Their attitudes have undergone a transformation as well. Several studies show an increase in the desire for socioeconomic independence and societal consciousness, and a parallel decrease in submissiveness and traditional though process. Even family orientations among the younger women are changing, with women deciding to postpone and/or limit children. More and more women drive vehicles, independently take decisions, and demand personalized attention.

Conclusion: Looking at changing consumers in Asia, what strikes at first glance is that economic development seems to affect lifestyles and attitudes in a startlingly linear fashion, and Westernization gets more and more pervasive. Despite globalization, the nation remains a key unit of shared experience, and its educational and cultural institutions shape the values of almost everyone in that society, along the following lines.

Survival	Self-Expression
Secular-Rational	Traditional

Exhibit 4.1: Consumer Homogeneity

Three meta trends that are transforming Asia are economic growth and development, connectivity and information technology and social adaptation.

With changing economic situation of India, it is not that only the rich are spending more and more but in fact it is the great Indian middle class that has thrown caution to the winds and enjoying themselves like never before and are on a spending juggernaut (Mckinsey, "The Bird of Gold", 2007). Brand India is riding high. For Indians with disposable income in their pockets, happy times are here. It is a new mindset at play. Living for the day is the new motto. This translates into spending on a new home, a new car, the latest digital camera, appliances for the kitchen, home decor etc. The change is drastic as compared to a generation back where saving for a rainy day was the usual practice. There are more loans for more cars, more houses, more movies and a demand for a better lifestyle (Nair, A, 2009). The face of changing India is reflected as Airlines, hotels, FMCG companies, auto giants, retail chains, mobile phone companies are all reworking strategies and slashing prices to reach the low-end consumer in rural areas.

4.2 THE CHANGING INDIAN CONSUMER

India is poised for a dramatic expansion of domestic consumption that will make the country one of the largest consumer markets in the world (Mckinsey, 2007).

4.2.1 Increase in Consumption

It is estimated that real consumption will grow from 17 trillion Indian rupees today to 70 trillion Indian rupees by 2025, a fourfold increase. This will vault India into the premier league among the world's consumer markets. Today its consumer market ranks 12th. By 2015, it will be almost as large as Italy's market. By 2025, India's market will be the fifth largest in the world, surpassing Germany. In short, India has now entered a virtuous long-term cycle in which rising incomes lead to

increasing consumption, which, in turn, creates more business opportunities and employment, further fuelling GDP and income growth.

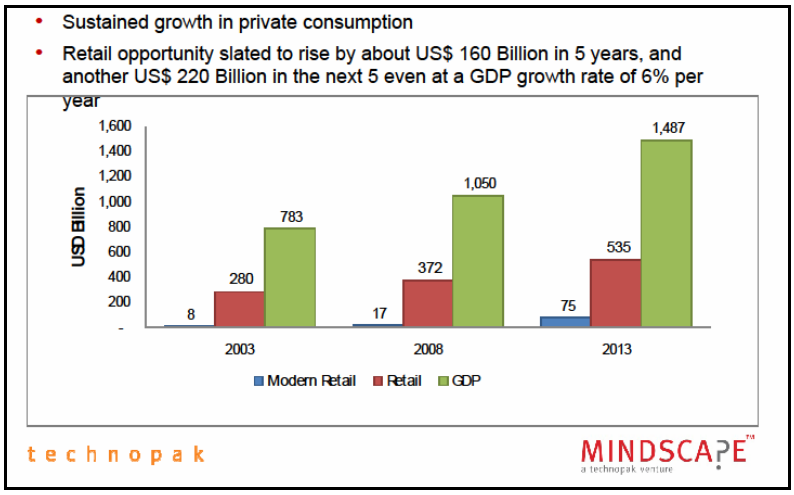


Exhibit 4.2: Retail Growth -India
Source: The Changing Indian Consumer, Petrotech, 2009

There are three major factors driving increased consumption, by far the most important

- Being rising incomes, which will account for 80 percent of total growth over the next two decades.
- Population growth, which will account for a further 16 percent of the overall rise in consumption.
- Savings but developments on this front will play a relatively minor role.

Even if household savings were to remain flat, consumption would still grow substantially. The primary driver of India's growth as a consumer economy will thus be increasing incomes. Analysis shows that average real household disposable income is set to grow from 113,744 Indian rupees in 2005 to 318,896 Indian rupees by 2025, a compound annual growth rate of 5.3 per cent.

This is much more rapid than the 3.6 percent annual growth of the past 20 years and, with the exception of China, much quicker than income growth in other major markets.

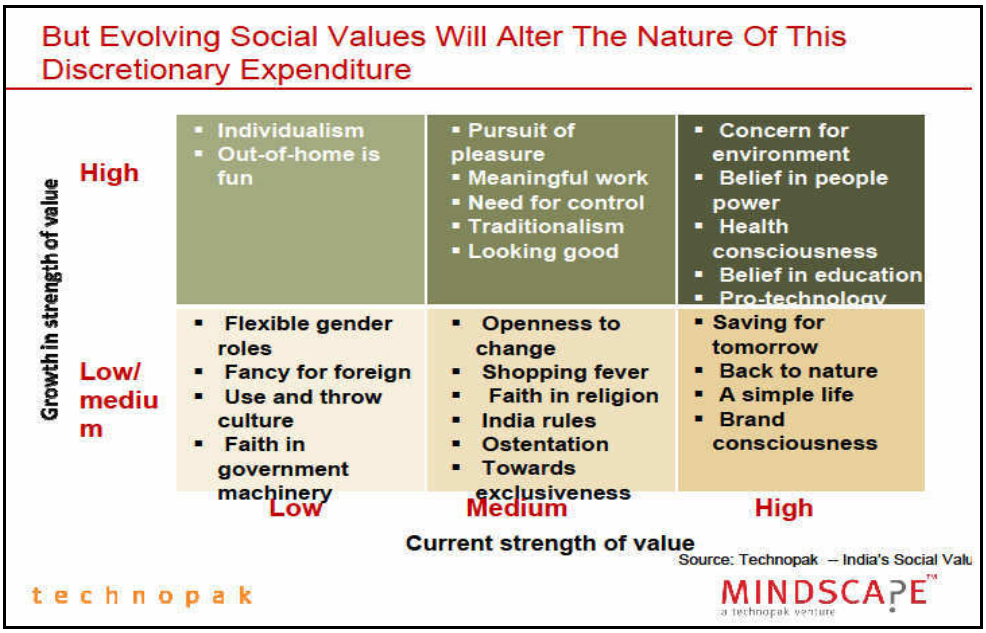


Exhibit 4.3: Evolving Social Value-Indian Consumers
Source: The Changing Indian Consumer, Petrotech, 2009

Consumers are clearing distinguishing product preferences and offerings by companies. Very high on their agenda is their individuality, going out (especially on Sundays), and believing that they need to work hard and play hard. Companies are ensuring that the retail environment is customized to the target consumer, the way they spend time (Café Coffee Day, Barista, encourage people to sit, lounge). Increased income encourages people to spend more. Income growth is, in turn, dependent on sustaining overall economic growth in the years ahead. Companies are optimistic on this front because of the substantial scope for Indian businesses to increase their productivity, the growing openness, and competitiveness of the Indian economy, and favorable demographic trends. Income estimate assumes real compound GDP growth of 7.3 percent a year from 2006-2025, acceleration from the 6 percent growth of the previous two decades, but in line with most estimates of India's long-run sustainable growth path.

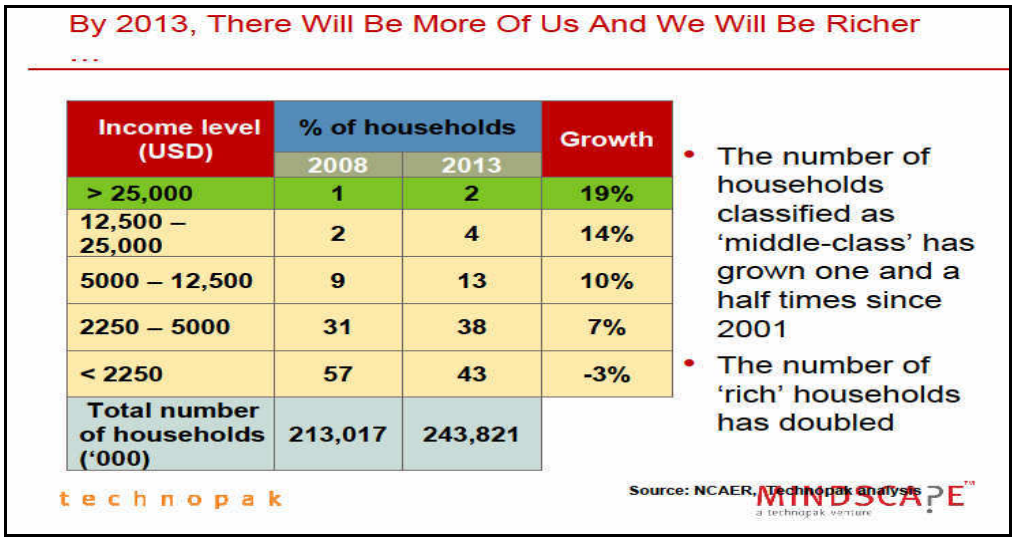


Exhibit 4.4: Rising incomes create a Sizeable, Largely Urban Middle Class-Indian Consumers
Source: The Changing Indian Consumer, Petrotech, 2009

In 1985, 93 percent of the population had an annual household income of less than 90,000 Indian rupees-an income bracket categorized as deprived. By 2005, this had dropped by about two-fifths to 54 percent of the population. By 2025, the deprived segment shrinking even further to only 22 percent of the total population. The middle class is spanning real annual household disposable incomes of 200,000 Indian rupees to 1,000,000 Indian rupees. In 2005, the Indian middle class was still relatively small with 50 million people or some 5 percent of the population. However, if India achieves the growth the researcher assumes, its middle class will swell to 583 million people or 41 percent of the population. In addition, households with real earnings more than 1,000,000 Indian rupees a year, which we refer to as global, will comprise nearly 2 percent of the population, but earn almost a quarter of its income.

4.2.2 The Changing Preferences

Born Between	Age Group In 2013	Cumulative % of population
1979-2013	0-34	Liberalization children – 65%
1964-1979	35-45	Transition's children – 18%
Pre 1964	45 +	Midnight's children – 17%

Exhibit 4.5: Changing Profile of Indian Population

Consumers born in different age groups have different preferences. Earlier a watch was for only keeping time, so an "HMT" watch for the Midnight Children was a prized possession. They talked about independence, sacrifice, and remembered India's freedom fighters. As time progressed, the "HMT" gave way to a "Titan" watch, which was positioned for style.

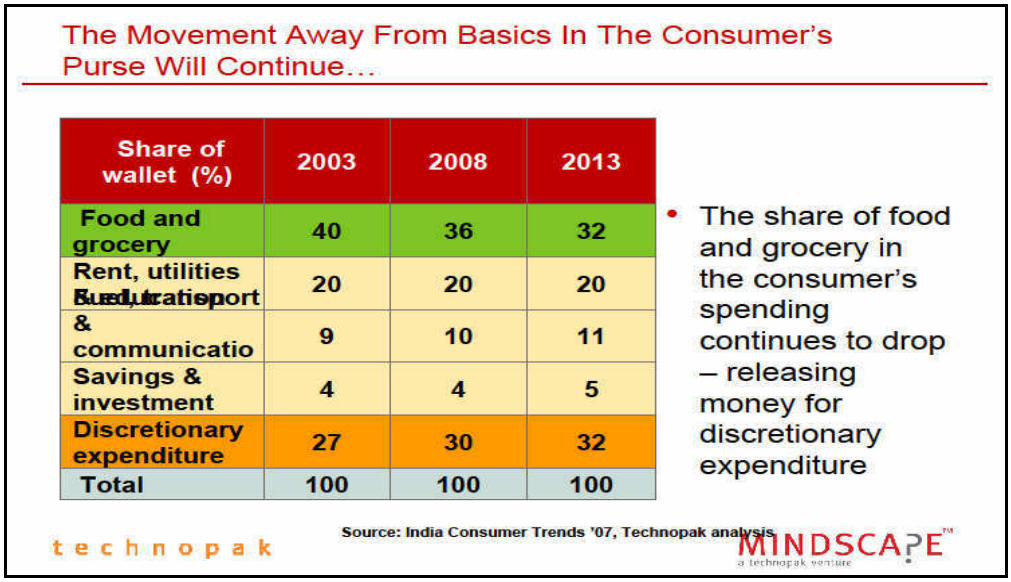


Exhibit 4.6: Increased Spending on Discretionary Expenditure -Indian Consumers
Source: The Changing Indian Consumer, Petrotech , 2009

The share of spending has started changing drastically from basics of "food and grocery" to increased expenditure on transport, communication, discretionary spending. All this forces the retail trade and even the fuel retailing companies to evolve their services towards these consumers and this spending.

India's rapid economic growth has set the stage for fundamental change among the country's consumers. The same energy that has lifted hundreds of millions of Indians out of desperate poverty is creating a massive middle class centered in the cities. McKinsey Global Institute (MGI) suggests that if India continues its recent growth, average household incomes will triple over the next two decades and it will become the world's 5th-largest consumer economy by 2025, up from 12th now. Along the way, spending patterns will shift significantly, as discretionary purchases capture a majority of consumer spending. India's potential should make it a high priority for most consumer goods businesses, but to succeed in this

complex market they must overcome major challenges. Private consumption has already played a much larger role in India's growth than it has in that of other developing countries. In 2005 private spending reached about 17 trillion Indian rupees ($372 billion), accounting for more than 60 percent of India's GDP, so in this respect the country is closer to developed economies such as Japan and the United States than are China and other fast-growing emerging markets in Asia. The aggregate consumer spending could more than quadruple in coming years, reaching 70 trillion rupees by 2025. Higher private incomes and, to a lesser extent, population growth will encourage this rise in consumption. In many consumer markets both Indian and multinational companies already compete intensely for customers. The opportunities will be enormous; the challenges will force companies to be more dynamic by adapting their products, services, and business models to the rapidly changing needs and incomes of Indian consumers.

In this progression, the following expectations of the consumers evolve:

- From affiliation to individualism.
    - Each consumer sees his/her identity as unique, rather than herd mentality. People have started customizing their cars, hairstyles, hair colors, shoes, vehicle accessories, even the fuel they fill in their cars is different. Vehicles have various models/colors targeted at consumers with different demographic and psychographic expectations.
- Consumers start relishing the products, developing tastes, and possibly indulging in the "buying /shopping experience".
    - The emergence of retail malls and world class shopping environments , PVR cinema viewing experience , hair cutting saloons , grooming products for men and women, more "in and out" services at fuelling pumps, self service outlets in localities are encouraging consumers to relish the shopping experience. The feeling of independence and the choice available encourages them to be more demanding. All of this raises the standards expected of companies providing any kind of products towards transforming it into "experiential marketing".

- Consumers feel a responsibility to the society and environment, promoting "green" is the in thing nowadays.
    - Consumer today is also very responsible. Availability of choice also makes them take care of the facilities. Banning of plastic paper, need for organic food, the global "green summit", sign of "keep your city clean" on all good packaged products, environment consciousness growing in schools, colleges as people become more sensitive towards caring for the earth; all of this makes the "green proposition" attractive, premium and desirable .
- Consumers balance between choices.
    - Consumers have also started to learn that they need a strong balance in the abundance of choice and not be reckless. They have become responsible in consuming and identification of choices. Food products have nutrition tables strongly laid out for the consumers.
- Consumers seek convenience and have less time to waste.
    - It is expected that the service provider will "respect their time" and not waste it during the delivery of the service.
- Consumers become more demanding.
    - Sellers have to compete for consumer attention. Abundance of food courts, ordering food from home-30 minute committed delivery, choice of products, type of shopping environment all of it has empowered the consumer to expect world class standards. They have truly started believing that "CONSUMER IS KING". Companies have started to believe that the purpose of business is to create and retain a consumer. According to Adi Godrej, "Authentic delivery of value is the essence of marketing and branding today".

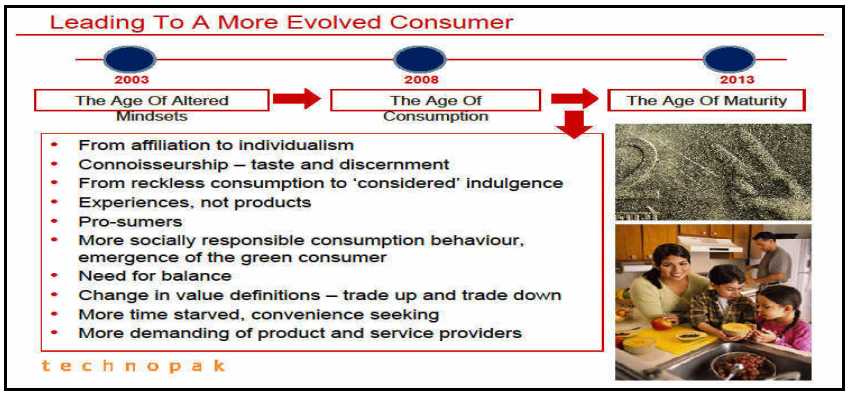


Exhibit 4.7: Consumer Values Have Evolved
Source: The Changing Indian Consumer, Petrotech, 2009

A clear trend towards western lifestyles and attitudes in a multitude of areas-the most notable change being the shift from a collectivist society towards more individualist values as economic growth happens. Earlier consumers would save for their children, now consumers believe in living for the day. Increased expenditure backed by easily available loans for houses, vehicles, white goods, and even holidays is very clearly a pointer in this direction. Even the fuelling stations have evolved to enable a smooth drive in, encouraging credit card payments in order to make the consumer spend less time waiting.

The mindset of the consumers has evolved from "Kismet "towards believing that they can change their present for a better tomorrow. All of this is changed the way Indians think, the mindset is more progressive, open, and demanding. Therefore to summarize

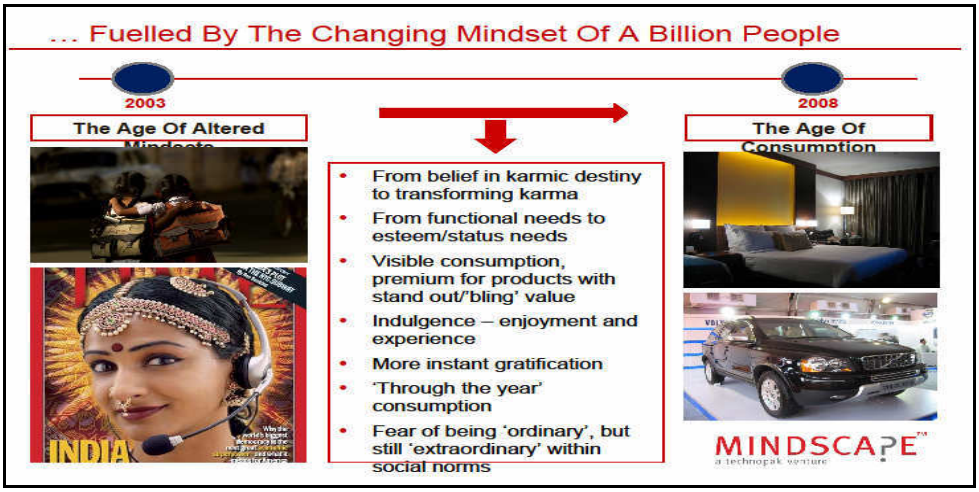


Exhibit 4.8: Changing Mindset -Indian Consumers
Source: The Changing Indian Consumer, Petrotech, 2009

4.3 THE CHANGING FACE OF FUEL RETAILLING

The research through secondary sources presented in the sub-section 4.1 and 4.2 of this chapter, clearly shows that the new consumer trends are evolving in India. These studies present a holistic picture across a wide range of products and services.

While reviewing the literature on fuel retailing the following reports could be found:

- AT Kearney, "Refueling The Oil Retail Business – Retail Profitability", 2007.
- Cedar Consulting
  - "Non-Fuel Business To Pump Growth", The Financial Express, Sanjiv Anand , Reg. Director (Asia , Middle East) Jan 5, 2004
  - Petroleum Retailing -The Future Is Now, Manish Kotwala, Associate Director (Asia, Middle East), 2003.
- Datamonitor, "Fuel Retailing Industry Profile: Asia-Pacific. Fuel Retailing Industry Profile: Asia-Pacific, 2010".
- Datamonitor, "Fuel Retailing Industry Profile: Global 2010".
- Datamonitor, Plc, "Retailing Industry Profile: Global", 2010.
- Dell, Ben P.; McMahon, Neil, "The Emerging Global Gas Market and The Implications Of Converging World Prices", Black Book - Long View: 2008.
- Keller, A Dr, "From A Volume Outlet To A Value Driver-Changing Role Of Fuel Retailing For Russian VIC's", Roland Berger Strategy Consultants , Moscow, 2006.
- Market Watch: Energy, "Alternative Fuels: CNG Is Emerging as a Serious Contender", Dec. 2007, Vol. 6 Issue 12.
- Petrotech, "The Changing Indian Consumer", 2009, Delhi.
- Petrowski, Joe "Managing Through The Forces of Change In Convenience Fuel Retailing", Convenience Store News, 2009, Vol. 45 Issue 13.
- Pricewaterhouse Coopers, "2004/2005 Global Retail & Consumer Study From Beijing To Budapest".

- Pricewaterhouse Coopers, "Non-Fuel Retailing: From Fringes To Focus", 2005.
- Knox, Jon, "Natural Gas Vehicles-Creating A Transport Revolution", Mar2010, Vol. 190 Issue 3.
- Forrester Research, "Us Online Retail Forecast 2009 To 2014", 2009.
- Hira, Arjun "New Strategies for Non-Fuel Business", GM, BPCL, Strategic Shift In Indian Downstream Sector, Aug 2005.
- Berry, Leonard L, "The Time-Buying Consumer", Journal of Retailing, 1979, Vol. 55 Issue 4.

These reports shed a lot of light on the changing consumer trends but very little has been done keeping New Delhi (India) as a focus. Further, no study could be found that draws comparisons between the changing nature of the two markets-CNG and Petro/Diesel.

So this research has been conducted on the basis of primary data to capture the impact of the meta trends on the consumer behavior specifically for fuelling stations in New Delhi. The survey was conducted to collect information on the following:

- Expectations of the consumers and their perceptions towards the OMC's.
- Expectations of the fuelling station owners/managers and their perceptions towards the OMC's.
- Expectation and Perception Summary.
- State of Affairs at the IGL fuelling stations.

RESEARCH PROCESS

So the researcher has attempted through the primary research to understand

- Expectations of the consumers and their perceptions towards the OMC's.
- Expectations of the fuelling station owners/managers and their perceptions towards the OMC's.
- Expectation and Perception Summary.
- State of Affairs at the IGL fuelling stations.

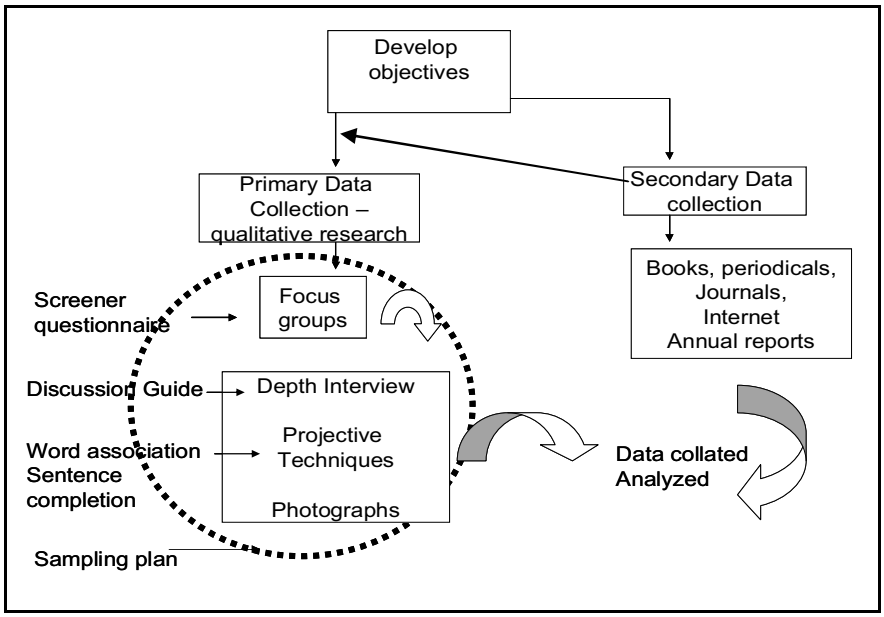


Exhibit 4.9: Research Process

The researcher has used the methodology of qualitative research, to come up with thoughts, ideas and aspects, which are relevant to the fuelling stations.

Qualitative research (Stainback & Stainback, 1988) has been known to be of great help in providing insights to the way an individual reacts, observes, or perceives a product. In the postmodern era, a number of academicians from the field of consumer behavior have emphasized more on the act of consumption, thereby viewing consumers as a subset of human behavior. The format of discussion is annexed (in the appendix), which was used to arrive at the key trends.

Sample focus groups were administered questionnaires' to arrive at the directions, thoughts, attitudes towards fuelling stations. Post which the data collection techniques that are depth interviews and projective techniques. These techniques helped to identify relevant product related beliefs, expectations and to develop an outline of expectations.

- Focus Groups.
  - This enabled identifying the issues from the research context related to:
    - Consumer habits.
    - Retailing in the current consumer environment.
    - Fuelling stations of CNG and Petrol/diesel.
    - Factors that influence consumers' perceptions and the buying behavior.

- Depth Interviews.
  - This was conducted on one-to-one with a larger set of identified respondents, consumers to understand the relevant trends, expectations in detail and to arrive at the prioritization of critical parameters. The respondents were encouraged to talk freely about their preferences, attitudes, likes, and dislikes to provide insights.
- Projective Techniques.
  - This technique was conducted through the tools of word associations and sentence completion. Moods, reactions were also observed to gauge the sentiments arising due to discussions on various aspects.
- Sample Size.
  - Fuel Station Managers /Owners-Out of 181 CNG fuelling stations in New Delhi, 75 (40%) were included in our sample based on simple random sampling. Further, to add relevant insights for petrol/diesel fuelling stations, 75 pumps (in the proximity of the CNG pumps) were researched on.
  - Consumers-800 Consumers driving 4 wheelers who came at these stations were researched on (400 consumers for CNG and 400 consumers for petrol/diesel).

Table 4.1: Research plan

Focus groups	**Sampling Unit**	**Sample Size**		**Sampling Procedure**
	consumer of 4 wheelers	16 groups	consumers in each group	convenient sampling
Depth interviews	**Sampling Unit**	**CNG**	**Other OMCs**	Simple Random sampling, and taking petrol/diesel fuelling stations in locations where CNG was also present. At each pump consumers were met
	▪ Owners, managers	75	75	
	▪ consumers of 4 wheelers	400	400	

4.3.1 Expectations of the Consumers and Perceptions of Consumers towards the OMC'S

Expectations of the Consumers

a) Benefits Consumers Seek from a Fuelling Station.

Through the focus groups the key expectations are identified, which are relevant to the consumer:

- Localized advantage of the fuelling station.
- Availability of non-fuel products at the fuelling station.
- The brand identity associated with a fuelling station.
- Good quality and quantity products available at the fuelling station.
- Friendly hospitable service at the fuelling station, with a lot of consideration for consumer's time

The consumer responses were recorded on a Likert scale (1-5; low to high). The response to a particular expectation was analyzed. The responses were collated together and ranked on the basis of the % of consumers giving a particular rank in the Likert scale to a specific expectation, viz:

- localized advantage of the fuelling station
  - 44% consumers rated this expectation 5, and 31% rated this as 4 (75 % consumers gave a rank of 5,4 collectively to this expectation). This clearly highlighted that "a convenient" location determines is a strong need of the consumers.
- Availability of non-fuel products at the fuelling stations.
  - 56% rated this as 5, and 39% rated this as 4 (91% of the consumers gave a rank of 5, 4 collectively to this expectation). It further highlighted that consumers need additional product categories in non-fuel, which will help build footfalls and revenue as people start shopping and spending money in the outlet.

- The brand identity associated with a fuelling station.
  - This expectation had a nearly equal weight age in a rank of 4,3,2,1 (as seen in the graph). For the consumers the identity/brand name of the fuelling station was irrelevant for fuel services. However, in case they had a non-fuel product offering consumers started associating the fuelling station with it. BPCL emerged as a very strong "identified brand name", primarily due to its In & Out initiative.

- Good quality and quantity.
  - 20% ranked it as 3, and 40% ranked it as 2,1; this confirmed that consumers would want quality and quantity as a "given assurance" from their supplier or retailer.

- Friendly and hospitable service.
  - 20% ranked it as 3, and 50% ranked it as 2, and 30% ranked it as 1 Here they also emphasized that while this is relevant but in comparison to other expectations this is a "soft skill" and want that organizations only recruit people with "good mannerisms"

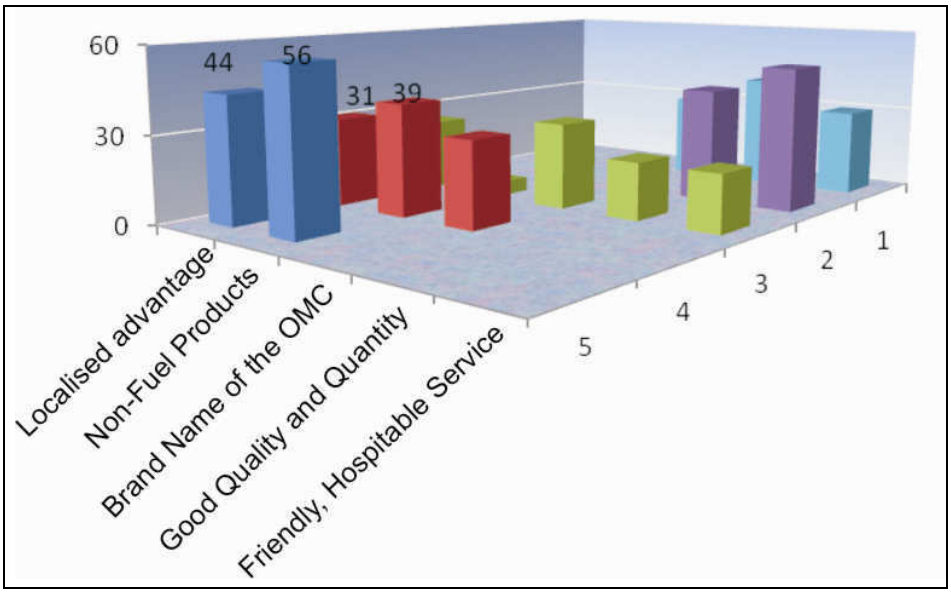


Exhibit 4.10: Consumer Expectations-Rating and weight age

Though all the expectations are relevant, however if these expectations are to be prioritized then clearly, from amongst the above listed expectations-locational convenience along with non-fuel retailing initiatives would score heavily (the consumers have a strong preference and a rating of 5, 4).

- Consumers definitely look at going to fuelling stations which are locationally convenient and which have with them non-fuel products. BPCL outlets are a strong case in point, which is cited as an example repeatedly. Here consumers drive-in for picking up grocery items (snacks/chips/cold drinks, etc), even if they do not need fuel.

  Additionally 769 consumers clearly express that want to be looked after which will be possible only if the service providers understand the "value of the consumer's time" as in the consumer's opinion they are "time-poor".

Perception of the Consumers towards OMC's

The respondents (800) were asked to associate through the projective techniques. They were asked to list the thoughts /words /sentences which would come to their mind when the researcher would mention certain key words (the key words being- Fueling stations; CNG/IGL; BPCL; IOC; HPCL; IBP). The responses were also then discussed with the respondents, to probe the reason as to why a respondent had a particular comment to a certain key word. A physical count was thereafter taken of the responses that were repeated by 100 or more respondents.

- Fuelling stations.
  - It is considered a location where people have to go anyway to fill fuel. It is a necessary "stop point". However, people look forward to fuelling stations that have non-fuel products or fast food joints.
    - *How can petrol be different , all come from the same source (698 consumers)*
    - *Petrol is same , no matter where you buy(537 consumers)*
    - *What different non-fuel products they have , which help reduce my time to go shopping separately (721 consumers)*

- CNG/IGL fuelling stations
  - CNG, IGL fuelling stations reminds every respondent of a place with long queues and a "sasta" fuel.
  - 475 said that it reminds them of chaos ,dirty locations , long lines
  - 225 said it unsafe for women
  - 100 said CNG makes them (including elderly people) stand outside the car irrespective of the weather ; and there is no shelter
- BPCL
  - As per 724 respondents BPCL is clearly associated with retailing and, In & Out have become strong identities and shopping destinations. The ambience, lively shopping environment, a contemporary product range all of it is clearly establishing BPCL as a benchmark OMC's in the consumer's mind.
- IOC
  - 597 said that it has a strong identity for a petrol company, it is seen to be a big company. It is seen to follow BPCL in its non-fuel initiatives.
- HPCL
  - 239 people said they remember the company launching loyalty promotions for its regular customers.
- IBP
  - While it was recollected, had no recordable statement of association.

BPCL here has been rated the highest by everyone and IGL is rated the lowest. Specifically for IGL, the state of affairs at the IGL fuelling stations as expressed by consumers is:

- It is full of long queues.
- It has a lot of noise pollution.

- Consumers have to wait outside the car in all weather conditions.
- Unsafe for women.

CNG, which is the cheaper fuel option has got positioned as a cheap “sasta" option. The consumer experience is that of distress, is very time consuming, mentally stressing and the consumer might not even get the tank full. The imagery is not premium, like the image of organic products, or natural products. In fact, anything clean, which improves the environment is considered premium in imagery and in pricing.

4.3.2 Expectations of the Fuelling Station Owners/Managers and Their Perceptions towards the OMC’S

To validate the responses of the consumers, further research was conducted on the fuelling station owners/managers. The owners /managers are the key links to address the issue of changing consumer trends since they are closest to the consumers. Therefore, they are in a strong position to identify, list the changing consumer needs and their inputs are of significant relevance to the corporate heads wanting to understand the changing dynamics.

Expectations of Fuelling Station Owners /Managers

The fuelling station owners, managers were questioned during the research on the following area.

Benefits that Fuel Station Owners/Managers Seek from OMC's towards proactively addressing consumer needs

Through the focus group the key expectations were identified, an effort was made to gauge their importance. The key expectations were

- Expect OMC’s to help them in increasing profits.
- Expect OMC’s to help them in Non-Fuel initiatives.
- Expect OMC’s to help them to plan consumer schemes-initiatives.
- Expect OMC’s to help them in upgrading technology.

The responses were recorded on a Likert scale (1-5 ; low to high).The response to a particular expectation was analyzed. The responses were collated together and ranked on the basis of the % of owners/managers giving a particular rank in the Likert scale to a specific expectation, viz:

- Expect OMC's to help them in increasing profits.
    - 51% consumers rated this expectation 5, and 31% rated this 4 (82 % consumers gave a rank of 5,4 collectively to this expectation) .This was important for the fuelling station/owners managers since they feel that OMC's do not have an ear to the ground. Most of the times the OMC's are not willing to listen and more importantly wish to implement actions which do not work .These owners/managers also do not have the freedom to decide what they should do since, they have to take formal approvals from the respective OMC's, if they want to do anything other than sell fuel.
- Expect OMC's to help them in Non-Fuel initiatives.
    - 49% rated this as 5, and 30% rated this as 4 (79% of the consumers gave a rank of 5,4 collectively to this expectation). It further highlighted that they need additional product categories in non-fuel, which will help build footfalls and revenue as people start shopping and spending money in the outlet. For them the net margins from non-fuel are much higher than the margins on fuel (viz on soft drinks they get gross margins upwards of 20% , whereas on fuel their margins are between 1-2 %).
- Expect OMC's to help them to plan consumer schemes-initiatives
    - This expectation had an equal weight in a rank of 4,3 and 2 (as seen in the chart). OMC's expect companies to work out schemes with them to reward loyal customers, especially when all companies from insurance/telecom/retail shops/airlines have launched extensive loyalty promotions and schemes that increase footfalls.

- Expect OMC's to help them in upgrading technology.
  - 11% ranked it as 4, and 34% ranked it as 3, and 55% ranked it as 2; this expectation is very relevant as owners/managers feel that technological advancement helps to build trust with the consumers and in the speed of operation. Since consumers have less time nowadays fast technology in dispensing fuel/credit card machines /auto-fuel cutouts /LED indicators, help the consumer to trust the fuelling station.

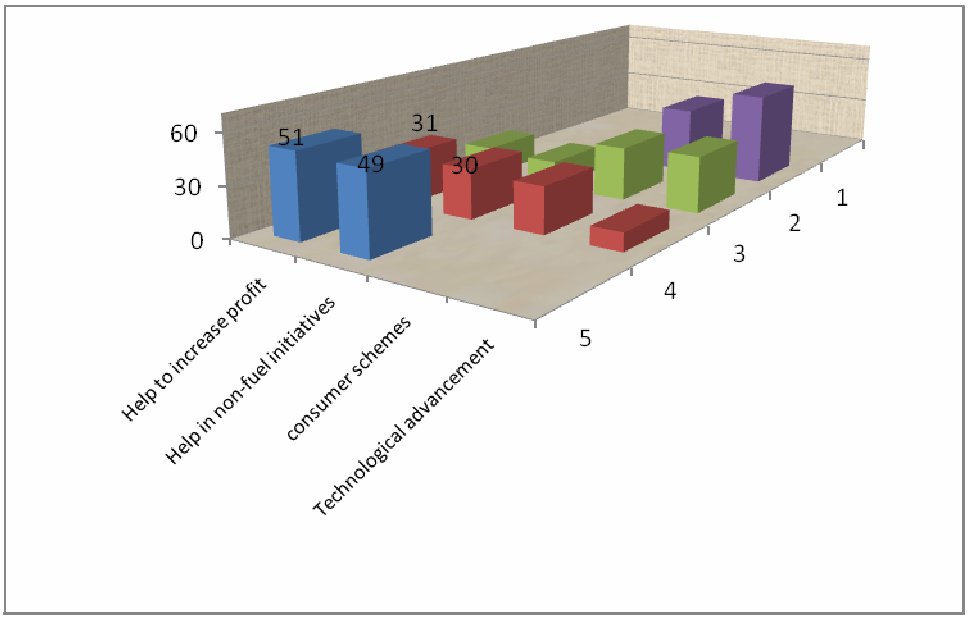


Exhibit 4.11: Benefits that Fuel Station Owners/Managers Seek from OMC's- Rating and Weightage

So, if this is to be prioritized, with a strong preference and a rating of 4,5 the owners/managers overwhelmingly stated that

- They would be keen to look at increasing profits and they believe that developing alternate non-fuel revenue streams are to be the most important in that direction. They all cite the example of BPCL, stating how effectively the OMC's is able to build additional footfalls.

On further probing after collating the above observations all owners /managers were asked as to what they believe would be the key reasons why consumers will frequent a particular fuelling stations.

- 74% owners/managers express that besides locational advantage the fuelling station must have additional facilities which are need specific basis the consumer profile, viz the needs of a highway consumer will be different from an urban or a rural consumer.
    - At a highway they would have different retail needs catering to a traveler, with more rest rooms, wash rooms and food outlets.
    - In a residential area the non-fuel retail needs are more grocery-impulse purchase products.
    - In a rural setting, their product lines besides being for necessity have to be economical.
    - All respondents agreed that being friendly and polite to the consumer is very important, "Consumers cannot be taken for granted".

Perceptions of Fuelling Station Owners /Managers towards the OMC's

Thereafter the respondents were made to give their rating to the OMC's on the key perception /expectations listed earlier during the focus group.

BPCL is the most consumer friendly, and IOC is believed to be the strongest in branding by all fuelling stations owners/managers. The non-fuel retailing initiative is a strong benchmark for everyone towards initiatives on non-fuel retailing.

For 100% respondents, IGL lags behind in terms of focus, implementation, and long-term vision, alignment with respect to the sensitivity towards addressing the consumer needs. Specifically for IGL, there are issues like:

- No partner in JV is accountable.
- Managers wait for 4 months for simple decision on RO.
- For petty issues decision-making takes a long time (viz "there is no drinking water facility for 2/3 months; management will pay for mineral water everyday, but will not get the RO repaired").
- The fuelling station company does not care foe consumer convenience and their time.

Wish list of the owners/managers

Wish list of Fueling stations Owners /Managers, which they know is important to address the changing consumer needs (expressed by more than 50 of the 150 respondents):

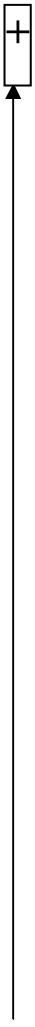
- Wish-List in equipping the fuelling stations to facilitate the consumer of today:
  - Automatic accurate dispensing machines.
  - Software that helps in checking transaction details for any amount, date, and time.
  - CRM software.
  - Self-filling.
  - Proactive maintenance.
  - CNG dispensers at non-CNG stations.
  - Good gas pressure on CNG stations.
- Wish - List to develop the Non Fuel:
  - Allied services- Car wash, car workshop, air pressure.
  - Linked retailing customized basis the consumer profile visiting the outlet, viz, ATM, convenience stores, hand carts for fast moving products, Food restaurants, strong branding , visibility. All of this they feel will go a long way in:
    - Helping imagery.
    - Helping build regular footfalls.

4.3.3 Perception and Expectation Summary

Perception-Summary

The table below depicts their focus from what is visible as an observer and the consumer, owner feedback. BPCL is recognized as most consumer savvy and IGL pumps are right at the bottom. India is not shining for the CNG-IGL consumers**.**

TABLE 4.2: Perception Mapping of Fuelling Stations basis our survey



Mapping of filling stations		***Provided at the initiative of the filling station – Soft services***		
		Basic	**Allied**	**Hospitality /Efficiency**
Built in the filling station – Hardware	**Food service /Entertainment**		International fuelling stations, BPCL	International fuelling stations
	Linked retailing	IOC	International fuelling stations BPCL IOC	International fuelling stations
	Allied	HPCL	BPCL IOC HPCL	
	Basic	CNG	BPCL IOC HPCL	

EXPECTATIONS

Basis the research the types of services that consumers expect and the owners/ managers want will be categorized as core and value added services.

TABLE 4.3: Core, Value Added Services at A fuelling Station

The Overriding factor necessary to enter consideration	Location	**Core Services**
The acceptance factors necessary for non-rejection	Quantity	
	Quality	
The hygiene "happy " factors	Facilities on the site , add-ons	**Value added , consumer services**
The differentiating factors	Allied services	

During the design of the outlets, the wish list as expressed by the OMC owners/managers is classified under hardware and software services:

- Hardware-visual manifestation of the outlets, the look and feel, facade, canopy, color, dispensing units etc.
- Software-activities that interface with the consumer.
  - Services, facilities available.
  - Commitment of the dealer.
  - Hospitality.

So another while there are core services and there are value added services, these are either built in the service station or provided at the initiative of the owners/mangers.

TABLE 4.4: Services, Facilities Built in at a Fuelling Stations

Services	**Facilities**
Basic	Just fuel
Allied Services	– Choice of different fuel options / Petrol/diesel/CNG – Clean drinking water. – Car wash, front glass cleaning, air pressure check, car workshop, car servicing.
Linked Retailing	– ATM , insurance counter , flower shop, – Convenience stores, vending carts for ice-cream, chips, water , soft drinks
Food / Entertainment	– Café outlets-CCD/ Nirulas, McDonald , Dhabas, Cinema Halls , Pool Tables

TABLE 4.5: Services, Facilities Provided at the Initiative of Owner/Manger-Soft Services

Services	**Facilities**
Basic	– Utility services-wash room, filtered drinking water. – Right quantity and quality of fuel.
Allied Services	– Availability of credit card facilities, Credit terms, Customer relation-ship management. – Car check, car wiping
Hospitality /Efficiency	– No queues, polite attendants ,trained work force, uniformity of action. – Good range of products at the retail shop. – Clean environment. – Round the clock, service.

Fuel stations are constantly pressured due to reduced margins, increased overheads and undifferentiated fuel retailing. They are unable to meet their expenses, and the case is the same the world over. OMCs continue to add fuelling stations to gain market share. A competitor OMC responds because they need one fuelling stations there as well. The volumes remain same in that area, but the throughput per outlet drops. Thereby affecting their margins negatively and profitability is seriously impacted. For the outlet to be self-sustaining and survive their gross margins, need to be high enough*, enhanced through revenue streams other than fuel and supported by increased consumer footfalls and consumer loyalty.* Very clearly as evidenced in the survey the owners/managers have clearly expressed the need to develop alternate non-fuel revenue streams which give them higher margins due to:

- A clear point of differentiation.
- Additional revenue, high margin products.
- Higher footfalls and an increased consumer base.

They all cite the example of BPCL, stating how effectively the OMC's is able to build additional footfalls. The number of customers at BPCL fuelling stations has increased from only vehicles to include:

- Kids (wanting toys/ice-creams/books),
- Youth (sitting at café coffee day, snacking)
- Working women (buying cosmetics as they commute)
- House-wifes'(coming for grocery)
- Working professionals (who stop for office stationary /music/IT equipment) and even expats (who get the best chocolates /breakfast cereals at these locations).

The differentiation of services has become important for both the owners/ managers as well as the consumers. Non–fuel retailing as well as the delivery of the service termed as a soft-skill helps to create the differentiation.

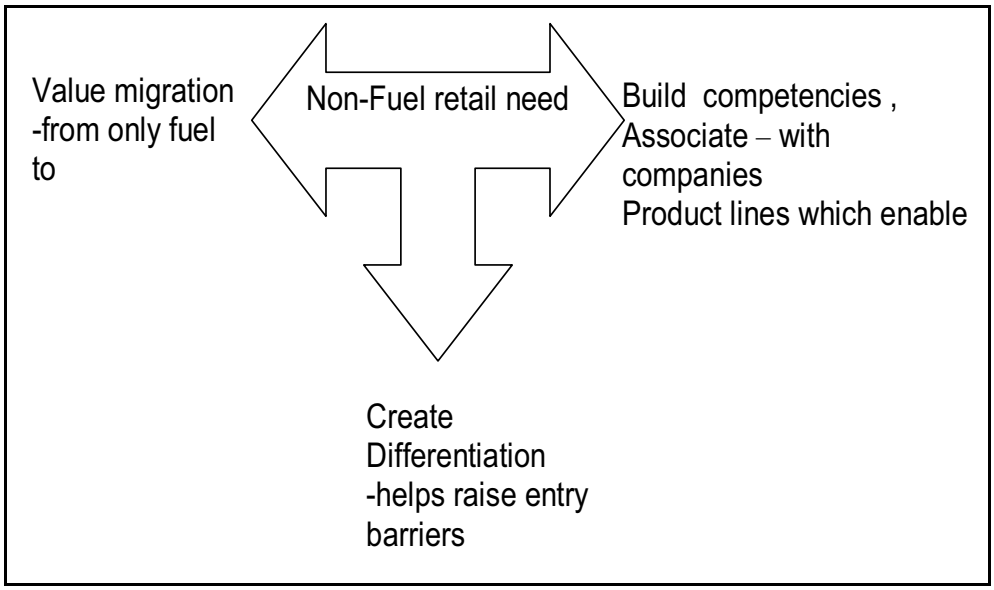


Exhibit 4.12: Need for Non-Fuel Retail

4.3.4 Summary of the Evolving Trends for Retailling at the Fuelling Stations

The Fuelling station Outlet is moving from a mere point of sale of fuel to a retail outlet addressing consumer needs of non-fuel retailing.

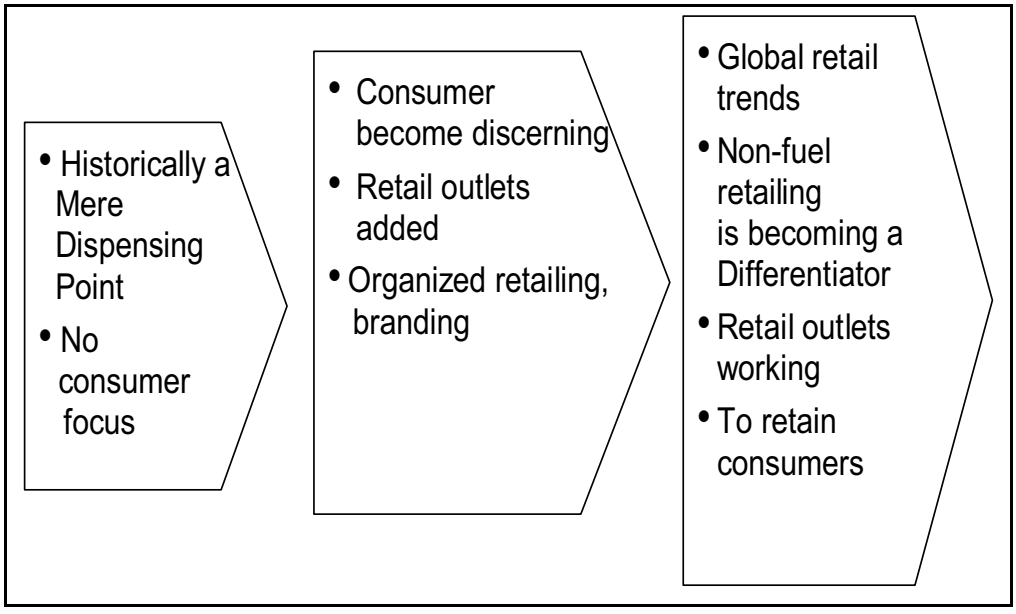


Exhibit 4.13: Phases in Evolution of a Fuelling Station

The services therefore evolve basis the consumer habits and the way consumer needs have evolved. In this context the consumer is:

- Convenience Seeking:
  - Need location convenience.
  - Strongly influenced by the presence of non-fuel services.
  - Need quick service.
  - Are expecting politeness from the attendants.
  - Quality and quantity are a given.
- Time poor:
  - Time at disposal for the outlet visit is minutes - as the visit is part of the journey and not destination shopping.
  - Seek convenience at every stage of interaction to reduce their time spent.
  - Wants to visit outlets that are efficient-consumers *find it surprising, amusing at CNG outlets there is an absence of a credit card, debit card machine.*
  - Look at multi-tasking in their time - fuel, shopping, and entertainment.

The value added services for the fuelling stations need to be added besides the core services.

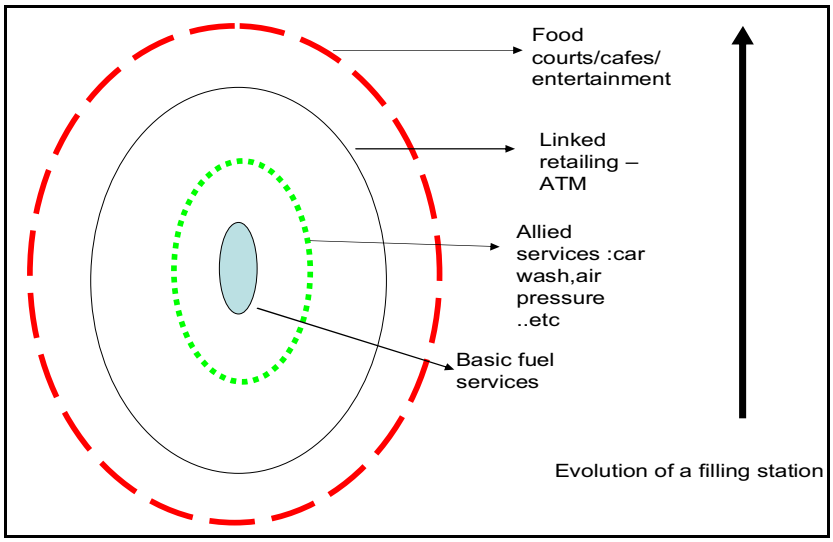


Exhibit 4.14: The evolution template for fuelling stations as they move towards non-fuel retailling

Basis 950 respondents and thereafter listing the key needs (highlighted by more than 95 respondents), the consumers therefore can be classified as:

- Urban consumer.
- Highway consumer.
- Rural consumer.

TABLE 4.6: Urban Consumer's Needs

	On the move	Urban stop -short stops within cities
Urban Consumer	**More under one roof** All possbile needs including hard to find services available under one roof offering unmatched convenience **Shop while you fill** Multi-task shopping needs and other activites **Easy reach** carry the convenience with you	**Product Specific** convenience stores book and music stores 24 X 7 chemist shops dry cleaning **Service , entertainment specific** ATM/Maintainance services Payment utilities Advertising & Promotional actitives food joints/entertainment zones

TABLE 4.7: Highway Consumer Needs

	Rest & Rejunevate	Highway stop - a destination stop
Highway Consumer	**One stop solution** needs of highway traveller of food , shopping , relaxation **Omnipresence** spread over highways with high passenger traffic at a minimum distance of 50 km from each other **Destination status** long distance travellers - bus **Assurance of quality** trust and confidence an additional draw for consumers	**Product Specific** large format discount stores /factory outlets convenience stores **Service , entertainment specific** ATM/Maintainance services/cyber cafes STD/ISD/PCO fax /photocopy maintainance services/distribution centres distribution/logistic food joints cinemas

Table 4.8: Rural Consumer's Needs

	Many products under one roof	Rural stop -stop touching more than two villages
Rural Consumer	**One stop rural shop** needs of villagers of agri & non-agri products and services to find services available under one roof offering unmatched convenience **High quality products** good quality products to improve quality of life **Wide variety & choice** widest range of products and services at competitive market prices **woman friendly** preferance for female attendants	**Product Specific** large format discount stores /factory outlets 24 X 7 chemist shops **Service , entertainment specific** ATM/Maintainance services STD/ISD/PCO fax /photocopy maintainance services distribution/logistic food joints cinemas

So the needs for channel partners (fuelling station owners/managers), basis the evolving trends in the consumer segments can be summarized as in the following

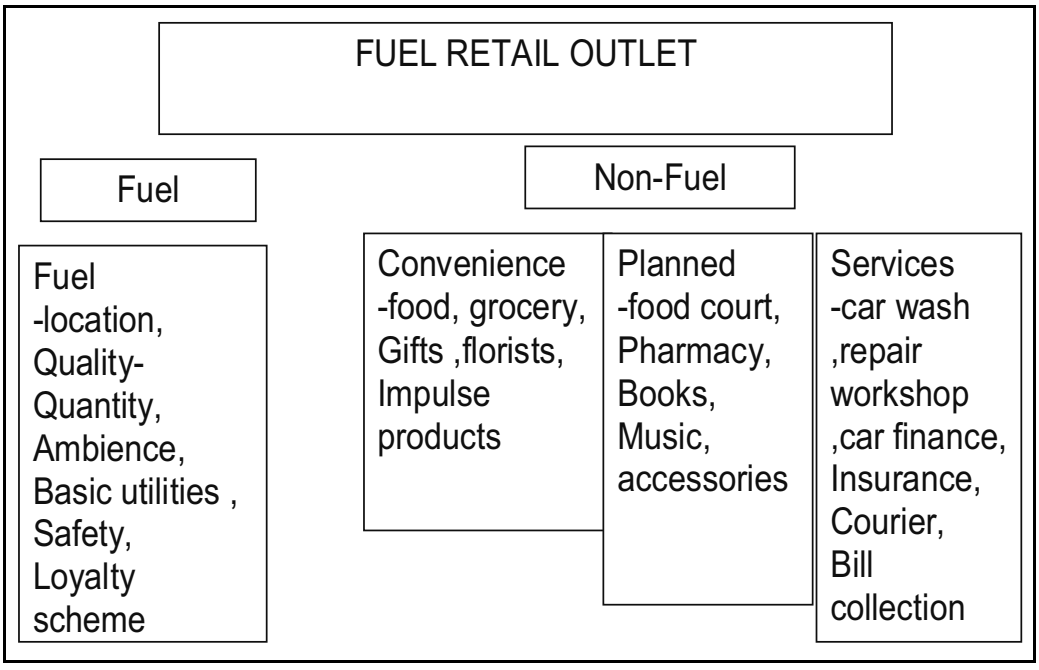


Exhibit 4.15: Need, Service Matrix for Fuel retail Outlets

For a fuelling station, post the review & analysis, the outlets can be individually identified, geographically be formatted as per the segmentation, targeting on basis of consumer profiling-demographic, psychographic. A distinction shall help in driving consumer traffic for the outlet, for it to be a destination outlet with high footfalls and loyalty.

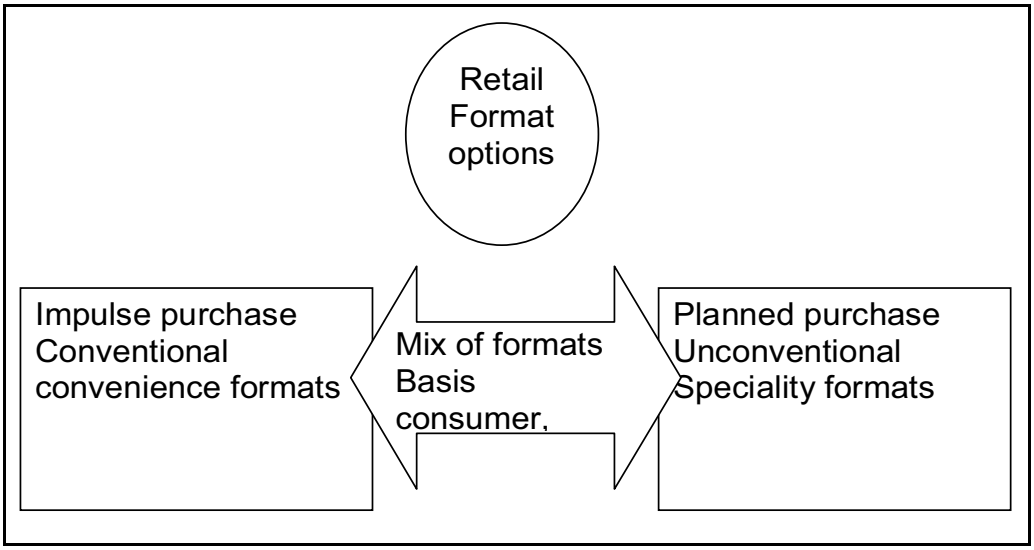


Exhibit 4.16: Retail Format Options

4.3.5 State of Affairs at IGL Fuelling Stations

While the services of CNG are mandated by the regulation and absence of competition, consumers do not like the seemingly indifferent services at the CNG stations. IGL is facing the classic problems of missing the consumer connect, amply visible in a monopoly environment:

- During bad weather or in heavy rains consumers waiting to fill gas have to stand outside, get drenched - there are no waiting areas, umbrellas.
- When gas has to be filled there have been instances of old, sick people having to wait outside their vehicles; there is no wheelchair or a facility to sit and wait for elderly and challenged, ill people.
- There are serpentine queues where people have to wait their turn endlessly. As a result, they are unable to plan their time, and often due to inadequate pressure, they are unable to get the quantity of gas they want.

- The endless wait in hot sun, at times is unbearable and there is no facility of clean filtered water where people can quench their thirst.
- Absence of credit card facility further delays the commercial transaction, further accentuating the wait for other vehicles.
- The dealer/managers appointed are focusing on operations through employees/contracted labor. They all collectively have little understanding on consumer sensitivity and hardly any focus towards business building activities.

IGL - CNG outlet as seen by the consumer today is:

- Full of long queues.
- A lot of noise pollution.
- Dominated by harried and stressed consumers and attendants.
- Considered a risk area.
- Consumers have to wait outside the car in all weather conditions.

Therefore, with the opportunity areas being defined by the consumers and adapted by the fuel industry for their fuelling stations, IGL possibly needs to accordingly start aligning their product offering and delivery mechanism.

The researcher shall in subsequent chapters also review evidences of how consumer changes demanded transformation in monopolies. Thereafter the researcher does an economic, financial analysis of IGL. To review the same, the parameters, which were reviewed in chapter 7, were:

- Gross Profit, PAT, PBDIT
- Exit of retail investors over the last few years
- IGL scrip movement over the years , beta value , EPS growth comparison
- Deadweight loss-The concept of deadweight loss was used to understand and to draw attention on the comparison of the Accounting Balance Sheet (ABS) versus the Economic Balance Sheet (EBS).

CHAPTER-5
EVOLUTION OF CNG MARKET IN INDIA

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EVOLUTION OF CNG MARKET IN INDIA

After an understanding of fuel retailling, the growing importance of non-fuel retailling and consumer trends, it was important for the researcher to get an overview of CNG as a fuel, its relevance worldwide and also to get an understanding of its usage in India (through the most publicized example-the history of CNG in New Delhi).

Compressed Natural Gas (CNG) is a fossil fuel substitute for gasoline (petrol), diesel, or propane fuel. CNG is often confused with liquefied natural gas (LNG). While both are stored forms of natural gas, the key difference is that CNG is in compressed form, while LNG is in liquefied form. CNG has a lower cost of production and storage compared to LNG as it does not require an expensive cooling process and cryogenic tanks. CNG requires a much larger volume to store the same mass of gasoline or petrol and the use of very high pressures (3000 to 4000 psi, or 205 to 275 bar). CNG's volumetric energy density is estimated to be 42% of LNG's (because it is not liquefied), and 25% of diesel's. CNG is more used as vehicle fuel.

Although its combustion does produce greenhouse gases, it is a more environmentally clean alternative to those fuels, and it is much safer than other fuels in the event of a spill (natural gas is lighter than air, and disperses quickly when released). It is made by compressing natural gas (which is mainly composed of methane [CH_4]), to less than 1% of its volume at standard atmospheric pressure. It is stored and distributed in hard containers, at a normal pressure of 200-220 bar (2900-3200 psi), usually in cylindrical or spherical shapes.

CNG is used in traditional gasoline internal combustion engine cars that have been converted into bi-fuel vehicles (gasoline/CNG). CNG vehicles are increasingly used across the world. In response to high fuel prices and environmental concerns,

CNG is starting to be used also in commercial vehicles, trains and pickup trucks, buses for transit.

CNG cylinders can be made of steel, aluminum, or plastic. Lightweight composite (fiber-wrapped thin metal "ISO 11439 CNG-3"/fibre-wrapped plastic "ISO 11439 CNG-4") cylinders are especially beneficial for vehicular use because they offer significant weight reductions when compared with earlier generation steel and aluminum cylinders, which leads to lower fuel consumption. The CNG cylinders bundled with safety-valve generally follow the ISO 11439 standard.

The equipment required for CNG to be delivered to an Otto-cycle engine includes a pressure regulator (a device that converts the natural gas from storage pressure to metering pressure) and a gas mixer or gas injectors (fuel metering devices). Earlier-generation CNG conversion kits featured venturi-type gas mixers that metered fuel using the Venturi effect. Often assisting the gas mixer was a metering valve actuated by a stepper motor relying on feedback from an exhaust gas oxygen sensor. Newer CNG conversion kits feature electronic multi-point gas injection, similar to petrol injection systems found in most of today's cars.

Compressed natural gas vehicles require a greater amount of space for fuel storage than conventional gasoline power vehicles. Since it is a compressed gas, rather than a liquid like gasoline, CNG takes up more space for each gasoline gallon equivalent (GGE). Therefore, the tanks used to store the CNG usually take up additional space in the trunk of a car or bed of a pickup truck which runs on CNG.

This problem is solved in factory-built CNG vehicles that install the tanks under the body of the vehicle, thanks to a more rational disposition of components, leaving the trunk free.

5.1 GLOBAL OVERVIEW

Worldwide, there are more than 11 million CNG vehicles on the roads (IANGV, 2009).

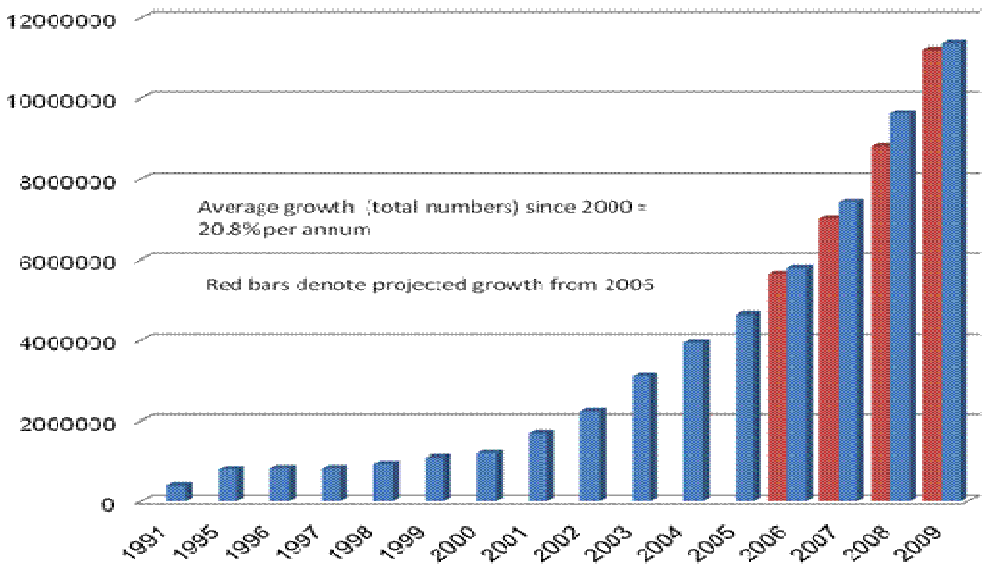

Exhibit 5.1: Natural Gas Vehicle Growth Worldwide
Source: IANGV

The vehicles in India are lower than Pakistan even though the size of the population is much larger (IANGV, 2009).

TABLE 5.1: CNG Vehicles in Top Ten Countries

	Country	Vehicles	Fuelling Stations
1	Pakistan	2,300,000	3,068
2	Argentina	1,807,186	1,851
3	Iran	1,665,602	1,021
4	Brazil	1,632,101	1,704
5	India	935,000	560
6	Italy	628,624	730
7	China	450,000	870
8	Colombia	300,000	460
9	Ukraine	200,000	285
10	Bangladesh	177,555	500

Source: IANGV

Countries with the highest numbers of CNG vehicles in circulation are strategizing the conversion of their vehicular fleets to smooth the transitions for consumers and provide a number of incentives - both financial and socioeconomic - toward CNG vehicle development. The population is much larger.

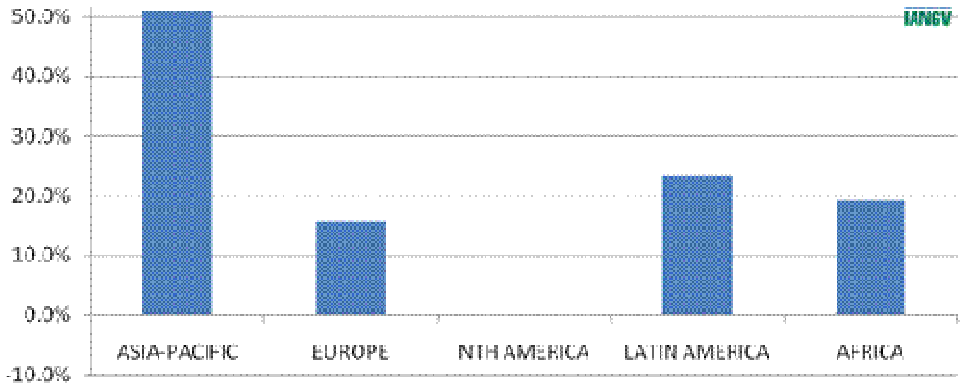

Exhibit 5.2: CNG Vehicle Growth-Region
Source: IANGV

Asia-Pacific has a larger share of CNG (IANGV, 2009) vehicles worldwide. CNG cars available in Europe are bi-fuel vehicles burning one fuel at a time. Their engine is a standard gasoline internal combustion engine (ICE). This means that they can indifferently run on either gasoline from a gasoline tank or CNG from a separate cylinder in the trunk. The driver can select what fuel to burn by simply flipping a switch on the dashboard.

Several manufacturers (Fiat, Opel General Motors), Peugeot, Volkswagen, Toyota, Honda and others) sell bi-fuel cars. In 2006, Fiat introduced the Siena Tetrafuel in the Brazilian market, equipped with a 1.4L FIRE engine that runs on E100, E25 (Standard Brazilian Gasoline), Gasoline and CNG.

Any existing gasoline vehicle can be converted to a bi-fuel (gasoline/CNG) vehicle. Authorized shops can do the retrofitting; this involves installing a CNG cylinder in the trunk, installing the plumbing, installing a CNG injection system and the electronics.

CNG Locomotives are operated by several railroads. The Napa Valley Wine Train successfully retrofits a diesel locomotive to run on compressed natural gas before

2002. This converted locomotive was upgraded to utilize a computer controlled fuel injection system in May 2008, and is now the Napa Valley Wine Train's primary locomotive. Ferrocarril Central Andino in Peru, has run a CNG Locomotive on a freight line since 2005.CNG locomotives are usually diesel locomotives that have been converted to use compressed natural gas generators instead of diesel generators to generate electricity that drives the motors of the train. Some CNG locomotives are able to fire their cylinders only when there is a demand for power, which, theoretically, gives them a higher fuel efficiency than conventional diesel engines.

South America

CNG vehicles are commonly used in South America and they represent 48% of the world's total fleet (these vehicles are mainly used as taxicabs in main cities of Argentina and Brazil). Normally, standard gasoline vehicles are retrofitted in specialized shops, which involve installing the gas cylinder in the trunk and the CNG injection system and electronics. Argentina and Brazil are the two countries with the largest fleets of CNG vehicles, with a combined total fleet of more than 3 million vehicles by 2008. *Conversion has been facilitated by a substantial price differential with liquid fuels, locally-produced conversion equipment and a growing CNG-delivery infrastructure*. Argentina has some 1.69 million CNG as of 2008, with 1767 refueling stations across the nation, or 15% of all vehicles.

By July 2008 there were 1.56 million retrofitted vehicles in Brazil, or about 5% of the total light vehicle fleet, with 1585 refueling stations, and most of the fleet is comprised of taxis operating in the cities of Rio de Janeiro and São Paulo.

Bolivia has increased its fleet from 30,000 in 2004 to 90,163 units in April 2008, Colombia has an CNG fleet of 257,468 vehicles, and 378 refueling stations as of June 2008. Peru has 41,411 CNG vehicles as of July 2008, but that number is expected to skyrocket as Peru sits on South America's largest gas reserves. A 'Blue-network' of CNG stations is being developed on the major highways of the Southern Cone (including Chile and Bolivia) to allow for long-haul transportation fueled by CNG

Asia

In Singapore CNG is increasingly being used by public transport vehicles like buses and taxis, as well as goods vehicles. However, according to Channel News Asia on April 18, 2008, more owners of private cars in this country are converting their petrol-driven vehicles to run on CNG-motivated no doubt by rising petrol prices. Singapore currently has three operating fuelling stations for natural gas. SembCorp Gas Pte Ltd runs the station on Jurong Island, and jointly with Singapore Petroleum Company, the fuelling station at Jalan Buroh. Both these stations are in the western part of the country. Another station on the mainland is in Mandai Link to the north and is operated by SMART Energy. SMART also plans a second station on Serangoon North Ave 5, another station which will be the largest in the world will be built by UNION GAS. This station will be located in Toh Tuck and will start operations by this year.

> *As a key incentive for using this eco-friendly fuel Singapore has a Green Vehicle Rebate (GVR) for users of CNG technology. First introduced in January 2001, the GVR grants a 40% discount on the Open Market Value (OMV) cost of newly-registered green passenger vehicles.*

This initiative will end at the end of 2012 as the government believes the 'critical mass' of CNG vehicles would then have been built up.

In Malaysia, the use of CNG was originally introduced for taxicabs and airport limousines during the late-1990s, when new taxis were launched with CNG engines while taxicab operators were encouraged to send in existing taxis for full engine conversions. The practice of using CNG remained largely confined to taxicabs predominantly in the Klang Valley and Penang due to a lack of interest. No incentives were offered for those besides taxicab owners to use CNG engines, while government subsidies on petrol and diesel made conventional road vehicles cheaper to use in the eyes of the consumers. Petronas, Malaysia's state-owned oil company, also monopolizes the provision of CNG to road users. As of July 2008, Petronas only operates about 150 CNG refueling stations, most of which are concentrated in the Klang Valley. At the same time, another 50 were expected by the end of 2008. As fuel subsidies were gradually removed in Malaysia starting

June 5, 2008, the subsequent 41% price hike on petrol and diesel led to a 500% increase in the number of new CNG tanks installed. National car maker Proton considered fitting its Waja, Saga and Persona models with CNG kits from Prins Auto gas system en by the end of 2008, while a local distributor of locally assembled Hyundai cars offers new models with CNG kits. Conversion centres benefited from the rush for lower running costs, also perform partial conversions to existing road vehicles, allowing them to run on both petrol or diesel and CNG with a cost varying between RM 3,500 to RM5,000 for passenger cars.

In China, companies such as Sino-Energy are active in expanding the footprint of CNG fuelling stations in medium-size cities across the interior of the country, where at least two natural gas pipelines are operational.

A court order required all commercial vehicles including trucks, buses and taxis in India to run on Compressed Natural Gas when the use of CNG for public transport was mandated by the Apex court. CNG has grown into one of the major fuel sources used in car engines in the Indian subcontinent The Delhi Transport Corporation operates the world's largest fleet of CNG buses. Today many rickshaws as well as personal vehicles in India and Bangladesh are being converted to CNG powered technology. In Bangladesh capital of Dhaka not a single auto rickshaw without CNG has been permitted since 2003.

In India CNG costs are nearly half of petrol and two-third of diesel. The cost saving is immense along with reduced emissions and environmentally friendlier cars. In Pakistan the majority of private vehicles have converted to CNG because of cheaper price as compared to petrol. Only luxury cars and official vehicles now run on petrol. Almost all car manufacturers in Pakistan now produce company fitted CNG kit versions. Recent hikes in CNG prices have downplayed the ambitious ventures of some of the stakeholders in this sector. It is expected that price of the CNG and Kits will come down as competition among manufacturers grows. Landi Renzo Pakistan is also exporting CNG kits to various countries including China, Brazil and Italy. Almost 2 million vehicles on the country's roads have dual fuel options.

Middle East and Africa

Egypt is a top ten country in the world having CNG vehicles and 95 fueling stations nationwide. Egypt was also the first nation in Africa and the Middle East to open a public CNG fueling station in January 1996. In Iran as part of a government mandated plan to ensure energy security and to save on petrol imports a dual track plan of both producing dual fuel vehicles as well as conversion of existing vehicles to CNG has been undertaken. As of January 2009, there are some 1.3 million CNG equipped vehicles on the road. There is also a government mandate that forces local car manufacturers to produce 60% of all their new vehicles as dual fuel vehicles. The vast majority of 780000 have been produced as dual fuel vehicles by the auto manufacturer in the last two years, and the remainder have been converted utilizing after market conversion kits in workshops. There are 750 active refueling stations country wide with an additional 660 refueling stations under construction and expected to come on stream. But the major problem facing the industry as a whole is the building of CNG refueling stations forcing many to use petrol instead.

Europe

Italy currently has the largest number of CNG vehicles in Europe and is the 4th country in the world for number of CNG-powered vehicles in circulation. The use of methane (CNG) for vehicles started in the 1930s and has continued off and on until today.

Currently (06/2008) there is a large market expansion for natural gas vehicles (CNG and LPG) caused by the rise of gasoline prices and the need to reduce air pollution emissions.

Before 1995 the only way to have a CNG-powered car was by having the retrofitted with an after-market kit. A large producer was Landi Renzo, Tartarini Auto, Prins Auto gas systemen, OMVL, BiGAs and AeB for electronic parts used by the most part of kit producer. Landi Renzo and Tartarini have divisions selling vehicles in Asia and South America. After 1995 bi-fuel (gasoline/CNG) cars

became available from several major manufacturers. In Italy, there are more than 800 CNG stations. In Germany, CNG-generated vehicles are expected to increase to two million units of motor-transport by the year 2020. The cost for CNG fuel is between 1/3 and 1/2 compared to other fossil fuels in Europe. In 2008 there are around 800 gas (CNG) stations in Germany. In Portugal there are 4 CNG refueling stations but 3 of them do not sell to the public. Only in Braga you can find it on the local city bus station (TUB). In Turkey, Ankara has got 1050 CNG buses. In Sweden there are currently 90 CNG fuelling stations available to the public (as compared to about 10 LPG fuelling stations), primarily located in the southern and western parts of the country as well the Mälardalen region. Another 70-80 CNG fuelling stations are under construction or in a late stage of planning (completions 2009-2010). Several of the planned fuelling stations are located in the northern parts of the country, which will greatly improve the infrastructure for CNG car users. There are approx. 14,500 CNG vehicles in Sweden (2007), of which approx. 13,500 are passenger cars and the remainder includes buses and trucks. In Stockholm, the public transportation company SL operates 50 CNG buses but has a capacity to operate 500. The Swedish government recently prolonged its subsidies for the development of CNG fuelling stations, from 2009-12-31 to 2010-12-31. In Spain the EMT Madrid bus service uses CNG motors in 351 regular buses. It is rare to see another kind of CNG vehicle, and there's no CNG refueling stations.

North America

Canada is a large producer of natural gas, so it follows that CNG is used in Canada as an economical motor fuel. Canadian industry has developed CNG-fueled truck, bus engines, transit buses, light trucks and taxis. Both CNG and propane refueling stations are not difficult to find in major centres.

Buses powered with CNG are common in USA. In the US, federal tax credits are available for buying a new CNG vehicle. Use of CNG varies from state to state. In California, CNG is used extensively in local city and county fleets, as well as public transportation (city/school buses), there are 90 public fueling stations in

Southern California alone. Compressed natural gas is available at 30-60% less than the cost of gasoline, as a rule of thumb, in much of California. Personal use of CNG is a small niche market currently, though with current tax incentives and a growing number of public fueling stations available, it is experiencing unprecedented growth.

The state of Utah offers a subsidized statewide network of CNG fuelling stations at a rate of $0.85/gge, while gasoline is above $4.00/gal. Elsewhere in the nation, retail prices average around $2.50/gge, with home refueling units compressing gas from residential gas lines for approx $1.50/gge. Other than aftermarket conversions, and government used vehicle auctions, the only currently produced CNG vehicle in the US is the Honda Civic GX sedan, which is made in limited numbers and available only in a few states. An initiative, known as Pickens Plan, calls for the expansion of the use of CNG as a standard fuel for heavy vehicles has been recently started by oilman and entrepreneur T. Boone Pickens. California voters defeated Proposition 10 in the 2008 General Election by a significant (59.8% to 40.2%) margin. Proposition 10 was a $5 Billion bond measure that, among other things, would have given rebates to state residents that purchase CNG vehicles. Congress has encouraged conversion of cars to CNG with a tax credits of up to 50% of the auto conversion cost and the CNG home fuelling station cost. However, while CNG is much cleaner fuel, the conversion requires a type certificate from the EPA. Meeting the requirements of a type certificate can cost up to $50,000.

Oceania

During the 1970s and 1980s, CNG was commonly used in New Zealand in the wake of the oil crises, but fell into decline after petrol prices receded. At the peak of natural gas use, 10 percent of New Zealand's cars were converted, around 110,000 vehicles. Brisbane Transport and Transperth in Australia have both adopted a policy of only purchasing CNG buses in future. Transperth is purchasing 451 Mercedes-Benz OC500LE buses and is undertaking trials with articulated CNG buses from Scania, MANSE, and Iris bus, while Brisbane Transport has

purchased 216 Scania L94UB and 240 MAN 18.310 models as well as 30 MAN NG 313 articulated CNG buses. The State Transit Authority of New South Wales (operating under the name "Sydney Buses") operates 102 Scania L113CRB buses, two Mercedes-Benz O405 buses and 300 Mercedes-Benz O405NH buses and are now taking delivery of 255 Euro 5-compliant Mercedes-Benz OC500LEs.

In the 1990s Benders Busways of Victoria trialed CNG buses for the Energy Research and Development Corporation. Martin Ferguson, Ollie Clark, and Noel Childs featured on ABC 7.30 Report raising the issue of CNG as an overlooked transport fuel option in Australia, highlighting the large volumes of LNG currently being exported from the North West Shelf in light of the cost of importing crude oil to Australia.

CNG Vehicle Statistics

Meanwhile, Europeans can buy CNG vehicles from seven automakers including General Motors, Ford and Volkswagen. Residents of South America and Asia also enjoy the cost savings and low emissions of CNG.

In all, more than 28 CNG models are in production globally by Audi, Fiat, Ford, Honda, Hyundai, Lincoln, Mercedes-Benz, Opel, Peugeot, Renault, Toyota and Volkswagen. Though the U.S. has 10 times more drivers than the top countries, it is running seriously behind on CNG numbers. The CNG vehicles market has jumped from 1.7 million to 10.5 million vehicles around the world, with an average growth rate of 30.6% since 2000. *The rapid growth is due largely in part to global economic factors and the current energy crisis, but is also attributed to increasing environmental awareness.* Many countries are using natural gas vehicles to meet aggressive fuel emissions reduction goals over the next decade.

If the annual growth rate of the CNG market continues at this pace, the impact on oil consumption and fuel emissions will be incredibly significant as early as 2020 - especially as large countries such as U.S. and China expand use of CNG vehicles to their many consumers. Currently, Argentina, Brazil, Pakistan and Italy account for 62.5% of CNG vehicles on the global market. U.S., Germany and Russia

are developing strategies to boost their numbers over the next decade. With these countries rising to the challenge of meeting energy, economic and environmental demands in their home lands, the global market for CNG transportation fuel is expected to be a 400 bcm (billion cubic meters)/year industry by 2020.

Promoting Demand

Countries with the highest numbers of CNG vehicles in circulation are strategizing the conversion of their vehicular fleets to smooth the transitions for consumers and provide a number of incentives-both financial and socioeconomic-toward CNG vehicle development.

Argentina & Brazil: Argentina and Brazil have two of the largest fleets of CNG vehicles in the world. Like numerous other countries, a large portion of their public transportation system has been converted to CNG, and this practice is encouraged by government-enforced financial incentives. In addition, consumer conversion is facilitated by substantial price differentials to diesel engines and fuel. Argentina drivers of CNG vehicles save 20-30 pesos/day fueling with natural gas, and taxation and purchase on CNG engines is also in favor of the consumer. Enhancements have been made to the CNG local production and delivery infrastructures to make CNG vehicles more convenient. Moreover, a project called "Blue Corridors" is currently in development for the south cone of South America to connect major cities with "routes" of natural gas fueling stations. These routes – where natural gas is or would be available to fuel CNG vehicles – will enhance the existing refueling infrastructure.

Europe: Petrol in Europe sells for over $8 per gallon (about 4.5 liters), therefore a government mandate to motivate conversion to alternative fuels is unnecessary. Nonetheless, financial incentives from the government to pay for as much as 75% of conversion costs, and environmental concerns provides further incentives among the European community. Many European countries are developing the CNG vehicle market, Italy, Russia and Germany are currently dominating the agenda. Italy has the largest number of CNG vehicles in Europe. Germany, Poland and France are rapidly working to catch up with Italy. Germany plans to expand its numbers to include 2 million CNG vehicles in circulation by 2020, facilitated by an aggressive program to

decrease carbon emissions, and increasing the number of CNG fueling stations from 700 to 1,000 by the end of 2010.

Canada: While Canada may not have as many CNG vehicles as some other countries listed, their campaign for widespread use of CNG is becoming highly effective and is worth mentioning. Canadians are marketing CNG as an economic motor fuel and have started by converting transit buses, light trucks and taxis to run on CNG, driving the increased demand for fueling stations. Because of this, fueling stations are already easy to find in major centers throughout the country.

India & Pakistan: India's capital, New Delhi, is home to the largest fleet of CNG public transportation vehicles in the world. The use of CNG vehicles is mandated for the city, and by setting this solid example from the nation's capital, consumers throughout the country are following suit. Pakistan is receiving attention with the second-largest fleet of CNG vehicles in circulation for public transportation. Toyota Pakistan and Suzuki Pakistan, among others, are quickly producing new models to meet the rising national demand for both public transportation and consumer vehicles.

5.2 HISTORY OF CNG IN NEW DELHI

2003: Delhi won the US Department of Energy's first 'Clean Cities International Partner of the Year' award for ''bold efforts to curb air pollution and support alternative fuel initiatives''. Figures prove that: Compared to 1997, carbon monoxide levels were down 32 per cent and sulphur dioxide levels were down to 39 per cent. Delhi became an example of making air quality safe with its entire public transport fleet converted to Compressed Natural Gas (CNG) on a scale unparalleled anywhere else in the world.

But this was not Always the Case: The History

During the 70's and 80's Delhi, the national capital, saw an unprecedented growth in population, vehicles and small scale industries, which caused serious ecological imbalance and environmental degradation. The problem got further aggravated by increasing migration from neighboring states. The total area of NCT of Delhi was

1483 sq. Km with an urban segment of 685.34 sq. Km in the year 1991. Urban population grew at 51.53% from 1991-2001 as compared to 46.89% during 1981-1991. The density of the population also increased to 9294 persons per sq. Km (the highest in the country) in the year 2001 against 6352 persons per sq. Km in 1991 (Source : Economy Survey of Delhi, 2001). Delhi, in terms of air pollution, was ranked fourth among the 41 most polluted cities in the world, in the 90's. The main source of vehicular pollution was the fuel itself. A part of mitigation measures started in 1996, with the introduction of reduced concentration of lead in petrol from 0.56 g/l to 0.15 g/l, reduction of benzene to 5 % and reduction of sulphur from 1.0% to 0.5%.Children were asthmatic, respiratory illnesses were spreading, with vehicles accounting for 70 per cent of polluting emissions. As per WHO standards pollution levels were 5 times over the permissible limits.

The period between 1989-1996 saw a rapid increase in pollution levels. In fact, 1996 is considered the peak year in terms of air pollution load. The transport, industrial and the domestic sectors were the major contributors towards the rising ambient air pollution levels, in addition to the presence of natural dust due to meteorological conditions. Delhi had experienced an exponential growth in the number of personalized vehicles over the last two decades. The annual average levels of suspended particulate matter increased to 450 µg/m3 during 1996, which was nearly three times the National Ambient Air Quality Standard of 140 µg/m3 for residential areas as notified by the Ministry of Environment, Govt. of India.

1998: Delhi had the distinction of being amongst the 10 most polluted cities in the world. With no experience and absolutely no infrastructure, reluctance from all sides, it was a challenge for any democracy to clean up the environment. The rising trend in air pollution load from vehicular exhaust could also be noticed from the rise in the consumption of both major auto fuels i.e. petrol and diesel. This rapid population growth along with the high rate of urbanization as also industrialization and an increase in motorized transport resulted in an increase in the levels of various air

pollutants, namely (1) Oxides of Sulphur, (2) Oxides of Nitrogen, (3) Suspended Particulate Matter, (4) Respirable Suspended Particulate Matter, (5) Carbon Monoxide, (6) Lead, (7) Ozone, (8) Benzene, (9) and Hydrocarbons.

It was then the Supreme Court stepped in, with a reluctant government to clean up the environment. IGL backed by BPCL, GAIL and the Delhi government came into existence-the prime agenda was to retail CNG and clean up the environment. Their prime customer base initially was the public transport (captive customer) due to the directive of the Supreme Court, with a plan to encourage private vehicle usage of CNG. Every step was a struggle till implementing agencies were threatened with contempt of court for their innovative excuses to not implement the CNG programme. Vehicle manufacturers quoted obnoxious figures for changing to a new technology. The Motor Vehicles Act was modified to include CNG in its ambit.

The Supreme Court of India ruled on July 28, 1998 that all eight-year-old buses and pre-1990 three-wheelers and taxis would have to be converted to compressed natural gas (CNG) by March 31, 2000. For the rest of the buses, three-wheelers and taxis, the deadline was fixed as March 31, 2001. This order, however, was getting to be the most difficult to implement. Resistance from the diesel lobby and lack of support from the government nearly sabotaged the initiative. It was only because of the strong stand taken by the Chief Justice bench that some progress was made. Vested interests tried their best to propagate misconceptions knowingly, unknowingly about CNG to distract people. Biased expert comments had been flaunted to discredit the move to bring in CNG. Without explaining the public health benefits expected out of the CNG strategy, administrative lapses and technical snags had all been mixed up to create confusion about CNG technology. Instead of taking pride in the fact that one of the largest CNG programs of the world had been launched in Delhi, no efforts were made to continue improving on it.

The players involved were:

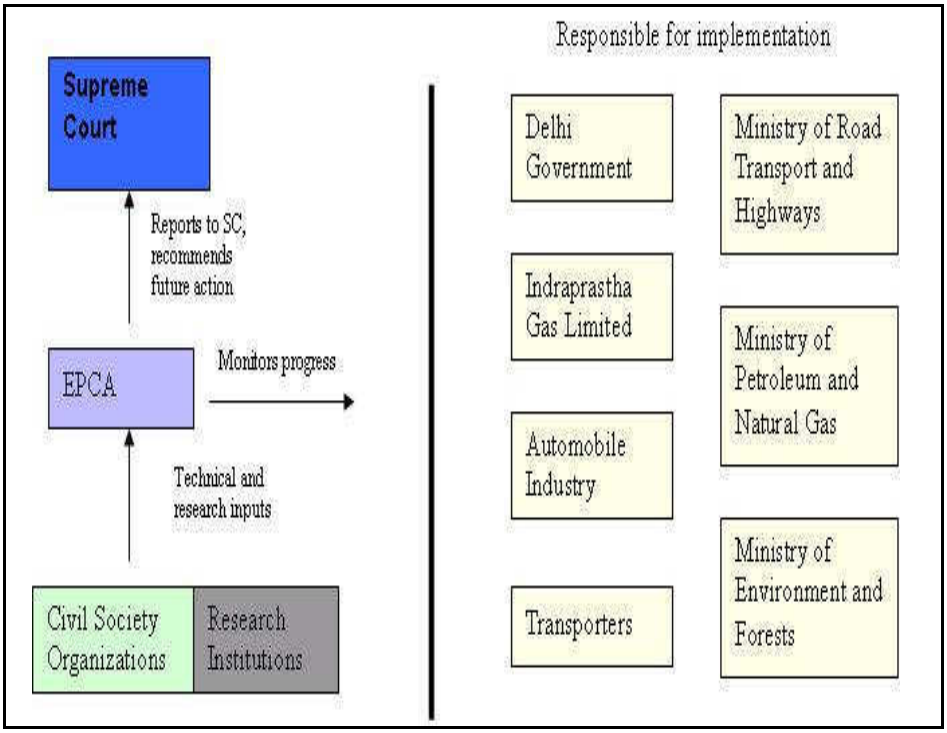

Exhibit 5.3: Key Players in CNG Implementation-New Delhi

It became respectable and acceptable to discuss misconceptions and varied opinions which prevailed were:

Misconception 1-Low-sulphur Diesel is the Cleanest Fuel: Supporting ultra low sulphur diesel (ULSD) over CNG, Tata Energy Research Institute (TERI) director R K Pachauri said there was enough evidence abroad that ULSD is a better option, (The Times of India, March 28, 2001).Union petroleum minister Ram Naik and Delhi transport minister Parvez Hashmi have commented that the Centre and Delhi government have decided to request the Supreme Court to allow buses to run on low sulphur diesel along with CNG buses in Delhi, (The Indian Express, April 7, 2001). A report on a study conducted in Australia-filed in the Supreme Court conclusively states that low sulphur diesel (0.05 per cent sulphur content) along with oxidation catalyst is a better fuel than CNG and LPG (The Times of India, March 25, 2001).

Misconception 2-Particulate Traps can Work with Low Sulphur Diesel: The Tata Engineering Locomotive Company (TELCO) in its submission to Environment Pollution (Prevention and Control) Authority (EPCA) says, "The equipment manufacturers have stated that their filters can be used up to 350 ppm sulphur diesel. But they admit, "filter efficiency will be low at higher sulphur content and will improve substantially as the sulphur level goes down (SIAM 2001, Note on information given by TELCO during the SIAM meeting with EPCA on April 16, 2001, TELCO's submission to EPCA, mimeo).

Misconception 3-CNG Vehicles Emit more Ultra Fine Particles than Diesel: Dinesh Mohan of Delhi IIT cited a European study that has revealed that CNG emits even finer particles than diesel which have greater propensity to enter the lungs thereby making the CNG option that much more dangerous (Business Standard, May 21,2001).

Misconception 4-CNG Technology is Experimental and no Other Country has Done such Large Scale Conversion to CNG: "There is no city in the world that has even one-tenth of the number of 10,000 buses targeted in Delhi, using CNG." - R K Pachauri, director, TERI in Hindustan Times, April 8, 2001.

Misconception 5-CNG will Inhibit Introduction of Better Engine Technology in the Future: The trouble with a complete switch is that Delhi would be saddled with today's technology for years instead of phased modernization which can be ensured by phasing out a proportion of a vehicles every year (Business Standard, May 21, 2001).

Misconception 6-There is not Enough Gas to Meet the Demand of Delhi's Vehicles: Union minister of petroleum and natural gas Ram Naik told parliament on Wednesday that there were limitations to supplying CNG as production from the Oil and Natural Gas Corporation (ONGC) gas fields was declining. "Any diversion of the committed supplies to the vital sectors like power and fertilizer will affect them adversely," he pointed out (Financial Express, July 26, 2001)."The real glitch is that there is simply not enough CNG to go around. Did it occur to anyone to stock up on the fuel the minute the court issued its orders? Of course not" (The Times of India, March 28, 2001).

Misconception 7-The pipeline often breaks down and restoring it needs time which will disrupt supply as CNG cannot be stored. So the complete dependence of public transport on it is bad. The city will come to a halt if there is a breakdown in the only gas pipeline in the country: The Union Government has claimed that there will, however, be uncertainty over uninterrupted supply if either the gas processing plant or the pipeline fails (The Pioneer, July 26, 2001).

Misconception 8-CNG Prices Should be Hiked to Recover the Costs of Investment: Both Ram Naik and the managing director of IGL, A K Dey, have issued statements to the press that CNG prices would have to be hiked to recover the cost of investment. On July 26, 2001 The Times of India reported Ram Naik saying that the cost of CNG would be substantially higher than diesel when the requirement would be met through liquefied natural gas (LNG) imports. IGL has made large investments for setting up CNG stations and is incurring loss in Delhi. Shortly after taking over office Mr. Dey had made a presentation before the Union Minister of Petroleum, Ram Naik, wherein he had advocated an increase in the price of compressed natural gas (The Statesman, July 23, 2001).

Misconception 9-CNG Buses are Much more Expensive than Diesel Buses: Union minister of petroleum and natural gas states that dependence on a single fuel for the public transport system is not desirable, he said the higher initial and subsequent maintenance cost of CNG vehicles, and substantially higher prices of CNG compared to diesel has also to be considered (Hindustan Times, July 26, 2001).

Misconception 10-The CNG Strategy Will Hurt the Poor the Most: Has anyone spared a thought for the many taxi and auto rickshaw owners who simply have no means either to buy a new vehicle or convert their existing ones? Of course not - (The Times of India, March 28, 2001).Who considers the price paid and still to be paid by the office-goers, workers, the auto drivers, the schoolchildren, the handicapped, and the self-employed? (The Indian Express, May 3, 2001).

Misconception 11-CNG Buses Emit more Greenhouse Gases than Diesel Buses: On February 3, 2000, a report in the Delhi edition of Hindustan Times quoted TERI's Ranjan Bose as saying that moving to CNG will add to global warming because methane is 20 times stronger a greenhouse gas than carbon dioxide.

The media went suddenly abuzz with reports merely one month away from the Supreme Court deadline to move all buses more than eight year old to CNG, carrying 'expert' views that moving buses to CNG will aggravate global warming and diesel vehicles must be allowed to continue. Earlier, automobile companies had been trying to justify their move towards dieselization by arguing that it is one of the solutions to the global warming problem. Consultancy groups joined them to create confusion in the minds of the policy makers over the merit of the Supreme Court ruling on moving the entire bus fleet in Delhi to CNG. Their contention was that CNG will lead to higher methane emissions and cause global warming, thus diverting attention from the already very high lethal effects of severe particulate pollution in Delhi. At one point, it seemed the CNG programme would be abandoned. There was no infrastructure to support court orders. The result was serpentine queues of auto rickshaws and buses at CNG stations, holding up commuters.

The key to implementation of the CNG program for transportation in New Delhi was that there was a legal obligation requiring vehicles to use CNG. The Indian capital, New Delhi succeeded in enforcing public transportation vehicle operators to use compressed natural gas (CNG) to reduce pollution and relieve dependence on more expensive gasoline and diesel fuels. All public transportation vehicles-buses, taxis and three-wheeled motorized taxis - in New Delhi started using CNG, thanks to consistent law enforcement. The directive also stipulated a time line for all programs that had to be carried out by both the country's central and state governments. The legal obligation also required all city buses running in the capital to be converted to CNG after there were an adequate number of CNG stations. Bus operators had four years to prepare for the conversion of their fleets.

The major hurdle in the development of CNG was limited number of natural gas pipelines. To overcome the problem, a "mother-daughter" system was devised with four types of filling stations. At the "daughter stations", referring to stations where gas pipelines were not available, CNG is delivered via "cascades" (bundles of cylinders) attached to trucks. The cascades are filled up at the CNG stations, which are installed on gas pipeline. Then there are the "daughter booster stations". These are also stations that do not have access to pipelines. The only difference is that a variable suction pressure compressor (booster) is installed in-between the mobile cascade and the dispenser. The third ones are the online stations. Online stations are connected to the pipelines for continuous CNG supply. And finally, there are the mother stations. These stations are similar to the online stations in configuration. The difference is these also supply the mobile cascade trucks.

With the efficient system, New Delhi was able to expand the number of natural gas stations and at the same time the number of CNG-powered vehicles is continuously increasing.

Major Milestones

- April 1995: Mandatory fitting of catalytic converters.
- April 1996: Low sulphur diesel introduced.
- April 1998: Introduction of CNG buses in Delhi.
- Sept 1998: Complete removal of lead in petrol.
- Dec 1998: Restrict plying of goods vehicles during the day.
- Sept 1999: Amendment of Motor Vehicles Act to include CNG.
- April 2000: Private vehicles to be registered only if they conform to Euro II standards.
- April 2000: Eight-year-old commercial vehicles phased out.
- Nov 2002: Conversion of all public transport buses to CNG.

The period between 1989-96 saw a rapid increase in pollution levels. The Year 1996 may be considered as the peak year. But in the wake of use of CNG as an

alternate fuel, the contribution of vehicular sector towards air pollution has been reduced in the subsequent years. This was also supported by the fact that there had been a significant improvement in the air quality. The fight against air pollution in the capital, which began in right earnest in 1997, finally started yielding results. Statistics have shown that not only has the rising trend in pollution level been checked, but the levels of various pollutants in the ambient air are also coming down. One of the renowned experts has stated, that what took 30 years to accomplish across the world was done in 5 years in New Delhi.

> *But there seems to be a different challenge which has emerged now, with the consumers becoming more demanding and expectation from retail outlets going up. The CNG retailling by IGL is having its hands full in just spending all the time, managing the queue of vehicles which stretches for few kilometers at all fuelling stations.*

Exhibit 5.4: Serpentine Queues to fill CNG, IGL Pump -New Delhi

Mercedes a German luxury car maker decided not to market its cars fuelled with natural gas (CNG) in India because the company does not want its prestigious owners of its expensive cars waiting in queue with plebeian transport at filling

stations. Mercedes-Benz India's head said that the compressed natural gas (CNG) may be cleaner and greener, but it isn't worth the trouble if getting the fuel involves mingling with the hoi polloi in auto rickshaws and taxicabs. Wilfried Aulbur, MD and CEO of the company remarked "Do you want to be in a long list of three-wheelers to finally get to the filling station and wait till your tank is filled? That will be long waiting for our customers". The CNG variant of Mercedes E Class was all set to be launched but the shortage of fuelling stations resulting in likely discomfort for its customers forced the rethink.

The rival BMW says that India is not yet ready for cutting-edge alternative technologies. The company does not plan to launch its hydrogen-fuelled cars as India lacks the infrastructure for such fuels, which is still "a technology of the future for India", said a BMW spokesperson.

The flyovers, the metro are the talking points for the city of Delhi. But CNG which actually ushered in a clean environment has been stacked on the backburner.

Questions which came to the forefront after this understanding were:

- Was there a message and input for the future?
- Was IGL-CNG able to move along the changing retailling, consumer trends?
- In a changing environment where health, organic food are aspirational and hence command a premium was CNG, IGL a desirable, aspirational destination for the consumer?
- Was a monopoly advantage of IGL resulting in the company becoming complacent to these realities?
- For a globally conscious consumer the Copenhagen 2009 summit, clean environment had a tremendous meaning; could CNG, and IGL still be the driving torchbearers talking and promoting a clean, green environment? Can CNG-IGL pumps in a state demonstrate an example of a city which is making the environment green and clean?
- Can this city be prepared through IGL fuelling stations as a window to showcase, an environment friendly city to the world?

5.3 CNG -THE EMERGING CHALLENGES ,OPPORTUNITIES

1. *The makers of imagery vehicles, seem to be shying away from CNG in New Delhi:* Mercedes, BMW have decided not to market its cars fuelled with natural gas (CNG) in India because the company does not want its prestigious owners of its expensive cars waiting in queue with plebeian transport at filling stations.

2. *Alternate Forms of Cleaner Fuel:* There is a strong discussion in India to switch to ULSD (Ultra Low Sulphur Diesel) from normal diesel. Delhi will become the first city in the country to switch to ULSD in which the sulphur content is $1/7^{th}$ of what it is in diesel at present. This will be concurrent with the introduction of Euro IV complaint vehicles in the city from the same date.

   Delhi has 50000-odd diesel cars plying at any given point – which according to environment experts is equal to 5000 diesel buses plying on the road. Green lobbies have been raising a noise on how the increasing number of cars and proliferation of high-end diesel variants of cars is offsetting the gains of CNG. Since more and more cars are shying away from CNG, the pressure moves towards diesel vehicles.

   Diesel that is available now has a sulphur content of 350 ppm; the ULSD Delhi will get will have just 50 ppm sulphur; which though 7 times cleaner is still far below the international standard of 15 ppm that has been in use since 2006.The decision to introduce ULSD also means that owners will have to pay marginally extra, the extent of which is yet to be finalized.

   So consumer will pay for quality product, quality services and norms which shall get enforced. This will further limit the share of market for CNG and the imagery in terms of the user profile.

3. *Consumers using CNG are Opting out and Shifting to Vehicles with Petrol, Diesel:* A lot of consumer have opted out of CNG. *In fact Dr. V. P. Singh, himself a previous CNG user has opted out for a petrol, diesel vehicle as*

waiting in queues endlessly; not getting the quantity of gas. He chose a more expensive option, but an option where his time was valued as a consumer. There are many more instances of consumers opting out. Women drivers of CNG vehicles have opted out as they felt unsafe at IGL fuelling stations (surrounded by unending queues of commercial vehicles and hence a crowd of rowdy drivers).

For IGL's strategic team it is important to find solutions to bigger consumer issues, rather than just track year on year growth of vehicles. Issues like:-

- Why many consumers who wanted to be with CNG did not opt for it and how many potential customers were lost?
- Why many consumers who were using CNG opted out , and how can it be prevented?
- How can women drivers be made to feel safer (they do not consider it safe to wait for hours at a fuelling station, especially when the majority of customers waiting for refueling are bus, auto drivers)?

The cheaper fuel option, CNG is now positioned and seen as a cheap “sasta" option. The consumer experience at IGL fuelling stations is that of distress, the fuelling is very time consuming, mentally stressing and the consumer might not even get the tank full due to the low pressure of gas. The imagery is not seen as premium.

In fact any thing clean, which improves the environment is considered premium in imagery and also in pricing. Where as for CNG the result is that educated consumers, with affordable incomes prefer not to use the CNG option.

4. *Vehicles with Alternate Fuelling Options are Being Commercialized:* Vehicles which are electricity propelled, solar cells energized or other alternate forms of replenish able fuels are being worked on.

Air Engine car

The air engine is an emission-free piston engine that uses compressed air as a source of energy. The first compressed air car was invented by a French engineer named Guy Nègre.The expansion of compressed air may be used to drive the pistons in a modified piston engine. Efficiency of operation is gained through the use of environmental heat at normal temperature to warm the otherwise cold expanded air from the storage tank

Battery-electric

Battery Electric Vehicles (Bevis), also known as All Electric Vehicles (AEVs), are electric vehicles whose main energy storage is in the chemical energy of batteries. BEVs are the most common form of what is defined by the California Air Resources Board (CARB) as zero emission (ZEV) passenger automobiles, because they produce no emissions while being driven. In August 2009 Nissan announced the mass production of its first electric car, the Nissan LEAF ("Leading, Environmentally Friendly, Affordable, Family Car"). It is expected to be marketed in North America, Europe, and Japan, beginning in autumn 2010. Although an exact price has not been announced, the car is expected to cost somewhere between $25,000 and $33,000.

Solar

A solar car is an electric vehicle powered by solar energy obtained from solar panels on the car. Solar cars are not a practical form of transportation; insufficient power falls on the roof of a practically sized and shaped vehicle to provide adequate performance. They are raced in competitions such as the World Solar Challenge and the North American Solar Challenge. These events are often sponsored by Government agencies such as the United States Department of Energy keen to promote the development of alternative energy technology such as solar cells and electric vehicles.

Ammonia fueled vehicles

Ammonia has been proposed as an alternative fuel, since it can run in spark ignited or diesel engines with minor modifications, and despite its toxicity is reckoned to be no more dangerous than petrol or LPG. It can be made from renewable electricity, and having half the density of petrol or diesel can be readily carried in sufficient quantities in vehicles. On combustion it has no emissions other than nitrogen and water vapor.

5. *Reduction of Subsidies* **:** A committee of experts set up by the petroleum ministry , is working to put in several measures to cut subsidy , including freeing of fuel prices .The proposal to decontrol fuel prices is aimed at reducing the subsidy burden which crossed Rs 1,00,000 crores in 2008-2009. The ministry shall expect the subsidy bill to be Rs.54,000 crore for 2009-10. The expert panel, chaired by Kirit Parikh also plans to undertake studies towards this end. Freeing up of fuel prices and decontrol will also help private sector companies such as Shell, Reliance, Essar to revitalize their operations and the retail business.

6. ***A Major Opportunity***

(a) The conscious-ness towards a cleaner greener environment is growing. Consumer today find that the efforts towards a cleaner greener environment are in and cool.

The two week long, largest “Talking Green" UN climate change conference (Dec 2009, in Copenhagen) was focused on negotiations to hammer out a deal on climate change with the Inter-Governmental Panel on climate change (IPCC) urging the world community to act. The IPCC warned of a gloomy future if the world did not initiate actions to reverse the process of global warming. “The evidence is now overwhelming that the world will benefit greatly from early action. Delay will only lead to costs in economic and human terms that will become progressively high", warned the IPCC chief Rajendra Pachuri. Based on the evidence provided by the scientists, policy makers and politicians are supposed to take mitigation and

adaptation measures to curb the effect of global warming. The series of voluntary emission intensity reduction targets announced by the US, India, China and other countries are part of the mitigation exercise.

As Danish Prime minister Lars Loekke Rasmussen said "The world is depositing hope with you for a short while, by the end, we must be able to deliver back to the world what was granted us here today : hope for a better future".

Delhi is ready with its carbon map. A sector-wise break-up of direct greenhouse gas emission, a first in India. It shows the Capital's carbon footprint is barely a third of London's. The map, accessed by Hindustan Times, was taken to Copenhagen by state chief secretary Rakesh Mehta and state environment secretary Dharmendra. The carbon map shows that the four main sectors-transport, domestic, commercial and industry-emit 15.41 million metric tonnes (MMT) of greenhouse gases per year. London, the first metropolis to carry out such an exercise, emits 44 MMT. *Transport is the biggest contributor (46 per cent) to Delhi's carbon pool*. The domestic sector is second, accounting for 34 per cent of greenhouse gases emitted. The reason: biomass fuel used in slums and unauthorized settlements, LPG and general waste. "Garbage accumulation and blocked sewage cause a lot of methane gas at unauthorized colonies," said a government official who didn't want to be named. The commercial sector accounts for 12 per cent and industry for 8 per cent. The power sector isn't a major emitter. But the landfills in Ghazipur (east) and Bhalaswa (north) are a huge source of methane. "The data will help us formulate policies for low-carbon development," said Mehta. The map also proposes policy initiatives on emission reduction and "carbon budgeting". It proposes tax benefits for low-carbon lifestyle, refundable tax credit for capital investment in research in clean technologies, an environmental clearance system for commercial buildings and smart power meters for homes, among others. "This shows Delhi and India are serious about climate change mitigation," said Sunita Narain, member of the Prime Minister's Council on Climate Change. "Now

we need some action in the transport and industrial sectors to bring down emissions."

This an opportunity for IGL to take the lead towards building opinion and direct usage of products towards a conscious, social and cool , concept of a green environment.

(b) The consumer shopping behavior response to retailling activities is getting shaped by the emergence of organized retail .

The Indian retail sector is expected to grow at a rate of 5.5 per cent to $410 billion (around Rs 19,03,844 crore) by 2010 from the present about $300 billion. The organized retail, which at present accounts for nearly 5 per cent of the overall retail market, is likely to touch $13 billion (around Rs 60,375 crore) by 2010 from $9.23 billion (around Rs 42,000 crore) currently.

India has one of the largest numbers of retail outlets in the world with the fuelling stations collectively being the largest chunk of the organized retail.

All the fuelling station companies like BPCL, IOC, HPCL have already taken concrete steps in this direction with very encouraging results in terms of consumer expectations and towards developing an alternate source of non-fuel revenue.

As opportunities are emerging, IGL should be working to behave as if there were competition because of the risk of losing their consumers and monopoly to new entrants.

5.4 IGL

BPCL helped establish IGL-Incorporated in 1998, IGL took over Delhi City Gas Distribution Project in from GAIL (India) Limited (Formerly Gas Authority of India Limited).The project was started to lay the network for the distribution of natural gas in the National Capital Territory of Delhi to consumers in the domestic, transport, and commercial sectors.

The corporate mission was-to establish IGL as an excellent natural city gas distribution company, dedicated to the task of providing a cleaner, eco-friendly, energy source with a total commitment to provide quality customer service while maximizing shareholders' wealth.

IGL defined as its guiding philosophy:

- Strong commercial orientation.
- Best operating practices.
- Value addition at every step.
- Quality Customer Service.
- Team effort.
- Develop a Learning Organization.

Thereafter it set out as its business objectives to :

- Provide a safe, convenient, reliable natural gas supply to customers in domestic and commercial sector.
- Provide a cleaner, environment friendly alternative auto fuel for residents of Delhi thus contributing to reduction of the present alarmingly high pollution levels.
- Facilitate conversions of commercial and private vehicles to CNG through external agencies so as to:
  - Make available quality kits for each vehicle segments.
  - Create a network of workshops to undertake reliable conversions to CNG.
  - Develop a financing scheme through financial intermediaries to finance the cost of conversion kit for the vehicle owners on easy installment basis.
  - Provide quality service to our valuable customers.
  - Maximize shareholders' wealth.

- Explore other business opportunities in Delhi and elsewhere.
- Emphasis on continuous training and development to enhance the performance of our staff and fostering a corporate culture where there is high level of commitment.

IGL is trying to focus on conversion of private vehicles (private cars) to CNG. In this connection efforts are being made to encourage them to convert to CNG fuel. IGL has been in coordinating with CNG kit suppliers, Transport Department, Automotive Research Association of India (ARAI) and Vehicle Research and Development Establishment (VRDE) to ease and accelerate the process of CNG adoption. The company is in the process of enhancing its compression capacity by adding new stations and also by converting the daughter and daughter booster stations to mother and online stations. IGL is also working towards expanding its gas retail network to the other cities of National Capital Region (NCR) viz. Noida including Greater Noida, Gurgaon and Faridabad. The Company aims to lay natural gas pipe grid in these cities to set up CNG stations and providing PNG to domestic, commercial and industrial sectors.

IGL has been explaining to the stakeholders that:

- CNG is the "Green Fuel" because of its lead and sulphur free character and it reduces harmful emissions. Being non-corrosive, it enhances the longevity of spark plugs. Due to the absence of any lead or benzene content in CNG, the lead fouling of spark plugs and lead or benzene pollution are eliminated.
- The operational cost of vehicles running on CNG, as compared to those running on other fuels, is significantly low. At the prevailing price of fuel in Delhi, operational cost of CNG vehicles is 68% lower than petrol and 36% lower than diesel

The management accepts as a corporate responsibility the health, safety and environment management of the company. The subject being a line responsibility, every employee has been responsible and accountable for the protection of health, Safety and environment. The policy of company is as follows:

- Give top most priority to health and safety of all the personnel and property.
- To follow all applicable codes, Standards and Safety practices in design, operation, maintenance and modifications.
- All planning, decisions and actions confirm the commitment towards Health, Safety and Environment protection aspects.
- Safety audit is carried out yearly and the findings are documented for follow up actions so as to restore safe condition.
- Each employee is fully informed and strict compliance of safety order/rules are issued by the Management.
- Health checks of each employee are done annually.
- All employees are trained in their respective areas of training.
- Engineer-in-charge for contacts ensure compliance of safety order/rules and statutory requirements by contactor, transporters, visitors and other agencies related to contracts.
- Emergency drills are conducted every six months.
- Each employee is to abstain form unsafe acts and prevent unsafe conditions.
- It is compulsory for all the employees to take active part on safety and health related activities on and off the job.
- To ensure compliance of Work-Permit System.
- Use of personnel protective equipments is compulsory while at work.
- Quality maintenance in all areas of activities.
- To adopt system and methods so as to ensure continual improvement.
- Management will ensure that efforts of each employee are directed to contribute for achieving excellence in safety, Health, Work Environment, Quality and Productivity.

TABLE 5.2: IGL Progress

		1999	**2009**
CNG stations	Year end	30	181
Compression capacity	Year end (lakh kg/day)	0.2	26.92
CNG sale	Daily avg (lakh kg/day)	.08	12.61

The physical progress indicates growth in terms of their retailling outlets, compression capacity and CNG sale.

TABLE 5.3 IGL Financial Summary

Financials (Crores)	**1999-2000**	**2003-2004**	**2006-2007**	**2007-2008**	**2008-2009**
Gross TO	7	485	706	810	962
Gross Profit	4	242	346	403	442
PAT	0	82	138	174	172

TABLE 5.4: IGL Volumes

Sale-MMSCM	**1999-2000**	**2003-2004**	**2006-2007**	**2007-2008**	**2008-2009**
CNG	4	367	453	506	603
PNG	3	11	37	43	54
Total	7	378	489	549	657

TABLE 5.5: IGL, Number of CNG Vehicles

Vehicles using CNG	**1/4/00**	**1/4/04**	**1/4/07**	**1/4/08**	**1/4/09**
Buses	18	10199	11552	11665	12918
Auto	0	59027	68498	80276	93440
RTV	0	5267	5717	5867	6180
Others	5182	16098	47667	130149	175313
Total	**5200**	**90591**	**133434**	**227957**	**287851**

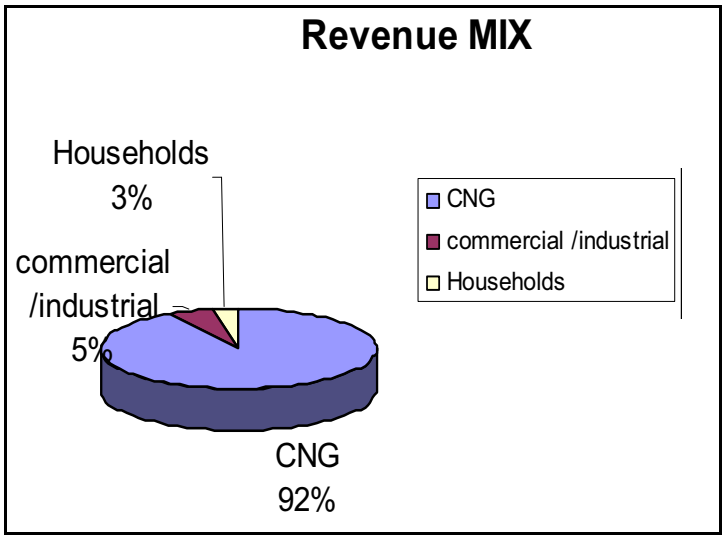

Exhibit 5.5: IGL –Revenue Mix

As on Jan 2009, putting an end to a bitter controversy over the legality of Indraprastha Gas Limited's operations in Delhi, the Petroleum and Natural Gas Regulatory Board has finally given IGL an exclusive period for operating retail business of eco-friendly Compressed Natural Gas (CNG) distribution to automobiles and Piped Natural Gas (PNG) to households.

> *In its order dated January 1 2009, the Board, which had questioned the legality of operations of the 10-year old IGL, has given the company a three-year exclusive period of operation in Delhi and the company will face no competition in marketing of gas during the three years and will have monopoly over the pipeline network in the city for 25 years, official sources said.*

As per the mandate given by the oil regulator, IGL would expand its pipeline network to supply natural gas to households in 21 new localities including Chandni Chowk, Najafgarh, Tuglakabad and Karol Bagh by 2011-12 and add 35,000 households every year. In a statement issued here, IGL said the Board had accepted that IGL is the only authorized entity for implementation of the Delhi city gas distribution project for supply of CNG to the transport sector and piped natural gas to domestic kitchens in the Capital. The company plans to take the number of domestic consumers up to 237,000 by 2011-12 from the current 132,000 while the length of the steel pipeline in Delhi is proposed to be increased from current the 824 inch km to 1,100 inch km. The nod from the regulatory body would give a

further fillip to IGL's preparations for adding another 50 new CNG dispensing stations in the next two years. IGL said plans are afoot now to expand shortly to neighboring towns such as Noida and Greater Noida where infrastructure has already been laid.

The Board, however, has not authorized IGL for operations in these two towns, where private firms like Adani Energy too are interested in city gas operations. IGL had said all CNG stations in Delhi would be given a vibrant new look before the Commonwealth Games-2010 but that is still a distant dream. The company said it is on the fast track to increase its infrastructure to cope with the rising demand. IGL aims to set up 50 more CNG stations in Delhi before the Commonwealth Games. Fast track expansion in compression capacity is being undertaken by installation of electric-driven compressors. The capacity has already been increased substantially in the last six months which has led to a reduction in waiting time for CNG fuelling.

The 3 year period of the marketing monopoly is also an opportunity for IGL to build strong consumer connect in order to avoid the fallouts of monopoly inertia that companies across sector, geographies fall a prey to; and when the monopoly is over the consumer dissatisfaction prompts them to try out alternatives and look at small reasons to shift their loyalties.

CHAPTER-6

EVIDENCES OF CHANGING CONSUMER BEHAVIOUR DEMANDING TRANSFORMATION

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EVIDENCES OF CHANGING CONSUMER BEHAVIOR DEMANDING TRANSFORMATION

Despite all these changing consumer behavior indications, IGL may expect to continue and perform due to its monopoly status and relatively large distribution network.

This chapter attempts to show how monopolies have gone extinct and have buckled due to the changing consumer behavior.

So it was also prudent to:

- Revisit the subject of monopoly and how liberalization, consumer expectations impact companies which exist in a monopoly environment.
- Review examples (of monopoly sectors) in the Indian industry which were impacted as they did not align with the changing market, consumer expectations.
- Review examples of some non-fuel retailling initiatives taken by oil companies in order to maximize, leverage opportunities and trends (in non-fuel retailing, consumer behavior).

6.1 MONOPOLIES BECOME EXTINCT

6.1.1 Relevant Concepts

6.1.1.1 Monopoly, Deadweight Loss

According to the standard model, in which a monopolist sets a single price for all consumers, the monopolist will sell a lower quantity of goods at a higher price than would firms under perfect competition.

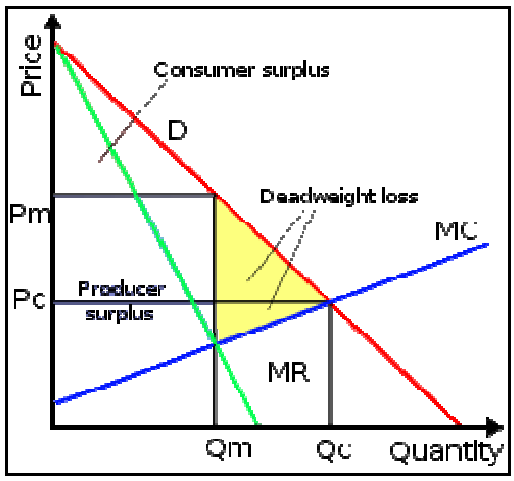


Exhibit 6.1: Deadweight Loss Created by Monopoly

Given the presence of this deadweight loss, the combined surplus (or wealth) for the monopolist and consumers is necessarily less than the total surplus obtained by consumers under perfect competition. Where efficiency is defined by the total gains from trade, the monopoly setting is less efficient than perfect competition.

> *It is often argued that monopolies tend to become less efficient and innovative over time, becoming "complacent giants", because they do not have to be efficient or innovative to compete in the marketplace. Sometimes this very loss of psychological efficiency can raise a potential competitor's value enough to overcome market entry barriers, or provide incentive for research and investment into new alternatives*

For Government-granted monopoly there have been many examples prevalent in India .A government granted monopoly (also called a "de jure monopoly") is a form of coercive monopoly by which a government grants exclusive privilege to a private individual or firm to be the sole provider of a good or service; potential competitors are excluded from the market by law, regulation, or other mechanisms of government enforcement. If a firm has monopoly power then it will face little competition. Therefore it will be a price maker and its demand curve will be inelastic. If it was to increase prices demand would only fall by a small %.

Therefore a monopoly is likely to cause the following effects:

- Increase in Prices and decline in consumer surplus.
- The monopolist is able to reduce quantity supplied to increase the price.
- Less Choice for Consumers.
- Monopoly firms will be able to increase their revenue and make higher profit.
- With supernormal profit the monopolies will have less incentive to cut costs and produce at the lowest point on the curve. Therefore they will be productively inefficient.
- With higher prices and less choice for consumers. Monopolies will cause allocative inefficiency.
- If monopolies get too big they may experience diseconomies of scale. (higher average costs from increased output)
- Monopolies are able to use their monopoly power to pay lower prices to their suppliers. E.g. Supermarkets are able to pay low prices to farmers.(the farmers don't have any alternatives to sell their produce.)

Deadweight Loss: Producer surplus is necessarily decreased, while consumer surplus may or may not increase; however the decrease in producer surplus must be greater than the increase (if any) in consumer surplus. A deadweight loss (also known as excess burden or allocative inefficiency) is a loss of economic efficiency that can occur when equilibrium for a good or service is not Pareto optimal. In other words, either people who would have more marginal benefit than marginal cost are not buying the product, or people who would have more marginal cost than marginal benefit are buying the product. Causes of deadweight loss can include monopoly pricing, externalities, subsidies, taxes, ceiling or binding prices. The term deadweight loss may also be referred to as the "excess burden" of monopoly or taxation.

For example, consider a market for nails where the cost of each nail is 10 paisa and that the demand will decrease linearly from a high demand for free nails to zero demand for nails at Rs. 1.10. In a perfectly competitive market, producers would

have to charge a price of 10 paisa and every customer whose marginal benefit exceeds 10 paisa would have a nail. However if only one producer has a monopoly on the product, then they will charge whichever price will yield the greatest profit. For this market, the producer would charge 60 paisa and thus exclude every customer who had less than 60 paisa of marginal benefit.

The deadweight loss is then the economic benefit forgone by these customers due to the monopoly pricing.

Conversely, deadweight loss can also come from consumers buying a product even if it costs more than it benefits them.

To describe this, let's use the same nail market, but instead it will be perfectly competitive with the government giving a 3 paisa subsidy to every nail produced. This 3 paisa subsidy will push the market price of each nail down to 7 paisa. Some consumers then buy nails even though the benefit to them is less than the real cost of 10 paisa. This unneeded expense then creates the deadweight loss: resources are not being used efficiently.

If the price of a glass of beer is Rs. 30.00 and the price of a glass of wine is Rs. 30.00, a consumer might prefer to drink wine. If the government decides to levy a wine tax of Rs 30.00 per glass, the consumer might prefer to drink beer. The excess burden of taxation is the loss of utility to the consumer for drinking beer instead of wine, since everything else remains unchanged. Most notably the tax revenue from this consumer is zero.

Hicks vs. Marshall: An important distinction should be made between Hicksian (per John Hicks) and Marshallian (per Alfred Marshall) deadweight loss. The latter is related to the concept of consumer surplus, such that it can be shown that the Marshallian deadweight loss is zero where demand is perfectly elastic or supply is perfectly inelastic. However, Hicks analyzed the situation through indifference curves and noted that when

the Marshallian Demand Curve exhibits perfect inelasticity, the policy or economic situation which caused a distortion in relative prices will have an income effect and that this income effect is a deadweight loss.

Harberger's Triangle: Refers to the dead weight loss associated with government intervention in a perfect market. This can happen through price floors, caps, taxes, tariffs, or quotas. The area represented by the triangle comes from the intersection of the supply and demand curves being cut short so that consumer surplus and producer surplus are also cut short. The loss of such surplus, not recouped by e.g. tax revenues, is the dead weight loss. Some economists like James Tobin have argued that these triangles do not have a huge impact on the economy, whereas others maintain that they can seriously affect long term economic trends by pivoting the trend downwards, thus causing a magnification of losses in the long run.

Deadweight loss is an economic loss to the public without any offsetting gain. Specifically, a deadweight loss is the loss in efficiency that a society suffers as a result of firms setting their monopoly prices greater than marginal cost (P > MC).The loss represents the extra value that consumers pay to obtain goods and services that is worth more to them than the price they paid.

In other words, the deadweight loss is due to the loss in value to the society of the output not produced. To calculate the deadweight loss for IGL in the thesis, the researcher has also referred to the methodology as defined in the book: Economic and Fiscal Gains from Liberalization in Punjab, written by Prof GS Sahota & Dr. Vikas Prakash Singh.

6.1.1.2 Liberalization

At independence, industrialization was viewed as the engine of growth for the rest of the economy and the supplier of jobs to reduce poverty. Industrial production rose an average of 6.1 percent in the 1950s, 5.3 percent in the 1960s, and 4.2 percent in the 1970s. Although this increase was respectable, it was less than the rate achieved by some other developing countries. It was also less than what the planners expected and the economy needed to bring about a large reduction in poverty.

The emphasis on large-scale, capital-intensive industries created far fewer jobs than required by the estimated 10 million annual entrants into the labor force required. Hence unemployment and underemployment remained growing problems.

Government also played an important role in industry since independence. The government has both owned a large proportion of industrial establishments and has tightly regulated the private sector.

From the late 1970s, the government sought to reduce its role, but progress remained slow throughout the 1980s. In the 1980s, however, industrial production rose at an average rate of 6.6 percent. Observers believed that this increase was largely a response to economic liberalization, which led to increased investment and competition. The Congress (I) government that came to power in June 1991 had a renewed commitment to cutting back the role of government, and in the mid-1990s the liberalization program made progress, although many uncertainties remained about its implementation.

The way it happened: The Industrial Policy Resolution of 1948 gave the government the go-ahead to build and operate key industries, which largely meant those producing capital and intermediate goods. This policy partly reflected socialist ideas prevalent in India then. It was believed that public ownership of basic industry was necessary to ensure development in the interest of the whole population. The decision also reflected the belief that private industrialists would find establishment of many of the basic industries on the scale that the country

needed either unattractive or beyond their financial capabilities. Moreover, there was concern that private industrialists could enhance their profits by dominating the markets in key commodities.

The industrial policy resolutions of 1948 and 1956 delineated the lines between the public and private sectors and stressed the need for a large degree of self-sufficiency in manufacturing, the basic strategy that guided industrialization until the mid-1980s. Another early decision on industrial policy mandated that defense industries would be developed by the public sector. Building defense industries for a modern military force required the concomitant development of heavy industries, including metallurgy and machine tools.

Production often started under foreign licensing, but as much as possible, design and production became Indianized. India was one of only a few developing countries to produce a variety of high-technology military equipment to supply its own needs.

Before independence there was a strong tendency for ownership or control of much of the large-scale private industrial economy to be concentrated in managing agencies, which became powerful under the British because they had access to London money markets.

Through diversified investments and interlocking directorates, the individuals who controlled the managing agencies also controlled much of the pre-independence economy.

After independence the Parliament passed the legislation to restrain further concentration, used the development of the stock market to induce the sale of stock in tightly held companies to the public, and applied high corporate tax rates to such companies. It also attempted to offset the monopoly effects of the managing agencies by fixing prices on a number of basic commodities, including cement, steel, and coal, and assumed considerable control of their distribution.

The government eventually abolished some of the managing agencies in 1969 and the remainder in 1971. In 1970 the Monopolies and Restrictive Practices Act

supplied the government with additional authority to diminish concentrations of private economic power and to restrict business practices contrary to the public interest. This act was strengthened in 1984.

Industrialization occurred in a protected environment, which led to distortions that, after the mid-1960s, contributed to the sagging industrial growth rate.

- Tariffs and quantitative controls largely kept foreign competition out of the domestic market, and most Indian manufacturers looked on exports only as a residual possibility.
- Industry paid insufficient attention to the quality of products, technological development elsewhere, and economies of scale and consumer needs
- Management was weak in many private and public plants.
- Shortfalls in reaching planned goals in public enterprises, denied the rest of the industrial sector key inputs, such as coal and electricity.

In the 1980s and early 1990s, India began increasingly to remove some of the controls on industry. Nevertheless, in the mid-1990s, there were state monopolies for most energy and communications production and services, and the state dominated the steel, nonferrous metal, machine tool, shipbuilding, chemical, fertilizer, paper, and coal industries. In recent years, many developing and transition economy countries like India made efforts to liberalize their trade and investment regimes. To a great extent these reform efforts have been consistent with the policy prescriptions that emerge from economic first principles: trade barriers should be low, more or less uniform across sectors, transparent, and not discretionary and should operate through the price mechanism (World Bank Report, 1998).

Opening of economy however creates strong linkages that could result in transmission of economic changes from the dominating partner to the dependent economy. Vast majority of empirical research on the transmission of economic shocks from one country to another has looked at how U.S. variables have influenced the domestic economies of non-U.S. countries. Burdekin [1989] and Lastrapes and Koray [1990] investigated the transmission of U.S. disturbances to

individual European economies. Further, Canova and Dellas [1993] specifically investigated whether one can identify international trade-based cycles for a sample of 10 industrialized countries in the 1960-86 period. They cite evidence for transmission of trade disturbances in the pre-1973 period but much weaker evidence during the post-1973 period. Common shocks (e.g., oil shocks) or financial (capital account) links appear to play a significantly larger role during the latter period. Ben-David (1993) showed that open economies converge and that the trade agreements of the European Union have resulted in the convergence of its members. Ben-David's work showed that the economies that converge are those that are integrated in the world economy through trade. Baldwin and Seghezza (1996) document positive growth effects of the European Union for the medium term-*thereby international interdependence is often said to be strong and to have increased. International trade is taken to be an indicator of interdependence, and its high and rapidly growing values, but for some interruptions, is accepted as evidence of the increasing interdependence of nations***.** The increase in the share of world exports in world GDP is largely the result of dramatic reductions in transport costs, as well as the decline in such trade barriers as tariffs and import quotas and the opening of new markets like China, India (*India's liberalization strategy was two pronged - internal and external).*

Generally, any move toward a more open economy is considered efficiency enhancing because it exposes the economy to greater competitiveness. External circumstances created conditions necessary for the main phase of liberalization policy, which began in July 1991. This phase began with 19% currency devaluation. The interest rate was increased significantly to curb the flight of short-term capital. Quantitative restrictions were also significantly reduced for all tradable goods. Instead of import licensing based on 26 separate lists, in 1994 there was only a single list. Of the 55 goods restricted to importing only by state agencies, most have now been taken off this list. The number of items that were subject to controls was reduced from 439 to 210 over this period. Besides these, many changes have been made in industrial regulations, foreign investment, and banking. Efforts were made to reduce the central government fiscal deficit, in part

by mobilizing financing from IMF, the World Bank and other sources. In FY 1992, public enterprises had a turnover of Rs1.7 trillion. Well over 50 percent of this total was accounted for by ten enterprises, the most important of which were the oil, steel, and coal companies. Public enterprises in aggregate made a net profit after tax of 2.4 percent on capital in FY 1992, but the three oil companies earned 95 percent of these net profits. In fact, 106 of the 233 public companies sustained losses. Some analysts believed that the inefficiency of the public sector was concealed by passing on to consumers the high costs of monopoly products**.** Though economic liberalization in India can be traced back to the late 1970s, economic reforms began in earnest only in July1991.

TABLE 6.1: Pre- Post Liberalization

Period	**Pre-Liberalization**
Constraints	– High import tariffs and quantitative restrictions on imports – Pre-1991 trade and exchange rate regime granted a generally high level of protection and also made-to-measure protection for manufacturing industries favored by the import-substitution strategy. – Core sectors of the economy state owned – Restrictions on FDI included limiting entry only into specified priority areas – All negotiations to be routed through state institutions – Policy of outright hostility toward foreign investment
Period	**Post Liberalization**
Reasons for reforms	– Unsustainable macroeconomic imbalances in the Indian economy, particularly with regard to escalating fiscal deficits – Indian economy was left lagging in terms of economic growth and development relative to its East Asian neighbors such as China and Korea – Balance of payment crises as foreign exchange reserves plummeted to U.S.$1 billion in late June 1991, barely sufficient to cover a fortnight worth of imports – India entered into IMF structural adjustment program
Policy Changes	– Outward looking and open-door trade policy – Market determined exchange rate – Partial lifting of import restrictions and greater access to imports – Streamlining of tariff structure and abolition of quantitative restrictions on most imports – Attracting private capital through FDI

A balance of payments crisis at the time opened the way for an International Monetary Fund (IMF) program that led to the adoption of a major reform package. Though the foreign-exchange reserve recovered quickly and ended effectively the temporary clout of the IMF and World Bank, reforms continued in a stop-go fashion.

So what had been accomplished and what remains to be done? Was the glass half full or half empty?

Achievements thus far have been piecemeal and incremental, giving the casual observer the impression that nothing has been happening. If one takes the totality of reforms over the last decade, however, the change is unmistakable. The analogy is with the hour hand of the clock, which looks completely static, and yet completes a full circle every 12 hours. To get an idea of the accomplishments, begin with the industrial policy prevailing prior to the launching of the reforms. The heavy industry was a state monopoly. Other industries were either subject to strict industrial licensing or reserved for the small-scale sector.

The tight control of the government on industry was aptly captured by a leading cartoonist in a 1980s comic strip showing the industry minister tell his staff, "We shouldn't encourage big industry-that is our policy, I know. But I say we shouldn't encourage small industries either. If we do, they are bound to become big." The reforms of the last few years have gone a long way toward freeing up the domestic economy from state control. State monopoly has been abolished in virtually all sectors, which have been opened to the private sector. The License Raj is a thing of the past. The small-scale industry reservation still persists but even here progress has been made.

- *Television* a government controlled medium was opened up leading to over 200 channels today. A regime from state broadcasting to DTH has definitely come a long way
- *Telecommunications* has been opened up, making India one of the most important telecom markets globally. A decade ago, telecommunications services were a state monopoly and constituted a major bottleneck on the

business activity. So callous was the attitude of the government that when a Member of Parliament complained about poor telephone service in Delhi during the early 1980s, the then telecommunications minister went on to remind him that in a poor country like India, the telephone was a luxury. The minister then added that if the Member was unhappy with the service, he could return his phone since many customers had queued up for it for years! Today, the private sector has become an active participant in the telecommunications sector, and the New Telecom Policy issued in 1999 sets the target of providing telephones on demand which is pretty much the case which mobile phones being the norm for everyone and a major means of commerce .In many cities, this goal has already been achieved. The provision of cellular mobile as well as fixed service being opened to the private sector including foreign investors, resulted in technology, better consumer convenience and facilities. As a result, the telecommunications services in India are mushrooming.

- *Apparel*, with its large export potential, has been opened to all investors. India has become a major supplier to various global apparel brands.
- In the area of international trade, in 1991, import licensing was pervasive with goods divided into banned, restricted, limited permissible, and subject to open general licensing (OGL). The OGL category was the most liberal but it covered only 30 percent of imports. Moreover, certain conditions had still to be fulfilled before the permission to import was granted under the OGL system. Imports were also subject to excessively high tariffs. The top rate was 400 percent. As much as 60 percent of tariff lines were subject to rates ranging from 110 to 150 percent and only 4 percent of the tariff rates were below 60 percent. The exchange rate was highly over-valued. Strict exchange controls applied to not just capital account but also current account transactions.
- *Foreign investment* was subject to stringent restrictions. Companies were not permitted more than 40 percent foreign equity unless they were in the high-tech sector or were export-oriented. As a result, foreign investment

amounted to a paltry $100-200 million annually. Today, import licensing has been completely abolished. This includes textiles and clothing, which remain protected in developed countries through the multi-fiber arrangement. The foreign investment regime is as liberal as in other developing Asian countries.

- *Insurance* has been opened to private investors, both domestic and foreign.
- At least symbolic reductions have also been made in *fertilizer and food subsidies*. The value added tax has undergone substantial rationalization.

These reforms have paid handsomely. The economy has grown at more than 6 percent coupled with full macroeconomic stability. This compares with a growth rate of 3.5 percent during 1950-1980. The rate of inflation has been low and foreign exchange reserves are sufficient to finance imports for more than eight months. Rising incomes have helped bring down poverty. According to official figures, the proportion of poor in total population has declined from 40 percent in 1993-1994 to 26 percent in 2000. But, perhaps, the greatest change in the last few years has been in the attitude toward reforms.

Whereas the vocal supporters of reforms within India were rare during the 1980s, virtually every political party today recognizes the need for continued reforms. Differences on which reforms to undertake first and at what pace still exist, but few disagree that reforms must continue. Initial fears that changes in governments will bring the reform process to a halt or even reverse it have proven to be without foundation. The accomplishments of the past decade are dwarfed only by what remains to be done. Still much of the subsidies are utilized to manage the inefficiency of the system, organization rather than allowing the market forces to make the business more efficient and responsive to the consumer needs.

Infrastructure is another important area of reforms. Roads, railways, and ports all need expansion as well as improvement in the quality of service matching the consumer expectations. The government has recently taken steps in this direction, particularly in the area of roads, but the pace remains slow. If India grows at 6 percent per annum on a sustained basis, it will take 14 years to reach the current

level of per capita income of People's Republic of China, 36 years to reach Thailand's, and 104 years to reach that of the United States. Thus, the need for accelerated growth can hardly be overemphasized. At the same time, the task of implementing reforms in a democracy is complex.

The good news, however, is that the experience of the past decade shows that change can occur. Moreover, the success of the reforms in delivering growth and poverty reduction must make the road to future reforms less bumpy. The support for reforms today, though far from universal, is fortunately much stronger than it was 10 years ago.

6.1.1.3 Consumer Expectations

Consumers and producers are increasingly aware of potentially profitable international exchanges and of economic opportunities abroad. Foreign goods, foreign vacations, and foreign financial investments that were once exotic are now virtually commonplace. For instance, European countries have benefited greatly as a result of EU formation and Mexico, Canada and U.S.A from NAFTA agreement.

Economic integration across borders offers both positive and negative effects because of linkages of the economies with the external world. Changes in economic conditions in a given country are rapidly felt in other countries. Countries are linked by their exports and imports and by international investment. The conventional view is that the world economy is more integrated or internationalized today than it was a century ago. In this context it is often claimed that the economic integration between the countries have become stronger.

The Indian customers (especially youth) felt excited at the prospects that now they can ape the west (which they are) but the realization of less disposable income at their end still kept them at a distance from those glamorous malls. Sensing the opportunity, private banks mushroomed in the cities offering various credit card options and promoting the western culture -Buy now, Pay later in parts.

The long time admired western goods became part of everyday life and the girls left their sartorial cocoon and found their freedom. The intimate scenes and steamy session which used to be the act of bedroom became part of school classrooms.

Liberalization also led to economic growth .It has created job opportunities in abundance for the non-technical, English speaking graduates in the areas like call centre, retail and direct marketing. It has also created opportunities for skilled professionals in the electronic media and Information technology sector.

India's economic reforms, begun in 1991, have substantially improved the country's well-being, and analysis shows that further improvements are to come. In 1985 93% of the population lived on a household income of less than 90,000 rupees a year, or about a dollar per person per day; by 2005 that proportion had been cut nearly in half, to 54 percent. By estimates, 431 million fewer Indians live in extreme poverty today than would have if poverty had remained stuck at the 1985 level; it is projected that if India can achieve 7.3 percent annual growth over the next 20 years, 465 million more people will be spared a life of extreme deprivation.

Contrary to popular perceptions, rural India has benefited from this growth: extreme rural poverty has declined from 94 percent in 1985 to 61 percent in 2005, and it is projected that it will drop to 26 percent by 2025. While the progress has been substantial-even historic-significant challenges remain.

First, there are large regional disparities in growth and in the reduction of poverty: India's southern and western states prosper, while the northern and eastern states (with the exceptions of the capital region, Haryana, Himachal Pradesh, and Punjab) lag behind.

Second, while India has been slowly urbanizing over the past two decades, it remains the least urbanized of the emerging Asian economies. Today only 29 percent of Indians live in cities, compared with 40 percent of the Chinese and 48 percent of Indonesians, and it is projected that the level of urbanization will increase to only 37 percent by 2025.

Finally, while more Indians are completing secondary and higher education, the educational system remains severely strained and the quality of and opportunities for schooling vary widely.

In rural areas life may become less desperate thanks to continued growth and to government investment in infrastructure and development. But it will likely remain a struggle, particularly for subsistence farmers in the north and east and for others with little education. For India's urbanites, especially educated ones, the future looks promising. Many of these households will make the jump not only out of poverty but also into the new and aspiring middle class. The growth that has pulled millions of people out of poverty is also building a huge middle class that will be concentrated in India's urban areas.

While urbanization isn't proceeding as quickly as it is in other Asian economies, rapid population growth means that in absolute terms the country's urban population will expand significantly to 523 million in 2025. Urban growth will bring several important consequences.

First, it will put tremendous pressure on the urban infrastructure, which is already heavily overburdened (projections assume that infrastructure investments will at least keep pace with urban growth and that problems with transportation and utilities won't worsen to the point of hampering growth). Also, in India-unlike China, where urban growth is spread across a large number of cities-the economy will continue to be dominated by the mega cities (Delhi and Mumbai) plus the six next-largest urban agglomerations.

Nevertheless, a handful of smaller places, such as Chandigarh and Ludhiana, will have per capita incomes rivaling those of the major cities and emerge as attractive markets. The shift in spending power from the countryside to the cities will place the bulk of India's private consumption within easier reach of major companies. Today 57 percent of private spending is spread across rural areas, but by 2025 cities will command 62 percent of the country's spending power. Along with the shift from rural to urban consumption, India will witness the rapid growth of its

middle class-households with disposable incomes from 200,000 to 1,000,000 rupees a year.

That class now comprises about 50 million people, roughly 5 percent of the population. By 2025 a continuing rise in personal incomes will spur a tenfold increase, enlarging the middle class to about 583 million people, or 41 percent of the population. In 20 years the shape of the income pyramid will have become almost unrecognizable

The Indian middle class has already begun to evolve, and by 2025 it will dominate the cities. By then about three-quarters of India's urbanites will be part of the middle class, compared with just more than one-tenth today.

The expansion will come in two phases, with the lower middle class peaking around 2020, just as the growth of the upper middle class accelerates. About 400 million Indian city dwellers-a group nearly 100 million people larger than the current population of the United States-will belong to households with a comfortable standard of living. For many companies, the sheer scale of this new urban middle class will ensure that it receives significant attention.

What's more, companies shouldn't underestimate the market presented by the country's most affluent consumers: those earning more than 1,000,000 rupees a year-$21,890 in real 2000 dollar terms, or $117,650 in terms of purchasing power parity (PPP). They will remain a small portion of society: about 2 percent of the population in 2025. But in absolute numbers, by 2025 India's wealthiest citizens will total 24 million, more than the current population of Australia. By that year too, India's affluent class will be larger than China's comparable segment, projected at about 19 million people.

Affluent India's share of national private consumption will increase from 7 percent today to 20 percent in 2025, which helps to explain the recent rush into the Indian market of luxury goods such as Louis Vuitton bags and Jimmy Choo shoes. These global Indians live mostly in the eight largest cities, so they are very accessible to large domestic and multinational companies. Further, they have tastes similar to

those of their counterparts in developed countries: brand name goods, vacations abroad, the latest consumer electronics, and high-end cars.

As Indians continue to climb the economic ladder, the composition of their spending will change considerably. In a pattern witnessed in many other developing countries, discretionary expenditures, such as mobile phones and personal-care products, will take up more room in the nation's shopping basket.

This shift from necessities, defined in the analysis as food and clothing, is already under way-and taking place at lower income levels than have been seen in other countries. It is expected that discretionary spending in India will rise from 52 percent of total private spending today to 70 percent in 2025. South Korea went through a similar transformation in the 1980s, when its per capita income levels were about twice those of India now. Food (including beverages and tobacco) will post the sharpest decline in relative consumption, even as overall spending in the category rises. The fall in the share of food expenditures during forecast period-to 25 percent, from 42 percent-is linked closely to the growth of the middle class. Despite this relative decline, food will remain the single largest category of expenditure, and it is expected that growth in consumption will accelerate to 4.5 percent annually, from 3 percent over the past 20 years.

That growth, however, will appear tepid compared with the rise of other categories. In particular, spending on purchases that improve the economic prospects and quality of life of a person or family-health, education, transport, and communications-will soar and eventually command a greater share of consumption than they do elsewhere.

The inadequacy of India's public-health system, for example, means that private health care is a high priority for many Indian families when their incomes grow. This imperative will drive growth in private health care spending by almost 11 percent a year, so that it will account for 13 percent of the purchases of Indian households by 2025, a larger share than current levels in all of the countries is examined except the United States. In another remarkable shift, spending on education will grow by 11 percent over the next 20 years, to 9 percent of household consumption, higher than today's levels in any of our benchmark countries.

In rural areas, households emerging from poverty will make educating their children a priority, while higher-income urbanites will be spending more on better-quality education, university degrees, and study-abroad programs. Meanwhile, despite India's fondness for cricket and bollywood movies, recreational products and services will take a smaller slice of household spending there than in other countries.

Transportation, already the largest category of expense after food, will take a bigger portion of household budgets in coming years, exceeding its share in all of our benchmark countries. The highest growth will come from car purchases.

Categories such as clothing and household goods are expected to post slower annual growth relative to overall consumption-6.4 percent and 6.9 percent, respectively-and thus to lose share of wallet. Yet even in these categories, growth rates will remain highly attractive as compared with those in other markets around the world.

India's rapid upward mobility means that many of India's households will be new consumers, enjoying significant discretionary consumption in the organized economy for the first time in their lives. Incumbents and challengers alike face a sea change. Incumbents will have to keep a wary eye on the actions of their current competitors and on new market entrants. That's a full agenda, and companies that begin preparing today will be in the best position to benefit from the changes.

For attackers, the challenge will be to spot the gaps and opportunities that arise as India's income and class structure change; they might, for example, ask themselves where small markets or limited competition, or both, have served middle-class consumers poorly.

Attackers could also turn to other emerging economies to seek lessons on how tastes and needs will likely evolve in India, perhaps looking in particular for categories in which spending shifted from local products and brands to international ones as aspirations rose. Attackers seeking to exploit these changes should consider what new needs will be unique to Indian tastes and the market as the middle class grows.

In India, as in many emerging markets, multinational companies will find themselves squeezed between the desire of the country's consumers for a modern middle-class lifestyle and the realities of their limited budgets. In 2005 the average middle-class family spent just over 300,000 rupees annually-roughly $6,600-a very modest sum in real terms, but in PPP terms equal to around $35,000.

Companies that can develop new business models, design products with carefully targeted features, and create brands that appeal to India's upwardly mobile people will attract huge numbers of eager consumers.

The future that has been described assumes that India will continue on its recent path of strong growth. There are many reasons to believe that this assumption is realistic, most notably the scope for improved productivity in the economy. But India's outlook depends strongly on continued long-term economic reforms that are needed to address serious deficiencies in the country's infrastructure, modernize the financial system, and promote investment in human capital through better education and health care.

India's emergence as the world's fifth-largest consumer economy will bring significant benefits to the country and the world.

Growth will pull hundreds of millions of people out of poverty and into the world's middle class. With rising incomes, Indians will have the opportunity to realize comforts and pleasures enjoyed by middle-class families around the world. In addition, rising domestic consumption will create further economic growth and employment as companies work to meet the new consumer demand. For the world's businesses, India represents one of the largest consumer market opportunities of the next two decades. During the first millennium, merchants referred to India's glittering and dynamic market as the bird of gold. That bird is preparing to take flight again. India's incumbents, mostly domestic companies, will start with many advantages: existing relationships with customers, an understanding of their needs, and recognized brands.

The incumbents also have established distribution channels-very important in a country of vast geography and limited infrastructure. But growing incomes and consumption will pressure incumbents from two directions.

- First, such companies must adjust to the pace and magnitude of change, for as consumers rise through the income brackets, their needs, tastes, aspirations, and brand loyalties will evolve along with their lifestyles.
- Second, India's growing consumption will attract a raft of challengers, and ongoing economic reform will significantly intensify competition in many markets. New competition will come from multinationals entering the Indian market, from established Indian companies looking for expansion opportunities, and from entrepreneurs. Indeed, if the country's policy makers create the conditions for India's entrepreneurs to succeed, major new companies could be built on the back of consumer growth.

In addition, they must think about how they should modify their services, products to retain consumers and then introduce new consumers to their products, whether their brands are appropriate for those consumers, and what prices and cost positions will help them compete most effectively for a share of this new middle-class market.

To elucidate this aspect further the researcher has elaborated on some sectors which are quite visible and very much a part of the daily routine of an Indian.Many incumbents haven't prepared enough for this discontinuity. They will have to develop a deep understanding of how the consumer's needs and aspirations will change as incomes grow and find ways of creating innovative products that meet those changing needs.

6.1.2 Insurance Sector - karo zyada ka irada

The insurance industry originated in India in the year 1818 with the formation of Life Insurance Corporation in Calcutta. The idea behind starting LIC was to provide insurance coverage for English widows and different premium was charged for the English and for the Indians. In 1870 Bombay Mutual Life

Insurance Society established its Insurance business and the same premium was charged for both Indians and English. In 1912 the Insurance sector came under the purview of regulations when the government passed the Life Insurance Companies Act. But it was in the year 1938 when the government came up with the first legislation to bring the insurance sector under state control. In 1956, the Government of India nationalized insurance companies bringing Indian Insurance sector under the purview of the Government.

These state owned Insurance companies became:

- Highly inefficient and bureaucratic.
- Had excess manpower.
- Count less delay in settlement of claims.
- Inconsistent, inflexible premium options.

The nation did not have an alternative. Any effort by the government to privatize the industry met with stiff resistance from the trade unions. Under the recommendation of Malhotra Committee the Insurance Regulatory and Development Authority was set up to monitor and control the Insurance industry. Some of the initiatives taken by the government after Insurance sector reforms are:

- Government not to have controlling stake.
- Insurance sector to be opened up for private companies and any number of insurance enterprises can operate.
- Private players with minimum paid up capital of Rs 1 billion should be given opportunity to do business.
- Foreign companies can enter Indian market through joint ventures with Indian companies.

The state controlled Insurance companies like LIC and GIC faced stiff competition from private insurance companies post reforms.

The monopoly of the national Insurance companies came to an end. The private Insurance companies were able to exploit the shortcomings in the state run Insurance companies. The private insurance companies launched a variety of new insurance products like health care, pension plans, annuity plans, income protection, market linked products which were welcomed by the end customers. The business for the private sector boomed in both urban and rural sector alike.

With an annual growth rate of 15-20% and the largest number of life insurance policies in force, the potential of the Indian insurance industry is huge. Total value of the Indian insurance market (2004-05) is estimated at Rs. 450 billion (US$10 billion).

According to government sources, the insurance and banking services' contribution to the country's gross domestic product (GDP) is 7% out of which the gross premium collection forms a significant part. The funds available with the state-owned Life Insurance Corporation (LIC) for investments are 8% of GDP. Till date, only 20% of the total insurable population of India is covered under various life insurance schemes, the penetration rates of health and other non-life insurances in India is also well below the international level. These facts indicate the of immense growth potential of the insurance sector.

Innovative products, smart marketing, and aggressive distribution have enabled fledgling private insurance companies to sign up Indian customers faster than anyone expected. Indians, who had always seen life insurance as a tax saving device, are now suddenly turning to the private sector and snapping up the new innovative products on offer. The life insurance industry in India grew by an impressive 36%, with premium income from new business at Rs. 253.43 billion during the fiscal year 2004-2005, braving stiff competition from private insurers. This report, "Indian Insurance Industry: New Avenues for Growth 2012", finds that the market share of the state behemoth, LIC, has clocked 21.87% growth in business at Rs.197.86 billion by selling 2.4 billion new policies in 2004-05. But this was still not enough to arrest the fall in its market share, as private players

grew by 129% to mop up Rs. 55.57 billion in 2004-05 from Rs. 24.29 billion in 2003-04.

Though the total volume of LIC's business increased in the last fiscal year (2004-2005) compared to the previous one*, its market share came down from 87.04 to 78.07%.*

The 14 private insurers increased their market share from about 13% to about 22% in a year's time. The share of LIC for this period has further come down to 75 percent, while the private players have grabbed over 24 percent. There are presently 12 general insurance companies with four public sector companies and eight private insurers. According to estimates, private insurance companies collectively have a 10% share of the non-life insurance market.

6.1.3 Telecommunication Sector

In the early 1990s the effect of economic reforms promulgated by the Government of India to align its economy with the world economy. Further the economic renaissance of India catalyzed the need for the opening of Indian telecommunication industry. The basic service network represents the majority of the telephone subscription, which accounts for around 86% of the total telecommunication network in India. Post 1990s, the Government of India did away with its old monopoly-market concept and shifted to open-market policy regime because the consumer had to:

- Wait for a telephone to be installed in their house
- To be an inter-city call, consumers had to book a trunk call which could connect; could not connect. In each of these trunk calls after every minute / 3 minutes the operator would interrupt and ask “should I continue the call”
- An ISD call was a matter of luck and voice on the lines was distant, delayed.
- If the instruments, phones went dead, the telephone line mechanic had to be coaxed to ensure that this luxury item be made alive.

The only one who could talk freely were fictional characters in -Star Trek and Star Wars. The sector was liberalized to increase tele-density and the private competition has resulted in the Indian consumer getting the best deals-today the Indian telecom tariffs for the consumers are amongst the lowest in the world and India is the largest growing market with international, Indian companies expanding the sector and the government is getting revenues through sale of the bands.

The Indian telecommunication industry's contribution towards the overall health of Indian economy is substantially high in the recent years.

The history of the Liberalization of Indian Telecommunication Sector suggests that although, this industry has matured tremendously over the last fifteen years but huge scope of growth still waits to be explored. The urban India is well connected with basic telephone services but the semi-rural area needs immediate attention. The rural- India today is the most neglected in the area of telecommunication connectivity. Huge scope of growth is lying still untapped in the area of rural telecommunication networking, especially in the area of basic telephony and Internet. The Government of India is now more focused on faster connectivity of rural-telephony in rural India and drafted its latest telecommunication policy to attract investments for the growth of Indian telecommunication industry. The latest telecommunication policy of India offers host of fiscal incentives and tax rebates to attract investors, both domestic and foreign investors.

The era of post Liberalization of Indian Telecommunication Sector, witnessed formation of 'Department of Telecommunication' (DOT) and the 'Telecom Regulatory Authority of India' (TRAI). These two independent bodies operate in sync and under the guardianship of the Ministry of Telecommunication Government of India. These independent bodies have earned good reputation for transparency and competence of governance. The main service providers in the Indian telecommunication sector are as follows:

- State owned telecommunication companies like - VSNL, BSNL and MTNL
- Private Indian telecommunication companies like-AIRTEL, Reliance TATA, IDEA, AIRCEL, with foreign players coming in continuously.

The main objectives of the telecommunication industry after the Liberalization of Indian Telecommunication Sector are as follows:

- Creating world class telecommunication infrastructure to meet the requirements of growing Indian industries.
- Easy and affordable access to basic telecommunication services across India.
- Establishing a modern and efficient telecommunication infrastructure to meet the requirements of modern industrial nation.
- Modernization of the Indian telecommunication industry.
- Provisions for entry of private players into the Indian telecommunication industry.
- Provide an equal opportunity for all the telecommunication service providers operating in India.
- Strengthening R&D in telecommunication sector.
- Efficient and transparent spectrum management.
- Enabling efficient protection of the defense and security systems of the country.
- Facilitating the Indian telecommunication companies to be at par with other global players.
- Facilitate world class services at affordable prices.
- Institutionalize the Department of Telecommunication, to help them function as an independent corporate bodies.
- To make telephone available on demand.
- Facilitate reliable media to all telephone exchanges.
- Facilitate high-speed data and multimedia connections.
- Facilitation of world class service to all uncovered and rural areas of India.

Although India's tele-density has improved from under 4% in March 2001 to over 36% by the end of March 2009, it still way behind other developing nations.

Cellular telephony has emerged as the fastest growing segment in the Indian telecom industry. The mobile subscriber base (GSM and CDMA combined) has grown from under 2 m at the end of FY00 to touch 391 m at the end of March 2009 (compounded annual growth of nearly 80% during this nine year period).

Tariff reduction and decline in handset costs has helped the segment to gain in scale. The cellular segment is playing an important role in the industry by making itself available in the rural and semi urban areas where tele-density is the lowest.

The Public Players and the Private Players share the fixed line and the mobile segments. Currently the Public Players have already lost majorly, and have not been able to get the new consumers in the increasing market. Their collective share is around 60 % but individually AIRTEL, Reliance are larger. The new tariff regime unleashed by Tata has set the cat amongst the pigeons with their "1p / sec" plan.

6.1.4 Aviation Sector

For decades, air travel in India was meant for the most elite and powerful in society. An overwhelming majority of travelers who could not afford the prohibitive air travel fares, preferred to journey on trains and buses.

Aviation Industry in India started in 1912 when the first flight took off from Karachi to Delhi. It was initiated by Indian State Air Services in partnership with Imperial Airways UK. But the real initiation for Aviation Industry. In India was in 1932 when Mr. JRD Tata started Tata Airline. In 1946 Tata Airlines was renamed as Air India. Just after independence, India had nine air transport companies transporting both cargo and passenger traffic.

In 1953 the Indian government nationalized all the existing airline assets. Indian Airline was set up to cater to the domestic market, while Air India was set up to take care of the International sector. Both Indian Airline and Air India enjoyed monopoly over the Indian skies. Consumers faced a raw deal:

- On ground, on air and booking services all were poor.
- Flights were often delayed.

- Frequent travelers had to face innumerous hardships.
- Aircrafts were poorly maintained.

But the scenario changed post liberalization and the Aviation industry has witnessed unprecedented growth for both domestic and foreign passenger sector. The monopoly of Indian Airlines and Air India over the Indian skies came to an end. The substantial growth in the Aviation industry post liberalization was due to:

- The Entry of private players, increased competition ensuring better service to the customer.
- The entry of low cost carriers like Deccan, Spice jet, Go Air changed the landscape of the aviation industry
- The no off first time fliers in both urban and rural India increased dramatically.

The first move towards liberalization was initiated in 1986 when private airlines were given permission to start charter and non scheduled services to all authorized airports under the Air Taxi Scheme. They were also given permission to make their own decisions with respect to fares and schedules.

A major step towards liberalization was in 1990 when India initiated an open sky policy for cargo which gave permission for foreign airlines to run cargo flights without restrictions and to charge rate without being controlled by Director General of Civil Aviation (DGCA).In 1994 Air Corporation act was passed. With this act private service providers could now operate both scheduled and non scheduled services in the domestic sector without any constraints on the size or type of aircraft.

But to guarantee passenger safety, security, and proper growth of air transport services and overcome infrastructural constraints in many airports, the government gave permission for addition to capacity based on increase in air traffic forecast.

In 1994-95 the government gave permission to directly import aviation turbine fuel (ATF). In 1997-98 to take the process of liberalization one step further, foreign

equity participation up to 40 per cent (100 per cent for NRI's) was allowed in the domestic airline segment. But International service providers could not take stakes either directly or indirectly without approval from DGCA.The Centre for Asia Pacific Aviation (CAPA) has predicted that domestic traffic will increase by 25 to 30 per cent till 2010 and International traffic growth by 15 per cent by 2010.

By 2020, 400 million Indian passengers are likely to be flying and Indian airports would be handling more than 100 million passengers. The Aviation industry has to be guarded against foreign carriers especially from the Middle East. The global meltdown and decrease in air travel due to terrorist activity have eroded the profitability of the aircraft operators in India.

The private carriers like Jet came to be recognized the world over for their world class services in all areas where the IA/AI lacked. There came a time when the air fares were comparable to the train fares. Today the consumer has the luxury of:

- Competitive fares.
- Multiple flights to important destinations.
- Connectivity to remote locations.
- On-line booking.
- Sophisticated frequent flyer program management.
- Lounge facility.

From being primarily a government-owned industry, the Indian aviation industry is now dominated by privately owned full service airlines and low cost carriers. Private airlines account for around 75% share of the domestic aviation market-flying by air is affordable and the middle class Indian can fly.

6.1.5 Postal Sector (Efforts towards Revamping)

The Indian postal department is by far the largest in the world, with about 1,55, 000 post-offices, the second largest being China with about 66,000 (Source: Universal Postal Union study), and 89 per cent of them are spread across rural

India. Today, India Post, with a work-force of over 5,20,000 employees, is reeling under a huge budgetary deficit On an average, a post office serves an area of 21.26 sq. kilometers and a population of 6602. Postal services encompass three broad areas of activity i.e. retailing postal products and services, transmission of postal articles and delivery of postal articles. But, due to slow induction of technology and old staff norms, manpower costs increased exponentially. The postal deficit met from the general budget increased 1632.8 per cent from 1998-99 to 2008-2009 to reach Rs. 53950 million, competing for top place with food and fertilizer subsidies.

Serious doubts about the future of postal services in India are being expressed by many. The Indian Postal Service, which completed 150 years of service recently, has lost its sheen and its glorious days are a thing of the past.

In accordance with the new liberalized economic policy, the government has stipulated that:

- The postal services should run on their own and no subsidy will be forthcoming in a few years to come.
- The basic postal services are facing stiff competition from private couriers and the volume of work is dropping as a result of big strides in communication technology; therefore downsizing the workforce and effecting severe cuts in the working cost should be enforced strictly.
- The Postal Department should evolve its own means to augment its resources by introducing new services and taking up agency functions

The consumer issues range from:

- Inadequate services.
- Lack of trust of timely deliveries.
- Accurate deliveries.

To survive a revamp has been worked at-Termed Project Arrow, the initiatives involves turnaround of 500 post offices in two phases. The main aim will be to enhance on the value additions that are associated with a post office, viz. images, personality traits, impressions, associations and experiences that people working around the 'functional' core can relate to, so that they can get a fresh breath of life around them, To survive the postal services came up with non-core services like money transfer, insurance policies, sale of financial services and booking of train tickets.

While the government has appointed KPMG to conduct a financial evaluation of the postal department to set it free, it is in the process of charting out rules to formulate regulation in the sector. The new law would not only make those private operators more accountable to consumers but would provide a level playing field for the Indian postal department which is facing stiff competition while fulfilling social obligations.

Also major exercise has been initiated to review the system in terms of structure, products, processes, resources, accounting and pricing structure, technology requirements. "The agency is exploring how best the department can meet the twin challenges of becoming commercially viable while continuing to fulfill the Universal Service Obligation". They also appointed O&M to devise a new logo and slogan,. Following a multi-agency pitch, Span Communications won the creative and media mandates for India Post. The agency will have the account for the next two years. The size of the account is estimated at Rs 50 crore. Ogilvy India is the incumbent agency on the account. Agencies like Ad factors, Crayons, Dentsu, Euro RSCG, Grey Worldwide, Mercantile, Percept, Prabhatam, Pressman and Sobhagya were in the fray for the prestigious account.

Naresh Kheterpal, chief executive officer, Span Communications, said the agency will be working towards strengthening the brand identity of India Post. On the media mix, they are looking at, a suitable mix of traditional and new age media, primarily led by TV and the Internet, along with other below-the-line activities. To build the brand and promote its various services, the agency will focus on bringing

a perceptive change among the target audience by strengthening India Post's image.

It may be noted that India Post has gone in for a makeover in the same period last year. It had launched its new logo on September 23, 2008; which is displayed across all post offices and postal services in the country. They have also been majorly influenced to review the success of Indian railways on the lines of consumer orientation. Advertising on the train where revenues were negligible have jumped to upwards of 78 crores (in the discussion period). For the post office revamp, major studies have been encouraged in B-Schools to work out revamp strategies to make them commercially viable, some of the summaries are:

- Tying up with fast moving consumer goods (FMCG) companies, gift shops, cellular service companies, banks and other financial institutions to deliver their products, mobile bills and debit/credit card statements.

- Explore opportunities of setting up a website, where companies can post details of their products and consumers can order them and pay by cash on delivery or by credit card. The postman can collect the goods from the FMCG companies and deliver them to the consumer. Apart from getting the deepest possible penetration for the companies, this model will also get regular business of high volumes to the postal department, whereas the end consumers will get home delivery of all the FMCG products on time, thus providing a win-win situation to all.

- Propose to make post offices work in two shifts between 8 am to 8 pm, instead of the current norm of closing at 5 pm, thus optimally utilizing its manpower and other infrastructure, and making itself more approachable to the general people who work between 9 am and 7 pm. The students believe that, instead of a voluntary retirement system to cut down on manpower, increasing the working time with two shifts will be in the best interest of the postal department’s over 500,000 employees.

- If the postal department's huge deposits of its postal savings scheme can be given as loans to poor farmers and villagers against a collateral security of land or precious jewellery, it will provide poor people in rural India an exploitation-free source of money at much lesser interest rates. On the other hand, the money in savings scheme will be utilized in a better way.

Well, the government wants to convert footfalls into hard cash, i.e. sell advertising space inside the premise/envelopes, postcards etc and is targeting major revenue from advertising (by end of 2010).

6.2 NON-FUEL INITIATIVES - OIL MARKETING COMPANIES

6.2.1 BPCL–In & Out

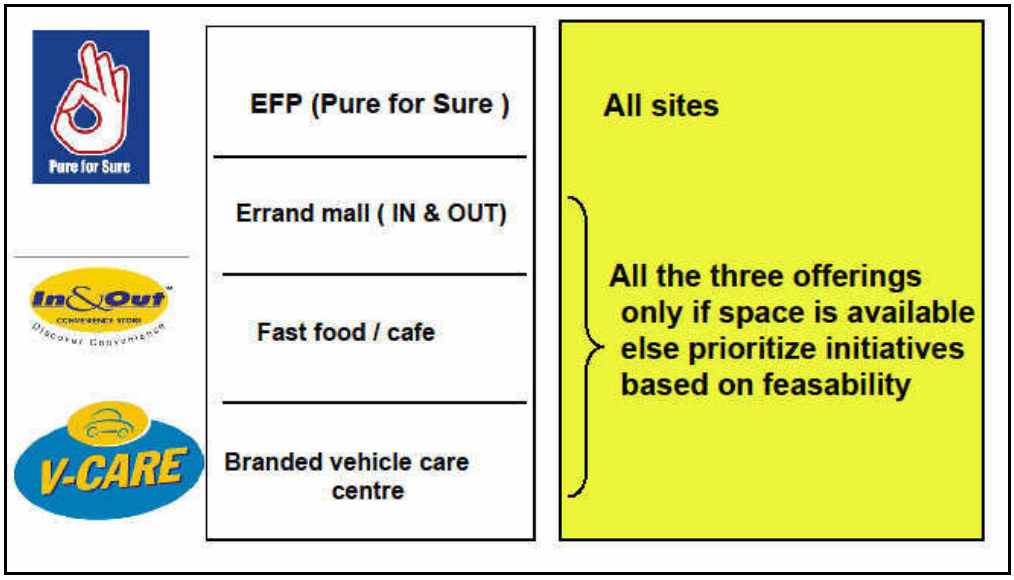


Exhibit 6.2: BPCL, Non-Fuel Retailing –Strategic Intent
Source: BPCL's Response to Non-Fuel Business

Realizing the importance of a greater understanding of consumers' needs and consistent with its core objective of continuously adding value to it's customers through innovative means, Bharat Petroleum has launched its convenience retailing initiative under the "In & Out" brand. Bharat Petroleum is the 2nd largest oil marketing company in the country with over 6000 retail outlets spread across the length and breadth of the country. The In & Out chain of convenience stores has been set up in the urban markets at strategically located retail outlet sites with high

customer footfalls. The "In & Out" store at Bharat Petroleum petrol pumps, which was launched in 2001, offers a convenience proposition where a number of typical household errands are aggregated under one roof for the benefit of the customers.

TABLE 6.2: In and Out - Strategic Objective

Strategic Objective of Building the Non-Fuel Business	
Provide Convenience to the consumer	Aims to address shopping , impulse buying need gaps at conveniently located location with an ambience which is up-market and resembles a self-service format.
Drive Positive Rub-off on fuel sales	Dealers confirm a positive impact , estimates of gain vary from 2-20% in margins.
Provide alternate source of income and revenue, margin enhancement	Some locations non-fuel business has started contributing upto 15-20% of the site revenue. New customer base has been added, people who have shopped for products other than fuel.

Today there are more than 300 In & Out stores across India, which bring in unmatched convenience at the petrol station. Strategic alliances have been formed with major brand owners and retailers in the country to further strengthen the convenience proposition. In & Out stores have a wide range of services viz., ATMs of leading Banks, Music stores from Planet M and Music World, Beverages from Pepsi, Coffee and snacks from Cafe Coffee Day and Coffee Day Xpress and a variety of impulse buys including confectionery, snacks, convenience foods, toiletries and select range of branded groceries and other FMCG products through exclusive tie-ups with such FMCG majors like ITC, Cadbury and Frito-Lay.

TABLE 6.3: In and Out – Product Profile

Offerings at In and Out	
Products	**Services**
Dominant Category – Confectionary ,Beverages – Mobile recharge ,snacks Complete Category – Convenience foods, staples, toiletries, household products, frozen food, deserts Present Category – beverages –alcoholic, non-alcoholic, music	– ATM – Courier, Money transfer – Personal finance – STD/ISD/PCO – Laundry service ,Bill payments

To Summarize

- In& Out stores have a wide range of services viz., ATMs of leading Banks, Music stores from Planet M and Music World, Beverages from Pepsi, Coffee and snacks from Cafe Coffee Day and Coffee Day Xpress and a variety of impulse buys including confectionery, snacks, convenience foods, toiletries and select range of branded groceries and other FMCG products through exclusive tie-ups with such FMCG majors like ITC, Cadbury and Frito-Lay.
- In&Out stores are the first to open and last to shut in the neighborhood
- Customers can use their PetroCard for In & Out shopping and earn valuable "Petromiles".
- In & Out stores are the largest organized convenience store retailing chain in the country with a standardized layout across the country, with a high level of aesthetics and an ambience aimed at deriving maximum value for our alliance partners and offering consumers a revolutionary solution for attending to their daily chores.

- The In & Out stores offer Western Union Money Transfer facilities in Mumbai -Money available all the time from your near and dear ones abroad at our store.
- In&Out stores offer all cellphone - recharge cards, and today with the launch of e-charge we are the first in the country to offer electronic charging of e-cards - now you can never lose your prepaid card re-charge voucher.
- Have Pepsi at In & Out anytime; if one wants something more one can indulge in Coffee & Snacks from CAFE COFFEE DAY.
- For the latest music-come to the "Satellites" from Planet M and to "Unplugged" from Music World, next to your home and get top quality music cassettes and CDs, at In & Out stores.
- Pick the latest issue of India Today, Outlook and any other magazine at the store today.

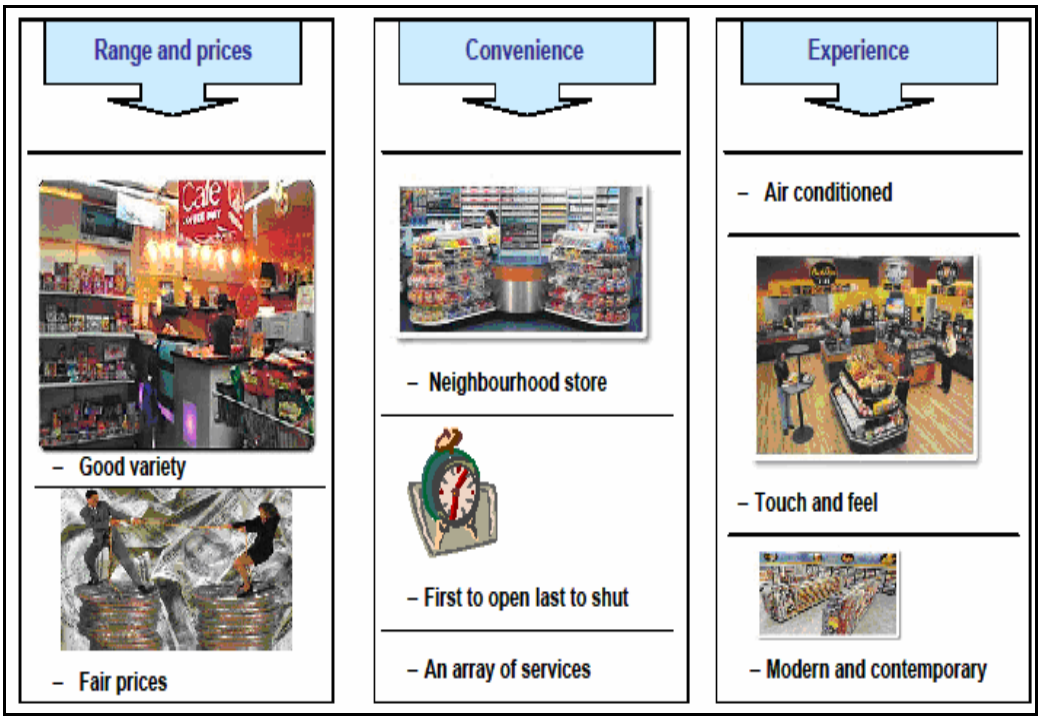


Exhibit 6.3: In and Out Experience

BPCL is the first to pioneer the concept of "Hood talkers" in India in a few select stores in Hyderabad, Mumbai, Delhi, Jaipur, Kolkata, Bhubaneswar, Chennai, Bangalore, Coimbatore, Ernakulam and Baroda-a concept widely

implemented by global oil majors. For the convenience of fueling customers who have very little time, BPCL has mobile trolleys at the fuel outlet which will bring convenience to the consumer's car. Regular promotions are done which are followed up by other fuelling companies. The offers are always a steal and alliance partners too regularly chip in with exclusive promotions to make the shopping experience truly convenient and exciting! Over the past two years, one of the key learning's has been the high level of customer acceptance specially of the cell phone offering in our In & Out stores. Consistent customer feedback has indicated the high level of convenience perception in having made cell phone recharge cards available at the In & Out stores.

With stores operating 7 days a week through extended working hours, BPCL believes that they would be in a position to maximize convenience in this category. They have also tried to maintain a product portfolio segmenting their consumers' basis the need of travel

TABLE 6.4: In and Out - Customer Segmentation of Needs

Customer Segmentation of Needs	
Urban	**Highway**
– Pure quantity , quality – Convenience products – Premium fuels – Value added products – Vehicle care centre	– Fleet management – Pure fuel correct quantity – Value added services – Vehicle care centre – Vehicle tracking for truck management

6.2.2 IOC-Brand Building

Indian Oil launched its XTRACARE Retail Branding Plan with over1000 outlets unleashed throughout the country XTRACARE has driven the branding strategy.

This was launched and was a culmination of a series of planning in retail design, product and service upgradation, capability training, automation, loyalty programme, retail site management techniques all benchmarked to global standards. The XTRACARE retail branding exercise was kick started with a countrywide "Retail Transformation" project nicknamed, "Operation Everest", in mid 2003. Over 1000 select retail outlets were included as a part of the campaign. Indian Oil XTRACARE outlets are benchmarked to international standards of Quality & Quantity, housekeeping, maintenance and customer service certified by the globally renowned agency - M/s Bureau Veritas (BV). While the industry standard was to take samples on a quarterly basis, Indian Oil has moved several steps ahead by introducing fortnightly random sampling with specific importance given to RON (Research Octane Number) sampling which is truly the definitive test for quality and quantity. The surveillance audits by BV are being done on a more comprehensive basis.

In another pioneering move, the third party certification, by BV, is also being done, for the first time, on a range of parameters that include hygiene, service, and efficiency of fore court, allied services and customer satisfaction. The scale and spread of the 1000 retail outlets is also an industry record. The maintenance of the various equipment at the XTRACARE outlets is being done by regular original equipment manufactures. Another vital differentiator in the Indian Oil XTRACARE outlets is the importance given to the frontline pump attendants. Not only are they trained at three levels of competencies-Customer Service attending, Personal hygiene/grooming and customer complaint redressals but they have also undergone a state-of-the-art training systems like Retail Site Business Management (modules a unique training template culled out of best Global practices in Retail Sales management and backed by IIM inputs).

A crucial differentiator in Indian Oil XTRACARE retail branding template is the importance given to the pump attendants and dealers. Both these vital segments are also anonymously tracked by BV for their performance. The high performers are given the status of Retail Stars and a consistent record will also give the Retail

outlet the Star XTRACARE Retail outlet status. Such recognition is also backed by a series of monetary incentives.

High performing pump attendants are being rewarded with extremely attractive compensation packages and high performing dealers who continue to retain the high levels of XTRACARE are eligible for a wide range of monetary incentives which is separate from the regular dealer commissions and promotional benefits. In a classic projection of it is people who drive business, the Star Pump Attendant for the Year is made the face of the retail branding initiative at the end of the year. This Star Pump Attendant will also be the Mascot driving Indian Oil XTRACARE Retail branding initiatives. The non-fuel services are being given a major fillip in the Indian Oil XTRACARE plan along with a wide range of loyalty programme with Xtra Rewards, Xtra Power and co-branded cards like Indian Oil Citibank Credit Cards. The automation project of XTRACARE is by far the most state of the art in the country. The automated systems are being installed in the first set of 100 XTRACARE outlets by March 2005. The cutting edge technology includes automatic tank level gauges, temperature sensors, density measurement sensors, back-office server with DU controls, automatic bill printing facility, customer database. The Tank Truck automation Sealed Parcel Delivery System (SPDS)- will also include electronic locking of TTs carrying loads to these ROs. The real time density sensors and the sealed parcel delivery system is superior to mere GPS based tracking systems because it not merely tracks where the Tank Truck is but what is happening to the Tank Truck consignments. SPDS ensures that the quality of the fuel would be ensured from Supply point to the Customers. As a precursor to the Indian Oil XTRACARE launch, Indian Oil had introduced the Platinum Circle and Gold Circle-top of the line, exclusive clubs for high selling retail outlet dealers. These elite Indian Oil Dealers have emerged as peer leaders and is an integral part of the XTRACARE Dealer sensitization strategy that Indian Oil has been planning for the last year.

Indian Oil has already introduced modern and dedicated networked highway outlets with multifarious offerings, under the brand name Swagat which are Indian Oils flagship Retail Outlets. To enable Dealers to tap alternate revenue streams,

Indian Oil has tied up with Tata Motors for Tata Authorized Service Stations (TASS) and auto spare parts at Indian Oil Retail Outlets as well as offering a real time truck tracking facility for fleet owners in collaboration with BSNL and Chennai based eLogistics.

The Fleet owner members of Xtra-power, Indian Oils leading fleet card programme has been offered the tracking facility at special rates. Indian Oil has also signed a MoU with Coffee Day Xpress, part of the Amalgamated Bean Coffee Trading Company (ABCTC), for setting up coffee bars and take away kiosks at Indian Oil petrol stations. Indian Oil has also signed a MoU with the leading tyre brand JK Tyre for a wide range of loyalty benefits for mutual customers including Indian Oils XTRA Power Fleet Card program offering loyalty reward points on the purchase of JK Truck tyres, tubes and flaps. Indian Oil has also set up Nirula, MacDonald and Food world outlets in select places as well as extended support to the Bill and Melinda Gates Foundation for a range of services including healthcare advise to the Trucking community which is a key customer segment for Indian Oil. Indian Oil took the Title Sponsorship of a major Cricket Event of Global proportions Indian Oil Asia Cricket Cup at Colombo. During the period, Indian Oil also launched an immensely successful Customer Ambassadors' programme which is an umbrella customer outreach programme launched. Under this concept, the Retail Outlet with the Field Sales Officer was the 'hub' of activity while the volunteering officers the 'spokes'. Indian Oil's Aish in Malaysia was named to the Limca Book of World Records as the largest consumer sales promotion campaign ever: Over 43 Million customers participated in the Aish in Malaysia contest. More than 3000 prizes given away. 465 outlets covered in the campaign. Another record campaign was the Ao Roz Ek Truck Pao-Over Rs 12 crore worth prizes were declared - 31 trucks in 31 days-designed to address the greatest aspiration of a driver i.e. to own his own truck.

6.2.3 HPCL-Rewarding Loyalty

Hindustan Petroleum Corporation (HPCL), petroleum major in the public sector, has managed to attract more than 15 lakh consumers through its 'HP Happy Wheels Offer'. The offer, which ran last year, created buzz and managed to build equity for the brand. The Happy Wheels offer was launched in 35 towns across 2,000 HPCL petrol pumps and gave patrons the opportunity to win prizes such as five Maruti Suzuki A-Star cars, 50 TVS Flame SR 125 bikes, 140 Samsung E250i mobile phones, 20 Samsung Star touch mobile phones, 7,000 Insta fuel cards worth Rs 500 and free fuel vouchers worth Rs 250.The entire activity rode on the back of below-the line (BTL) and was tied in with mobile and the Internet, strategically engaging the audience and encouraging participation through SMS to a specific short code.

To participate, consumers had to fill fuel worth a specified amount (Rs 150 for two and three-wheelers and Rs. 750 for four-wheelers) and SMS their bill details to the short code, 5676761. In addition, they could access further information through a helpline and website www.hphappywheels.com. Based on a structured verification process, winners were selected through a randomizer on a weekly basis and notified through SMS, phone calls and on the website. The entire integrated campaign, from conceptualization to execution, was handled by HPCL's creative agency, Leo Burnett and its integrated marketing services agency, Arc Worldwide.

Sharing insights on the campaign strategy, CVS 'Venke' Sharma, senior vice-president and director, Arc Worldwide says "The petrol buying pattern is such that one usually uses a pump close to home or office and only fills in how much petrol is required, rarely going for a full tank. The challenges, therefore, were to increase volume sales. So, for example, if a two-wheeler driver would otherwise fill petrol worth Rs 50, we needed to get him to spend Rs 150 instead; and also to build phenomenal loyalty, which is getting customers to come in only to HPCL pumps, which was an idealistic situation". Effective BTL advertising at point of sales (POS) using hoardings, standees, banners, leaflets and displays helped garner response, while building brand equity.

Within the first week, HPCL got a response of over two lakh entries. The website, too, was successful, with over 32,000 visits since the offer started in September.

An official spokesperson from HPCL says explains why ATL wasn't used for the pan-India campaign. “We didn't want to burn our money by wasting it on TV or print. The idea was not to increase our customer base, but to target existing customers, thereby pushing volume sales.” The strategy thus was, for example, to get 10 customers to buy as much petrol as 100 customers would buy usually. This was the target idea, which the company claims to have achieved over this period. The spokesperson shares that the total spend on the BTL activity was just about Rs 1.5 crore. “We did not need a pull-in,” adds Sharma, “because people need to come to the pump to buy petrol. Therefore, we thought, for this, on-ground activities were required. So what we did was promote awareness for the offer. Participation was made easy with the mobile phone and redemption was offered; people could log on to the site and check if they won, besides the SMS notification they would receive.”

6.2.4 Shell-CRM

Deutsche Shell's non-fuel operation aimed to change the face of German retailing. Deutsche Shell AG planned to grow its profitable Non-Fuels Retailing business. That growth strategy necessitated a powerful data warehouse for category management. Deutsche Shell AG had traditionally retailed fuels and motoring related products, but now also takes accountability for selling of general groceries, snacks, newspapers, and tobacco plus accessories and tools for the motorist at around 1,000 outlets. This is known as the NFR (Non-Fuels Retailing) business. The implementation of KALIDO was part of the rollout of Deutsche Shell's new Category Management Business Solutions (CMBS), also comprising a package, JDA Open Database Merchandising System. KALIDO has driven and ensured this bold initiative is founded on the best possible information.

The perennial difficulty of setting up a data warehouse was the need to foresee how information will be used. Unfortunately, most organizations don't fully understand their information requirements until they've been using a warehouse for

some time. The problem is compounded by the need to adapt to structural changes in the business, market and environment. The answer is a warehouse architecture clever enough to accommodate change without expensive rewrites. KALIDO provided an ideal solution. KALIDO was one of the most flexible tools around. It was easy to change, so when new requirements were discovered it was adaptable. For instance, the need to forecast sales across all retail sites is easy with KALIDO. It is allowing category managers to make more sales-focused decisions. Judgments about new products, too, are based on more timely information, they can now measure the success of a new product in a matter of days. Flexibility is doubly important because Deutsche Shell is not just reacting to change, but initiating change. It worked to persuade the German public to try out a whole new way of shopping. German shoppers don't have a culture of buying groceries from supermarkets or convenience stores; they have retained their tradition of buying from specialists: bread from the baker, and so forth. Deutsche Shell therefore had to sell the advantages of buying from convenience stores, as well as ensuring that its stores offer a well-targeted range of goods. This challenge means marketing analysts need the support of a strong, flexible data warehouse to help them understand customer behavior.

There were other motivations for creating a data warehouse. Deutsche Shell knew that more sophisticated use of point-of-sale information would let it pinpoint the most profitable products, and therefore target sales and marketing resources better.

A data warehouse could also help to refine marketing strategy by comparing the effectiveness of various promotions. Another argument for KALIDO was its cost-effective support for software reuse: it would be possible to reuse elements of a category management solution already developed by Shell companies in the Netherlands. KALIDO was chosen for its ability to accommodate changing requirements. End-users were able to generate their own reports using simple desktop tools The business has already become more customer-focused with the help of KALIDO The warehouse is automatically populated with data from merchandising and point-of-sale systems. Two sorts of reports can be produced. Firstly, there are standard reports answering common queries on topics such as

sales performance, market performance, and the breakdown of revenues and profit between fuel and non-fuel business.

Secondly, there are ad-hoc reports. This area is currently being expanded, with the aim of enabling marketing staff themselves to answer the what-if questions that are vital to planning-questions. Originally, all retail sites shared the same product master file, but subsequently the team decided to have separate product records for each region. They could examine how customer behavior in one region differs from another, and decide what products to sell where on that basis. KALIDO was also used in support of the development and expansion of the Deutsche Shell retail network. The network analysts could see which stores are getting good results and, by comparing demographic information, identify the optimum place to open a new branch. They could also predict which facilities will be appreciated in a particular location and so decide whether to have two car washes or none, for example.

KALIDO's flexible reporting allows the addition of new facilities without the need for programming. For example, because Germany has special contractual regulations, it was necessary to create a reporting structure for calculating commissions. The aim of the system was to improve sales through better marketing decisions, and the results have been extremely promising. KALIDO is allowing category managers to make more sales-focused decisions. Judgments about new products, too, are based on more timely information and they can now measure the success of a new product in a matter of days.

6.2.5 BP-Franchise Route

Connecting with franchise strategy aggressive moves to grow BP's retail strategic performance unit (SPU) in the next few years are not just about getting more franchisees to sign on the dotted line. The development and growth of BP's franchise network in the UK and mainland Europe, across the US, and in Australia and New Zealand will be instrumental in changing the financial shape of the business and make the SPU less capital intensive. Drawing on existing franchising experience in the business, and utilizing franchising experience through new,

external hires, the SPU is undertaking a major new push to increase franchise sites, focused on BP Connect sites which incorporate the Wild Bean Café.

Franchising BP Connect sites in the US and UK will go a long way to mapping out BP's future global franchise strategy. Global franchise development (GFD) team, says it is important to optimize existing franchise offers and create new, powerful ones, such as the franchise offer for BP Connect. The aim of the GFD team is to work with the operating units in implementing BP Connect franchising and optimizing the other franchise businesses such as on the west coast of the US and the Aral franchise business in Germany-one of the major challenges for retail is to operate in a less capital intensive way. They are trying to grow the business using investors' or franchisees' capital rather than using BP's.This way they can possibly change the financial shape of the business by taking existing company-owned, company-operated (COCO) sites and selling them to new franchisees to operate them as dealer-owned, franchisee-operated (DOFO) BP Connect sites.

Franchising is nothing new to BP. In fact, the company has had a portfolio of franchises for years, but it is the last decade which has seen a significant increase in their number-principally due to an acquisition strategy which brought the franchise business into the BP family as part of the merger with ARCO. They have launched in retail over the last four years has been the retail accelerator programme.

The programme, which is still being rolled out across the SPU, is all about a disciplined and efficient model for site operations and delivering great service for their retail customers. The accelerator business processes and tools have driven huge change in their COCO business and given a world class operating platform for to use for franchise sites as well as company operated ones .They have the right site offers, with BP Connect featuring Wild Bean Café, as well as Aral Store featuring Petit Bisto in Germany and ampm as successful convenience and convenience store offer west of the Rockies, US.

BP is working to become "a powerful global franchisor", and the first step on that journey in the UK was taken when the first two franchise sites opened in the

northwest of England. It provided valuable learning, which will allowed them to refine and improve the BP Connect package for roll outs.

Limited time: Time is precious in terms of franchising in the UK, not least because the market is so competitive, according to Stephen George, retail operations manager UK, Netherlands and Poland.

But franchising is a two-way street. What's good for BP must also be good for franchisees-they are, after all, business entrepreneurs, and without a good deal for both parties there is no franchise. With franchisees paying an initial fee of £20,000, three per cent ongoing royalty based on total net non-fuel sales, and an additional three per cent of total net non-fuel sales going into an advertising fund to support the marketing and communications for BP Connect and Wild Bean Café, they want to be sure of value for money. Franchise operators are benefiting from the supply chain deals BP has. They are very competitive in terms of what they are able to buy and the cost they are able to buy the goods at. So, part of the franchising package in BP is saying "we want you to use the buying deals we have in place and the procedures we work to, and you will see benefits from that". BP's evolving franchising offers has attracted the attention of investors. Franchise competition from other firms continues to increase. Chains like Spar and Subway are talking to their dealer network about expanding their own franchise networks. So, in the limited competitive time they have to act they need to be pro-active or they run the risk of the others getting there first. With the right capabilities they are working to execute and put in place, resources to roll out BP Connect franchising at pace.

6.3 TRANSFORMED SCENARIO

So as is seen that across the world and in India that with the emergence of organized retailing, a growing demand from consumers for a superior shopping experience, "Convenience Retailing" has emerged as a key business area for petroleum companies given their wide retail presence, existing customer base and strategically located sites.

Convenience need gaps have been felt in various fields and research has shown that the urban consumer today seeks convenience in shopping for their basic requirements so that their precious time is reserved for more fruitful pursuits.

Petrol retail outlets provide the right framework for setting up convenience retail chains where the consumer has the opportunity of combining shopping with the fuelling occasion. Globally petrol stations are widely recognized to be one of the highest traffic aggregators and retail majors like hypermarkets such as Sainsbury, Tesco and Carrefour have added motor fuels in their basket of services for the convenience of their customers. Hence along with strategic locations, the availability of footfall in the petrol retail outlets gives petroleum retail companies the competitive advantage. Worldwide, petrol station convenience stores have developed into a serious business in itself with companies like Shell, Caltex, BP running their convenience store chains very profitably. All of them have deployed best retail practices in their stores and offer a wide range of services including laundry, postal services, courier services, fast food etc.

The Indian Petroleum retailing industry is today poised to make giant strides both in terms of new forecourt retailing opportunities and superior customer offerings at the retail outlet. The spirit of competitiveness amongst the petroleum companies augurs well for the consumer with each of the companies adopting innovative ways to capture a larger part of the consumers mind share. Fuel companies in India have stared concrete actions along these lines, IGL should make a note of this and align its actions since then only it would be keeping pace with the consumer expectations.

CHAPTER-7

ANALYSIS OF ECONOMIC & FINANCIAL PERFORMANCE OF IGL

CHAPTER 7

ANALYSIS OF ECONOMIC & FINANCIAL PERFORMANCE OF IGL

In this chapter, the economic and financial analysis for IGL is undertaken. The corporate mission was to establish IGL as a preferred natural gas distribution company, dedicated to providing a cleaner, eco-friendly fuel source with a total commitment to provide quality customer service while maximizing shareholders' wealth. However not all seems to be well with IGL as seen from the consumer perception as was presented in chapter 4, IGL - CNG outlets as of today:

- Have a long queue of vehicles waiting.
- Have a lot of noise pollution.
- Have a large number of stressed consumers and attendants.
- Are considered an unsafe area for women drivers.
- Have no shelter and consumers have to wait outside the vehicle irrespective of all weather conditions (consumers have to stand outside the vehicle while CNG is filled in the vehicle).

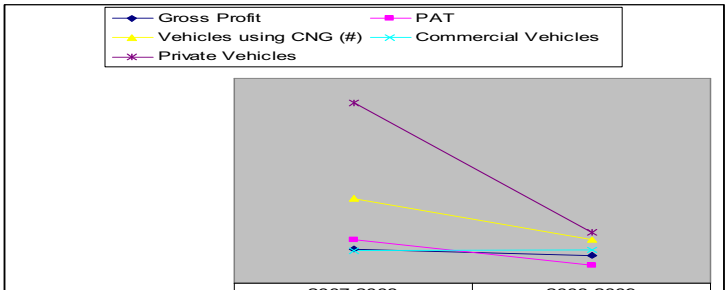
So it was important to undertake the economic and financial analysis of IGL and measure the impact of all this. To review the same, the factors are:

- Gross Profit, PAT, PBDIT.
- Exit of retail investors over the last few years.
- IGL scrip movement over the years, beta value, EPS growth comparison.
- Deadweight loss-The concept of deadweight loss was used to understand and to draw attention on the comparison of the Accounting Balance Sheet (ABS) versus the Economic Balance Sheet (EBS).

7.1 ANALYSIS OF THE FINANCIAL RESULTS

The following indicators are reviewed:

- Annual reports for the financial years (2003-2004; 2004-2005;2005-2006;2006-2007;2007-2008;2008-200).
- Key parameters for IGL were also reviewed (which also presented in chapter 5 -where IGL as a company has been represented):
  - IGL progress (CNG stations, CNG sale).
  - IGL financial Summary (gross T.O , gross profit, PAT).
  - IGL volumes.
  - Number of CNG vehicles.
- The growth rate of private vehicles adopting CNG has considerably slowed down to 35% in 2008 over 2007 (IGL, Annual Report), from a 173% growth in 2007 over 2006. Also with the advent of metro train across Delhi NCR, additions to public transport vehicles are limited; the growth, revenue opportunities for IGL have been and are from the addition of private vehicles. However, the growth in number of private vehicles having CNG has slowed down and its slowdown probably seems to be affecting the profit after tax (PAT) as well. From a PAT growth of 15% in 2007 over 2006, it has a negative growth of -1% in 2008 over 2007. Possibly, new consumers are not coming and the existing consumers are moving back to petrol, diesel.



	2007-2008	2008-2009
Gross Profit	16	10
PAT	26	-1
Vehicles using CNG (#)	71	26
Commercial Vehicles	14	15
Private Vehicles	173	35

Exhibit 7.1: Growth Rate (+/-), % of the Year over the Previous Year

The slow-down in the vehicle growth rate in CNG might be directly affecting profitability as in the revenue mix of IGL, CNG contribution is 92%.

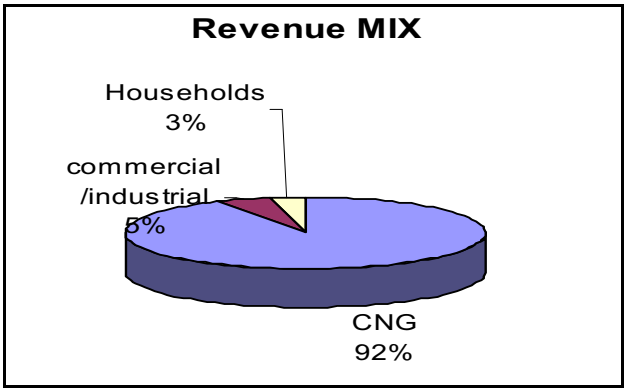
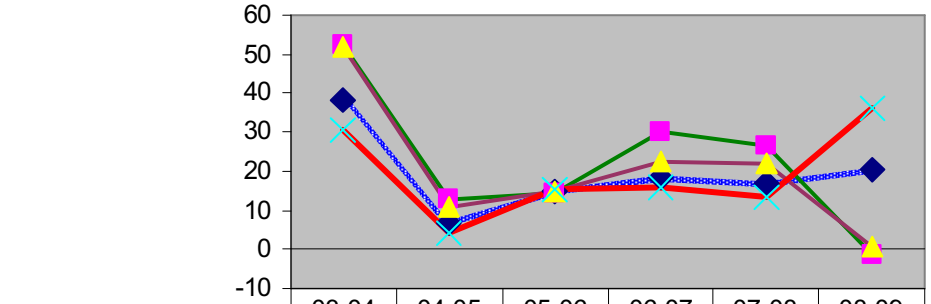


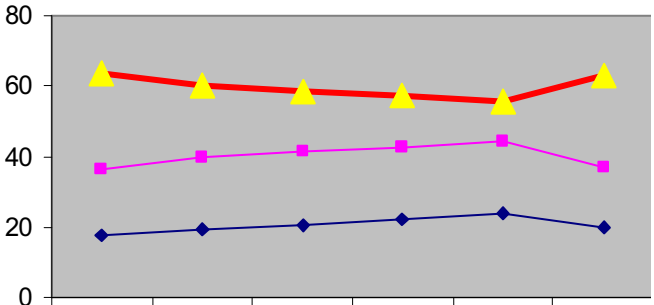
Exhibit 7.2: IGL –Revenue Mix

- Some premium vehicle manufacturers (Mercedes for example) have started making public statements on the falling consumer imagery of CNG stations and unsatisfactory consumer experience. They cite this as a reason to stay away from introducing CNG vehicles in Delhi/NCR, India; although these manufacturers already have such vehicles in markets across the world.
- While CNG (a green fuel) has been beneficial for the clean environment in Delhi-NCR, there are increasing instances of additional consumers being reluctant to move to CNG. Instances of consumers shifting back from CNG to petrol and diesel are also increasing.

The growth rate of the company has been slowing down in terms of the turnover, profitability over the previous years. The costs have continued to increase, which has reduced the growth rate in PAT. The volume growth has also slowed down as the pace with which consumers are adopting CNG has gone down. A combination of these factors is clearly visible in the following exhibits.



	03-04	04-05	05-06	06-07	07-08	08-09
inc % growth	38	7	15	19	17	21
pat % growth	52	13	15	30	26	-1
pbdit % growth	52	11	15	22	22	1
cost % growth	31	4	15	16	13	36



	03-04	04-05	05-06	06-07	07-08	08-09
pat as % of tot inc	17	19	20	22	24	20
pbdit as % of tot inc	36	40	41	43	44	37
cost as % of tot inc	64	60	59	57	56	63

Years	2009 March	2008 March	2007 March	2006 March
PBIDTM (%)	33.9	39.7	37.3	36
PBITM (%)	26.9	32.1	28.9	26.7
PBDTM (%)	33.7	39.6	37.2	35.5
ROCE (%)	40.4	49.6	48.2	43.6
RONW (%)	27.4	33.4	32.6	30.7

Exhibit 7.3: (+/-) , % of Key Parameters over the Previous Year

The key risk visible for the company is the supply risk. IGL gets gas at APM rates. The researcher found that APM price for gas is around 40-50% lower than market rates. As the government plans to bring market based pricing for gas in due course

of time, the gas cost for IGL would increase in the next few years. The net margins for the company would reduce when this happens if the company is not able to pass the complete increase to the consumer. Profitability as a measure for costs, capital employed and net worth has been reducing over the years. This is indicating a possible loss due to efficiency. The researcher used the dead-weight loss calculation to analyze this. Since a lower number of consumers are buying CNG vehicles and some consumers are changing from CNG vehicles to petrol/diesel vehicles, there is a drop in the revenue as CNG revenue constitutes over 92% of the total revenue.

7.2 ANALYSIS OF THE POSSIBLE IMPACT ON RETAIL INVESTORS

In today's competitive environment, firms not only compete within the industry but also have to compete with outsiders for-finance, raw material, human resources and goodwill etc. Considering this, firms today have identified maximizing shareholder value as one of the major objectives. IGL was consciously set-up as a private firm, although its promoters belong to the government. This was done especially to enable adequate agility and flexibility to safeguard the shareholder's interest.

The researcher analyzed this perspective to see how IGL had performed on this account. It was evaluated from the perspective of stake-holders, and the perspective of economic value addition rather than look only at traditional accounting practices.

Retail Investors

It was visible that the retail investor has continued to move out of IGL (as shown in the following two tables).

- Over a 5-year period (2005 to 2009) their share in the paid up capital has reduced from 16 % to 10%, with a reduction of 49.9 % in absolute terms.
- Over a 5-year period (2005 to 2009) the number of retail investors has come down by 32.8 %.

TABLE 7.1: Declining (%) of Retail Investors of the Years

	% to sh cap				
category	2009	2008	2007	2006	2005
Promoter Holding	45	45	45	45	45
Institutions	40	39	40	42	35
Corporates	4	5	3	2	3
Others	0.45	0.43	0.48	0.71	0.72
Retail Investors	10	10	11	10	16

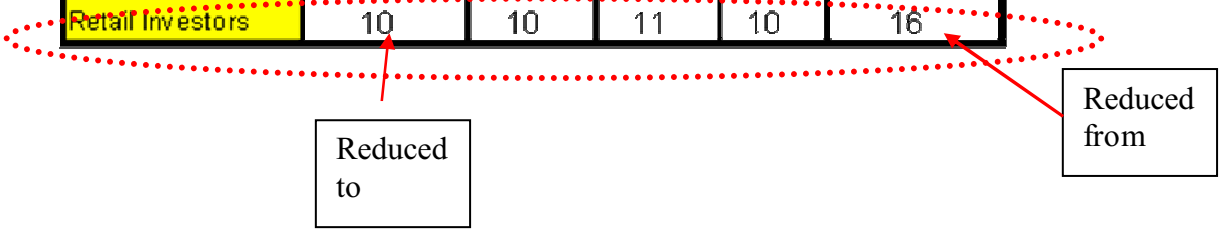


TABLE 7.2: Drop in Retail Investors (over 2005, 2006, 2007, 2008, 2009)

	Retail Investors		Promoter Holding/Institutions /Corporates/Others		Total	
Year	Shareholders	Amount	Shareholders	Amount	Shareholders	Amount (Cr)
	#	Rs (cr)	#	Rs (cr)		
2005	105290	22.58	389	117.42	105679	140
2006	75132	14.17	248	125.83	75380	140
2007	71683	13.72	288	126.28	71971	140
2008	68751	12.63	320	127.37	69071	140
2009	70656	11.31	545	128.69	71201	140

Stock attractiveness (BSE, Beta value, EPS)

The IGL stock over the years has been a conservative stable stock. It has not displayed the opportunity investment swings displayed by the BSE-SENSEX stocks over a 5-year period (2005-2009), which was associated with the BSE boom. During this 5-year period BSE-SENSEX nearly doubled and increased from 6954 to 10127; but the

IGL stock movement was relatively stable, straight, reinforcing that the IGL stock was not a highly trade-able stock for the retail investor.

The 'BSE SENSEX' is a value-weighted index composed of 30 stocks and was started in January 1, 1986. The SENSEX is regarded as the pulse of the domestic stock markets in India. It consists of the 30 largest and most actively traded stocks, it is a representative of the various sectors, on the Bombay Stock Exchange. The companies which are part of the SENSEX account for close to fifty per cent of the market capitalization of the BSE and is reflective of the mood of the retail investors.

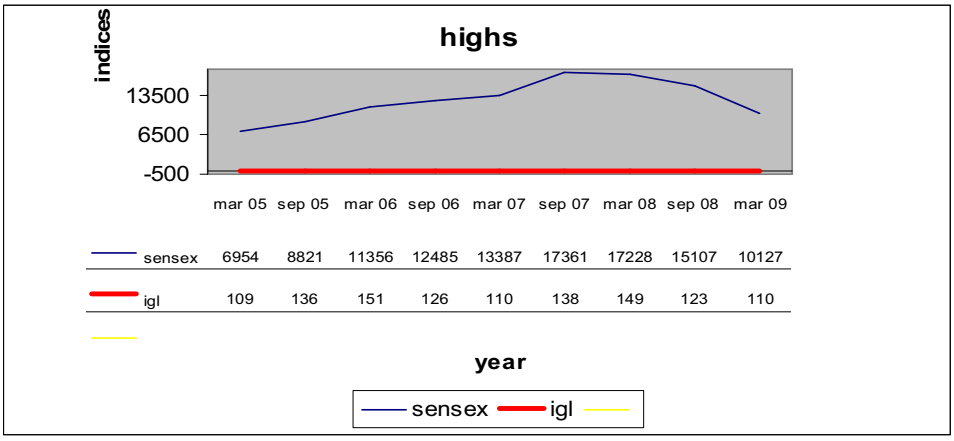


Exhibit 7.4: IGL scrip, BSE movement -2005 till 2009

The Beta value for IGL even in 2010 (when the SENSEX moved to 15000) continues to reflect a conservative investment option (on 17th Jan 2010 was 0.35, 0.40 on BSE, NSE respectively -Business Standard).

An asset with a beta of 0 means that its price is not at all correlated with the market. A positive beta means that the asset generally follows the market. By definition, the market itself has an underlying beta of 1.0, and individual stocks are ranked according to how much they deviate from the macro market. A stock that swings more than the market (i.e. more volatile) over time has a beta whose absolute value is greater than 1.0. If a stock moves less than the market, the absolute value of the stock's beta is less than 1.0. .More specifically, a stock that has a beta of 2 follows the market in an overall decline or growth, but does so by a factor of 2; meaning when the market has an overall decline of 3% a stock with a beta of 2 will fall 6%. Betas can also be negative, meaning that the stock moves in the opposite direction of the market: a stock with a beta of -3 would decline 9% when the market goes up 3% and conversely would climb 9% if the market fell by 3%. Higher-beta stocks mean greater volatility and are therefore considered to be riskier, but are in turn supposed to provide a potential for higher returns; low-beta stocks pose less risk but also lower returns. Also, if the beta of a stock is less than 1, such as 0.5, the stock will move at a rate of half of the market.

EPS - another parameter, was also reviewed.

It is seen to be a standardized barometer for how well a company has grown shareholder wealth over time. A quick and easy way to assess this shareholder wealth creation is to

- Compare revenue growth (%) of a company for the past few years and then the EPS growth % of the company over the same time period.
- Growth % of the revenue and EPS of a company for the previous years, can be a indicator of a strong management focus towards shareholder attractiveness.

Further to understand, benchmark and compare indicators, BSE-SENSEX companies in the core sectors were considered (companies which would have had challenges, considering their size , economic impact and competition). These companies are L&T (professionally managed–infrastructure sector), RIL (entrepreneurial, new generation company petrochemical sector) and TATA Steel (an old economy company, also very strong in the CSR initiatives). It was observed that in the last 5 years (2009-2005), these companies had grown faster in the in their revenue and EPS, thereby possibly being more attractive to the retail investors.

TABLE 7.3: Comparison of EPS Growth

	% growth over last 5 years (2009-2005)	
COMPANIES	EPS	Revenue
L&T	332	266
RIL	168	160
TATA STEEL	120	125
IGL	110	103

The IGL stock is possibly a conservative and safe stock which would give stable growth over a long time period. Certainly there will be other companies which would be more attractive to the retail investor for short-term and quick stock-market profits.

Review of the Management Discussion in the Annual Reports

In the stock markets the retail investors prefer companies, which:

- Have a strong control on their operations.
- Have a strong understanding of the changing, evolving scenario.
- Continue to innovate and increase their economic wealth and consumer acceptance.
- Manage transitions smoothly.
- Make visible actions to align with the changing times.

The annual reports of three more companies were read (Larsen & Toubro, Reliance Industries and Tata Steel) to understand how they review the macro-micro environment and thereby record their observations and comments in the management discussions in the annual reports. These are indications of the direction the company is likely to embark on. These reports very clearly address the report from an EBS (economic balance sheet) perspective.

Right at the beginning, these reports:

- Address EPS, Turnover per share, EBDIT/ Gross turnover %, RONW %, ROCE %.
- Evaluate the changing global, Indian environment and the initiatives being taken to address the same from the consumer perspective.
- Clearly identify the possible sources of future business.
- Seem to highlight the strategic direction as a company looking to satisfy their consumers and thereby enhance shareholder value.

The annual report of Reliance right at the beginning makes forward looking statements, annual report 2008-2009. Quote from the annual report - "this report contains forward looking statements, which may be identified by their use of words like 'plans', 'expects', 'will', 'anticipates', 'believes', 'intends', 'projects', 'estimates' or other words of similar meaning. All statements that address expectations or

projections about the future, including, but not limited to statements about the company's strategy for growth, product development, market position are forward looking statements".

However the annual report of IGL does not address or reflect the current and the future thought process of the management on similar lines. It does not address the consumer perspective, the evolving retail scenario nor the challenges of macro-micro environment.

- For the retail investors of today, annual reports need to clearly outline the management team's understanding of the future earning potential, emerging scenario, competitive situations and challenges. Absence of the same could
  - Make the company a low interest company to the intelligent retail investors of today .
  - Reflects to the stakeholders, employees, a non-focused view towards future growth by not addressing the issues of consumer satisfaction.

Surprisingly in the IGL report, the section of management discussion and analysis *seems to be copied on year on year with minor changes in syntax. In fact in the reports of 2007 -2008 & 2008-2009 the first few lines on the nature of business, outlook on opportunities are the same. It is difficult to believe that in a constantly changing environment these two aspects remained unchanged and had no further comment /modification by the management.*

For many years IGL has continued to maintain in its report that "the company being the pioneer and having a first mover advantage in setting up retail gas distribution network in NCT of Delhi, does not for see any serious threat from competition in near future". The only change visible in the report now is "the company is fully geared up to take new challenges in the emerging competitive environment. The company has been given the marketing exclusivity in NCT of Delhi for a period of three years. Thereafter, the field would be open for competition in this geographical area. However, with its first mover advantage and better understanding of the needs of its customers, the company would be able to

retain its position in the market". These statements are clearly statements of a monopoly and IGL seems clearly unprepared for managing the consumer dissatisfaction and maybe eventual consumer exit.The management discussion & analysis section also fails to mention:

- The threat of losing consumers due to service gaps. It does not identify the fact that car manufactures are moving away from CNG.
- It does not recognize alternate forms of green fuel ULSD.
- It does not detail the evolving consumer environment.

In an annual report a comprehensive review is very important since the organization is responsible to the shareholders.

7.3 ANALYSIS OF DEADWEIGHT LOSS

This section attempts to find whether the monopoly mindset of IGL has lead to inefficiency in its operations. Inefficiency losses are measured through deadweight loss.

Deadweight loss is simply the loss the economic benefit forgone by the society due to the monopoly. A government granted monopoly (also called a "de jure monopoly") is a form of coercive monopoly by which a government grants exclusive privilege to a private individual or firm to be the sole provider of a good or service; potential competitors are excluded from the market by law, regulation, or other mechanisms of government enforcement. If a firm has monopoly power then it will face little competition. It will therefore be a price maker and its demand curve could be inelastic. Deadweight loss is an economic loss to the public without any offsetting gain. Specifically, a deadweight loss is the loss in efficiency that a society suffers as a result of firms setting their monopoly prices greater than marginal cost. In other words, the deadweight loss is due to the loss in value to society of output not produced. It is often argued that monopolies tend to become less efficient and less innovative over time, becoming "complacent giants", because they do not have to be efficient or innovative to compete in the marketplace. Sometimes this very loss of psychological efficiency can raise a

potential competitor's value enough to overcome market entry barriers, or provide incentive for research and investment into new alternatives.

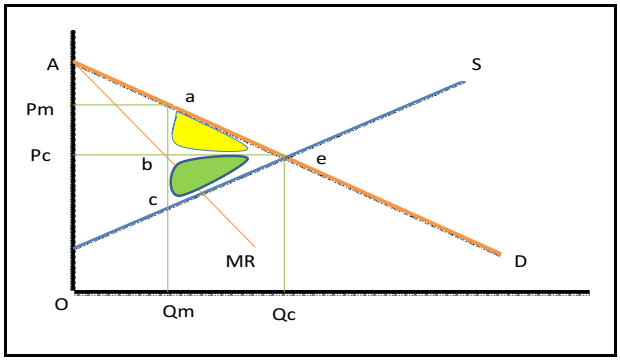


Exhibit 7.5: Deadweight Loss

Price, quantity (Q) and cost data were compiled from the annual reports of IGL. On the basis of these data, the demand curve and the total cost curve were stimated. In the absence of competition and other marketing initiatives the demand for CNG is assumed to be dependent on-price (P) and comparison capacity (C).

Demand function Q = 19.09 – 1.13P + 1.89C
Estimated demand curve P = 61.92 – 0.89Q
Estimated Total Cost Curve TC = 2.075 + 4.4238Q

Differentiating the total cost function, the result is marginal cost (MC) MC = 4.4238
For Perfectly competitive industry, the equilibrium occurs at the quantity where, P = MC
Therefore, 61.92 – 0.89 Q = 4.4238, Q = 64.6, which is the competitive output

Hence, a competitive output will be 64.6cr kg, whereas present output is 46.04cr kg. This implies, if IGL functions with a competitive mode, output can expand by 18.56 cr kg.

The price during 2009 has been Rs21.00, which exceeds the MC by Rs. 16.5762.

- Deadweight loss = area of the triangle ace= ½ $(Q_m-Q_c)(P_m-MC_{QM})$=0.5 *16.5762 * 18.56 = Rs 153.83 cr
  (Q_m = monopoly cost ; Q_c =competitive output; P_m =monopoly price; P_c =competitive price ; MC_{QM} =marginal cost at monopoly output).

TABLE 7. 4: Cumulative Deadweight Loss

Year	Price	MC	P - MC	Comp Output	Mono Output	Difference	Dead wt loss	
2004	16.88	4.4238	12.4562	50.73	28.25	22.48	140.01	234.81
2005	18	4.4238	13.5762	52.33	29.77	22.56	153.14	235.62
2006	18.2	4.4238	13.7762	57	31.86	25.14	173.17	244.44
2007	18.2	4.4238	13.7762	59.33	34.4	24.93	171.72	222.38
2008	18.2	4.4238	13.7762	60.56	38.62	21.95	151.19	179.63
2009	21	4.4238	16.5762	64.6	46.04	18.56	153.83	167.67
Total							943.06	1284.56

The inefficiency in its operations has been calculated through the deadweight loss. *The cumulative deadweight loss for the period considered is found to be Rs.1284.56cr which is 1.33 times of the revenue in 2009.*

CHAPTER-8
CONCLUSIONS AND RECOMMENDATIONS FOR IGL

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8.1 CONCLUSION

This thesis has been focused on understanding the changing consumer trends, evolving retailing practices at the fuelling stations and the ground reality at the IGL fuelling stations.

The conclusions drawn from the study are:

1. There are considerable changes in the way retailing has evolved, primarily due to the emerging consumer preferences as reviewed in the changing meta trends of consumers .These trends have led to
    i. Increase in consumption
    ii. Consumers seek a great shopping experience in terms of the ambience, facilities, product range available.
    iii. The literature review highlighted that the consumers feel responsible towards the society, however in the survey consumers did not connect IGL with the "green initiative" and the clean environment philosophy, which IGL had initiated in New Delhi.
    iv. Consumers seek ease of purchase, faster movement time through the cash counters, quick delivery of their products and faster movement through the queue.
2. As reviewed in chapter 3, globally, non-fuel retailing has developed into large business:
    i. In the developed countries the non-fuel revenue is as high as 39% of revenue and 60% of profit. In India the revenue through the non-fuel initiatives is just 2% of the total revenue. IGL has still not taken any initiatives in this direction.

ii. In India OMC's have started taking initiatives towards non-fuel retailing:

- BPCL has led the initiative in India through In & Out retail formats which have a very good consumer response and have become the most visible identity for the company.
- IOC has been working to strengthen its corporate branding through corporate sponsorships and tie-ups with credit card companies. They have also initiated non-fuel retail outlets on the lines of In & Out.
- HPCL has been working to encourage consumers through loyalty programs, and their initiative in non-fuel retailing is limited to fast food outlets, ATM machines.

3. The survey conducted on understanding the consumer expectations and perceptions towards the fuelling stations in New Delhi brought out the following conclusions (survey conducted on 800 consumers and presented in chapter 4):

i. The key expectations identified by the consumers are:

- Localized advantage of the fuelling station.
- Availability of non-fuel initiatives at the fuelling station.
- Brand name of the OMC and the reputation of the fuelling station.
- Good quality and quantity of all products at the fuelling stations of the products.
- Friendly hospitable service, with a lot of consideration to consumer's time.

ii. From amongst the above listed expectations for the consumers all of them are relevant. The various expectations are ranked in the following manner by the consumers:

- localized advantage of the fuelling station:

a. 44% consumers rated this expectation as 5, and 31% rated this as 4 (75 % consumers gave a rank of 5,4 collectively to

this expectation) .This clearly highlighted that "a convenient" location is a strong need of the consumers.

- Availability of non-fuel products at the fuelling stations:
  a. 56% rated this as 5, and 39% rated this as 4 (91% of the consumers gave a rank of 5,4 collectively to this expectation). It further highlighted that consumers need additional product categories in non-fuel, which will help build footfalls and revenue as people start shopping and spending money in the outlet.
- The brand identity associated with a fuelling station:
  a. This expectation had a staggered (nearly equal weightage) in a rank of 4,3,2,1. For the consumers the identity/brand name of the fuelling station was irrelevant for fuel services. But in case they had a non-fuel product offering, consumers started associating the fuelling station with it. BPCL emerged as a very strong "identified brand name", primarily due to its In & Out initiative.
- Good quality and quantity:
  a. 20% consumers ranked it as 3 , and 40% ranked it as 2,1 ; this confirmed that consumers would want quality and quantity as a "given assurance" from their supplier or retailer.
- Friendly and hospitable service:
  a. 20% consumers ranked it as 3, 50% ranked it as 2, and 30% ranked it as 1. Here they emphasized that while this is relevant but in comparison to other expectations this is a "soft skill".

iii. However if these expectations are to be prioritized then clearly–a convenient location along-with non-fuel retailing initiatives scores heavily and is a strong need (the consumers have a strong

preference for these two needs and have given these expectations a rating of 5, 4). Consumers definitely look at going to fuelling stations which are at convenient locations and which have non-fuel products available with them. BPCL outlets are a strong case in point for non-fuel retailing and arecited as an example repeatedly. Here consumers drive–in for picking up grocery items (snacks/chips/cold drinks .etc), even if they do not need fuel.

iv. Additionally 769 consumers clearly express the need that they want to be looked after by the service providers. The consumers expect that the service providers will understand the "value of the consumer's time" (as in the consumer's opinion consumers are "time-starved").

v. The consumer response to the perception of CNG/IGL are:

- 475 respondents said that it reminds them of chaos, dirty locations, long lines.
- 225 respondents said it unsafe for women.
- 100 respondents said CNG makes them (including elderly people) stand outside the car, at the time of re-fuelling, irrespective of the weather; and there is no shelter.

vi. The consumer responses to their perceptions of the fuelling stations clearly stated that IGL is very poor in consumer orientation. Their business model is focused towards the commercial vehicles, and IGL has unknowingly alienated the private vehicle consumers. The survey reveals that IGL contrary to the "clean-green imagery" which they had embarked on as a business strategy, is viewed as a "sasta" fuel. The "sasta" being seen as an option for people with less money. It has not been able to take advantage of its unique position as an environment friendly option. This is contrary to the premium position the

"green/organic/hand-made" products have in the eyes of the consumers in India and outside India.

vii. The survey responses on the OMC's perception highlight the following:

- BPCL- As per 724 respondents BPCL is clearly associated with retailing and, In & Out have become strong identities and shopping destinations
- IOC - 597 said that it has a strong identity for a petrol company and is seen to be a big company.
- HPCL - 239 people said it has loyalty promotions
- IBP - while it was recollected had no recordable statement of association.
- How can petrol be different, all come from the same source (698 consumers).
- Petrol is same, no matter where you buy(537 consumers).
- What different non-fuel products they have, which help reduce my time to go shopping separately (721 consumers).

The responses clearly assert that

- The consumers perceive BPCL to have a strong recognition for its In & Out initiative and it is perceived as a consumer friendly company.
- Fuelling stations are considered a location where people have to go anyway to fill fuel. It is a necessary "stop point". *However people look forward to fuelling stations which have non-fuel products or fast food joints as differentiator identity for a fuelling station/OMC. Consumers consider basic fuel services as a given and hence pure fuel services are not able to establish a brand /OMC identity.*

4. The owners /managers are the key links to address the issue of changing consumer trends since they are closest to the consumers. Therefore they are in a strong position to identify and list the changing consumer needs and their inputs are of significant relevance to the corporate heads wanting to understand the changing dynamics .The survey findings on understanding the fuelling station owner/managers' expectations and perceptions towards the OMC's in New Delhi brought out the following conclusions (the survey was conducted on 150 owner/managers of fuelling stations and presented in chapter 4)

   i. The key expectations identified by the owners/managers are
      - Expect OMC's to help them in increasing profits
      - Expect OMC's to help them in Non-Fuel initiatives
      - Expect OMC's to help them to plan consumer schemes-initiatives
      - Expect OMC's to help them in upgrading technology

   ii. The ranking to these expectations are:
      - Expect OMC's to help them in increasing profits:
        - 51% consumers ranked this expectation as 5, and 31% ranked this as 4 (82 % consumers gave a rank of 5,4 collectively to this attribute) .This was important for the fuelling station owners/ managers since they feel that OMC's do not have an ear to the ground. Most of the times the OMC's are not willing to listen and more importantly wish to implement actions which do not work .These owners/managers also do not have the freedom to decide on non-fuelling initiatives. They have to take formal approvals from the respective OMC's, if they want to do anything other than sell fuel.

- Expect OMC's to help them in Non-Fuel initiatives:
  - 49% ranked this as 5, and 30% ranked this as 4 (79% of the consumers gave a rank of 5,4 collectively to this expectation). It further highlighted that they need additional product categories in non-fuel, which will help increase footfalls and revenue, as people start shopping and spending money in the outlet. For them the net margins from non-fuel are much higher than the margins on fuel (viz on soft drinks they get gross margins upwards of 20%, whereas on fuel their margins are between 1-2 %).
- Expect OMC's to help them to plan consumer schemes-initiatives:
  - This expectation had an equal weight in a rank of 4,3,2. OMC's are expected to work out schemes and execute them through the fuelling stations to reward loyal customers, especially when all companies from insurance/ telecom/retail shops/airlines have launched extensive loyalty promotions and schemes which increase foot-falls.
- Expect OMC's to help them in upgrading technology
  - 11% ranked it as 4, and 34% ranked it as 3, and 55% ranked it as 2; this expectation is very relevant as owners/managers feel that technological advancement helps to build trust with the consumers and in the speed of operation.
  - They would be keen to look at increasing profits and they believe that developing alternate non-fuel revenue streams are to be the most important in that direction. They all cite the example of BPCL, stating how effectively the OMC's is able to build additional footfalls. The customer base at these fuelling stations has increased from only vehicles to add:
    - Kids (wanting toys/ice-creams/book), youth (sitting at café coffee day, snacking), working women (buying

cosmetics as they commute), house-wifes' (coming for grocery), working professionals (who stop for office stationary /music/IT equipment) and even expats (who get the best chocolates /breakfast cereals at these locations).

iii. 74% owners/managers express that besides a convenient location advantage the fuelling station must have additional facilities which are need specific basis the consumer profile, viz the needs of a highway consumer will be different from an urban or a rural consumer. All of this has to be backed by a friendly and polite service:

- In case of IGL this is considered as a big stumbling block, where the managers say " we do not have the time to look after each consumer, as they already have a waiting line, we have to ensure that people come, fill gas, and go; the consumers must come with ready change /cash".

The owners/managers conclude that BPCL is more consumer–centric and IGL is bottlenecked, decision-making is slow and their fuelling stations are not consumer-friendly.

5. The dealer/managers appointed at IGL are through the Directorate General of Resettlement. There is a list of retired armed forces' officers which is circulated to IGL, wherein the managers at IGL interact with the identified officers from the list circulated by Directorate General of Resettlement and shortlist the potential managers. Thereafter IGL shortlists and appoints a manger from this list basis the officer's seniority and administrative influence irrespective of the managerial acumen. This is totally against the tenets of privatization and professionalism. The persons appointed are definitely having no prior experience of consumer needs or retailing. These managers are retired and of an age-group where age and a mindset seems to be restricting their sensitivity to these issues. At no

IGL fuelling station, the researcher found these appointed managers present physically. At all stations these managers had a "trusted" class IV type of a person who was managing the business and focusing on operations through employees / contracted labor. These people collectively had little understanding on consumer sensitivity and hardly any focus towards business building activities.

6. While doing a economic and a financial analysis of IGL it was analyzed (in chapter 7):

   i. The growth rate of private vehicles adopting CNG has considerably slowed down to 35% in 2008 over 2007 (IGL, Annual Report), from a 173% growth in 2007 over 2006. From a PAT growth of 15% in 2007 over 2006, it has a negative growth of -1% in 2008 over 2007.Possibly, new consumers are not coming and the existing consumers are moving back to petrol, diesel.

   ii. Retail investors have been moving out of IGL:

      - Over a 5 year period (2005 to 2009) their share in the paid up capital has reduced from 16 % to 10%.
      - Over a 5 year period (2005 to 2009) the number of retail investors has come down by 32.8 %.
      - The retail investor for the IGL stock has a conservative view for the short term-long term. In the review period of 2005-2009, the BSE-SENSEX moved from 6954 to 10127, whereas IGL moved from 109 to 110. A beta value of 0.35, 0.40 for IGL stocks, clearly reflects a conservative outlook amongst the retail investors.

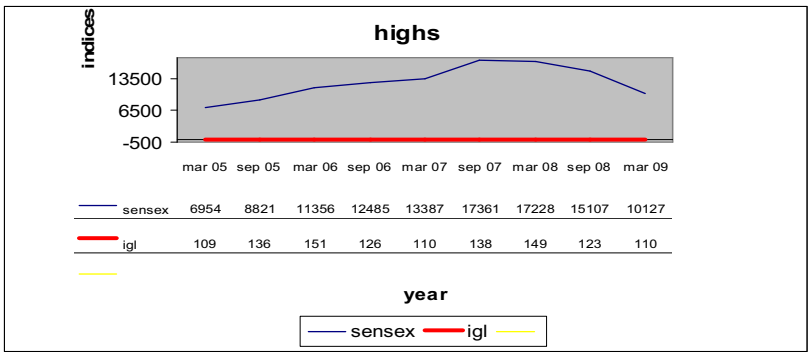


Exhibit 8.1: IGL scrip, BSE movement -2005 till 2009

iii. The management discussion & analysis section in the annual report is repetitive over the past few years. It also fails to mention:

- The threat of losing consumers to the forthcoming competition.
- It does not identify the fact that car manufactures are shying away from CNG.
- It does not recognize alternate forms of green fuel ULSD.
- It does not detail the evolving consumer environment.

iv. The inefficiency in its operations is calculated through the deadweight loss. The cumulative deadweight loss is found to be Rs.1284.56 cr which is 1.33 times of the revenue in 2009.

7. Chapter 6 has shown that the changing consumer behavior demands companies to transform. Even monopolies become extinct if they do not transform (viz some industries in India which were monopolies have transformed to avoid being decimated like the insurance sector, telecommunications sector, aviation sector).

IGL management needs to:

- Build strong connectivity and goodwill for CNG by marketing it as a green fuel and making green a core value. The core USP must be marketed as a societal marketing proposition - "encouraging green":
  - Initiatives at their fuelling stations will have to be built around and tracked by the top management and explained in their balance

sheet. The initiatives have to center around encouraging the retention of the existing consumers and attracting new consumers to IGL.

- IGL needs to form associative partnerships with companies, brands which have synergy with its core value:
  - Retailers, companies worldwide are establishing credibility and drive significant competitive advantage by going green. Notions of corporate responsibility have long embraced concern for the environment. Now consumers are actively seeking retailers with green credentials. Consumer education, alliances with relevant brands and associations with high profile events like Commonwealth, IPL, World Cup shall create a positive imagery for IGL, CNG.
- Thereby the government bodies will also be encouraged to look at financial incentive, tax incentives to consumers of CNG (IGL).

Being all of this shall lead IGL to have an increased brand value, enhanced customer relationships, additional revenue stream and thereby a higher profitability with a highly satisfied base of consumers.

8.2 RECOMMENDATIONS

Fredrick Riechheld says in "The Loyalty effect" (1996), that:

Acquiring new customers can cost up to 5 times the cost of retaining, satisfying the existing customers. A 5% reduction in the customer defection rate can increase profits by 25% .The profit tends to increase with the increase in life of the retained customer.

Too many companies have suffered from customer exit. Normally when consumers leave a product

- 15 % switch because they found a better product.
- 15% find a cheaper product.
- 70% leave due to dissatisfaction.

All, fuel-retailing companies across the world and in India have started to adapt very quickly and effectively to these changes, except for IGL. With IGL's focus on commercial vehicles in the last few years, IGL has missed keeping a tab on its wonderful mission and key objective. The industry captains in the fuel retailing industry are clear that these changes are necessary.

IGL when it started had amongst its key objectives:

- To provide a clean, environment-friendly alternative as fuel to Delhi's residents, and bring down the alarmingly high levels of pollution.
- Encourage the use of CNG amongst private vehicles, cars as a focus business proposition.

IGL has not made sufficient progress along these lines as evidenced in chapter 4, and financially it has negatively affected IGL as reviewed in chapter 7. *The need thus is to focus on making IGL and CNG a preferred choice of "green fuel" for the consumers.* This in fact is quite in line with the mission, objectives that IGL laid out for itself which are focused on the environment, quality customer service while maximizing shareholders' wealth.

Directionally therefore IGL should take the lead in building a consciousness for using clean and green fuel. The entire concept of clean environment is a global requirement and the concept is considered "very in" by the politicians the world over, and "cool" by all the consumers. This direction towards positioning and encouraging the use of CNG (IGL) can be planned for execution along the following lines:

1. Clear focus of the Top Management through Strategic Outlook and Balance Sheet Reporting.

The leadership team has to start emphasizing that the business proposition of delivery has to be re looked from a consumer's point of view. From a typical ABS, IGL has to evolve towards having an EBS thought process. The

management discussion & analysis will have to evaluate IGL's response and preparedness, action plan towards:

- The changing market, environment and the competitive situation.
- Readiness, adaptability of IGL to compete profitably.
- The consumer perception of IGL, and actions towards addressing the imagery of IGL proactively.
- The threat of losing consumers due to service gaps.

As IGL moves along various stages of the PLC, they will have to adapt to the changing competitive and the consumer scenario in the following manner:

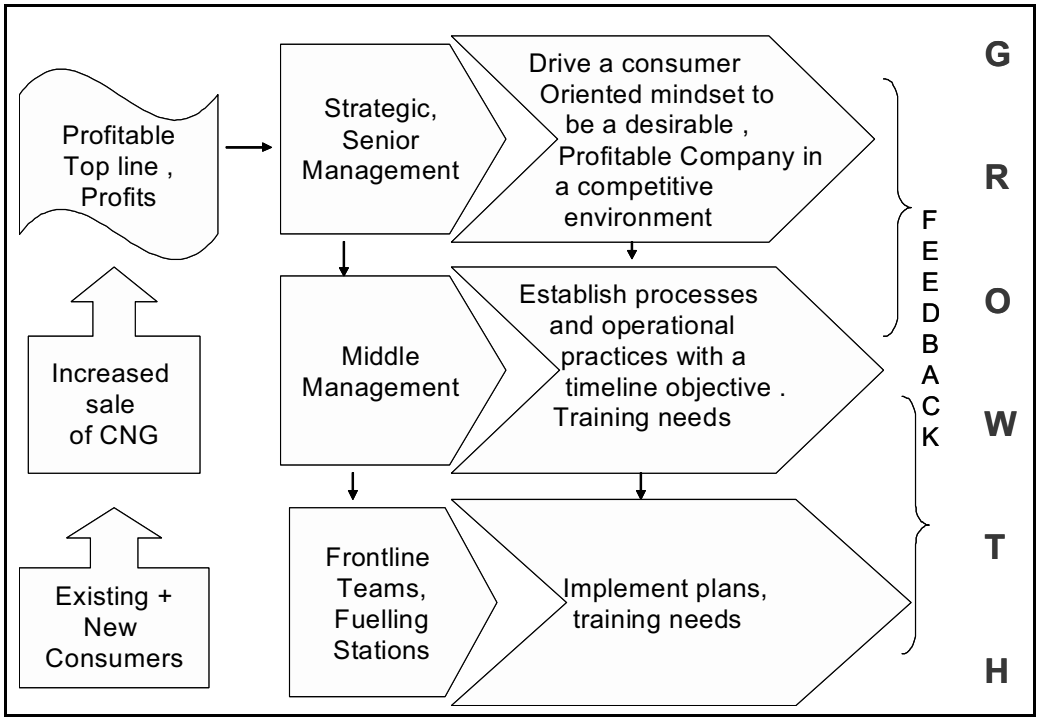
TABLE 8.1: Actions at Various Stages of PLC

	Phase 1 Restraint	**Phase 2 Growth**	**Phase 3 Maturity**	**Phase 4 Decline**
Level of regulation	Regulated	Emerging competition	Intense competition	Non-traditional competition
Cost efficiency	Not much pressure, subsidized	Cost pressure as outlets increase and consumers have a choice	Focus on increasing margins; site profitability	Cost optimization
Services on offer	Basic fuel	Introduction of non-fuel services	Non-fuel services expanded which add to the margins .Develop destination retailing	Non-fuel services optimized , stabilized
Trends	Developing markets, consumer are indifferent	Growing markets , consumers start becoming discerning	Demanding consumers as the markets mature	Consumers are informed and decide where to go

The leadership team has to interact with the government, car manufacturers, like-minded brands, for product associations to start building a positive public opinion towards CNG and IGL's ability to serve this market well. The public

opinion building, initiatives for-pulse polio, family planning are examples towards this.

All of this will have to sequenced, defined quickly in order to enable IGL to plan to compete and retail their existing consumers. It is not enough to attract customers; the company must retain them too. The key deliverables for varied levels of hierarchy shall be according to the timeline plan for implementation:



2011-12	Phase 1	2 months 2 months	– Understanding the consumer , developing connect initiatives – Establishing the implementations norms – Test marketing
	Phase 2	6 months	– Rolling out consumer services ,initiatives – Build Brand visibility – Tie ups to showcase IGL's positioning of "green fuel" with events, viz the World Cup, Global leaders Summit.
	Phase 3	3 months	Strong visibility of the brand connect, brand equity,

Exhibit 8.2: IGL, Focus areas for Various Levels

2. Marketing Initiatives Towards

a) Consumer interventions: focused on explaining the benefits of CNG–clean environment to the consumers and brand building efforts in association with companies, which have similar consumer touch-points.

b) Focus on non-fuel revenue through effective retail management.

IGL has a large base of existing consumers and needs to clearly focus on the following initiatives:

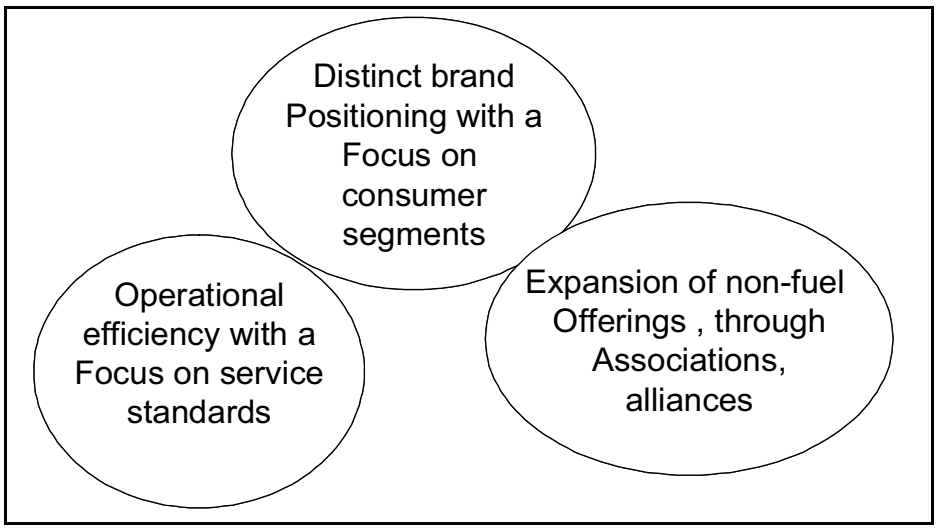


Exhibit 8.3: Marketing Initiatives

All of the above at IGL can be done by:

a) Enabling a uniform brand identity that has a clear characteristic value.

A uniform brand identity is enabled by utilizing the same brand colors in the fuelling station, stationary, communication material, website, uniforms of the attendants. A feeling of pride in using CNG has to be encouraged. In fact, people feel proud on using organic product, buying Khadi, or using fair-trade products. Similar sentiments have to be built in. Consumer activities can be encouraged through:

- Competitions on the subject of environment protection amongst schools, housing colonies can be conducted. The competitions can be done through art, debates.

- Encourage public discussions on clean fuel.
- Have a forum or a fuelling station where school children, people can come and see what clean fuel is all about. They can understand, ask questions, and get interested.
- Formation of a privilege club for IGL users-like for the frequent flyer cards for the airlines.
- Association of IGL with companies which offer benefits to IGL consumers-like the Delhi metro card, which has association. Citibank credit cards, price benefits at participating outlets like Domino's etc.

All this can result in the government using this as a shining example of development towards making Delhi clean and green. For this, the teams will need to identify and focus on *building a brand recognition, visibility and identity through:*

Brand strategy

Brand execution

Brand engagement plan

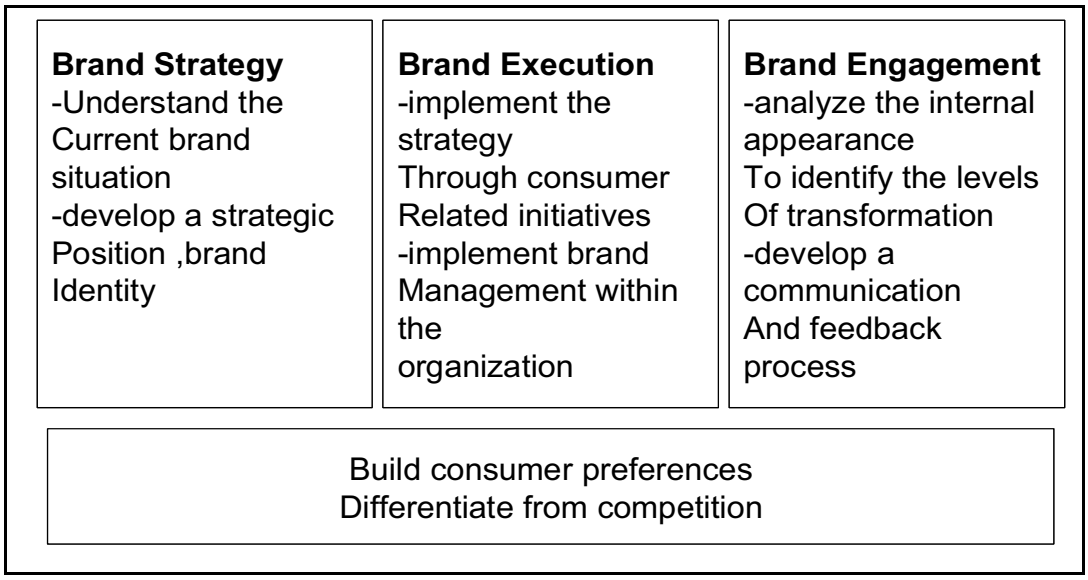


Exhibit 8.4: Brand Excellence Model

These initiatives will be strengthened by:

i. Defining the brand message -identify the image that needs to be communicated and execute the actions to ensure that the image effectively communicates the expectation.

ii. Defining the vehicle categories for efficient category management and accordingly fine-tune the pricing strategy:

- IGL might want to evaluate differential timing for buses, auto and different for private vehicles.
- IGL might choose to identify some fuelling stations closer to residential colonies only for private vehicles and maybe charge a premium.
- IGL might choose to operate some fuelling stations only through women. BPCL's experience in a similar case has been immensely beneficial, as services and cordiality increased, thereby increasing the consumer traffic.

iii. Creating loyalty programs through non-fuel products and associated benefits in an attempt to bring more consumers and retain existing customers.

iv. Enabling alternate payment options with credit cards.

v. Launching special offers based on customer insights and past learning can work well. Consumers are always looking for the best value for their money. It is great opportunity for them to save money and get the best products at the best possible prices.

IGL needs to identify the companies which would be keen to associate (with IGL consumers; with products which have a connect with the situations arising during the process of fuelling CNG):

- **Life, security** - Insurance companies and related companies would be keen to associate. They can easily enable a revenue model where they

pay IGL for visibility, use of their premises, and access to the consumers.

- **Hunger, thirst as consumers wait**- companies like Coke, Pepsi, Parle would easily be attracted to sell, merchandise their products and would be keen to do a lot of sampling, especially water. They would eagerly put up vending carts, which would also be a source of revenue, due to allocation of space cost, share of sales.
- **Uncertain weather affects consumers while they have to wait** - IGL can look to provide umbrellas for uncertain weather; wheel-chair, comfort chair for the ill or unwell; all of this can be sponsored by insurance companies, hospitals and wellness companies.
- **ATM, Credit card facility** - the fuelling stations should start accepting credit cards. This is a norm at any merchant establishment. Also for their available space at selected locations, banks would pay them a substantial amount for permissions towards opening of an ATM outlet.

The above from a retail management point of view also reflects a revenue stream model that can be sold to the consumer product companies towards a B2B (business to business) proposition:

- **B2B**-Here IGL would look to associate with companies, industries like healthcare, insurance, consumer beverages, snacks.
    - Revenue Generation can be through company associations, B2B focus. IGL needs to identify companies, which are keen on associating, which further the image of IGL/CNG and are aligned to the brand proposition of "green". Association can happen with companies that see a huge consumer connect due to situations which arise on account of a large number of consumers at IGL fuelling stations waiting on account of the process of fuelling CNG in the vehicle. IGL in this context can offer to the companies:

Captive Consumers: the location of the fuel station and the process of gas delivery gives rise to emotions like:

- Fear and the safety concerns the consumers have due to the process of gas filling. *Life insurance companies, medical companies will have a connect.*
- Consumers are exposed to the vagaries of nature while they are standing and waiting. *All consumers have to stand outside their vehicle when CNG is being filled, irrespective of their age, health conditions, and weather conditions. There are no chairs, shades, or umbrellas (Beverage companies , furniture companies are always looking to sponsor such locations, as can be seen by the large number of Coca-Cola, Pepsi umbrellas, chairs)*
- Due to the long queues, consumers feel they are standing for quite a long while and wasting their time. *Magazine, newspapers vending machines would have a consumer connect. Salesmen of impulse purchase precuts could be allowed to make a sales pitch and people will listen as they have nothing else to do.*
- Consumers have no recourse, option if they feel hungry, thirsty, or ill. *Mineral water, soft-drink vending machines, ice-cream vending can be popular.*

- Consumer interventions: focused on explaining the benefits of CNG –clean environment, making the consumers understand, and brand building efforts in association with companies, which have similar consumer touch-points.

3 IGL will need to build a Delivering and Monitoring Mechanism

A process for planning, executing and monitoring initiatives, activities to be associated with, would need to be put in place and a team which is clearly accountable for the same.

Thereafter a mechanism to identify the potential partners would be evolved, which would be transparent, fair and time bound. Revenue expectations would be defined. This would be segmented clearly by geographic location of the fuelling station and the consumer profile frequenting that particular fuelling station. Therefore, the key action for all the key hierarchy levels will be:

TABLE 8.2: Strategic, Senior Management – Key Actions

Organization Level	**Key Actions**
Strategic , Senior management – Drive a Consumer Oriented mindset to be Desirable, Profitable in a Competitive Environment , both in terms of their financials and the consumer base, consumer equity	– Understand the Evolving Consumer, Non-Fuel retail and Competitive dynamics, marketing initiatives required – Start building positive opinion for IGL (CNG) through ▪ Relevant brand associations , viz. with Green Summit , World Cup ▪ Encourage the government to give financial incentives to CNG vehicle users – Encourage communication with car manufacturers (Prestige Cars) to reassure them that their consumer equity will be maintained , enhance – Establish an internal monitoring mechanism to enable accountability to the consumers and shareholders

TABLE 8.3: Middle Management-Key Actions

Organization Level	**Key Actions**
Middle management – Establish processes and operational practices with a timeline objective desired in line with the strategic direction	– Understand the Evolving Consumer ,Non-Fuel retailing and Competitive dynamics, marketing initiatives required – Review ,segment fuelling stations basis the current and potential consumer , vehicle profile – Research the expectations, possibilities of this profile (consumers , fuelling station managers) in terms of the services and the non-fuel facilities – Establish norms , rewards at the fuelling stations for managers , attendants towards service standards and speedy service – Execute ,monitor the extended brand associations at the respective fuelling stations – Track consumer response , in terms of the service standards , brand associations – Develop loyalty programs to reward, delight the consumers

TABLE 8.4: Frontline Team: Key Actions

Organization Level	**Key Actions**
Frontline Teams – Implement the plans developed and be highly consumer oriented	– Understand the importance of consumer service and how fuelling stations are evolving in terms of service standards – Develop local implementation tactics to speed up the delivery , traffic basis the location and the vehicle profile – Be active proponents for the brand associations as this will help leverage the equity and the good will factor for IGL (CNG)

4. IGL will need to Institute a CRM Programme

Considering the large consumer base, which also is loyal currently, IGL would need to clearly list down:

- Likes, dislikes of consumers.
- Evolve loyalty reward programs.

- Become part of lifestyle habits of the consumers.
- Understand the consumer needs and develop a database of the consumers visiting the fuelling stations (which by sheer numbers is a highly valuable list). This database shall help in many direct marketing initiatives and various consumer product companies would pay to use this database for every contact established.IGL needs to interact directly with the consumers in terms of consumer loyalty programs, initiatives towards driving consumer benefit schemes. Initially though the B2B component will be the larger revenue spinner, IGL would need to leverage on its large existing consumer base and initiate actions to make CNG (IGL) desirable.

5 There is a need to empower and embolden the manager operating the fuelling station.

Rather than only focus on retired persons, the empowerment should be to make them competitive, possibly in two ways:

i. The competitive aspect can be enabled by instituting.

- Reward for performance.
  - The performance measure will be towards minimizing the time taken for refueling a vehicle.
  - Minimize number of waiting vehicles.
  - The hygiene at the fuelling station.
  - The alertness and consumer orientation of the attendants.
  - The presence of utility services.
- Rewards for loyalty.
  - For vehicles which come repeatedly.
  - The amount, quantity of gas filled, dispensed from the fuelling station.
  - The appropriate mix of commercial, private vehicles.

- Rewards for reputation.
  - Promptness of service.
  - Ability to handle disputes.
  - Having enough gas quantity, appropriate pressure to dispense
  - Presence of the manager on the premise.

All of these have to be judged by an independent agency, associate, which shall take consumer feedback on a defined format for evaluation of the same. These rewards shall be awarded by IGL as financial benefits or citations. In fact, a combination of both always works the best.

ii. *Evolving the fuelling station from an uninvolved manager to a CODO or COFO.*

	COCO	COFO	CODO
Control	High control		Low control
Staff Costs	Company payroll	On franchise payroll	
Consistency	High consistency of offerings		Low consistency
Buying Power	High leverage		Low leverage
Entrepreneurship	Operated by employees	Operated by entrepreneur	
COFO combines the benefits of both formats			

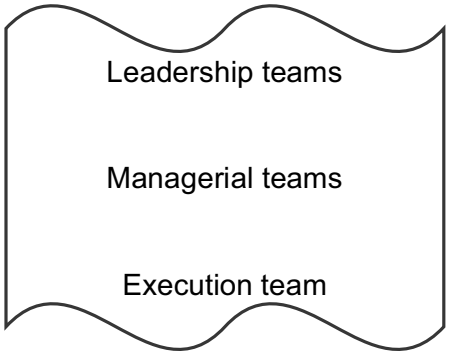
Exhibit 8.5: COFO - Company Owned Franchise Outlet

(COCO-company owned company outlet; CODO-company owned distributor outlet; COFO-company owned franchise outlet).

A franchise model shall enable dedicated revenue to IGL.This franchise sold to the entrepreneurs shall focus on the consumer and maximization of revenue. They would focus on forecourt retailing and non-fuel business, leading it to enhance the top-line and strengthen the bottom-line.

6 Impart Training, Basis the above to the Relevant Teams.

Teams would have to be trained, retrained for enabling the aspects outlined. However, the aspects of training would differ by the roles in the organization. This would need to be divided into the following team clusters:



- Leadership Team

  Constitution of the team: The top management, which is responsible for the direction to the business in terms of visioning and deciding on the annual achievement, operational parameters

  Training areas: A thought process and direction setting would be required on:

  - The changing environment.
  - Key consumer variables.
  - Possible competitive environment.
  - Discussion on SWOT of IGL–active inputs from managerial, execution teams and consumers.
  - Workshops to decide to course of action for IGL.

- Managerial Team

  Constitution of the team: Managers who shall be accountable to translate the visions and annual plans into monthly, quarterly milestones. These managers brainstorm, arrive at deliverable mechanisms and shall be accountable for targets and will be

responsible to monitor the executing office and fuelling station teams. Training areas for developing skill sets:

- **CRM – Customer Relationship Management**: Understand the means to tap consumer responses, and to measure product delivery services, as the database of consumers visiting the fuel stations is precious for any consumer company.
- **Personality Development**: To learn on how to increase influence in the territory, charting a map for each fuelling outlet.
- **Communication Skills**: Learning to use behavioral skills, listening skills, questioning skills & assertive behavior –important to understand consumers.
- **Culture Sensitization**: Skills to sensitize towards the evolving culture-specific perceptions. There are an increased number of women, elderly coming to the fuelling stations. Attendants, managers have to be sensitive to their needs in terms of communication, time taken, hygiene facilities.
- **Measuring Customer Service:** Through a direct feedback mechanism, toll-free lines, the fuelling station have to revisit consumer satisfaction.

- Execution Team

Constitution of the team: The executing team and the attendants at the fuelling stations. Training areas for developing skill sets:

- **Communication Skills**: They have to be polite towards the consumers as the profile of consumers is changing with more women, elderly and service conscious people visiting.
- **Customer Service**: The service has to be quick as consumers do not have much time.

Conflict, Stress Management & Negotiation: As consumers become more demanding there can be conflict due to speed of execution, hygiene, services not being upto expectations. The attendants have to learn to be patient.

All of the above is in fact is quite in line with the mission, objectives that IGL laid out for itself. IGL with these initiatives shall come closer to retain their existing consumers and attract new consumers through making CNG a desirable environmentally product. This might ensure that the government and the state machinery will also encourage the use of CNG through commercial benefits to the consumers and car manufacturers.

CHAPTER-9
SUMMARY

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SUMMARY

This thesis '*A Study on the Market, Consumer Orientation of Fuelling Stations: Case study on IGL'*, attempts to understand - the changing non-fuel retail environment; the evolving consumer trends and gauge the impact these trends seem to have on IGL ; thereafter make directional recommendations for IGL, which could help it to leverage these trends profitably.

It is important to understand this and review IGL's performance and understand the factors which influence consumers, since the Delhi CNG market post December 2011 will also be open to competition and the marketing exclusivity given to IGL will end. There is likelihood of competition from Reliance, GAIL, Adani group. Consumers will have the option of moving out from a monopoly situation, thereby affecting revenue and margins for IGL. Since CNG revenue for IGL is over 90%, consumer retention and acquisition of new consumers in a competitive environment will be very critical. This becomes even more critical since it is analyzed that the growth rate of private vehicles adopting CNG has considerably slowed down to 35% in 2008/2007 (IGL , Annual Report) from a 173% growth in 2007/2006.

The objectives set out are:

a) To review and understand how the retailing at fuelling stations has evolved with time.

The petroleum industry globally and especially in India faces major challenges with low product differentiation, lack of consumer loyalty, intense competition and regulatory environment. *This directly exerts a downward pressure on margins and profitability in the attempt to build and retain market share.* The OMCs globally had to take initiatives for attracting new customers and increasing the share of wallet of the existing customers. This was adequately reviewed in Chapter 1, 2, 3.

From the initial years when only fuel was retailed, the fuelling stations have evolved to technologically advanced outlets retailing a lot of non-fuel products.

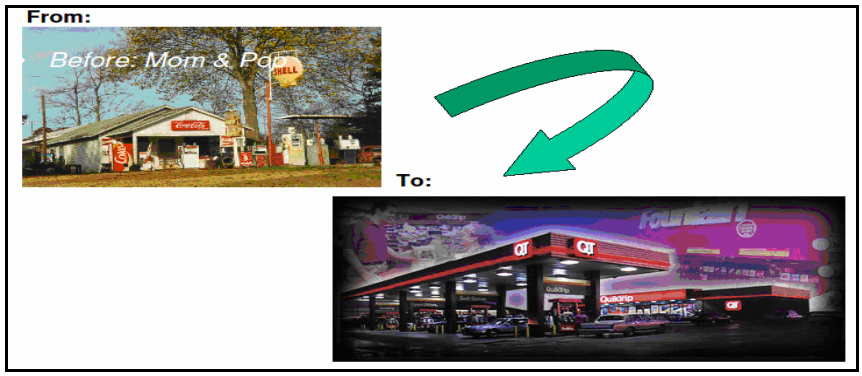

Exhibit 9.1: Changing Face of Fuelling Stations

The retailing of non-fuel services and products has been a major initiative in the industry, which while allowing higher margins to the retailers, has also helped increase the consumer footfall and thereby increasing the share of the consumer wallet. The non-fuel products and services like grocery products, food-courts, convenience stores, ATMs, laundry have started becoming popular since these services have evolved to provide consumers with diversified offerings, based on local priorities and consumer needs.

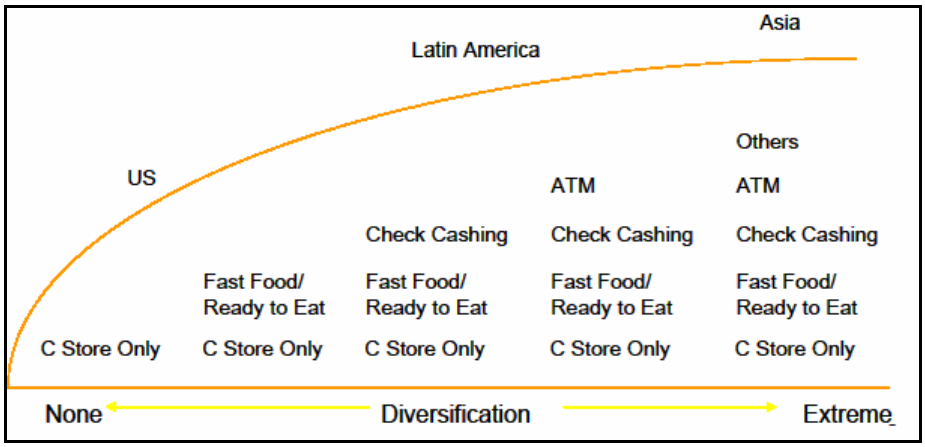

Exhibit 9.2: Non-Fuel Needs across markets
Source: Mckinsey

Non-fuel besides adding margins and an enabler for revenue enhancement can very clearly be the differentiator. Comparative data which was collected over years

conclusively indicated that fuelling stations which seem to be a desired destination to the consumers offer higher returns, as compared to outlets which offer only fuelling services. The contribution of non-fuel retail towards revenue and profit in the United States is 39 per cent and 60 per cent, whereas in India the revenue is just 2%.

The size of the outlets also started being planned to deliver the maximum return from the non-fuel products for the space being occupied. As a result these locations started being offered, leased and managed as business enterprises, rather than fuel locations. They were managed by people with motivation to earn profits.

The challenges and objectives to necessitate such a direction for fuel stations were:

- Diminishing fuel margins.
- Pressured role of the government in subsidizing the operations.
- Competitive need of growing market share.
- Maximizing the ROI and profitability.
- Optimizing the network.
- Q&Q (Quantity and Quality) becoming a necessary norm for being in business of fuel retailing.
- Evolving consumer expectations on convenience.
- Consumer's sensitivity towards superior service and convenience shopping.

TABLE 9.1: Fuelling Stations of the Past and Now

Past	Now
– Demand > Supply. – Only Government supported oil companies operated. – There were no product variants. – Consumers were driven by availability, proximity.	– Demand < = supply. – Private and National oil companies operate. – Many product categories and a strong non-fuel retail business. – Consumers are driven by proximity, brand image, relationship services, and product mix available.

This trend had also started in India, while the progress has been slow .The government and the OMCs have started realizing and accepting the need to move along with this global direction of non-fuel retailing. In a conference held last year, on "Indian Retail Revolution-Challenges", S. Sundareshan, Additional Secretary, Ministry of Petroleum & Natural Gas (MoPNG) said, the challenges for the OMCs in fuel retailing were huge as retail demand was expected to grow by leaps and bounds. He observed that if 30% of the population was able to spend beyond their basic necessities on retail, the demand will exceed that of the US. *He highlighted the opportunities for OMCs and private players in non-fuel retailing, which was a key differentiator as the margins in the non-fuel business were substantially higher than those in fuel retailing.*

b) To list factors that motivates the change in services at a fuel filling station.

The evolving consumer preferences and perceptions are researched in the survey and presented in chapter 4. These preferences and perceptions were strengthened by the fuelling station owners/managers who validated the changes in consumer preferences and highlighted the need to align the retailing model accordingly. Consumers clearly perceive BPCL to be at the forefront towards the non-fuel retail and IGL is seen as a non-starter in this direction.

The conclusions drawn from the study clearly state that there are considerable changes in the way retailing is done due to the changing meta trends of consumers behavior. These trends have led to:

i. Increase in consumption.

ii. Consumers seek a great shopping experience in terms of the ambience, facilities, product range available.

iii. Consumers seek ease of purchase, faster movement time through the cash counters, quick delivery of their products and faster movement through the queue.

iv. The survey conducted on understanding the consumer expectations and perceptions towards the fuelling stations in New Delhi brought out the

following conclusion (presented in chapter 4) clearly–convenient location with non-fuel retailing initiatives at a fuelling station scores heavily and is a strong need of the consumers (the consumers have a strong preference and have given a high rating of 5, 4 to these two needs) for repeat and regular footfalls. BPCL outlets are a strong case in point and are cited as an example repeatedly. Here consumers drive-in for picking up grocery items (snacks/chips/cold drinks .etc), even if they do not need fuel.

v. The literature review highlighted that the consumers feel responsible towards the society, however in the survey consumers did not associate IGL with the "green initiative" and the clean environment philosophy which IGL had initiated in New Delhi.

vi. In the survey (chapter 4) the consumers clearly stated that IGL is considered to be very poor in consumer orientation. IGL's business model has become more focused towards the commercial vehicles and IGL has unknowingly alienated the private vehicle consumers. The survey reveals that IGL/CNG is viewed as a "sasta" fuel which is contrary to the "clean and green imagery" on which IGL had embarked as a business strategy. It has not been able to take advantage of its unique position as an environment friendly option. This is contrary to the premium position the other "green/organic/hand-made" products have in the eyes of the consumers in India and outside India.

vii. The survey responses on the consumer perception of OMC's highlights that the consumers recognize BPCL more because of its In & Out retail initiative. Also this has made the consumer perceive it as a consumer friendly company.

viii. The key expectation as identified by the owners/managers of OMC's is that they would be keen to look at increasing profits by developing alternate non-fuel revenue streams at their fuelling stations. They all cite the example of BPCL, stating how effectively the OMC's is able to build additional footfalls through non-fuel retailing, i.e. In & Out.

ix. Consumers and owners/managers feel BPCL is more consumer-centric whereas IGL is bottlenecked, has slow decision making and IGL fuelling stations are not consumer-friendly.

OMC's retailers have started viewing consumers from the perspective of revenue generation, repeat purchase and loyalty. Very clear evidences were shared in chapter 6 mentioning that companies and monopolies were forced to change in accordance with the changing consumer needs. So in order to gain competitive advantage non-fuel retailers have started to place an increased focus on powering their customer-centric strategies by building non-fuel retailing and customer relationship capabilities in the retail outlet. The OMCs (BPCL, IOC, and HPCL) are continuing to open more retail outlets for enhancing revenues from non-fuel retailing through FMCG-grocery products, food courts and ATM's, at their outlets. They are also tying up with various consumer companies to promote forecourt retail. OMC's have also entered in to arrangements with QSR's in the food industry. All these alliances, while enhancing the image of the retail network, are serving as a significant differentiating customer value proposition.

At IGL the absence of consumer centric approach and any such initiatives has clearly alienated it, and consumers are extremely dissatisfied as evidenced clearly in chapter 4. Also this was accentuated by a lot of operational chaos visible at their fuelling stations. IGL/CNG outlets as of today are:

- Full of long queues.
- A lot of noise pollution.
- Dominated by harried and stressed consumers and attendants.
- Considered a risk area by the consumers due to the process of gas filling.
- Consumers have to wait outside the car in all weather conditions.

c) To measure the financial and economic performance of IGL.

The commercial impact at IGL is a slower growth rate in profits (compared to the previous year). The growth rate of new consumers has slowed down and the existing consumers are opting out. *The researcher's guide Dr. VP Singh is one such case of an IGL consumer opting out to shift to petrol diesel due to IGL's insensitivity of the consumer needs*. It is analyzed that:

i. The growth rate of private vehicles adopting CNG has considerably slowed down to 35% in 2008/2007 (IGL, Annual Report) from a 173% growth in 2007/2006. From a PAT growth of 15% in 2007 /2006, it has a negative growth of -1% in 2008 /2007.Possibly, new consumers are not coming and the existing consumers are moving back to petrol , diesel.

ii. Retail investors have been moving out of IGL.

- Over a 5 year period (2005 to 2009) their share in the paid up capital has reduced from 16 % to 10%
- Over a 5 year period (2005 to 2009) the number of retail investors has come down by 32.8 %.
- The retail investor has a conservative view of the stock for the short term-long term. In the review period of 2005-2009, the BSE-SENSEX moved from 6954 to 10127, whereas IGL movement was a flat from 109 to 110. As a result the stock has a beta value of 0.35, 0.40.

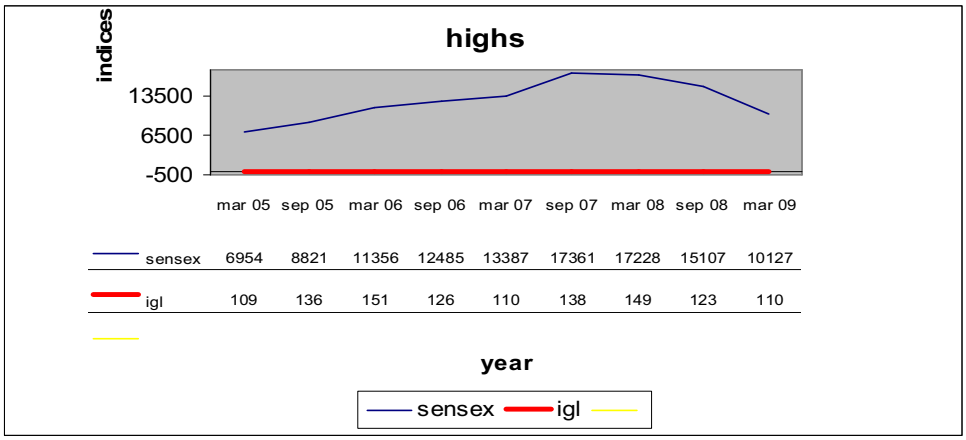

Exhibit 9.3: IGL scrip, BSE movement -2005 till 2009

iii. The management discussion & analysis section in the annual report is repetitive over the past few years. It also fails to mention:

- The threat of losing consumers to the forthcoming competition.
- It does not identify the fact that car manufactures are shying away from CNG.
- It does not recognize alternate forms of green fuel ULSD.
- It does not detail the evolving consumer environment.

iv. The inefficiency in its operations has been calculated through the cumulative deadweight loss. The cumulative deadweight loss is found to be Rs.1284.56 cr which is 1.33 times of the revenue in 2009.

v. Premium vehicle manufacturers who have CNG vehicles worldwide have decided not to launch the same in India as they feel that the IGL's infrastructure and IGL consumer sensitivity is not friendly and they do not want to compromise on their consumer imagery.

Chapter 6 has shown that the changing consumer behavior demands transformation from companies .Even monopolies become extinct if they do not transform (some industries in India which were monopolies have transformed to avoid being decimated-insurance sector, telecommunications sector, aviation sector). Monopolies at times tend to become less efficient becoming "complacent giants", because they do not have to be efficient or innovative to compete in the marketplace. Possibly such is the case for IGL and it is a strategic risk.

d) To recommend a suitable plan for IGL's retail model, to enable it to achieve its key objectives.

IGL must force itself to behave as if there were competition because of the risk of losing their consumers to new entrants. The need thus is to focus on making IGL, CNG a preferred choice of fuel for the consumers.

When IGL started as a company its corporate mission was - to establish IGL as an excellent natural city gas distribution company, dedicated to the task of providing a cleaner, eco-friendly energy source with a total commitment to provide quality customer service while maximizing shareholders' wealth. Towards this mission IGL had as amongst its key objectives

- To provide a clean, environment-friendly alternative as fuel to Delhi's residents, and bring down the alarmingly high levels of pollution.
- Encourage the use of CNG amongst private vehicles, cars as the focus business proposition.

Over the years the business strategy seemed to have shifted and got sidetracked towards servicing the heavy influx of commercial vehicles as directed by the Supreme Court. IGL missed out completely on keeping its private vehicle customers happy and thereby encouraging CNG as a "green fuel".

Now keeping the same guidelines the strategic, top team of IGL has to refocus towards becoming a desirable, profitable organization in a Competitive Environment, both in terms of their financials and the consumer base, consumer equity. ***IGL needs to make green a core value from a marketing perspective, keeping the evolving consumer preferences to non-fuel retailing in perspective and taking steps towards opening up this revenue stream.***

IGL management needs to:

- Build strong connectivity and goodwill for CNG by marketing it as a green fuel and making green a core value .This core USP must be marketed as a societal marketing proposition - "encouraging green"
    - Initiatives at their fuelling stations will have to be built and tracked by the top management and discussed in their balance sheet .The effort being to encourage the retention of existing consumers and attract new consumers to IGL.
- IGL needs to form associative partnerships with companies, brands which have synergy with its core value.
    - Retailers, companies worldwide are establishing credibility and drive significant competitive advantage by going green. Notions of corporate responsibility have long embraced concern for the environment. Now consumers are actively seeking retailers with green credentials. Consumer education, alliances with relevant brands and associations with high profile events like Commonwealth, World-Cup shall create a positive imagery for IGL, CNG.
- Thereby the government bodies will also be encouraged to look at financial incentive, tax breaks to consumers of CNG (IGL).

Being all of this shall lead IGL to have an increased brand value, enhanced customer relationships, additional revenue stream and thereby a higher profitability with a highly satisfied base of consumers.

Internationally by making green a core value, retailers, companies are establishing credibility and drive significant competitive advantage. Globally, retailers such as IKEA, Wal-Mart, Whole Foods and Marks & Spencer are demonstrating environmental sustainability by organizing the entire enterprise around green goals and making every effort to maintain green brand credibility with consumers, manufacturers and legislators. In fact, all the above and green marketing will be good for business, not only because it brings financial benefits, but also because it offers the chance to establish market leadership. Indian consumers are eager for the same as the captains of the fuel industry highlight:

- Ashok Sinha, CMD, BPCL - A young India with its 70% of the population less than 35 years old, traditional and trendy, raring to embrace change, is fuelling an Indian retail revolution.
- S. Behuria, Chairman, IOCL, said that in a free, competitive market business success would be determined by the ability to capture the customer mind share through a service delivery format backed by extensive use of technology to make the fuelling experience enjoyable and also continuously rewarding loyal customers.

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APPENDIX

APPENDIX

Focus group -The Screening Questionnaire

Good Morning / Afternoon.

I wish to speak to you for eligibility to participate in a small discussion.

Self -Introduction.

All answers will be kept strictly confidential.

1. Name
2. Age (years)
    a. Less than 23, more than 55 – terminate
    b. More than 23 – what age? proceed
3. Occupation
    a. Studying – terminate
    b. Employed /self employed less than 2 years -terminate
    c. Employed /Self employed –more than 2 years -proceed
4. Male /Female
5. When did you purchase your car
    a. Driving some-one else's car -terminate
    b. Less than 1 year since purchase – terminate
    c. More than 1 year since purchase –proceed

6. Driving , filling fuel

    a. Chauffeur driven –terminate

    b. Self driven –proceed

    c. Do you fill fuel , if yes –proceed

7. When was the last time you participated in a focus group

    a. 3-6 months ago –terminate

    b. More than 6 months –proceed

    c. Never –proceed

Discussion Guide for the Focus Groups

Before starting , the researcher would like to remind you that there are no right or wrong answers in this discussion. The researcher is interested in knowing what you think, so please feel free to be frank and to share your point of view.

1. What do you think about the subject that has brought us here today?

    - Consumers , their expectations from fuelling stations

2. What do you think is important for you as a consumer? Are your expectations different from the expectations 10 years back ?

3. According to you, how has the retailing environment changed? Are the outlets designed differently? Is the way a product is sold changed ? Are different selling styles being adopted today?

4. Do you feel that the retailing environment today is in line with your expectations? Which companies retailers you feel are adapting quickly?

5. What would be the reasons for you to go to the fuelling stations?

6. Do you feel the fuelling stations are keeping pace with the changing environment, consumer requirements? Explain.

7. When you hear about CNG , IGL

   - What comes to your mind?
   - How would you describe the scene there if you would have to describe it in a sentence?

8. What would you want to improve if you had the option of making two improvements at?

   - CNG fuelling stations
   - Other OMC stations –BPCL,IOC,HP

9. What improvements do you feel the companies must evaluate and possibly act on ?

   - Immediately
   - Long term

10. What do you think is happening globally in this direction? In case you have heard , or are familiar ?

11. Do you feel any fuelling station company is taking steps in the directions you have outlined? Is there any company which is very slow? Are there other industries where the industry players have changed with the times ?

12. If things start to move in the directions you have talked about, what could be the reasons you would go to the fuelling stations?

13. How do you identify a fuelling station to go to?

   - CNG fuelling stations
   - Other OMC stations –BPCL,IOC,HP

Depth –Interview : Owners ,Managers of fuelling stations

Before starting, the researcher would like to remind you that there are no rights or wrong answers in this discussion. The researcher is interested in knowing what you think, so please feel free to be frank and to share your point of view.

1. Tell me something about yourself. (Name, age, location, zone, size)

2. What type of fuelling station is this?

   - COCO
   - CODO
   - COMO

What are the advantages, disadvantages, benefits accordingly that you look for ? List them in order of priority

3. What kind of customers comes to your fuelling station? Private vehicles? Public transport? Government vehicles? Any other

   Are there any specific needs that you feel these customers seem to have? Are all their needs satisfied?List them in order of priority

4. Do the customers seem to be regulars, loyalists or they are coming here as they pass by? Why are loyal customers coming regularly ?

5. What are the facilities that you have at your fuelling stations? Explain

   - Core
   - Additional services

6. Are there some facilities, schemes, which are available at your fuelling station?

   - How were these initiated?
   - How are they monitored?
   - Do they help? if yes how

7. What is the one thing that you are proud are about your fuelling station?

8. What do you feel that customers feel about your fuelling station?

9. Have fuelling stations changed over years? What are the changes you observe? Which changes seem to be very important to you?

10. Which is your favourite fuelling station? Why?

11. Which company –OMC, is today at the forefront of your, consumer expectations? Which company is still behind?

12. If you were to desire improvement what would be the thoughts which come to your mind? What would be your wish list? viz ..

    - Technology
    - Layout
    - Additional revenue opportunities
    - Manpower
    - Any other ….

13. Elaborate on the points you have highlighted in the previous question

    - Products , brands
    - Companies to be associated with
    - Activities to be done
    - Schemes , initiatives to be undertaken

14. Rate the OMC –(BPCL/IOC/HPCL/IBP/IGL) in terms of their progressive outlook ?

    - Progressive outlook
    - Consumer orientation

- Adaptability to changing trends
- Responsiveness to market conditions
- Market share
- Feel good factor
- Lacking the connect with changing realities

Please rate them on a (1- 5 scale ; 1 low , 5 high)

15. Which global OMC you have heard of ? would want to be associated if opportunity arises ?

16. Any thing you would want to add ?

Depth –Interview: Consumers of fuelling stations

Before starting, the researcher would like to remind you that there are no rights or wrong answers in this discussion. The researcher is interested in knowing what you think, so please feel free to be frank and to share your point of view.

1. Tell me something about yourself. (Name, age, location, zone, size)

- Name
- Age (years)
  - Less than 23, more than 55 – terminate
  - More than 23 – what age? proceed
- Occupation
  - Studying – terminate
  - Employed /self employed less than 2 years -terminate
  - Employed /Self employed –more than 2 years -proceed

- Male /Female
- When did you purchase your car
  - Driving some-one else's car -terminate
  - Less than 1 year since purchase – terminate
  - More than 1 year since purchase –proceed
- Driving , filling fuel
  - Chauffeur driven –terminate
  - Self driven –proceed
  - Do you fill fuel , if yes –proceed

2. What are your
   - Hobbies
   - Interests
   - Favorite movie stars
   - What makes you happy?
   - What upsets you?
   - Where do you like to shop? Why?
   - Any other …
3. What is the fuel for your car?
   - Petrol
   - Diesel
   - CNG

4. What comes to your mind when I say?

   - Petrol pump
   - CNG ,IGL
   - BPCL
   - IOC
   - HPCL
   - IBP

(Note associations, expressions, positive /negative thoughts, color connect, profile connects .etc)

5. What makes you go to a fuelling station? How often?

6. How do you choose where to go?

7. Do you go to a particular company fuelling station? Or any? Why?

8. If I was coming from a different country, planet and you were to describe the process of going to a fuelling station, how would you describe it to me?

(Note associations, expressions, positive /negative thoughts, color connect, profile connects .etc)

9. Do you have any experience you remember associated with a fuelling station?

   - Good
   - Bad

10. Have fuelling stations changed over years? What are the changes you observe? Which changes seem to be very important to you?

11. If you were to have a wish list, what would be the services, facilities, needs that can be added at the fuelling station or you feel are missing?

- Technology
- Layout
- Utilities
- Non-fuel facilities
- Manpower
- Any other ….

12. If the OMC, gave you a free hand to add needs, wish list, facilities, which would be the top three? Why

- A)
- B)
- C)

13. Elaborate on the points you have highlighted in the previous question

- Products , brands
- Companies to be associated with
- Activities to be done
- Schemes , initiatives to be undertaken

14. Which company –OMC, is today at the forefront of your, consumer expectations? Which company is still behind?

15. Rate the OMC – (BPCL/IOC/HPCL/IBP/IGL) in terms of their progressive outlook?

    - Progressive outlook
    - Consumer orientation
    - Adaptability to changing trends
    - Responsiveness to market conditions
    - Market share
    - Feel good factor
    - Lacking the connect with changing realities

16. Which global OMC you have heard of? Would want to be associated if opportunity arises?

17. Any thing you would want to add?

ABOUT THE AUTHOR

Aayushman Gupta

I am 42 years of age and have been in the **consumer industry** for the last **19 years**.

During my working I have developed strategic and operational value creation skill sets in **multi-product /sector** working in environments having **ownership patterns ranging from MNC/Professional/owner-driven.**

Currently I am

- Business Director in a Food Company of Rs. 1200 cr. managing India and Global markets for the entire value chain.

From April 2009- July 2010 I was

- Consulting companies on strategic, leadership initiatives to formulate strategic policy and define go to market actions.
- Taking management sessions-full credits at management institutes like MDI / IILM for strategy and marketing.

My last assignment was as a CEO at Veetee, UK–MNC, based in Delhi (RS 350 cr + TO). I was there for 3.5 years where the role involved P&L, board reporting .strategic/tactical direction planning & execution for Pan -India & global markets. The role was enabled through a team of departmental/functional heads to deliver on the areas of:

- Front-end–Marketing & Sales /Distribution network development /NPD /Merchandising /product lines in consumer packs; food service; branded & private label /managing agencies -research /media/CRM .Both for traditional & modern retail formats. Developed as customers key retail chains in India/International markets;
- Backend-Factory/HR/procurement/vendor development/de-risking the business fluctuations of raw material pricing /logistics costs /forex fluctuations

Skill sets gathered across sectors - (Foods, Lifestyle, Automobile, FMCG, Retailing Hospitality, Office automation), are**:**

- Business Profitability Management - Top line, Bottom-line, Turnaround; Profit Centre Ops, Managing all functions including manufacturing; New Projects Start up
- Strategic Market/opportunity Mapping - For India/Global markets; Marketing /Sales, Setting up a distribution Network and penetration ;New market Launches, new product launches
- Media Communication Management -ATL/BTL; TVC creation/Media Planning/ Scheduling; Brand Ideation using consumer touch point
- Team, Environment Management- Leadership; Design the Competency framework; Recruitment; Influencing policies at Govt./ Bodies/ Interest groups

- Training- Developing competency matrix & leadership programs, Trade Marketing planning execution and training (employees), to succeed in a traditional & modern retail environment

Prior Experience	Job description	Role Profile
Life Style Product (Apr '04-Sept 05) Maxima Watches	– Marketing & Sales Head-Domestic, International	VP-Marketing & Sales
Automobile –2 wheelers (June 2003 Mar 2004-) LML Ltd	– Market mapping/identification each zone /state – Define the primary /secondary network – templates/ appointment/execution /financials/showrooms	DGM-Network Planning & Development, pan India
FMCG –Cigarette (1995-June 2003) in VST (Associate of BAT)	– Senior management, steering group–fast track performer; *Influencing Govt, Govt bodies, interest groups* – Identify key projects /roadmap for the company – Design budget planning / controls – ATL /BTL/Brand launches for country – Business mapping & planning the DNM /penetration for the country /zones – Plan/ achieve MS,VS ;penetration – Designing the parameters, Development & training of manpower for TM&D (pan-India). Including recruitment.	Regional Head Managing an annual TO of 175 Cr. – 350 Cr. (25 % - 45% of company TO)
Hospitality – (1994/95)Taj Mahal Hotel Automation- (1993/94) HCL Ltd.	– Direct selling to MNC, Pharma, Oil, Shipping sectors, Public Sector, Airlines – ABC analysis of customers – Maximizing Revenue realizations – Organization mapping – Enabling aligned specs in Govt. bodies , orders	Sales /Marketing Executive

TRAINING/KNOWLEDGE PROGRAMS

- Quantum Growth, Erewhon , 2001
- Change Management, BAT, Bangladesh 2000
- Rural Marketing, XLRI, 1999
- Managing into the millennium, BAT, DUBAI, 1998
- Marketing Excellence, XLRI, 1998
- Brand Wars, Calcutta, 1996

EXTRA CURRICULAR

- Inter college (MBA) debate champion – Lucknow (1992)
- Best Debator, Best director –Inter/intra college
- Selected by SSB – Naval Aviation /Army (1989)
- NCC 'C' certificate – Army

EDUCATION

- MBA (MKT) 1993 : (9.94 on a 10 point scale) – Ist class with distn , Institute of Management studies Indore
- Post graduate course in applied computer Sc., 1990 Merit scholar
- B.SC Phys (Hon) 1989 first class with Distn