CONSUMER ATTITUDE TOWARDS NON - FUEL OFFERINGS OF MAJOR PETRO-RETAILING COMPANIES IN DELHI NCR

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I hereby declare that the work reported in the Ph.D. thesis entitled "Consumer Attitude towards Non Fuel Offerings of Major Petro Retailing Companies in Delhi NCR" submitted at University of Petroleum and Energy Studies, Dehradun, India, is an authentic record of my work carried out under the supervision of Dr. Atul Razdan and Dr Manvinder Singh Pahwa. To the best of my knowledge and belief, it 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 acknowledgment has been made in the text.

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(Sandhya Rai)

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LIST OF ABBREVIATIONS

Abbreviation		**Expanded Form**
HPCL	:	Hindustan Petroleum Corporation Limited
BPCL	:	Bharat Petroleum Corporation Limited
IOCL	:	Indian Oil Corporation Limited
PSU	:	Public Sector Units
OMCs	:	Oil Marketing Companies
NFR	:	Non – Fuel Retail
MoPNG	:	Ministry of Petroleum and Natural Gas
NCR	:	National Capital Region
SPSS	:	Statistical Package for Social Sciences
CSR	:	Corporate Social Responsibility

ABSTRACT

This study focuses on Non – Fuel Retailing (NFR) which consists of all offerings, products and services other than auto fuels and those used along with auto fuel i.e. petrol, diesel, auto LPG, CNG, Lubricant, and fuel additives which do not affects the norm of petrol retail outlets and are sold on petrol retail outlets (*Razdan A.,2010*). These include departmental stores, coffee shop, restaurants, courier services, medicine shops, music stores, auto service stations, pay telephones etc. NFR is very much popular in the global markets. In the US, non fuel sales contribute to almost 39% of the overall revenue, in the UK and Europe, non fuel contribute 35-50 % to the overall profitability. Globally it is a very large business with MNCs like BP, Royal Dutch Shell and Caltex Australia Petroleum Pvt. Limited working on this model. In the US, the penetration of NFR is 90% whereas, in India it is just 4%. Hence, there is lot of scope of expansion in this segment.

The objective of the study was to find out the usage pattern of NFR services. The research was also aimed to find out the factors affecting the selection of NFR outlets. The most important factor that affects the selection of the NFR outlet was also studied in this research. Past studies in the field of retail and marketing have identified several factors and variables like location, price, variety of products, store atmosphere, quality of products, efficient queuing system, sales person's behavior, additional space, range of merchandise, post transaction services, availability of private labels, store layout, parking facility, loyalty cards, any time service, information and customer service. However to the best of researcher knowledge, no study has so far been carried out to identify the variables or factors that affect the selection of NFR outlets by the consumers. This research is an

effort to find out these factors with special reference to Delhi NCR. In addition to this another purpose of this study was to find out the attitude of the consumer towards these NFR services. The factors obtained from the study have been used to measure the attitude of the consumer. The research has been carried in the Delhi NCR region because as per the 2011 census, it is the India's topmost urban agglomeration with a population of 21,753,486.

A total of 550 respondents were studied to find out the usage pattern of the NFR services and to find out the factors affecting the selection of the NFR outlets. It had been found from the study the consumer uses these services only during emergency and not in their daily routine. The most preferred service among the consumers was ATMs followed by food services.

It was found from this study that there were thirteen factors which affect the selection of the NFR outlets. These factors are convenience, comfort, schemes, staff training, save time, branded products, ambience, opening hour, variety of merchandise, price, cleanliness, surrounding and parking facility.

To find out the most important factor affecting the selection of the NFR outlet and to measure the attitude of the consumers towards NFR outlets another study of 402 respondents were carried out. The consumers were asked to rate the various factors in their order of preference for selecting a retail outlet. It has been found from the study that time saving was the most important factor for selecting a NFR outlet. The consumers were of the opinion that they will select NFR outlet to save their time.

The attitudes of the consumers were measured using Fishbein's multiattribute attitude model. For this model the belief of the consumer towards the NFR outlet was measured and this was multiplied with the evaluation of belief score to get the attitude score. The highest score of the attitude was that NFR outlets are conveniently located. The lowest attitude towards the NFR outlets was that it is a specialty store.

There were eight hypotheses that were tested to achieve the objectives. It was found from the testing of the hypothesis that there is an association between the kind of NFR service being used and types of vehicle. It was also found that the popular services among the truckers were ATM and vehicle repair, were ATM and vehicle repair, whereas, ATM and food services were found to be most popular among two wheeler and four wheeler user / drivers. It was also found from the hypothesis testing that there is an association between the frequency of use of NFR services and kind of vehicle. It has been found that most of the truckers use these services once in a while, whereas, the respondents having two wheelers and four wheelers have used it in emergency only. The study indicate that there is no significant difference found between the attitude of any of these respondents on the basis of age, purpose of use of vehicle or the kind of vehicle they are using, hence we can conclude that attitude is a personal issue and has no influence on kind of vehicle they are using or the age. The study shows that the most important belief about the NFR outlet is that they are open most of the time and hence can be used any time to get the required services. The variable least believed by the respondent was that NFR are for limited people (People with high income only).

The study of evaluation of belief shows that the respondent would use the outlets only if it is conveniently located. People want convenience and they relate their convenience with time. Hence a particular outlet is considered convenient if it helps them in saving their time. The respondents do not have very high belief about the training of the staff i.e. they do not strongly believe that these staffs are well trained.

The attitude calculated with the help of Fishbein multiattribute attitude model indicate that the respondents have highest attitude related with the convenience of location. Thus we can conclude that the respondent believes that these stores are conveniently located. The lowest attitude related with NFR is that it is a specialty store. Also the respondents have least belief that these are specialty store. The evaluation of belief indicates that the respondents do not bother about specialty store. Thus we can say that the respondents do not always wants to use specialty store. The consumers do not have a very good attitude towards the price of the products i.e. they do not agree that the products are offered at appropriate price.

CHAPTER 1

INTRODUCTION

INTRODUCTION

India is the seventh largest country in the world by area and second largest country by population. The economy of India is the tenth largest economy by nominal GDP (**CIA World Fact Book, 2012)** and the third largest economy by purchasing power parity (**CIA World Fact Book, 2012).**

Table 1.1

Top 10 Attractive Retail Destinations of the World

Country	**2012 Rank**
Brazil	1
Chile	2
China	3
Uruguay	4
India	5
Georgia	6
United Arab Emirate	7
Oman	8
Magnolia	9
Peru	10

(Source: A T Kearney Analysis)

According to AT Kearney Global Retail Development Index 2012 **(Table1.1),** India is the fifth most attractive retail destination among the top 30 retail destination in the world.

Retail contributes about 14 percent to the GDP and employs about 7 percent of the total workforce in the country. Retail is the largest source of employment in the country after agriculture. The organized retail is growing at a rate of 20% per annum in the country; however the growth is much slower as compared to Brazil and China. The organized retail industry which was worth $16 billion in 2001-02 is expected to become $107 billion by 2013.

The Indian retail is largely unorganized. Post liberalization the organized retail is growing very fast. Companies like Wal-Mart, Carrefour SA, Europe's largest retailer and Tesco Plc, the UK's largest retailer, were keen to enter this growing market; the retail environment is changing very fast. There is tough competition from both Indian and foreign companies, consequently the retailers today must differentiate themselves by meeting the needs of their consumer better than their competitors. The popular retail formats like supermarkets, hypermarkets and departmental stores are booming up.

The petro retail sector is the largest organized retail sector in India. India is the fourth largest consumer of petroleum products (The World Fact Book 2012) in the world. India is also the fourth largest importer of the crude oil in the world (The World Fact Book 2012). Oil accounts for 31% of the India’s total import bill.

1.1 INTRODUCTION TO THE BUSINESS OF OIL RETAILING IN INDIA

The beginning of oil and gas industry in India can be traced back to 1867 when first oil well was stuck at Makum near Margherita in Assam by a group of laborers while laying railway tracks for the Assam Railway and Trading Co. Ltd.

They saw traces of oil on the feet of elephant in the jungle and when they followed the elephant's footprints found seepage of oil bubbling to the surface (**Lieut. R Wilcox, 1825).** However the first commercial discovery of crude oil in India was made in 1889 near Jaypore in upper Assam when a group of men erected a twenty meter high thatched covered wooden structure and made the establishment for the first oil well i.e. Well No.1 in India. The production from this well started in 1890. The systematic oil drilling begins in 1891 and in 1901 the Asia's first Oil Refinery was started in Digboi (Assam, India).

After independence, the government realized the importance of oil and gas in the industrial development and its strategic role in defense. To safeguard its interest the government, in the 1948 Industrial Policy Resolution declared the oil industry to be an area of the economy that should be reserved for state ownership and control. In 1949, India asked the oil companies of Britain and the United States to offer advice on a refinery project to make the country more self-sufficient in oil. Between 1954 and 1957, two refineries were built by Burmah-Shell and Standard-Vacuum at Bombay, and another was built at Vizagapatnam by Caltex. During the same period the companies found themselves in increasing conflict with the government. In 1958, the government formed its own refinery company, Indian Refineries Ltd. With Soviet and Romanian assistance, the company was able to build its own refineries at Noonmati, Barauni, and Koyali. In 1959, the Indian Oil Company was founded as a statutory body with the objective to supply oil products to Indian state enterprise; later on it was made responsible for the sale of the products of state refineries **(Saumitra Chaudhury, 1976)**

In September 1964, Indian Refineries Ltd. and the Indian Oil Company were merged to form the Indian Oil Corporation and all the future refinery partnerships were required to sell their products through Indian Oil (**Saumitra Chaudhury,1976**).

In the 1970s, the Oil and Natural Gas Commission (ONGC) of India, with the help of Soviet and other foreign companies, made several important new findings off the west coast of India. Indian Oil bought Saudi, Iraqi, Kuwaiti, and United Arab Emirate oil and India became the largest single purchaser of crude on the Dubai spot market. The Burmah-Shell refinery at Bombay and the Caltex refinery at Vizagapatnam were taken over and merged with Bharat Petroleum Ltd in 1976. In March 1978, Caltex Oil Refining (India) Ltd. was merged with Hindustan Petroleum Corporation Ltd. By the end of the 1980s, India's oil consumption continued to grow at eight percent per year, and Indian Oil expanded its capacity to about 150 million barrels of crude per annum in 1989. Till early 1990s, Indian Oil used to refine, produce, and transport petroleum products throughout India. It also produced crude oil, base oil, formula products, lubricants, greases, and other petroleum products. It was organized into two divisions. First was the refineries and pipelines division which had six refineries, located at Gwahati, Barauni, Gujarat, Haldia, Mathura, and Digboi. These six together represented 45 percent of the country's refining capacity. This division also laid and managed oil pipelines. Second division was the marketing division which was responsible for storage and distribution and controlled about 60%of the total oil industry sales. The Assam Oil division controlled the marketing and distribution activities of the formerly British owned company. Indian Oil also established its own research center at Faridabad near New Delhi for testing lubricants and other petroleum products. It developed lubricants under the brand names Servo and Servoprime. The center also designed fuel-efficient equipment. The oil industry in India changed dramatically throughout the 1990s and into the new millennium. Reform in the downstream hydrocarbon sector began as early as 1991 and continued throughout the decade. In 1997, the government announced that the Administered Pricing Mechanism (APM) would be dismantled by 2002. (Petro Fed). In the year 2000, the government of India divested almost 10% of its stake in Indian Oil.

In the same year ONGC and IOCL traded a 10% equity stake in each other in strategic partnership.

Petrol retailing in India started in the year 1882 by Standard Oil Company of USA. They used to retail kerosene in the country. In the year 1959, Indian Oil Ltd. was registered as the first marketing company of India. In the year 1964, Indian Refineries Ltd and Indian Oil Co Ltd. were merged as Indian Oil Corporation. Indian Oil Corporation Ltd., Bharat Petroleum Corporation Ltd, Hindustan Petroleum Corporation Ltd, Shell, Essar and Reliance are the companies which are into the business of oil retail. Out of these the first three are PSU (Public Sector Undertakings) and the other three are private companies

Indian Oil Corporation

Indian Oil Corporation or IOCL as it is popularly called is India's largest public sector company in terms of the turnover and ranks 98th in the fortune "Global 500" listing. It started operation in the year 1959 with the name Indian Oil Company Ltd. In the year 1964 it was merged with Indian Refineries Ltd and IOCL was formed. Out of 22 oil refineries in India, 10 are owned and operated by IOCL. These refineries together have a refining capacity of 65.7 million metric tons per year. Indian Oil and its subsidiaries account for 47% share in the petroleum product market, 34% share in the refining capacity and 67% in the pipeline capacity. It is also one of the seven Maharatna status company. It operates the largest and the widest network of retail fuel station in the country numbering 20,575 out of this 16,350 are regular retail outlets and 4,225 are Kissan Seva Kendra. Besides retailing petrol and diesel it also supplies cooking gas with the name Indane and has also started auto LPG dispensing stations (IOCL Annual Report 2011-12).

Bharat Petroleum Corporation Ltd (BPCL)

Bharat Petroleum Corporation Ltd **o**r BPCL is also a public sector undertaking and presently has 22% share in the retail petrol market. It was formed in the year 1976 by taking over of Burmah Shell by the Government of India. Initially it was named Bharat Refineries Limited but on 1st August 1977 it was renamed as Bharat Petroleum Corporation Limited. Its product range includes petrochemicals, solvents, aircraft fuel and specialty lubricants. The company markets its products through a well spread infrastructure of 13,313 retail stations spread across the country. It has 147 installation/ depots, 27 LPG Bottling plants and 16 aircraft fueling stations in the country. It was also the first public sector company to implement ERP Solution in its organization. It has won many awards for excellence in the performance and corporate social responsibility (CSR). In the year 2012 it won CIDC Vishwakarma Award for CSR for second consecutive year. It also won "Aqua Excellence Award" for its project "Boond" for water conservation. Its Mumbai Refinery has won the performance excellence award of 2011. It has also won two major SAP awards namely SAP ACE award for "Best – Run Supply Chain" and the SAP ACE Award for "Best Application Lifecycle Management" (BPCL Annual Report 2011-12)

Hindustan Petroleum Corporation Ltd (HPCL)

HPCL is a public sector undertaking with Navratna Status. It is also a fortune 500 company and Forbes 2000 company. It has almost 20 % market share in petrol marketing and has two refineries one each in Mumbai and Vishakhapatnam. This company was incorporated in the year 1952 with the name Standard Vacuum Refining Company of India. On 31st March 1962, the name of the company was changed to Esso Standard Refining Company of India limited. In the year 1974

Esso Standard and Lube India Limited was merged to form Hindustan Petroleum Corporation Limited. In the year 1976, Caltex Oil Refining Limited and in the year 1979, Kosan Gas Company was merged with HPCL. Thus HPCL consists of four different companies which have been merged at different point of time. It own and operates the largest Lube Refinery in the India. This Lube Refinery produces almost 40% of the India' s total lube production. The marketing division of HPCL consists of 13 Zonal offices and 101 regional offices spread across different part of the country. It has a retail network of 11,112 (HPCL Annual Report 2011-12) outlets in the country.

Shell

Shell is a global petrochemical company with it's headquarter in The Hague, Netherland. It is one of the leading energy company of the world. It is also one of the most diversified international oil marketing company in India. Their business includes oil exploration and production, chemical industry, downstream gas and power transport and renewable energy. Shell started its oil distribution business in the year 1928 as Burmah Shell (an alliance between Burmah Oil Company and Asiatic Petroleum (India)). But in the year 1976 Burmah Shell was taken over by the Indian government of India and shell have to leave the country. In 1993 shell return to India as Bharat Shell (A joint venture between Shell and Bharat Petroleum Limited). In 1996 Shell India Private limited a 100% Shell – owned company was forms. It is the only international company which has been granted and actualizes Government of India approval to retail fuel in India. It has been granted a license for about 2000 fuel retail stations. Besides being in the business of fuel retail, the company is also a major private sector supplier of crude, chemicals, and technology to private and public sector oil companies.

Essar

Essar Oil Ltd is an International Oil and Gas company who is engaged in the exploration and production of oil and gas, refining of crude oil and marketing of petroleum products. It is the first company who pioneered the model of “Franchise – owned and Franchise – operated” retail outlets in the Indian petro retail market. It was started as a public limited company in the year 1989 and in 1990 it set up a division for the exploration and production of oil and gas. In 1992 it became a wholly owned subsidiary of Essar Gujarat Ltd. In 1994 the entire shareholding of Essar Oil Ltd. Was transferred to Essae Investment Ltd. In the year 2002, the company received the permission from the Indian government to retail petrol and diesel in the Indian market. It has almost 1,400 petro retail outlets across India. Also about 200 retail outlets are under various stages of completion. They have tied up with other Indian OMCs to access the products and use their terminals for placing and marketing their products

Reliance Petroleum Limited

Reliance Petroleum Limited (RPL) is promoted by RIL (Reliance Industries Limited) which is the flagship company of the Reliance group. This group is the largest business house in India. Reliance Petroleum was incorporated in 1991as Reliance Refineries, but in 1993 it changed its name to the RPL. The Jamnagar refinery owned and operated by RPL is India's largest refinery. It is also the first refinery to be set up by the private sector in India. Jamnagar refinery is also the world’s fifth largest refinery at a single place. RIL has a retail network of about 1300 units in the country. By the year 2006 they have 1432 petrol pumps in the country, which was 3% of the total retail outlets in the country. Out of these 900 were company owned and the remaining were dealer owned. In the year 2005-06 they were able to achieve 12% market share in the fuel sale by these 3% retail outlets. But after the increase in the world crude oil prices since 2006, it started closing its retail outlets. In May 2008, they closed all their petro retail outlets as they were not able to compete with the public sector OMCs. The customer's foot fall at their outlets was negligible because of the price difference between the private and public sector OMCs.

Fig 1.1 Percentage Retail outlets of Major Oil Marketing Companies in India

(Source:- PPAC, ICICI direct.com research)

The three public sector OMCs (IOCL, BPCL and HPCL) together constitute about 83% of the total fuel sales in the country rest 17 % market consists of Shell, Reliance, Essar and other OMCs (Fig. 1.1).

These PSUs have a huge network of retail outlets in the country. The OMCs together have 45,000 fuel retail outlets in the country which is 94% of the total number of retail outlets **(Table 1.2)** the remaining 6% retail outlets are of private sector OMCs like Shell, Essar and others OMCs.

Table: 1.2

Number of Petrol Retail Outlets of Major OMCs

Year/ Companies	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
IOCL	11,754	16,607	17,574	18,278	18,643	19,463	20,575
HPCL	7,313	7,909	8,329	8,539	9,127	10,212	11,112
BPCL	7,332	7,537	8,251	8,402	8,692	9,289	13,313
TOTAL	26,399	32,053	34,154	35,219	36,462	38,964	45,000

(Source: Annual Report IOCL, BPCL, HPCL)

1.2 CHALLENGES BEFORE THE OMCs

Lots of changes have taken in the Indian petro retail market because of the dismantling of APM. Earlier there was no competition in the market in terms of price and quality of the product, they all were selling same product at the same price, and customer was indifferent towards them. For these OMCs, marketing means strengthening the distribution network and increasing the number of outlets at different geographic locations in their network. But after the APM was dismantled the government of India allowed FDI up to100% in exploration of oil and natural gas. The private sector companies who owned and operating refineries with an investment of at least Rs 20 Billion or was in the exploration and production of at least three billion tons of crude oil became entitled to the marketing rights for the transportation fuel. This decision fueled up the competition in the oil retailing market. With the entry of private and multinational companies, the national oil companies have no other option but to compete with these companies. The private companies started putting huge investment in infrastructure as well as in marketing. They brought with them new techniques and technologies in oil retailing from other countries. This made them more customers centric. The PSU also started feeling the need to find out the means to attract more and more number of customers towards themselves by providing facilities like automated fuel filling and petro card and other allied services which was started by private oil marketing companies. Increasing oil prices also forces these companies to look out for some additional source of revenue as they were restrained from increasing oil prices.

Along with all the above factors today's consumers have also become more demanding. The companies are taking various measures to attract the consumer towards themselves by taking measures like assurance for quality and quantity, loyalty programmes, premium fuels, quick filling stations, cashless transaction and forecourt and non fuel services.

1.3 CHANGES IN THE BUSINESS OF OIL RETAILING

Because of the above challenges, lots of changes have taken place in the Indian fuel retailing business. The major changes are:

Shift from Retail Outlet Branding To Corporate Branding

After the dismantling of APM, the OMCs are busy in bringing brand to the business of fuel retailing. They have started bringing branded fuel in the market and try to create a niche for themselves. The commodity market which was undifferentiated suddenly has many brands like Xtrapremium, Speed etc. they have also started branding their retail outlets. It was the result of this brand war that we have fuel outlets like PFS (Pure For Sure), Q & Q (Quality and Quantity) and Club HP into existence. But in spite of all these efforts the companies are not able to create brand loyalty among the consumer

Branded Fuels

All the major OMCs have started selling their own branded fuel in the market. Today there are many branded fuel in the market like IOCL has Xtrapremium, BPCL has Speed and HPCL has Turbojet. Companies are also doing R&D into getting premium branded fuel like 125-octane petrol 93-octane petrol, 97-octane petrol, etc. But these fuels are perceived to be same as the unbranded fuel by the customers and cost more than the unbranded one, so they are not successful in the marketplace. This trend is so strong that petro retail outlets have stopped selling these fuels altogether.

Loyalty programs

Loyalty programme is another way by which these OMCs are trying to attract and retain customers to them. The various programmes run by the oil retails are Xtrapower by IOCL, Smart Fleet and Petrocard by BPCL, Drivetrack by HPCL and Transconnect by Reliance. However till now these programmes are meant for bulk consumers only.

Use of Technology

With increase in consumer expectations and increased competition, these OMCs are moving towards highly sophisticated and automated fuel stations. They are using technology for fuel station management, fleet management, fuel delivery management at terminal and control room based management. These technologies help in reducing the retail complexities and optimizing profitability at point of sale by reducing operation cost throughout the supply chain. They also improve customer experience at the forecourt by ensuring right quantity and quality. This helps in gaining and retaining loyal customers and creating good brand image.

Non -Fuel Retail (NFR) Services

Since the base product in petro retail is same, the companies are looking for differentiating factor in the form of NFR services. The companies are providing services like ATM facility, utility payment, fast food joints, pollution Under Control certificate, vehicle repair services, restaurant etc to make consumer choose their retail outlet

1.4 NON - FUEL RETAILING

Non - Fuel services include all offerings, products and services other than auto fuels and those used along with auto fuel i.e. petrol, diesel, auto LPG, CNG, Lubricant, and fuel addititives which do not affects the norm of petrol retail outlets and are sold on petrol retail outlets **(*Razdan A.,2010*).**

Non -Fuel retailing is also known as forecourt retailing. According to Cedar Consultancy, there are mainly three types of NFR services which are globally popular, these includes convenience store, auto care services and ancillary services. NFR is very much popular in the global market. In US, non fuel sales contribute to almost 39% of the overall revenue, in UK and Europe, non fuel contributes 35-50% to the overall profitability **(Table 1.3).**

Table 1.3

Percentage of NFR in Total Revenue

Country	NFR % in over all sale
US	39
France	25
UK	38.5
Europe	15
Japan	11
UAE	12-25
India	5

(Source: Data Monitor Report June 2011, Cedar Consultancy Report 2010, Annual report IOCL2010-11, Annual report BPCL2010-11, and Annual report HPCL, 2010-11)

Globally it is a very large business with MNCs like BP, Royal Dutch Shell and Caltex Australia Petroleum Pvt. Limited working on this model. In different countries, different segments are popular like in the Middle- East, retail merchandise accounted for 78 % of total non fuel revenue and car wash account for 8%. In UK tobacco account for 37% of the total retail sale, but in the Middle – East fresh food and drink constitute the highest **(Manish Kotwal,2010).** In France grocery items control more than sixty percent of non fuel retailing. The NFR sector accounts for 20.9% of the total grocery market in **UK (Data monitor Report, June 2010)**. In UK, almost 17 % of the population who uses convenience store shop at least once a day and 59% use them twice a week. The younger age groups prefer to buy lunch and other snack items. The OMC are following many business patterns to increase their revenue like Esso in Singapore has in – house –

bakery. Boots are the UK market leaders in the pre- made sandwiches etc. In US almost 20 % of the stores are selling only fast food as it is has maximum demand.

1.4.1 BENEFITS OF NFR

NFR helps in generating additional revenue in the form of rental income by leasing the space for the retail outlets and via profit sharing arrangement with the service provider. As an example BPCL has leased out some of its outlet to Mc Donalds and is generating revenue from it.

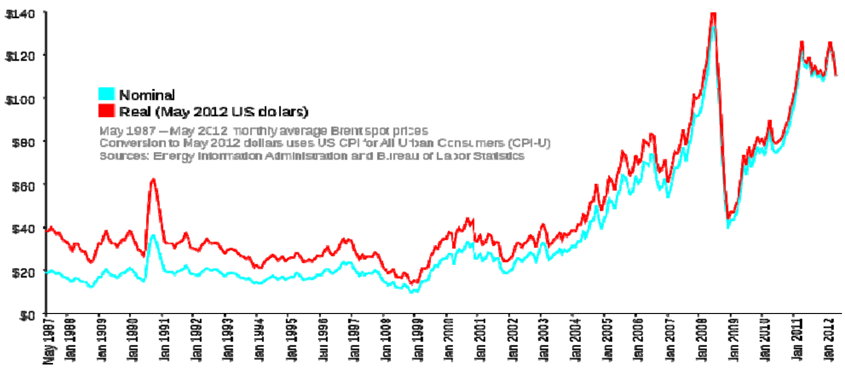
NFR also helps in creating brand image by providing superior experience to the customer. It also enhances retention of the customer as well as adds new customers by attracting them to their outlets for one or the other reason. This helps in pushing fuel sales also as the consumer who came there to buy the products are likely to purchase fuel also from that outlet. In this way companies are trying to attract the consumer by converting their fuel buying experience in to a whole lot of fun. This also helps in brand building and acts like a differentiating factor in the profit enhancing

1.4.2 NON – FUEL RETAILING IN INDIA

In India the non -fuel retailing started in late 90s. The first retail format was convenience store “In and Out” started by BPCL. At present BPCL is market leader in NFR in India. It has 209 ‘*In & Out*’ store **(Annual Report BPCL, 2011)**. IOCL and HPCL are not lagging behind in NFR, they have their own NFR formats. The total forecourt market in India is estimated at just under Rs 400cr, however the potential size of the market in the non fuel retailing sector is expected to be much higher and is also expected to grow exponentially over the next decade. This is because of the fact that in the US and UK, the penetration of non- fuel retailing (NFR) is ninety percent but in India it is just four percent.

1.5 MOTIVATION FOR RESEARCH

In April 2002, India dismantled APM and the prices of petrol became market controlled. But in spite of dismantling APM, the OMCs are restrained from increasing oil prices very frequently because of the political environment of the country and the price sensitive consumer. Also the world crude oil prices are continuously fluctuating **(Fig 1.2).** Because of all these factors the OMCs have to suffer losses. In the fiscal year 2013 the public sector OMCs are expected to suffer a loss of 178,491 Crore **(The Economic Times, October 2012).**



(Source :Energy Information Administration and Bureau of Labor Statistics)

Fig 1.2 World Crude Oil Prices

In this situation these OMCS have to find out some alternative ways to increase their revenue. NFR is such an area. It helps the OMC to generate additional revenue by leasing up or renting the real estate. Joint venture with the leading retailers is also a way to generate the additional revenue. But the main problem with the OMCs in India is that their current NFR formats are not very much popular among the consumers. Thus a study is needed to understand the factors affecting selection of NFR outlets and the attitude of the Indian consumer towards

NFR offerings. It is the attitude which determines the behavior of the consumer and the behavior leads to purchasing decision. **Schiffman and Kanuk (2004)** define the attitude as a constant tendency to behave accordingly in a concrete situation, regarding a certain object or a group of objects. According to **Littlejohn (2002)** attitude is "an accumulation of information about an object, person, situation or experience. It is a predisposition to act in a positive or negative way toward some object. According to **Engel and Blackwell, (1998),** the strength or the degree of attitude determines the likes and the dislikes of the consumer towards the element or the group of elements. Thus attitude is not only positive or negative; there are different levels of attitude. It is possible that consumer is strongly positive about one attitude and weak negative or neutral about the other attitude. According to **Fishbein and Ajzen (1970, 1975),** behavior is affected by behavior intention which in turn is affected by the attitude towards the object and the subjective norm. Hence it is very important to study the attitude of the consumer. Previous studies of the fuel retailing in Indian retail market lack an understanding of consumer attitude towards these NFR outlets. In this study an attempt has been made to find out the attitude of the consumer towards NFR outlets. But before the attitude towards the NFR outlets had been measured, the various factors that affect the selection of the NFR outlet had been identified using factor analysis. These factors have formed a base to measure the attitude.

1.6 CONTRIBUTION OF RESERACH

In the highly competitive market where the oil prices are continuously fluctuating and the consumer is highly price sensitive, it is very important to have some additional source of revenue (NFR) for the OMCs and some attraction for the consumers. But how theses NFR can attract and retain the consumers is a very challenging task. Also it is very important to know what all NFR formats are popular among the consumers. This research would help the various stakeholder of the oil retail business to understand

- Factors affecting selection of NFR Outlets.
- The most important factor affecting selection of the NFR outlet.
- The most popular NFR formats among the consumer.
- The frequency of use and the pattern of use of NFR formats

This study would thus help the OMCs to understand their consumers and develop an insight to the present situation.

1.7 ORGANIZATION OF THE STUDY

The whole study has been organized into six chapters. The first chapter consists of introduction of the Indian petro retail market and the various companies which are in to the business of oil retailing. This chapter also consists of an introduction of the NFR services and the various NFR services of the major OMCs in the Indian market. All these things will help in a giving a clear idea about the subjects under study.

The second chapter consists of literature review. This has been done to have an insight into the non fuel retailing in India and to find out the research issues in the area of non fuel retailing. It consists of both national and international studies in the field of retailing, attitude towards retailing and oil retailing. Through this an effort has been made to find out the various determinant of retail selection. It also consists of studies on the importance of studying attitude and the relationship between attitude and retailing. The various broad areas in which the literature review has been carried out includes

- Retailing and functions of Retailing
- Determinant of Retail Store Selection
- Consumer Behavior and Attitude
- Attitude and Retailing
- Fuel and Non- fuel Retailing

The literature review has helped in establishing the research gap and to take the research forward. From this chapter the various variables affecting the selection of retail outlet has been identified and has been used in developing the instrument for the survey. This has also helped in developing a complete framework of the study.

The third chapter focuses on the research methodology. It outlines a research procedure adopted for conducting the survey. In this chapter the research design, sampling units and sampling procedure had been discussed. The various methods and techniques employed to test the hypothesis has also been discussed in this chapter. This chapter also consists of objectives, hypothesis and the summary of the hypothesis test.

The fourth chapter consists of the results of the data analysis and the discussion of the results. These results have been discussed in detail keeping in mind the objectives of the study.

Fifth chapter consists of conclusion, and recommendations. From the results of the data analysis conclusion had been drawn and recommendations have been given to the different stakeholders of the oil retail business to develop a positive attitude towards the NFR outlets. This chapter also consists of scope of further study which can throw more insight to the business of non fuel retail.

The sixth chapter consists of summary of the study and concludes with the Bibliography and Annexure covering the supplementary material used during the course of study. The various stages of the study process were as follows (Fig 1.3)

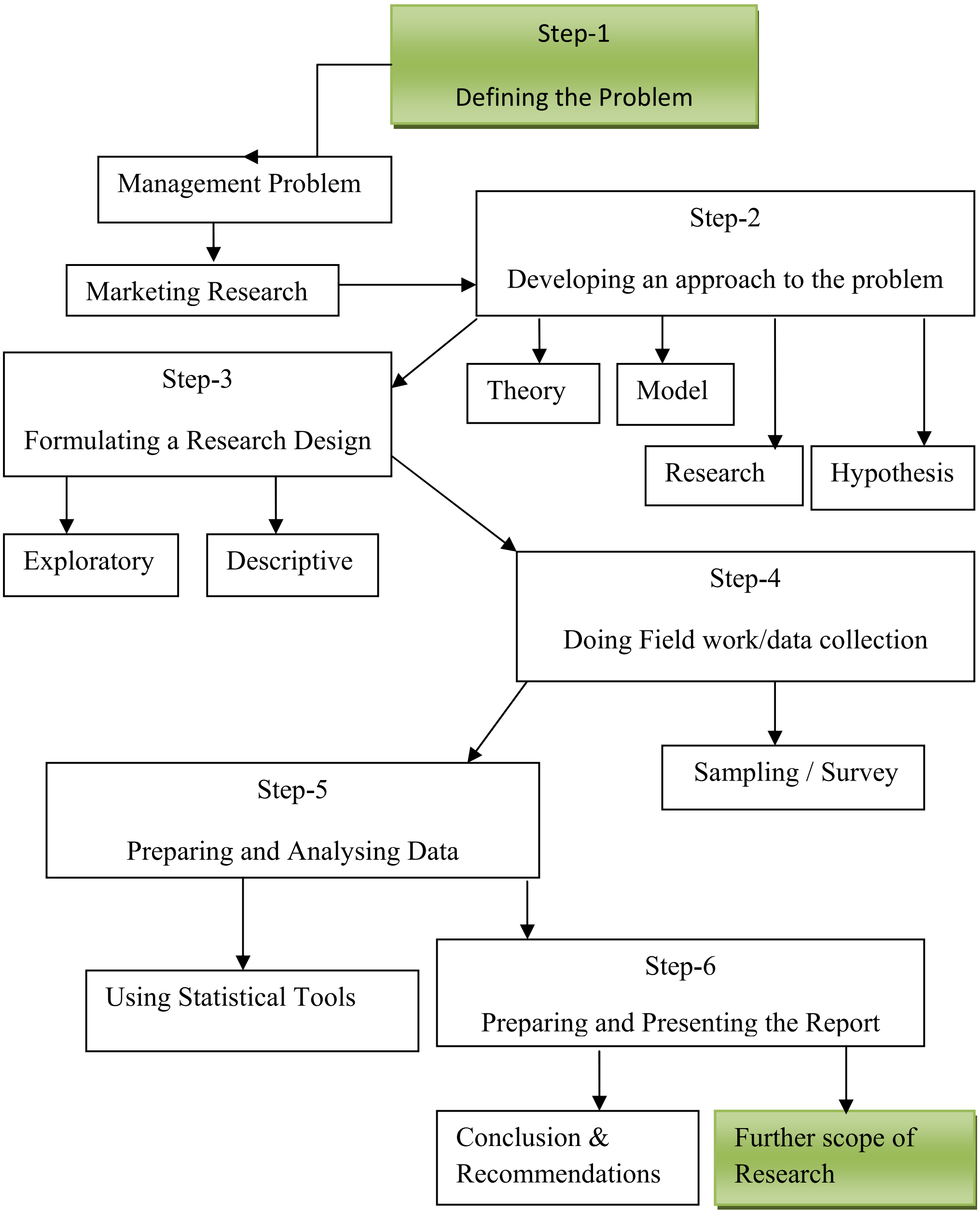


Fig. 1.3: Schematic Flow Diagram of Research Process

In the first stage the problem was defined and the management problem was established. In the second stage based on the theory and models an approach to the problem was developed and the research questions and the research hypothesis were formulated. In the third stage based on research question and the research objectives, the research design was decided upon. Based on the research design the questionnaires were made and in the next stage the data obtained from the survey were analyzed. From the data analysis the conclusions were drawn and the results were summarized.

1.8 LIMITATIONS OF THE STUDY

Any study which is based on the consumer survey through structured questionnaire suffers from the certain limitations. Because of these limitations there are chances of difference between the observed behavior and the actual truth. Though great care has been taken while making and administering the questionnaire so that truth can be extracted from the respondents but there is no cent percent error proof method. Same is the case in this study.

The first limitation of this study is that it is limited to studying the attitude of the consumer toward the NFR only. Other variables of consumer behavior like perception, motivation, learning etc, have not been studied.

The second limitation is about the geographical coverage of the research. Though we could have studied the universe but this has not been done because of the two reasons. The first reason is that it is not possible to study the entire universe with the limited resources; secondly it is a well established fact that the study of universe and representative sample would provide similar results. This research was limited to Delhi NCR region only.

The third limitation is about the use of the model to measure the consumer attitude. Here the Fishbein's multiattribute attitude model has been used to measure the attitude of the consumer towards NFR.

The fourth limitation is about the selection of the respondents. The respondents were selected using the non probability stratified sampling technique. Here different numbers of respondent were selected from the strata's of two wheeler, four wheeler and truckers.

The fifth limitation is about the demographic variables studied. Here demographic variables like age, occupation, city, types of vehicle being used, frequency of visit to the petrol pumps and gender have been taken. The other demographic variables like education, marital status has been ignored.

The study only includes vehicle running on petrol and diesels. The vehicle consuming CNG has not been involved in the study. This is sixth limitation of the study.

The last limitation is that the study is based on the primary data collected from the respondents assuming that they have given their genuine preferences without hiding anything.

CHAPTER 2

LITERATURE REVIEW

INTRODUCTION

To have an insight into the Non - Fuel retailing in India and to find out the research issues in the area of Non - Fuel retailing an exhaustive literature review has been done. The chapter begins with the studies in the field of retailing in Indian and in the international market. This chapter also includes the review of various studies in the field of fuel retailing and non fuel retailing. Review of past studies has been done to explore the emergence of non fuel retailing in India and the trend in the fuel retail industry. Though very few studies are available in the field of fuel and non fuel retailing in the Indian and international context; there are good number of studies on the retail outlets selection and role of attitude in retailing. After through literature review related to the retailing, fuel retailing and non fuel retailing in India, the important studies conducted in the field of retailing has been discussed under the following heads

- Retailing and functions of Retailing
- Determinant of Retail Store Selection
- Consumer Behaviour and Attitude
- Attitude and Retailing
- Fuel and Non- Fuel Retailing

The literature review has helped in establishing the research gap and to take the research forward. The information drawn from the literature review was used for the construction of the questionnaire used in the research

2.1 RETAILING AND FUNCTIONS OF RETAILING

The word retailing has been drawn from the French word retailer, which means to cut a piece off. According to **Newman and Cullen (2002)** retailing is set of activities that make product and services available to final consumer for their own personal or house hold use. It does this by organizing their availability on a relatively large scale and supplying them to a consumer on a relatively small scale. According to **David (1997)** retailing includes all the activities involve in selling goods or services directly to final consumer for their personal or non business use. A retailer or retail store is any business enterprise whose sales volume comes primarily from retailing.

Fig: 2. 1 Special Characteristics Affecting Retailing

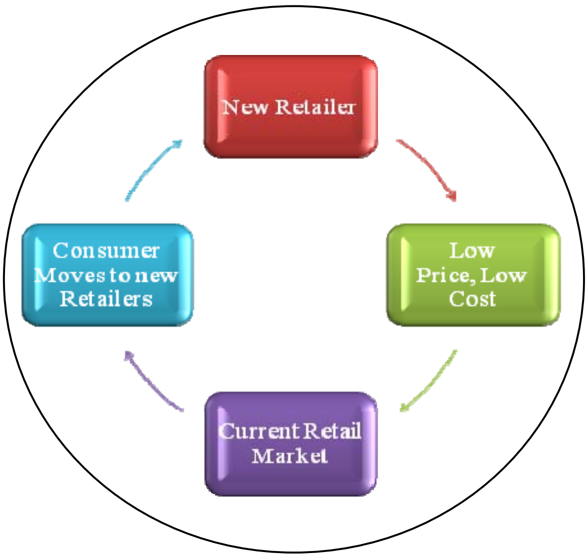
The retail strategy is affected by certain special characteristics. These special characteristics are the popularity of the store, impulse purchase and the average sale (Fig 2.1)

Retailing plays a prominent role in the economic growth of the country. It is a famous saying that said that the only thing that is constant in retailing is change. The retail environment is constantly changing. Retailing in its all form and format is one of the most dynamic, challenging and aggressive industry. According to Asia Pacific Management forum (1996) Asia is going through massive changes. International chains like Carrefour, Yaohan and Isleton are entering into the retail business.

2.1.1 WHEEL OF RETAILING

McNair(1958) gives the concept of wheel of retailing which postulated that the new retail formats enters into the market as low price low cost

Fig 2.2: Wheels of Retailing



(Less variety) outlets and slowly and slowly they upgrade themselves to the current retail market level and increases the prices and the variety and in the mean time the customer move to the new outlets (Fig 2.2).

Davidson, et.al, (1976) pointed two limitations of “wheel of retailing” concept. The first limitation was that it does not determine the pace at which the new retail formats appear and the second limitation was the relationship between gross margin and cost. According to them it is inadequate to explain the behavior of newer, less price-oriented retail formats. They later give the concept of "The Retail Life Cycle" which has four stages: early growth, accelerated development, maturity, and decline.

2.1.2 FUNCTIONS OF RETAILING

Newman and Cullen (2002) represented it as various essential services provided by the retailers to meet the needs of their customers. Some of the important functions of Retailing are as follow:

Accessibility of location: A product or service does not carry any value in the mind of the consumer until and unless they obtain those. A successful retailer makes efforts to make those products and services available to their consumers; often from distant locations.

Convenience of timing: A successful retailers ensure the timely availability of goods and services to its consumer. It ensures that these products and services are available to the consumers as and when they required. The long opening hours are a step in this direction.

Convenience of size: A successful retailers adapts to the quantities to suit the need of their customer. They accommodate all size (including larger size) in a store.

Information: Retailer also ensures that they provide the information expected by their consumers so as to increase success rate. This is also applicable to the consumption and choice of products by the consumer.

Lifestyle support: The consumers are very much lifestyle conscious. Most of the consumers like to identify themselves with a particular lifestyle that integrates their use of products or services into their general way of living. The retailers make their choice of appropriate goods and services to support the lifestyle of their consumer and perform these functions effectively. By doing this they create added value for their customers. However, this value is subjective because what is valuable to one person may be of no value to another.

2.1.3 CAUSES FOR GROWTH IN RETAIL

The retail sector is seeing a boom, the various reasons for the boob in the retail industry are

Increased per capita spending

The retail sector has seen a boom because of increasing per capita spending (India - Macro-economic Summary: 1999-2000 to 2012-13). This figure shows that people are spending more. Increasing population is another reason for the growth of the retail.

Dual income families

Another reason for the growth of the retail sector is advent of dual income families. A dual income family can spend more but has very little time available for shopping. Thus convenience and speed of service is another reason why organized retail formats are popular.

Urbanization

Urbanization is another reason for the growth of this sector. Due to urbanization there is a movement from unorganized retail sector to organized retail sectors.

Covering distances has became easier

With an increase in transportation infrastructure covering distances is no more a tedious job. People can travel miles to reach a shop they are found of or they see value in shopping from there

2.2 DETERMINANT OF RETAIL STORE SELECTION

Baker et al. (2002) found that store environment factors like physical design of the store significantly affects the consumer perception of the merchandise price, merchandise quality and employee service quality.

According to **Treblanche and Boshoff (2006),** there are six variables namely Service quality; Merchandise variety and assortment; Product price; Internal store environment and store policies that influences the behavior of the consumer towards the retail outlets.

According to **Engel, Blackwell and Miniard (1995)** there are 10 salient or determinant attributes of store choice. These are location, nature and quality of assortment, price, advertising and promotion, sales personnel, services offered, physical store attributes, nature of store clientele, store atmosphere, and post transaction service and satisfaction.

In chronological order of importance **Bates and Gabor (1987)** found the following variables to be important in influencing shoppers' choice of store: cheap prices, fair prices, good value, convenience, nearest to home and workplace, cleanliness, good layout, good quality, variety and choice, satisfaction, dividend, principle, member, employee, and delivery service

Euromonitor (1986) found that following 21 items influence the selection of the store : cleanliness and hygiene at the store, extensive range, store layout, good value, good parking, quality of foods, cheap or low prices, opens late, good fresh fruit and vegetables, spacious, easy walking distance, good fresh meat, selection of frozen food, efficient checkout service, in-store bakery, own label products, chilled/ready foods, range of non foods, good fresh fish, carry out service, and other factors.

In 1998 a British marketing research firm, **Mintel,** found that the following 13 factors were important in influencing consumer choice of store for main grocery shopping in Britain. Starting with the most to the least important the factors are: quality of products, location/easy to get to, attractive prices, wide range of products, measures to ease queues at checkout, fresh food service counter (e.g. deli, fish), longer opening hours, good own label range, cash point facilities, express checkouts, customer loyalty cards, cash back facility, and financial services **(Mintel, 1998).**

Donovan and Rossiter (1982) in their study about the graduate students in retailing have found that shopping environment, reunion, exploration of store, spending money, attraction and friendliness towards others are the variables that affect the response towards the retail outlets.

Bearden (1977) in his study has found that there are seven variables**,** price level, quality of merchandise, selection, location, atmosphere, parking facility and friendliness of the sales persons that affects the selection of a retail outlet. He also found that the variable like income distribution, population density, market penetration, distance, competitions can also be considered.

Berman and Evan (2004) claim that there are five factors that affects the image of a shopping mall. These are comfort, safety, retail mix, accessibility and atmosphere. The major retail attributes that affects customer attitudes are – location, price of the merchandise, atmosphere within the outlet, behavior of the sales person, space for the customer, technology, kind of merchandise, temperature within the outlet, convenience of the timing and the information available.

Sinha and Benerjee (2004) in their study about the shopper's attitude towards grocery and vegetable store have found that those grocery and vegetable stores which are close are visited more frequently than the farther one and thus location play a major role in the choice of a particular outlet.

Hawkins et al. (2004) also concluded that if all other things are approximately equal, a consumer will generally select the closest store.

Bawa and Ghosh, 1999 claim that Consumers are found to shop for multiple items, rather than a single item, on a single trip. The longer the list, the farther are shoppers prepared to travel, than for a smaller list.

Mendes and Themido (2004) in their research found that location plays an important role in the success or failure of an outlet.

Bell, Ho and Tang (1998) in their study have found that location is not the most important variance in making a store choice but the choice of the store depends upon the nature of the trip. Small basket or fill in trips are made from the store located closely and conveniently, people do not wants to travel far for such items.

According to **Donovan *et al* (1994)** Store atmosphere may influence consumer's shopping enjoyment and likelihood of patronage.

Treblanche (1999) studied the role of store atmosphere and concluded that store atmosphere is important and amusement plays a major drive for visiting regional shopping centre.

Schlosser (1998) in his studies found that since the store atmosphere has a social identity appeal a pleasing atmosphere of the retail store influence the perception that the products of the store are socially communicative. So store atmosphere has a great impact on the perception of the consumer towards the kind of products in the store.

Richardson, Jain and Dick (1996) found that if the store atmosphere is aesthetically pleasing, the consumer would rate the private level higher than the rating in a non aesthetic and non pleasing environment, though there is no significance difference has been found in the rating of national brands.

Simonson (1999) claim that unless the customer is particularly interested in fast service or convenience, he/she would prefer large outlets over small ones.

Ehrenberg *et al (*1994) found that when the prices are reduced a sharp increase in sales is observed but the sales again returns to the normal level when the prices are return to the normal level or the offer period is over. **Charles A Lngene (1983)** develops a theoretical model of consumer purchase decision in a competitive retail system. In his research he places emphasis on relationship between per household expenditure and consumer surplus. **According to Maartineau (1969),** the most important decision faced by the consumer is where to shop. He studied the influence of social class in the selection of the retail outlet and found that every consumer operates under the influence of some superior and inferior class system which is a symbolic pattern of his own class.

Berman and Evans (2007) claim that customer space like lounge, benches, dressing rooms, rest rooms, restaurant, parking and so on can contribute to the shopping mood. They also claim that a store with state of art technology impresses consumer with its operations and speedy services.

In the year **1975, Belk** suggested that the ambience, layout and design of the store affect shopping behavior. A study done by **Berman and Evans (2007)** concluded that store image can be influenced by the availability of cooling facility like central AC, unit AC, fans or open windows. **Donovan and Rossiter, 1982**, found that a negative atmosphere leads to avoidance behavior, such as a desire to leave the store or a sense of dissatisfaction.

Turley and Milliman, 2000, in their studies for singular atmospheric elements such as scents or music, have found that these directly influence consumers in store experience.

Newman and Cullen (2002) found that availability of 24 x 7 services is helpful in attracting consumer.In the year **1998, Levy and Weitz** studied the effect of range of merchandise on the consumer and found that the explicit visibility of offerings (tonnage merchandizing) influence a consumer's store choice.

A further study on merchandise was done by **Engel *et al* in 1995** in which they found that apart from location of merchandise in the store, the range of merchandise is another crucial dimension both variety and category are crucial.

Treblanche (1999) claims that shopper decide value of merchandise on the basis of monetary and non monetary cost.

Kelly and Hoffman (1997) found that the mood of the salesman is important in order for good service to encounter. **Swinyard (1995)** found that the credibility of salespersons are important in order to encounter a good a service. **Macinton and Lockshin (1997),** found that employee action has a profound effect on consumer's loyalty to the store.

In the year **2002, McGoldrick** studied the role of sales person's behavior on the clients and found that sales personnel are seen as the extension of the store image and can play a significant role for repeat purchase and increasing satisfaction

According to **Newman and Cullen (2002),** in order to attract more customers and make them repeated purchase it is important to give the amount of information asked by the consumer.

Bintner, 1992; Spies etal,1997; Jones, 1999, found that positive experience may arise if the store makes it easy for the consumers to find the products they are looking for or when the layout seems to be logical or when there are sufficient signs etc. From the above study the major store attributes that determine the selection of the retail outlets are

i. Location

ii. Price

iii. Variety of products

iv. Store atmosphere

v. Quality of products

vi. Efficient Queuing system

vii. Sales person’s behavior

viii. Additional space

ix. Range of merchandise

x. Post transaction services

xi. Availability of private labels

xii. Store layout

xiii. Parking Facility

xiv. Loyalty cards

xv. Any time service

xvi. Information

xvii. Customer service

2.3 CONSUMER BEHAVIOUR AND ATTITUDE

2.3.1 CONSUMER BEHAVIOR

Consumer behavior is a complex process and deep and sophisticated understanding of it is important for any marketing research related to the consumer. In simple language it is defined as the study of psychological, social and physical action where consumer buy, use and dispose products, services, ideas and practices **(Solomon,2007: Peter and Olson, 2008: Blackwell et al. 2001)**.

(Bennett, 1995) in their book has quoted that according to American Marketing Research Foundation consumer behavior is a dynamic interaction of affect and cognition behavior(Bennett, 1995, p. 59).

Consumer behavior consists of ideas feeling, experience and action of the consumer with additional environmental factor like advertisement, price etc. Consumer behavior is a dynamic process because of continuous change in idea, perception and activities of consumer as an individual or in groups **(Olson and Peter 2008)**

2.3.2 DETERMINANT OF CONSUMER ANALYSIS

Affect and cognition are important aspects in understanding consumer behavior; affect and cognition are psychological responses that consumers have in different types of situations. According to **Peter and Olson (2008)** three components namely affect and cognition, behavior and Environment and interrelation between these variables are important to determine consumer behavior. Affect reflect person's emotions concerning a product eg. Likes or dislike, while cognition is a mental activity such as learning, evaluating and interpreting.

Every individual has his own way of understanding, perceiving and explaining of the surrounding in his own environment. In some degree these specialties can be common depending on common attitude and belief, affect and cognition are connected to each other however they have originated in totally different way as feeling and thought **(Peter and Olson 2008, Chirsall 1995).** Demographic factors like age, gender, economic situation etc are also important factors in determining consumer behaviour and hence attitude. Also distribution of wealth is in focus as it determines the buying behaviour and buying power **(Solomon 2006).** Family structures also influence consumer behaviour **(Solomon et al. 2002).** According to **Yalch and Spancheberg (1993)** different consumer responses different to same shopping atmosphere/ product or service**. Lumpkin (1984), Pessemier (1980)** have found that consumer demography may influence the importance placed on the store attributes. **Chowdhary (1989), Lumpkin and Greenberg (1982), Lumpkin et al (1985), Mason and Bearden (1978)**, have in their research have found that certain store attributes becomes more important for elderly consumer, because of their special needs. **Anderson and He (1998), Landary (1998), Dickson etal (2004)** have found that youngsters have more positive attitude towards foreign goods.. Thus age is an important factor in determining the attitude towards a particular product or service.

2.3.3 CONSUMER ATTITUDE

Attitude is a very commonly used word in the day to day life. In general attitudes are mental states used by individual to structure the way they perceive their environment and guide the way they respond to it (**Aaker,Kumar and Day 1995, P-254**). In 1918, **Thomas and Znaniecki** said that attitude is an individual's mental process which determines both the actual and potential response of each person in the social world.

According to **Allport (1967),** attitude is a mental or natural state of readiness, organized through experience, exerting a directive or dynamic influence upon the individual's response to all objects and situation with which it is related. According to **Chisnall (1995)**, Attitude is shaped selectively to compromise customer need and could be changed by external factors like joining a new community, gaining more knowledge and the environment of a person.

An attitude "is a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor **(Eagly and Chaiken 1998,p.269).**

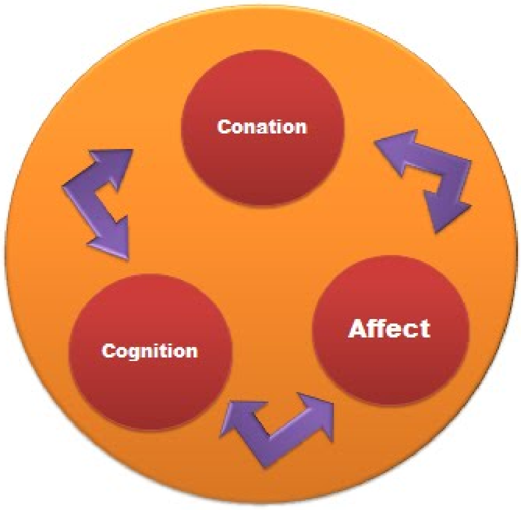


Fig 2.3 Component of Attitude

An attitude consists of three constituents. These are affective; cognitive and conative. Affective part of the attitude refers to the feelings that a consumer has. The cognitive part refers to the information and knowledge basis of these consumers. The third and final part of the attitude - the conative, refers to the intention of the customer (Fig.2.3)

An attitude can be defined as a positive or negative evaluation of consumer, objects, event, activities, ideas, or just about anything in your environment **(Zimbardo et al., 1999).** In the opinion of **Bain (1927),** an attitude is "the relatively stable over behavior of a person which affects his status." Attitudes which are common to a group are thus social attitudes or `values' in the Thomasonian sense. The attitude is the status- fixing behavior. This differentiates it from habit and vegetative processes as such, and totally ignores the hypothetical 'subjective states' which have formerly been emphasized.

North (1932) has defined attitude as "the totality of those states that lead to or point toward some particular activity of the organism. The attitude is, therefore, the dynamic element in human behaviour, the motive for activity." For **Lumley (1928)** an attitude is "A susceptibility to certain kinds of stimuli and readiness to respond repeatedly in a given way - which are possible toward our world and the parts of it which impinge upon us." Attitudes are judgments.

Attitude refers to a predisposition to respond consistently favorably or unfavourably to an object. Since attitudes are learned, they are affected by information and experiences **(Wilkie, 1994).** On the other hand, the fact that attitudes are predisposition to respond leads to their relationship with actual consumer behaviour.

Loudon and Della Bitta (1993) in their studies has found that the favourable or unfavourable attitude that a person has about an objects depended upon how favourably or unfavourably he regards that particular object. So one can say that attitude contains consumers feeling and the evaluations related with the objects.

According to Bamossy and Askegaard (2002) attitude is a long lasting and common assessment of advertisement, object, people and the individual himself.

Schiff man and Kanuk (2004) define the attitude as a constant tendency to behave accordingly in a concrete situation, regarding a certain object or a group of objects

Secord and Backman (Peter, 1994) gave a detail version of attitude. According to them attitude is a particular system of motivation, emotions, perceptional and cognitional process that respond to the environmental aspects surrounding an individual. Thus attitude can be said to consist of three components namely perception of knowledge, the emotions or the feelings of the individual and the will or the behaviour tendencies.

Loudon and Della Bitta (1993) in their study have found that attitude towards a certain object generalises the whole group of object. They have also found that consumers are eager to evaluate pros and cons of an object as decision making process becomes simpler. Attitude has a structure and is steady with time. Also attitude are learned so the longer the individual possesses then the more resistance they become or they become very intense. **Robertson (1973)** in his research has found that attitude reflects the relationship between a consumer and an object. He also found that it is very difficult to define the object. According to Solomon, **Bamossy and Askegaard (2002)** an object of attitude is anything that impact the attitude.

According to **Schiffman and Kanuk (2004)** an attitude could be regarded as being permanent if consumer behaviour matches up with consumer attitude. Thus it can be said that an attitude has become permanent if the consumer behave the way he expresses his attitude.

On the basis of attitude consumers can be divided into positive attitude holder and negative attitude holder. If the attitude is indifferent, then it indicates that the consumer is neutral towards the object (Engel and Blackwell, 1998).

According to **Ajzen and Fishbein (1980)** and Rosenberg and **Hovland (1960)** attitude can be defined as the evaluation of an object, which could influence the knowledge, emotion or behaviour of the consumer towards the object.

Attitude can also be defined as an inclination; it is a view or a frame. In the opinion of the consumer it is a decision to prefer one thing over another.

According to **Mellott (1983)** an attitude is an inclination to react to stimuli. According to **Engel and Blackwell (1998)**, the strength or the degree of attitude determines the likes and the dislikes of the consumer towards the element or the group of elements. Thus attitude is not only positive or negative; there are different levels of attitude. It is possible that consumer is strongly positive about one attitude and weak negative or neutral about the other attitude.

According to Rice (1997), attitude may vary in degree of resistance. Some attitude may be highly resistive and do not change with time while other may be change with time. Attitude is an achieved inclination and possesses its own motivation. **Solomon et al (2002)** says that attitude exists because they perform a certain functions to a person; so they are determined by the motive of the individual.

Attitude cannot be determined directly thus indirectly approaches are followed to measure attitude. Scientists, examining consumer behavior, frequently evaluate attitude asking certain questions and drawing particular conclusions about consumer behaviour. Attitude is defined indirectly while interpreting words and actions of a consumer. All authors commonly agree that attitude is achieved. Being born, a person does not have attitude because it forms as a result of available direct or indirect experience. This means that attitude within the context of consumer behaviour forms as a result of direct experience with a particular good or is achieved during a verbal communication with other consumer or through the means of mass media, Internet and various tools of direct marketing. The emotion component of attitude consists of an individual's feelings and emotions with regards to the object.

Schiffman and Kanuk (2004) say that an emotionally shocking experience can create an emotionally tense mood like anger, grief, shame or sorrow. The intention component of the attitude is related with the probability or the tendency that an individual will perform certain action with regards to the object of his attitude. This three components model is also supported by many authors like Blackwell, Della Bitta, Engel, Pranulis and many others. **Lewiston** proposes one more model of attitude. According to him attitude is composed of three constituent namely, perception, feelings and behavior. **Solomon et al. (2002)** suggested that attitude can be divided into three components namely, feelings, behavior and perception. He stressed that behavior element of attitude is the intentions to behave in one way or another.

2.3.3.1 FUNCTIONS OF ATTITUDES

The functional theory of Daniel Katz proposes that there are four functions of attitude. Each function attempt to explain the source and the purpose of the attitude to the consumer (Solomon 2008)

Utilitarian Function – This function is based on the ethical theory of utilitarianism. According to this theory an individual will that that decision only which will give him maximum pleasure and happiness. The utilitarian function of attitude direct consumer closer to pleasurable or rewarding objects and away from unpleasant or undesirable one. This function is also in correspondence with the utilitarian conception of minimizing the punishment and maximizing the reward. So we can say that this function is based on the principle of reward and punishment. **Solomon et al. (2002)** stated that attitude to an object appears because of pleasure or pain the object causes to the individual.

Ego Defensive Function- Attitude is formed to protect the ego or self image of the individual and helps in fulfilling the ego defensive function. This function is apparent when a consumer feels that use of a product or service might compromise their self image. This helps him to defend his image without a conscious understanding **(Loudon and Della Bitta 1993).** Thus this function increases the self confidence of the consumer.

Value Expression Function – This function is visible when a consumer has formed a self image regarding a product or service. He feels that the use of the product or service will enable the expression of person's centrally held value. Marketer should develop an understanding of what value consumer wish to express about themselves and they should design the products/ services and their promotional campaign to allow these self expression. This function allows the expression and presentation of goods and services through the attitude. This helps in reflecting the consumer's satisfaction with the products or services. It defines the basic value, lifestyle prospects and the perception of the consumer. According to **Loudon and Della Bitta, (1993)** consumer employ particular attitude in an attempt to turn their qualities into something tangible and real.

Knowledge Function- Attitude enables the consumer to develop inquisitiveness and a desire to know more. The knowledge function of attitude is prevalent in those individual who are careful about organising and providing structure to their thought about certain product and service. The consumer is interested in knowing the brand and its attributes. It is reflected when an individual has a demand to understand environment and people surrounding them.

2.3.3.2 SOURCES OF ATTITUDE FORMATION

Following the study of various scholars like Loudon, Della Bitta, Schiffman and Kanuk, Solomon, Robertson in the field of attitude formation it is been found that the attitude formation is significantly influenced by primary and secondary sources of attitude like influence of community, family, media, direct marketing or the personal experience of the consumer. According to Bagozzi, Baumgartner and Yi (1991) the primary sources affecting the attitude of consumer included direct personal experience and evaluation of the experience gained. Direct experiences are very important in establishing an attitude. This is because the sales personal encourages the consumers to try out new goods and give discount coupons. According to Howard and Gengler, (2001) the consumer attitude is extremely influenced by the opinion of the family and the friends. Family is one of the most important sources of attitude formation. According to **Robertson (1984),** the family, co-workers and the culture influences the social aspect of the attitude formation. The direct marketing also affects the attitude of the consumer as it more personalized and hence is more influential in developing the attitude of the consumer.

According to **Schiffman and Kanuk (2004)** those consumers, who do not have a direct contact with the goods or the service forms their attitude from the message of advertisement. Personality also plays a crucial role in attitude formation.

According to **Schiffman and Kanuk (2004**) that individuals who has a high demand seeking information and is eager to think will tend to form a positive attitude to advertisements or direct mailing that contain the abundance of the information related with the product at the same time if here is another consumers, who have a lower demand of knowledge will have a positive attitude to advertisements with famous or beautiful people. Consumer's attitude to new products is influenced by specific personality factors as well. According to **M. Lindstrom (2005)** attitude of the consumer is affected to a great extent by the emotional elements like sense, surrounding consumer etc. The sense consists of sound, image, smell, taste and touch. Thus the main sources of attitude formation are:

1. Personal experience
2. Group association
3. Influence from other persons

2.4 ATTITUDE AND RETAILING

There are many benefits of studying consumer attitude. The first and foremost benefit is that it helps in examining whether the consumer likes or dislike a product or the service. It also helps in determining the factor which has the highest attitude rating and the factor having the lowest attitude rating. Attitudes are also good predictors of the behaviour and provide a clue to the intentiion oft the consumer. Positive attitude helps predict constructive behaviiou and and negative attitude predict undesirable behaviour.

The study of attitude also helps in building an image of the strength and weakness of the object under study. A study of attitude is also important to know how marketing strategies and advertisements are influencing consumer. According to **Blackwell et al. 2001**, by measuring consumer attitude one can predict how new product will emerge in the market or how the existing product will perform in the market. In **2008 Peter and Olson** concluded that though attitude is not the exact criterion which will tell us how consumer will behave in future but it definitely tells the way the buyers are going to behave in a given situation.

William (1966) studied how an individual selects an outlet over the other and found that the selection of the store and the patronage towards the store depends upon the consumer perception, image and attitude formed from the experiences he had with the object. He also found that the patronage behaviors are the outcome of a decision making process involving where to shop, what to shop and how to shop. This decision process consists of three basic components namely: retailer attribute, consumer characteristics and the choice context. It is these attributes that determine the store choice and the retailer choice.

According to **Hotniar Siringoringo** determinants such as shopping intention, attitude towards retail outlets, and shopping habits play a very important role on consumer shopping habit, hence retailers should try to build positive attitude towards their retail.

Leela Rani and Sanal Kumar Velayardhan (2008) in their found that there are six independent variables namely shopping attitude of respondent, store loyalty (SL), perceived store prices, store distance, shopping frequency, and brand loyalty (in order of importance of impact) that significantly influenced consumers' attitude towards retail store in out-of-stock

Donovan and Rossiter (1982) studied the effect of in store characteristics and in-store emotional experience on store attitude and found that shopper feels pleased, excited, contented, pride and excited when they get an exceptional service from the store personnel. They have also found that perceived store characteristic influence store attitude. All these emotions are also felt when the shoppers experience of after sales services are met. They have also found that negative emotions were also induced by the store characteristics (incompetent sales force, store environment).

2.5 FUEL AND NON- FUEL RETAILING

According to data monitor report (2010), consumers in European market are increasingly motivated towards supermarket service stations as these fuel stations offer cheaper fuel. It has also been found that because of the aggressive pricing strategy by the competitors, driving the footfall at these retail outlets is a big challenge. It has also been found that in the U.K. most of the supermarket service stations have a forecourt shop and in France the supermarket fuel stations are very popular.

According to **Arvind Mahajan (2011**), the fuel retail industry in India is undergoing a great change; the price of petrol has been decontrolled. According to him beside taking a stand on the pricing of decontrolled fuel, the OMCs should consider more focus on allied business opportunities. These opportunities can be aligned as per the trend in the international market. He has also suggested that in order to trap the full potential of the NFR market, the OMCs should be creating and continuously developing a basket of offerings that can optimize the output and which can help the fuel retail outlet to draw the relevant business activity based on its location, outlets size and expected potential.

Dugar Anurag, (2007), studied about the transformation taking place in the Indian petrol retail market and found that slowly and slowly marketing of petrol as a commodity in India is changing into marketing of a brand and NFR is a new way of branding positioning and differentiating.

According to **Choudhary Nimit, Choudhary Monika(2005)** since the main product of petrol seller is a commodity, which is undifferentiated, companies are trying to attract consumers by converting their commodity buying into pleasant experience and for that they are using many value added services NFR is one of them.

According to **Cohen M and Bradfield E. (2001)** today's consumer do not believe that one brand of petrol is superior to the other.

According to a research by Marketing and Development Research Association (MDRA, 2003) in Mumbai and Delhi on Car, Motorcycle and Scooter owners about the usage pattern of branded fuel and brand recall and brand loyalty it was found that only 43 % of the respondents surveyed were using branded fuel and 14% were not at all aware about the branded fuel. It was also found from the study that respondents were moving again towards the non branded fuel because of the price difference and also because many of them do not felt any visible difference between the performance of their vehicle when they used branded fuel and the non – branded fuel. But they also do not try to find out the usage pattern of the NFR services at the fuel stations and were NFR had any added benefit if they are available at a fuel station.

Kumar P, Sahay A (2003) studied the customer gap in the petrol marketing and found that there are six factors namely reliability, supporting facilities, ambience, value for time responsiveness, added facility that affect customer satisfaction at the petrol retail outlets but their order of preference varies among different group.

Somraju Kishore K (2010) studied the importance of loyalty programme in the petro retail business and found that they can help in retaining the customers.

Urkude, Ashish Manohar, Attri, Rekha and Pahwa, Manvinder Singh (2011) in their study " India' s Petroleum Market: The Journey from a Commodity to a Brand has found that the Indian petroleum market is slowing moving from a commodity driven market to a brand driven market. The companies are following many brand building activities to gain the market share.

According to **Anirvinna C. and Ravi N.V. (2011)** the key success of the OMCs depends upon company's increased focus on establishing a brand loyalty. It is because of this reason that the national oil marketing companies are renovating and upgrading their retail outlets.

According to **Yadav, Sudhir Sakariya et al (2012)** the OMCs are facing two major challenge, the first one is to increase the revenue as the margin is decreasing and the second one is to meet the changing demand of the customer. The customer wants faster and more convenient way to shop. Because of these challenges the OMCs have to explore the opportunity to increase the revenue. The companies are changing their strategy of just selling the fuel to satisfying the customer through marketing and promotional activity. At present OMCs are focusing on forecourt design, people behaviour pump design and promotional schemes.

According to Cohen, M and Bradfield, Edward (2001), the various retail mix that these OMCs are following are : Fuel quality, forecourt design, pump design, shop and other facility, payment facilities, petrol prices and promotion.

Although research has been done about the transformation taking place in the Indian petro retail industry by Dugar Anurag (2007) and on customer based brand equity by Urkude, Ashish Manohar, Attri, Rekha and Pahwa, Manvinder Singh (2011) and by Kumar and Shay about the service gap in the petro retailing, no study has been done to measure the attitude of the consumer towards the NFR outlets of theses petro retailing companies. Hence present research has been undertaken to study the attitude of the consumer towards the NFR outlets. A comprehensive research has been undertaken to find out various factors affecting the selection of NFR outlets and the most important factor affecting the selection of these outlets. The variables obtained from the literature review have been used to study the factors affecting the selection of the NFR outlets. Since so far no research has been done to find the pattern of uses of NFR services, the research has also been carried out to find the pattern of usage of these services by different types of vehicle owners and drivers. A comprehensive study has been carried out to understand the consumers in a better way. The methodology of the research being carried out has been discussed in the next chapter. The next chapter also consists of a detail explanation of various methods and techniques used in the study and basis of using these techniques.

CHAPTER 3

RESEARCH METHODOLOGY

INTRODUCTION

In this chapter the focus of the study in terms of the geographic location and in terms of the products being studies has been discussed. This chapter also consists of the information about the sampling frame, research design and sources of data collection. The research objectives, the research questions and the research hypothesis have been discussed in detail in this chapter. The chapter further consists of descriptions of various models and techniques that have been used in the study.

3.1 FOCUS OF THE STUDY

The research is an effort to find out the attitude of the consumers towards the NFR services. This study is exploratory as well as descriptive. The research has been carried out in the Delhi NCR region. NCR is the name for the metropolitan area that includes the National Capital Territory of Delhi and the urban areas in its neighbouring states, Haryana, Utter Pradesh, Uttarakhand and Rajasthan. It has a total area of about 33,575 km $^{2.}$ It is the world's largest agglomeration by area and second largest urban agglomeration by population **(United nation World Urbanisation Prospect report 2011, online data).** As per the 2011 census, Delhi NCR is the topmost urban agglomeration with a population of 21,753,486 followed by Mumbai Metropolitan Region **(Census 2011)**. The vehicular population of Delhi is more than the combined vehicular population of

Mumbai, Chennai and Kolkatta (**Delhi government Environment survey 2010)**. According to the **Hindustan times report dated 3rd march 2010**, almost 40 Lakh vehicles cross the Delhi road every day.

For this study we have taken into consideration only those vehicles which run on petrol or diesel, vehicles consuming CNG has not be considered. Since most of the commercial vehicles like bushes, taxi and auto rickshaw has been converted into CNG powered hence they have been excluded from the study. The target population in this study was the individuals who own or drive personal vehicle like car, jeep, SUV, MUV (four wheelers), Scooter, motorcycle (two wheelers), which consume petrol or diesels and individuals who drive heavy vehicle like trucks. The different categories of consumers surveyed include:

- Two wheelers (Motorcycle, Scooter etc.)
- Four wheeler (car, jeep, SUV, MUV)
- Trucks and light commercial vehicles

3.2 SAMPLING FRAME

The sampling frame is the list of the target population. Here the sampling frame is the individual who is 18 years or above and is using / driving two wheeler/ four wheeler/ truck. The study has addressed the difference among the consumer with respect to the kind of vehicle they are driving or owning. The study has also taken into consideration the shopping status of the individual. The respondents who used to do the main shopping for their house hold were called primary shoppers and others were called the non – primary shoppers. The study had also addressed the difference of attitude among different age group of users/ drivers of different types of vehicles.

3.3 RESEARCH DESIGN

The research design used in the present study is exploratory as well as descriptive. The exploratory research has been used to find out the various variables that affects the selection of the retail outlets. Based on the inputs from the literature review seventeen factors were identified that affects the selection of the retail outlets. From these seventeen factors, hundred variables were identified. These variables were reduced to seventy five after taking the opinion of the expert and the people working in the oil retail industry. Using these seventy five variables a questionnaire was prepared to find out the variables affecting the selection of the NFR outlets in Delhi NCR. The same questionnaire was used to study the usage pattern of the NFR in Delhi NCR. The factors identified from this survey were used to measure the attitude of the consumer towards the NFR outlets

The second study was a descriptive study. For this study a structured questionnaire was used to measure the attitude of the consumer. The questionnaire consists of questions related to belief and evaluation of belief. The mean attitude score was calculated using Fishbein' s multiattribute attitude model. Then the average attitude score was compared between different types of vehicle owner/ drivers and also between different age groups of the respondents. The average attitude score was also compared between primary and non primary shoppers and also between commercial and non- commercial vehicle.

3.4 SOURCES OF DATA COLLECTION

In order to achieve the objectives, the data was collected through the primary and the secondary sources.

3.4.1 SECONDARY DATA

This method was used to collect literature on retailing, consumer attitude, attitude measurement, fuel retailing and non fuel retailing. The secondary source of data included data from research journals, magazines, books, and company's websites and other electronic database like Ebsco, Emrald Insight, Proquest and India stat etc. An immense review of literature and work already done at international level was also taken into account for studying the factors affecting selection of NFR outlets. From this data the various variables affecting the selection of retail store were determined and these variables were included into the questionnaire of the pilot survey.

3.4.2 PRIMARY DATA

The primary data was collected was collected using structured questionnaire. The questionnaire was developed after an extensive literature review. The primary data was collected in two stages

3.4.2.1 FIRST STAGE

In this stage data was collected using structured questionnaire which was developed using the variables identified from the literature review. Prior to conducting survey this questionnaire was reviewed extensively by two academician and two experts from petro retail industry. It was also pilot tested on 5 car user and 10 motorcycle/ scooter user before conducting the actual survey. The suggestion obtained from the reviewer and from the pilot test was incorporated and a final survey of 550 respondents was carried out to study the usage pattern of the NFR services in Delhi NCR. This study was also conducted to find out the factors affecting the selection of the NFR outlet.

3.4.2.2 SECOND STAGE

In the second stage of the primary data collection one more questionnaire was prepared. The information obtained from the first study was used to prepare this questionnaire. A total of 402 respondents were surveyed in this stage to find out the most important factor affecting the selection of the NFR outlet. This study was also conducted to find out the attitude of the consumer towards NFR services.

3.5 RESEARCH QUESTIONS

1. What is the usage pattern of NFR services?

   a. What is the usage pattern of NFR services among two wheeler, four wheeler and truckers?

   b. What is the frequency of use of NFR services by two wheeler, four wheeler and truckers?

2. What are the factors that affect the selection of NFR outlets?

3. What is the most important factor affecting selection of the NFR outlet?

4. What is the attitude of consumer towards NFR outlets?

   a. Is attitude same among two wheeler, four wheeler and truckers?

   b. Is attitude same among commercial and non commercial vehicles?

   c. Is attitude same among different age group?

   d. Is attitude same among primary shopper and non- primary shopper?

3.6 RESEARCH OBJECTIVES

The following objectives have been set up to answer the above research questions.

1. To study usage pattern of NFR services.
2. To find out the factors affecting the selection of NFR outlets.
3. To find out the most important factor affecting the selection of the NFR outlet.
4. To measure the attitude of the consumer towards NFR

3.7 RESEARCH HYPOTHESIS

The following hypothesis were tested to answer the research questions and achieve the objectives

$H1_0$: There is no significant association between types of vehicle and type of NFR services being used.

$H1_a$: There is a significant association between types of vehicle and type of NFR services being used.

$H2_0$: There is no significant association between frequency of use of NFR services and types of vehicle.

$H2_a$: There is a significant association between frequency of use of NFR services and types of vehicle.

$H3_0$: The different variables affecting attitude towards NFR outlets do not have any significant correlation in the population.

$H3_a$: The different variables affecting attitude towards NFR outlets do have a significant correlation in the population.

$H4_0$: The data is normally distributed.

$H4_a$: The data is not normally distributed.

$H5_0$: There is no significance difference between the average attitude of two wheeler, four wheeler and Truck users/ drivers.

$H5_a$: There is a significance difference between the average attitude of two wheeler, four wheeler and Truck users/ drivers.

$H6_0$: There is no significance difference between the average attitudes of commercial and non- commercial vehicle's respondents.

$H6_a$: There is a significance difference between the average attitudes of commercial and non- commercial vehicle's respondents.

$H7_0$: There is no significant difference between the average attitudes of respondents belonging to different age group.

$H7_a$: : There is a significant difference between the average attitude of respondents belonging to different age group.

H8o : There is no significant difference between the average attitudes of primary and non- primary shopper.

H8a : There is a significant difference between the average attitudes of primary and non- primary shopper

Two surveys have been done to answer the research questions and achieve the research objectives. In the first study a survey of 550 individuals was done to find out the usage pattern of NFR services and to study the factors affecting selection of NFR outlets. In the second study a survey of 402 individuals was done to find out the most important factor affecting the selection of the NFR outlet and to study the attitude of the consumer towards these outlets.

3.8 SAMPLING TECHNIQUES AND PROCEDURE

To achieve the above stated objectives and to answer the various research questions seven hypothesis were proposed. To test theses hypothesis samples were collected using non probability stratified sampling technique. In this technique the whole population is divided into different strata or subpopulation. After that the proportionate of each stratum is fixed as per some relevant standard. Here the whole population was distributed in three strata, two wheeler, four wheeler and trucks as we were interested in three categories of vehicle owner / drivers. The proportionate of each strata is based on the data of **Ministry of Statistics and Pogramme Implementation** 2011-12 survey. According to this survey, the total number of registered vehicle in India includes, 72% two wheeler, 11% cars,1% jeep 5% goods vehicle, and 3% light motor vehicle. Keeping in mind the above data and using weighted average, we have surveyed 78.19 % two wheeler, 13.03% four wheelers and 8.69 % trucks. The respondents were selected randomly from convenient location like parking lots of the offices and commercial places. The trucker's were selected randomly from transport area.

3.9 SAMPLE SIZE

The whole study was divided into two parts. Each part uses different questionnaire. The sample size studied and the basis of selection of particular sample size and the distribution of samples among different cities of NCR is explained below

3.9.1 SAMPLE SIZE OF THE FIRST STUDY

The first study was to identify the usage pattern of the NFR services and the factor affecting the selection of the NFR outlet. Which have formed a base to study the attitude of the consumer towards the NFR services. In this study a sample size of 550 was taken which is more than five times the number of variables. According to Dennis Child, the sample size should be at least five times the number of variables. The samples were collected from Delhi, Ghaziabad, Noida and Faridabad. The sample consists of 100 respondents from Delhi, 218 from Noida, 98 from Ghaziabad and 94 from Faridabad. A total of 399 two wheeler, 67 Four wheeler and 44 truckers were studied.

3.9.2 SAMPLE SIZE OF SECOND STUDY

In the second study a sample size of 402 was taken. We arrive at this size using the information obtained during the primary survey. The standard deviation and the standard error obtained from the first survey was used to calculate the sample size of the final survey at 95% confidence level. The standard deviation calculated from the pilot survey was 0.493, z value at 95% is 1.96

Putting these values in the formula

$$N = \mathbf{(Zs/e)^2}$$

Where N= Sample size,

z= 1.96 (at 95% confidence level),

s=population standard deviation (here s= 0.493)

$e \quad = 0.05$

We get,

$$\mathbf{N = (1.96 \ X\ 0.493/0.05)^2}$$

$$\mathbf{= 373.47}$$

$$\mathbf{= 374}$$

Thus the minimum sample size suitable for the study was 374. Keeping in mind the non response error (7% from pilot survey) a sample size of 402 was taken in the present study.

Then this sample size was divided into different strata. The size of the strata was based on the report of MoPN (Appendix Table -A18). According to this report there are 72% two wheeler, 11% cars, 5% goods vehicle and 3% light commercial vehicles in India. Based on the same data and using weighted average a total of 314 two wheeler, 53 four wheeler and 35 truckers were studied. The total respondent surveyed includes 91from Delhi, 85 from Faridabad, 66 from Ghaaziabad, 61 from Gurgoan and 99 from Noida.

3.10 MODELS AND TECHNIQUES

The various models and technique used in the study to are as follows

3.10.1 Fishbein 's Multi Attribute Attitude Model

Fishbein 's Multi Attribute Attitude Model measure three component of the attitude namely salient belief consumer have about an attitude, the probability that a particular objective has an important attribute and evaluation of each of the important attributes. This model can be written mathematically as-

$$A_0 = \Sigma\ b_i e_i, \quad \text{, where } i=1,2,3,\ldots\ldots\ldots\ldots..n$$

Where

A_0 = the persons overall attitude towards the object.

b i = the strength of his belief that the object is related to attribute i

e i = his evaluation of feelings (liking / disliking) towards attribute i

n = the number of relevant belief for that person

This model has been used to measure the attitude of the consumer towards NFR outlets.

The other tools and techniques that have been used to carry out the research are

3.10.2 Factor Analysis

Factor analysis is a general name denoting a class of procedure primarily used for data reduction and summarization. In this method relationship among set of many interrelated variables are examined and represented in the terms of few underlying factors. Factor analysis is an interdependence technique and in this technique the entire set of interdependence relationship is examined. (Malhotra Naresh K., Dash Satyabhushan).

Factor Analysis Model

In factor analysis each variable is expressed as a linear combination of underlying factors. The amount of variance a variable share with all other variables included in the analysis is known as communality. The covariation among the variable is describe in terms of small number of common factors plus a unique factor for each variable. The general representation of factor analysis is

$X_i = A_{i1} F_1 + A_{i2} F_{2+} A_{i3} F_{3+} \ldots\ldots\ldots\ldots\ldots\ldots\ldots_+ A_{im} F_{m+} V_i U_i$

Where

X_i= ith standardized variable

A_{ij} = Standardized multiple regression coefficient of variable I on common factor j

F = Common factor

V_i = Standardized regression coefficient of variable I on unique factor i

U_i= The unique factor for variable i

m= Number of common factors

The unique factors are uncorrelated with each other and with the common factor. The common factor can be expressed as a linear combination of the observed variables

$F_i = W_{i1}X_1 + W_{i2}X_2 + W_{i3}X_3 + W_{i4}X_4 + \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots + W_{ik}X_k$

Where

F_i = Estimate if I th factor

W_i =Weight or factor score coefficient

k= Number of variables

This method has been used to find out various factors affecting selection of the NFR outlets.

3.10.3 Chi- Square test

Chi – square test is appropriate for situations in which a test for the difference between samples is required. It is used for nominal and the ordinal data. This test helps us in testing the significance of relationship between two variables.

$$\chi^2 = \sum_{i=1}^{m} \sum_{j=1}^{n} \frac{(O_{ij} - E_{ij})^2}{E_{ij}}$$

Where

O_{ij} = observed number of cases categorized in the(i,j)th cell

Eij = Expected number of cases under H_o to be categorized in the (i,j) th cell.

This test has been used to compare the usage pattern of NFR services among two wheeler, four wheeler and truckers.

The significance of difference between the frequencies of use of NFR services among different kind of vehicle was also done on the basis of chi square test.

3.10.4 Test of Normality

Normality test was used to test whether the data follows normal distribution or not. For this first the graphical distribution (Histogram) of the sample data was obtained. If the shape of the curve obtained is bell shaped, then the data is said to follow normal distribution.

Frequency test like Shapiro-Wilk and Kolmogorov-Smirnov test was used to test the normality of the data. These test tests the null hypothesis the samples comes from a normally distributes population.

In the present study these tests has been used to test whether the samples of the second survey were normally distributed or not. The samples were found to be normally distributed.

3.10.5 Two independent sample Z- Test

The two independent sample Z- test accesses whether the mean of two samples differ significantly or not.

The general formula for this test is

$$Z = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{\sigma_1^2}{n_1} + \frac{\sigma_2^2}{n_2}}}$$ Where

$\bar{X}_1$ = mean of first sample

$\bar{X}_2$ = Mean of second sample

σ_1 = Standard deviation of the first sample

σ_2 = Standard deviation of the second sample

n_1= Sample size of first sample

n_2= Sample size of second sample

This test has been used to compare the attitude of commercial and non commercial vehicles. Large sample Z test was also used to compare the significance of difference between the attitude of primary shoppers and the non-primary shoppers.

Before using this test the normality of the data has been checked.

3.10.6 One Way ANOVA

The analysis of variance technique helps to draw inferences whether the samples have been drawn from populations having same means. The ANOVA technique investigates any number of factors which are supposed to influence the dependant variable of interest. The dependant variable is metric (interval or ratio scale), whereas the independent variables are categorical (nominal). If there is one independent variable (one factor) divided into various categories, we have One Way ANOVA. In ANOVA, it is assumed that each of the samples is drawn from a normal population and each of the population has an equal variance. Basically two estimates of the population variance are made. One estimate is based upon between the samples and the other one is based upon within the samples. The two estimates of variances can be compared for their equality using F statistic.

The formula for the one-way ANOVA F-test statistic is

$$F = \frac{\text{explained variance}}{\text{unexplained variance}},$$

Or

$$F = \frac{\text{between-group variability}}{\text{within-group variability}}.$$

The "explained variance", or "between-group variability" is

$$\sum_i n_i(\bar{Y}_{i\cdot} - \bar{Y})^2/(K-1)$$

Where $\bar{Y}_{i\cdot}$ denotes the sample mean in the i^{th} group, n_i is the number of observations in the i^{th} group, and $\bar{Y}$ denotes the overall mean of the data.

The "unexplained variance" or "within-group variability" is

$$\sum_{ij}(Y_{ij} - \bar{Y}_{i\cdot})^2/(N - K),$$

Where Y_{ij} is the j^{th} observation in the i^{th} out of K group and N is the overall sample size. This F-statistic follows the F-distribution with $K - 1$, $N - K$ degrees of freedom under the null hypothesis. The statistic will be large if the between-group variability is large relative to the within-group variability, which is unlikely to happen if the population means of the groups all have the same value.

This technique has been used to compare the attitude of owner/ drivers of two wheeler, four wheeler, and truckers and to compare the attitude between different age groups of consumer.

Using the research methodology discussed in this chapter, data was obtained from the consumer. The obtained data were analyzed with the help of SPSS 16 software.

CHAPTER 4

NON –FUEL RETAILING –A NEW APPROACH TO RETAILING

Introduction

Since oil is a commodity, there is no product differentiation, all OMCs are selling similar product with different name hence the consumer is indifferent towards them. Thus OMCs has to find out some other ways to attract and retain the consumer. Non – Fuel retailing is a step in this direction. Non – Fuel retailing includes all offerings at the fuel station other than the fuel and the fuel additors eg departmental stores, coffee shop, restaurants, courier services, medicine shops, music stores, auto service stations, pay telephones etc. Oil companies throughout the world are venturing in to this business and generating revenue. According to M2 Presswire, major OMCs are the biggest player in the forecourt business (M2Presswore, July 2010). Most of these companies have developed their own brand format for retailing. This chapter consists of a study of the NFR offerings of the major Petro Retail companies of the world and of India.

4.1 NON – FUEL RETAILING OFFERINGS OF INTERNATIONAL OIL MARKETING COMPANIES

Exxon Mobil, Royal Dutch Shell and British petroleum are the top three OMCs of the world in terms of revenue (15 Biggest oil Companies, Oct 2012). All the three companies are into the business of NFR. The broad area of NFR of these companies includes convenience store and vehicle care services. The detail non-fuel offerings of these companies are discussed below:

4.1.1 EXXON MOBIL

Exxon Mobil is the world largest publically traded oil company in the world (15 Biggest oil Companies, Oct 2012). It is the world's largest oil refiner and marketer of petroleum products. Throughout the world its products are marketed as Exxon, Esso and Mobil. Exxon brand is established in the US market and customers rely on it for its branded fuel service and lubricant for their personal and business need. Esso and Mobil are also a trusted brand throughout the world for their quality. Throughout the world these products are known for their quality and customer satisfaction. It is the largest of the six oil majors with daily production of 3.921 million barrel of oil equivalent. Beside fuel (Oil and Gas), the company is also in the business of NFR offerings. The major NFR offerings of this company are vehicle care services, fast food services and convenience store.

On the Run Café

Fig 4.1 On the Run Café of Exxon

The Café services of Exxon are offered with the name “On the Run”. This café offers high quality coffee to both take away and sit in customers. Besides the coffee other hot and cold beverages and large variety of sandwiches are available at these outlets.

Touchless Car Washes

Exxon offers its vehicle care services with the name touchless car wash. It is a car wash service station where the cars are thoroughly cleaned with soft warm water and specially designed biodegradable soaps.

Fig 4.2 Car Wash services of Exxon – Touchless Car wash

Esso Auto Club

The other NFR offering of the Exxon in the vehicle care services category is called Esso auto club. It offers emergency services for road assistance, road accidents and stolen vehicles. It also offer travel assistance for planning vacations.

Fig 4.3 Esso Auto Club

4.1.2 SHELL

Shell or Royal Dutch Shell as it is a globally known is the second largest oil and gas company in the world in terms of turnover. Its registered office is in London. It was created in the year 1907 with the merger of Royal Dutch Petroleum Company and "Shell" Transport and Trading Company Ltd of UK. At present it is operating in almost 90 countries and one of its largest businesses is in United States. It has 44,000 stations worldwide (Shell a glance, 2010). The company is ranked at the second position globally in the fortune 500 list in 2011(Tharoor Isaan, 2010). Like other OMC it is also in the business of NFR and offer services like loyalty program and convenience store.

Shell Select Convenience Store

These stores offer a variety of fast food and drinks. They also offers convenience items like groceries, phone cards, newspapers and magazines and travel items. In order to attract more customers these stores are conveniently located.

Fig 4.4 : Shell Select Convenience store

Vehicle services

Shell auto serve and shell car wash are two vehicle services of Shell in the NFR category. These outlets provide fast and personalized vehicle wash services

Shell Auto serve

Fig 4.5 : Shell Auto Serve Outlet

Shell Car Wash

Fig 4.6 : Shell Car Wash Outlet

4.1.3 BP

The name BP is derived from the initials of one of the company's former legal name British petroleum. It is a British oil and gas company having headquartered in London, United Kingdom. In the year 2011 it was the third largest energy company and fourth largest company in the world. It is operating in more than 80 countries and has 22,400 service stations worldwide. The company's largest division is BP America which is the largest producer of oil and gas in US. The company 's major NFR formats includes convenience store and car wash services. The convenience store of the company is called "*ampm*" and the car wash services are provided at BP Super wash and BP Motor Club.

am pm Convenience Store

This store used to sell convenience items like food (Sandwiches, juices and other fast food snack). They also sell customized hot and cold beverages.

Fig 4.7 : am pm Convenience Store of BP

Wild Bean Café

BP have one more food outlet where the company used to sell customized coffee. The name of this outlet is "Wild Bean Café".

Fig 4.8 : Wild Bean Cafe

4.2 NON - FUEL FFERINGS OF MAJOR INDIAN OMCS

In the Indian petro retail market, the major OMCs are IOCL, BPCL and HPCL. The detail studies of their various NFR initiatives are given below:

4.2.1 INDIAN OIL CORPORATION LTD. (IOCL)

IOCL is the India's largest public sector company in terms of the turnover and rank 98th in the fortune "Global 500" listing. It operates the largest and the widest network of retail fuel station in the country numbering 20,575 out of this 16,350 are regular retail outlets and 4,225 are Kissan Seva Kendra. It has started many non fuel offerings in urban and rural market and on highways. It had tied up on revenue sharing mode with brands like Hindustan Uniliver Limited, Dabur, ICIC Bank, Ferns and Petals, MTR Food, PVR Cinemas, UAE Exchange, Reliance Capital and DHL to name a few (Retail, Non – Fuel 2012). Its convenience store is called convenos and the vehicale care services are provided at Xtracare Petrol Pumps.

Convenios

At Convenios store, packed food, branded groceries, beverages and gift items are sold.

Xtracare Petrol Pumps

The Xtracare petrol pumps are equips to provide vehicle care services like brake fluid check, air check, battery check, windshield wiper check etc.

"Swagat" Outlets

The "Swagat" outlets cater to the need of the travelers on highway. These outlets have restaurants, retiring rooms and vehicle care services. These facilities have been provided keeping in mind the need of the highway travellors.

Fig 4. 9 Xtracare and Swagat Petro Pumps of IOCL

Kissan Seva Kendra (KSK)

In the rural market IOCL have open KSK outlets. Beside selling fuel, these outlets used to sell pesticide, banking products, fertilizers, seeds etc.

Fig 4.10 Kissan Seva Kendra

4.2.2 BHARAT PETROLEUM CORPORATION LTD (BPCL)

BPCL is also a public sector undertaking and presently have 22% share in the retail petrol market. The company is also having many NFR formats, some of them includes dhaba, rest room / dormitory, saloon, laundry, tailor shop, kirana shop, Houda facility and amphitheater for truckers and food court and children's play park for tourist. It is also providing health care services to the commuters.

In & Out

The convenience store of BPCL is called "In & Out". It used to sell products like ATM, Music, Beverages, Snacks, convenience foods, toiletries and select range of branded groceries and other FMCG products, Basic amenities.

Fig 4.11 In & Out Convenience Store

V- care

The vehicle care services of BPCL are run with the name V- Care. These outlets provide basic vehicle needs. These outlets have also tied up with Honda and GM for their after sales services.

4.2.3 HINDUSTAN PETROLEUM CORPORATION LTD (HPCL)

HPCL is a public sector undertaking with 20 % market share in petrol marketing. It has started “Club HP” petrol pumps. These petrol pumps are categorized into mega and max outlets. This outlet provides basic vehicle services, accessories and consumer able. The company has also got itself associated with leading companies like Coco Cola India, ICICI Bank, Fed Ex, Western Union Money Transfer, Café Coffee Day, US Pizza, Skype.

Fig 4.12 Club HP Outlets

Aadhaar Outlets

In the rural market HPCL has opened “Aadhaar Outlets” in association with Godrej Agrovet. These outlets provide Cattle feed, grocery, seeds, fertilizers, poultry products, aqua feeds etc.

4.3 SUMMARY OF THE NON – FUEL OFFERINGS OF INTERNATIONAL AND INDIAN OIL MARKETING COMPANIES

Convenience Store

Table 4.1

Convenience Stores of International Oil Marketing Companies

Company	Convenience Store	Products / Services
Exxon Mobil	On the Run	Coffee, cold drinks, snacks and fast food
Shell	Shell Select	Confectionary, cold drinks, bakery products, grocery items.
BP	am pm	Hot and cold beverages, freshly prepared food, grab and go sandwiches.

Table 4. 2

Convenience stores of Indian Oil Marketing Companies

Company	Convenience Store	Products / Services
BPCL	In and Out	ATM, Music, Beverages , Snacks, convenience foods, toiletries and select range of branded groceries and other FMCG products, Basic amenities.
HPCL	HP Speed mart	Convenience foods, toiletries and select range of branded groceries and other FMCG products, Basic amenities.
IOCL	Convenios	Packed food, branded groceries, beverages, gifts etc.

Vehicle care Services

Table 4. 3

Vehicle Care services of International Oil Marketing Companies

Company	Vehicle Care service/ Services	Products / Services
Exxon Mobil	Touchless car services	Car wash
	Esso Auto club	Emergency roadside assistance, travel services,
BP	BP Super wash	Car is washed instantly in just six minutes
	BP Motor club	Provide 24X7 vehicle assistance, offer on the road services to the motorist
Shell	Shell Car wash	Offer super fast car wash services and also it is environment friendly as it recycle almost 80% of the water it uses.
	Shell Auto serve	One stop solution for complete range of automobile products. Provide battery, lube, tyre, wiper, change and other maintainance services

Table 4.4

Vehicle Care services of Indian Oil Marketing Companies

Company	Vehicle Care Service/ Services	Products / Services
IOCL	Xtra Care Petrol pumps	Break fluid check, air check, battery check, windshield wiper check etc.
BPCL	V- care	Basic vehicle needs are provided, have tied up with hero Honda and GM for their after sales services.
HPCL	Quick Care	Mega and Max outlets "Club HP" outlets provides basic vehicle services, accessories and consumer able.

Table 4. 5

NFR of Oil Marketing Companies in Rural India

Company	NFR service	Products / Services
IOCL	Kisan Seva Kendra	Pesticide, banking products, convenience store, fertilizers, seeds,
HPCL	Aadhaar Outlets Godrej Agrovet Ltd.(Tie Up)	Cattle feed, grocery, seeds, fertilizers, poultry products, aqua feeds.

Summary

It has been found that all the major OMCs are there in the business of NFR, the size and variety may varies. All the OMCs have their own brand of convenience store. It has also been found that companies are continuously looking out for new opportunities and areas in which new services can be started out. Like in the Indian market IOCL is planning to open multiplexes in collaboration with PVR and BPCL have started motels and dormitory especially for truckers.

CHAPTER 5

DATA ANALYSIS AND FINDINGS

INTRODUCTION

The present study was done to measure the attitude of the consumer towards the non fuel offerings of major petro retail companies in Delhi NCR. Since there was no study about the factors affecting the selection of the NFR outlets, hence, based on the previous studies about the variables affecting selection of retail outlets a structured questionnaire was prepared. This questionnaire was used for collecting data from two wheeler, four wheeler and truck drivers / users to find out the factors that affects the selection of the NFR outlets. The various factors obtained from this study were treated as a base for the study of the attitude. This questionnaire was also used to study the situations in which these services were used by different segments and how frequently these services were used by different types of vehicle user.

Based on the factors obtained from the first study another questionnaire was prepared to measure the attitude of different types of vehicle user/ drivers towards the NFR services. This questionnaire was also used to find out the most important factors affecting the selection of the NFR outlet. The data obtained from this study was analyzed to find out whether the attitude (towards NFR services) is same among different types of vehicle segment or not. This data was also analyzed to find out significance of difference of attitude among different age group and between the commercial and the non commercial vehicles. The study was also done to find out whether the attitude differs significantly between primary and non primary shopper or not.

The statistical package for social sciences (SPSS 16) was used to do the analysis. Various statistical techniques like frequency distribution and percentage crosstabuation, Z- test, ANOVA, Chi- square test, factor analysis , Kolmogorov-Smirnov , Shapiro-Wilk , Kaiser-Meyer-Olkin Measure of Sampling Adequacy , Bartlett's Test of Sphericity Kolomo were used to do the analysis. The seven hypotheses were tested.

The results and discussions given in this chapter reveled that significant difference was found among the respondents form all different types of vehicle user/ drivers so far as the frequency of usage of the NFR services and the types of NFR services being used is concern. But no significant difference was found among different types of vehicle user/ drivers in their attitude towards NFR services. Average attitude score was not found to differ significantly between different age group of the respondents or between the commercial and non commercial vehicles. It was also found that the average score of attitude do not differ significantly between types of vehicle being used and the shopping status of the respondents.

The results of the present study has been discussed under the following categories

1. Comparison of NFR services used by different types of vehicle user.
2. Comparison of frequency of use of NFR services used by different types of vehicle user.
3. Determination of factors affecting selection of NFR outlet.
4. Most preferred factor in selecting a NFR outlet
5. Comparison of attitude towards NFR among two wheeler, four wheeler, truck user/drivers.
6. Comparison of attitude towards NFR among commercial and non-commercial vehicle' s respondents.

7. Comparison of attitude towards NFR among different age groups.
8. Comparison of attitude towards NFR among primary and non- primary shoppers

5.1 STUDY OF USAGE PATTERN AND FACTORS AFFECTING NFR OUTLET SELECTION

A survey of 550 individual was carried out using simple random sampling technique. Out of this only 510 responses were complete and they were included in the analysis, giving a response rate of 93%.

The demographic details of the respondents are as follows: (Table 5.1)

Table 5.1

Age (Years) Wise Description of Respondents

Age	**Up to 25**	**25 – 40**	**40 and above**	**Total**
No. of Respondents	188	196	126	510
Percentage	36.9	38.4	24.7	100

The maximum numbers of respondents (38.4%) were in the age group of 25-40 years followed by the age group 18-25 years (respondents above 18 years were considered) (Table 5.1)

Table 5.2

City Wise Distribution of Respondents

City	Delhi	Noida	Greater Noida	Ghaziabad	Faridabad	Total
No. of Respondents	100	107	111	98	94	510
Percentage	19.6	21.1	21.7	19.2	18.4	100

The above table (Table 5.2) indicates that the respondents were evenly distributed among different cities; almost 20 % respondents were taken from different cities. 21.7 % respondents were from Greater Noida, 21.1 % were from Noida, 19.6 % respondents were from Delhi.

The respondents were evenly distributed with respects to occupation. Most of the

Table 5.3

Occupation of Respondents

Occupation	Working Professional	Business Person	Others	Total
No. of Respondents	172	169	169	510
Percentage	33.8	33.1	33.1	100

respondents (33.8%) were working professional 33.1% were business persons and 33.1 % falls in the category others that includes home maker, retired personnel, students and any other profession (Table 5.3).

Of all the respondents surveyed, 78.2 % were two wheeler drivers/ users, 13.1% were four wheeler drivers/ users and 8.7% were truck drivers/ users (Table 5.4).

Table 5.4

Types of Vehicle Used By the Respondents

Vehicle Type	**Two Wheeler**	**Four Wheeler**	**Truck**	**Total**
No. of Respondents	399	67	44	510
Percentage	78.2	13.1	8.7	100

The frequency distribution of the visit pattern to the retail outlets shows that most of the respondents (54.7 %) are irregular in their visit to the petrol pumps (Table 5.5). Only 2.4% respondents visit the fuel stations daily.

Table 5.5

Frequency of Visit to the Fuel Stations / Petrol Pumps

Frequency of Visit to The Fuel Station	**Daily**	**Once a week**	**Twice a week**	**Others**	**Total**
No. of Respondents	12	123	96	279	510
Percentage	2.4	24.1	18.8	54.7	100

When respondents were asked about the various NFR services used by them, the most popular NFR service (65.3%) among the respondents was ATM followed by food service. Only 8.8 % respondents have used medical service. (Table 5.6)

Table 5.6

Services Used by the Respondents

Services Used	Food	Vehicle	ATM	Medical	Total
No. of Respondents	90	42	333	45	510
Percentage	17.6	8.2	65.3	8.8	100

When respondents were asked about the frequency or the situation in which they have used the NFR services; it was found that most of the respondents (55.9 %) have used these services in emergency only (Table 5.7). Only 18.8% respondents

Table 5.7

Frequency of Use of NFR Services

Frequency of Use	Once in a while	In Emergency only	Every time I visit the petrol pump	Total
No. of Respondents	129	285	96	510
Percentage	25.3	55.9	18.8	100

have used these services every time they visited the petrol pump. These figures are an indication that NFR services are not popular in daily routine.

When respondents were asked to cite the most important reason / most frequent reason to use the NFR services, most of them said that the convenience is the most important / most frequent reason. Close to 63.5% of the respondents said that they have used these services for convenience only. They used these services as they were conveniently located. (Table 5.8)

Table 5.8

Reason for Using NFR Services

Why Used	For Convenience	For Saving time	In Emergency	Others	Total
No. of Respondents	324	90	78	18	510
Percentage	63.5	17.6	15.3	3.5	100

The summary of the demographic feature of the respondents surveyed in the first survey for an understanding of the factor affecting selection of the NFR outlets are given in Table 5.9. This table also consists of information about the pattern of use of NFR services by the respondents. The information obtained from Table 5.1 – Table 5.8 has been summarized in this table. This has been done to have comprehensive information of the respondents being surveyed.

Table 5.9

Summary of Demographic Features of the Respondents

		Frequency	%
Age	Up to 25 Years	188	36.9
	25 - 40 Years	196	38.4
	40 Years and above	126	24.7
City	Delhi	100	19.6
	Noida	218	42.74
	Ghaziabd	98	19.2
	Faridabad	94	18.43
Occupation	Working Professional	172	33.7
	Business person	169	33.1
	Others	169	33.1
Vehicle Type	Two Wheeler	399	78.2
	Four Wheeler	67	13.1
	Truck	44	8.7
Frequency of Visit to The Fuel Station	Daily	12	2.4
	Once a week	123	24.1
	Twice a week	96	18.8
	Others	279	54.7

(Total Respondents 510)

The summary of the pattern of use of NFR services by the respondents in the Delhi NCR region is as follows: (Table 5.10)

Table 5.10

Summary of Pattern of Use of NFR Services

Total Respondents 510

		Frequency	**Percentage**
Services Used	Food	45	8.8
	Vehicle	42	8.2
	ATM	333	65.3
	Medical	90	17.6
Frequency of Use	Once in a while	129	25.3
	In Emergency only	285	55.9
	Every time I visit the petrol pump	96	18.8
Why Used	For Convenience	324	63.5
	For Saving time	90	17.6
	In Emergency	78	15.3
	Others	18	3.5

5.1.1 PATTERN OF USE OF NFR SERVICES AMONG DIFFERENT TYPES OF VEHICLE USER/ DRIVER

5.1.1.1 Comparison of NFR Services Used By Different Types of Vehicle User/ Drivers.

$H1_0$: There is no significant association between types of vehicle and type of NFR services being used.

$H1_a$: There is a significant association between types of vehicle and type of NFR services being used.

To test this hypothesis Chi- Square test was used. The results are as follows

Table 5.11

Test Statistics

	Vehicle kind	Services Used
Chi-Square	20.906[a]	452.965[b]
Df	2	3
Asymp. Sig.*	.000	.000

* 5% level of significance

Since the p value is less than 0.05, the null hypothesis is rejected. (Table 5.11)

Hence there is an association between the kind of NFR service being used and types of vehicle. It is found from the cross tabulation table (Appendix Table A6) that the popular services among the truckers were ATM and Vehicle repair where as among the two wheeler and four wheeler user / drivers the popular services were ATM and food services.

5.1.2 COMPARISON OF FREQUENCY OF USE OF NFR SERVICES USED BY DIFFERENT TYPES OF VEHICLE USER / DRIVERS

$H2_0$: There is no significant association between frequency of use of NFR services and types of vehicle.

$H2_a$: There is a significant association between frequency of use of NFR services and types of vehicle.

To test the above hypothesis, chi-square test was used. The results of the above test are

Table 5.12

Test Statistics

	Vehicle kind	Frequency of purchase
Chi-Square	20.906[a]	119.894[a]
Df	2	2
Asymp. Sig.*	.000	.000

*at 5% significance level

The p value is less than 0.05(Table 5.12), hence null hypothesis is rejected. Thus there is an association between the frequency of use of NFR services and kind of vehicle.

It can be seen from the (Appendix Table A7) that most of the truckers use these services once in a while whereas the respondents having two wheelers and four wheelers have used it only in emergency.

5.2 DETERMINATION OF FACTORS AFFECTING SELECTION OF NFR OUTLET

To achieve the second objective the factor analysis was used to determine the factors affecting the selection of the NFR outlets. The principle factor analysis with varimax rotation was performed on 75 items. Before proceeding further in the factor analysis, the test of appropriateness of factor analysis of analysis was done.

The following hypothesis were made to test the appropriateness of the factor analysis

$H3_0$: The different variables affecting attitude towards NFR outlets do not have any significant correlation in the population

$H3_a$: The different variables affecting attitude towards NFR outlets do have a significant correlation in the population

This hypothesis was tested using Kaiser-Meyer-Olkin (KMO) Statistics and Bartlett's Test of Sphericity. The results were as follows

Table 5.13

KMO Statistics and Bartlett's Test of Sphericity

S.No.	Test Statistics		Results	Interpretation
1	Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.843	Significant
2	Bartlett's Test of Sphericity	Approx. Chi-Square	1.0515	Significant
		d.f.	2211	
		Sig	.000	

The result indicated that the Bartlett's test of Sphericity (Bartlett 1954) was significant (Chi- square 1.0515, p value 0.000). The KMO value of sampling adequacy was 0.843 (Table 5.13) which was greater than 0.500 (Kaiser, 1975). The two results of KMO and Bartlett's suggest that data is appropriate to proceed with the factor analysis. The principal component analysis was used for analyzing the factor / factors from 75 variables. On applying the principal component analysis technique, communalities were calculated and based on Eigen Value Method, Scree Plot Method and Percentage of Variance Method the factors were determined (Appendix Table A8- A16). A total of thirteen factors were obtained these factors together explains variance of 89.44%. These factors were convenience, comfort, scheme, staff training, time saving, branded products, ambience, opening hours, variety of merchandise, price, and cleanliness, surrounding and parking facility. To check the reliability of each of the factors Cronbach's α was calculated. The Cronbach's α for convenience, comfort, schemes, staff training, save time, branded products, ambience, opening hour, variety of merchandise, price, cleanliness, surrounding and parking are 0. 749, 0.605, 0.618, 0.774, 0.524, 0.512, 0.622, 0.587, 0.566, 0.556, 0.774, 0.538 and 0.604. All the reliability measure exceeds the minimum value of 0.5 as recommended by Nunally (1978). The significant factor loadings, percentage of variance explained along with Cronbach's Alpha for each factor is shown in Table 5.14 in the next page.

Table 5.14:

Factor Affecting Selection of NFR Outlets

Factors	Factor Interpretation	% Variance	Factor Loading	Variables Included	Cronbach α
1	Convenienc	16.21	.673 .862 -.578 .558 .557 .505 .711 .531	Nearness Convenience Inconvenient Easy attention Points Utilize card points Have petro cards Shop no loyalty	0.749
2	Comfort	12.84	.823 .722 .588 .750 .738 .793 .657	Enjoy love Same outlet Good behavior Feel safe Get what I want Make life easier	0.605

Factors	Factor Interpretation	% Variance	Factor Loading	Variables Included	Cronbach α
3	Schemes	10.8	.686 .681	Offer some scheme New offers	0.618
4	Staff Training	8.6	.731 .624 .835 .763	Not courteous Answer my query Adequate training Do not assists	0.774
5	Time Saving	6.5	.823 .763 .870 .821 .523 .509	Way to manage time Fit with schedule Fast Checkout Efficient Queuing Near office Near supermarket	0.524

Factors	Factor Interpretation	% Variance	Factor Loading	Variables Included	Cronbach α
6	Branded products	5.2	.714 .814 .582 .715 .547 .741	Prefer Shopping material good All leading brands Private brand Prefer expensive Items Experience new things	0.512
7	Ambience	4.9	.560 .560 .623 .751 .591 .673	Spacious Attractive décor Promotional display Store ambience Spaced product display Modern equipments	0.622

Factors	Factor Interpretation	% Variance	Factor Loading	Variables Included	Cronbach α
8	Timing/ Open hours	4.5	.647 .744 .521 .618	Open 24 X 7 Odd hours Time convenience Mostly closed	0.587
9.	Variety of merchandise	4.5	.619 .748 -.713 .849 .744	Offer variety Attractive material Make feel better Nothing of need Not attractive	0.566

Factors	Factor Interpretation	% Variance	Factor Loading	Variables Included	Cronbach α
10.	Price	4.1	.517 .653 .719 .682 .751 .588	Economic value Price deal Pleasure saving Worthwhile High price range Prefer expensive Items	0.556
11	Cleanliness	3.9	.814 .550	Clean public area Way to relax	0.774
12	Surrounding	3.5	.829 .712 .729 .629	Near office Near supermarket Feel safe Easy to find	0.538

Factors	Factor Interpretation	% Variance	Factor Loading	Variables Included	Cronbach α
13	Parking Facility	3.3	.872 .680 .798	Good Parking Safe parking Easy parking	0.604

The first variable was given the name convenience as it contain the variables like nearness, convenience, inconvenient, easy attention, utilize card points, have petro card, shop no loyalty which talk about the convenience of the consumer.

The second variable was named comfort, it contains the variables enjoy, love, same outlet, good behavior, feel safe, get what I want, make life easier as through these variables the consumer look forward the comfort the NFR is going to provide them. The third variable consists of "offer some schemes", new offers which talk about the offers and schemes available at NFR and has been given the name schemes. The fourth variable is staff training and contains the variables not courteous, answer my query, adequate training, and do not assist, the various attributes of a trained staff. The fifth variable contains variables, way to manage time, fit with schedule, fast check out, efficient queuing, near office and near supermarket which talk about time saving. Thus fifth variable is time saving. Variables like prefer, shopping material good, all leading brands, private brands, prefer expensive items; experience new things constitute the sixth variable, branded products. The seventh variable is ambience constituting variables spacious, attractive décor, promotional display, store ambience, spaced product display, modern equipment. Eighth variable is timing / opening hour having variables open 24X7, odd hours, time convenience, close most of the time. Ninth variable is variety of merchandise containing variables offer variety, attractive material; make feel better nothing of need, not attractive. Tenth variable is price.

It contains variables economic value, price deal, pleasure saving, worthwhile, high price range, and prefer expensive items. The eleventh variable is cleanliness. The twelfth variable is outside surrounding. It consists of variables near office, near supermarket, feel safe, easy to find and the last variable is parking facility consisting of variables good parking, safe parking and easy parking.

In short the thirteen factors namely convenience, comfort, schemes, staff training, save time, branded products, ambience, opening hour, variety of merchandise, price, cleanliness, surrounding and parking facility determine NFR outlet selection.(Table 5.14)

5.3 MOST PREFERRED FACTOR IN SELECTING A NFR OUTLET

In order to find out the most important factor affecting selection of the NFR outlet another survey of 402 respondents was conducted. The demography of the respondents was as follows:

Table 5.15

Age (Years) Wise Description of Respondents

Age	**Up to 25**	**25 - 40**	**40 and above**	**Total**
No. of Respondents	153	168	77	402
Percentage	38.1	41.8	20.1	100

The maximum numbers of respondents (41.8%) were in the age group of 25-40 years followed by the age group 18-25 years (respondents above 18 years were considered).

Of all the 402 respondents surveyed there were a total of 385 males, which was 95.8% of the sample. There were just 17 females (4.2%). Hence we can conclude that most of the user of the two wheeler and four wheeler were males. (Table 5.16).

Table 5.16

Gender of the Respondents

Gender	Male	Female	Total
No. of Respondents	**385**	**17**	**402**
Percentage	**95.8**	**4.2**	**100**

The respondents were evenly distributed among different cities; almost 20 % respondents were taken from different cities. 24.6 % respondents were from Noida and 22.6 % respondents were from Delhi. (Table 5.17)

Table 5.17

City Wise Distribution of Respondents

City	Delhi	Faridabad	Ghaziabad	Gurgoan	Noida	Total
No. of Respondents	91	85	66	61	99	402
Percentage	22.6	21.1	16.4	15.2	24.6	100

The distribution of respondents on the basis of occupation shows that most of the respondents (39.8) were either self employed or were retired personals or were students followed by 30.8% working professionals. (Table 5.18)

Table 5.18

Occupation of Respondents

Occupation	**Working Professional**	**Business person**	**Others**	**Total**
No. of Respondents	124	118	160	402
Percentage	30.8	29.4	39.8	100

Of all the respondents surveyed, 78.2 % were two wheeler drivers/ users, 13.1% were four wheeler drivers/ users and 8.7% were truck drivers/ users.(Table 5.19)

Table 5.19

Types of Vehicle Used by the Respondents

Vehicle Type	**Two Wheeler**	**Four Wheeler**	**Truck**	**Total**
No. of Respondents	314	53	35	402
Percentage	78.2	13.1	8.7	100

The survey consists of 88.3% commercial vehicles and 11.7% non commercial vehicles.(Table 5.20)

Table 5.20

Purpose of Use of Vehicle

Purpose of use of vehicle	Commercial	Non – commercial	Total
No. of Respondents	47	355	**402**
Percentage	11.7	88.3	**100**

The frequency distribution of the visit pattern to the retail outlets shows that most of the respondents (37.8%) used to visit the petrol pumps once a week where as 34.8% visits the petrol pumps twice a week.

Table 5.21

Frequency of Visit to the Petrol Pumps

Frequency of Visit to The Fuel Station	Daily	Once a week	Twice a week	Others	Total
No. of Respondents	82	152	140	28	402
Percentage	20.4	37.8	34.8	7	100

The summary of the demographic features of the respondents of the second survey is as follows (Table 5.22)

Table 5.22

Summary of Demographic Features of Respondents

Total number of Respondents 402

Demographic variable		**Frequency**	**Percent**
Age	Up to 25 Years	153	38.1
	25 - 40 Years	168	41.8
	40 Years and above	77	20.1
Gender	Male	385	95.8
	Female	17	4.2
City	Delhi	91	22.6
	Faridabad	85	21.1
	Ghaziabd	66	16.4
	Gurgoan	61	15.2
	Noida	99	24.6
Occupation	Working Professional	124	30.8
	Business person	118	29.4
	Others	160	39.8
Vehicle Type	Two Wheeler	314	78.2
	Four Wheeler	53	13.1
	Truck	35	8.7

Demographic variable		Frequency	Percent
Purpose of use of vehicle	Commercial	47	11.7
	Non – commercial	355	88.3
Frequency of Visit to The Fuel Station	Daily	82	20.4
	Twice a week	140	34.8
	Weekly	152	37.8
	Others	28	7

5.3.1 MOST PREFERRED FACTOR IN SELECTING A NFR OUTLET

When respondents were asked to rank the different attribute of the NFR services considered important while using from one to thirteen, where 1 stands for most important and 13 stands for least important. The most important variable was time saving with mean score 4.6 and standard deviation 3.3. Thus it can be concluded that respondents consider time saving as the most important factor that determine the use or not – use of the NFR outlet. Thus we can say that time saving is the most important factor that affects the selection of the NFR outlet (Table 5.23). It was also found from the study that the second important factor that affects the selection of the NFR outlet is convenience to reach. The average score of convenience to reach is 5 with standard deviation 3.6. This indicates that respondents considered convenience of location as one of the important factor while selecting a NFR Outlet. Thus we can say that an NFR outlet should save the time of the user and should be conveniently located.

Table 5.23

Most Important Factor Affecting Selection of NFR Outlet

Variable	**Mean Score**	**Stand. Dev**
Convenience to reach	5.0	3.6
Surroundings	5.9	3.8
Comfort in buying the products	6.4	3.4
Schemes available	6.9	3.4
Trained Staff	7.3	3.5
Time saving	**4.6**	**3.3**
Ambience	7.9	3.5
Open at odd hours	6.3	3.8
Cleanliness in and around	7.4	3.3
Parking space	7.8	3.6
Price of merchandise	7.5	3.6
Availability of branded products	8.9	3.5

5.4 ATTITUDE TOWARDS NFR OUTLETS

To achieve the fourth objective, attitude of the respondents were measure using the Fishbein 's multiattribute attitude model. For this the belief of the respondents towards NFR services were measured and the Evaluation of belief was also measured. The attitude score of the respondents was calculated by multiplying the belief score with the evaluation of belief score. The details of belief measurement and evaluation of belief measurement are as follows:

Belief towards NFR Outlets

When respondents were asked to give opinion about their belief towards NFR outlets, the most important belief was they are open most of the time and offer a variety of merchandise (Table 5.24). The respondent least believes that these services are meant for limited number of peoples.

Table 5.24

Belief towards NFR Outlets

Variables	Mean Score	Standard deviation
It is convenient to shop from NFR outlets.	**3.7**	**0.9**
NFR outlets offer attractive schemes.	3.5	1.0
The staffs at these outlets are trained.	3.3	1.1
Shopping from NFR outlets saves time.	3.6	1.0
The ambience within the outlet is very soothing.	3.5	1.0
NFR outlets are opened most of the time.	**3.7**	**0.9**
Branded products are available at the outlets	3.3	1.1
NFR outlets offer a variety of merchandise.	**3.7**	**1.0**
The merchandises offered are appropriately priced.	3.4	0.9
These outlets are meant for limited people.	3.1	1.1
Standardized products and services are offered at these outlets	3.5	1.0
Parking facility at NFR are appropriate	3.3	1.2
The surrounding around NFR outlets is very clean.	3.5	1.1

The other factors that score very low on the belief score were availability of branded products at the outlet, availability of sufficient parking space and trained staff. It is also found from the study that the consumers do not have a strong positive belief towards the NFR outlets as all the factors have scored less than four on a scale of 1-5 where, 4 is agree and 5 is strongly agree.

Evaluation of Belief towards NFR

On study of evaluation of the belief of the respondent towards the NFR outlets, it was found that the respondent would use the NFR outlet only if it has ample variety and its surrounding is very soothing followed by the fact that it should be conveniently located. The other important attributes that the consumer would like to have is: the place should offer attractive schemes and it should have ample parking space. The consumers also said that the place should be such that it should save their shopping time.

The mean score of the evaluation of belief towards NFR outlets and the standard deviation of that score is given in the table 5.25. It is also found from the study that the evaluation of belief score were minimum for: shopping during odd hours, buying only appropriately priced products and buying only branded items. Thus we can say that consumers not only buy branded products or low price products, they may also buy unbranded products or highly priced products. Since shopping during odd hours have a score of 3 it indicates that consumers are neutral in their opinion about shopping during odd hours.

Table 5.25

Evaluation of Belief of the Respondent towards the NFR Outlets

	Mean Score	Standard deviation
The place I shop should be conveniently located	**3.9**	**1.1**
The outlets where I go for shopping should offer attractive schemes.	3.8	1.1
I visit those outlets only whose staff are well trained	3.5	1.0
I prefer to save time while shopping	3.6	1.1
I prefer to go to those outlets only whose surrounding is very much soothing	3.8	1.0
Most of my purchasing is during odd hours.	3.0	1.0
I love to shop for branded products	3.0	1.0
I prefer to shop from place having ample variety	3.8	1.0
I buy appropriately priced products	3.0	1.0
I prefer to shop from specialty store	3.4	1.8
I buy High standard products only	3.3	1.0
I shop from place having appropriate parking facility.	3.6	1.1
I prefer that outlet only which has clean and attractive public area	3.6	0.9

5.4.1 COMPARISON OF ATTITUDE TOWARDS NFR OUTLETS

The results of the study of attitude toward NFR outlets based on Fishbein model shows that the highest attitude score was related to convenience of location and the lowest score was related to specialty store (Table 5.26).

Table 5.26

Attitude toward NFR outlets

	Mean Score	Standard deviation
Convenience of location	**14.0**	**5.1**
Availability of attractive schemes	13.2	5.6
Well trained staff	11.7	5.5
Save time while shopping	13.8	6.8
Smoothing surrounding	13.0	5.9
Purchasing during odd hours.	11.4	5.7
Availability of branded products	11.1	5.7
Availability of variety	13.2	5.1
Appropriate price	10.6	5.3
Speciality store	10.1	5.8
High standard products	11.2	4.9
Parking facility	12.2	6.4
Clean and attractive public area	12.9	6.1

Mean Score vary from 1to 25

These variables also score low on belief score and evaluation of belief score. Thus customers have feeling that these outlets are located at convenient places and can be approached conveniently. This is important because the consumer wants to save their time by using these services. This result also matches with the belief of the respondents that these outlets are conveniently located

Before attitude between different types of vehicle user/ driver has been compared, it was checked for the normality. The frequency distribution curve of the data is as follows

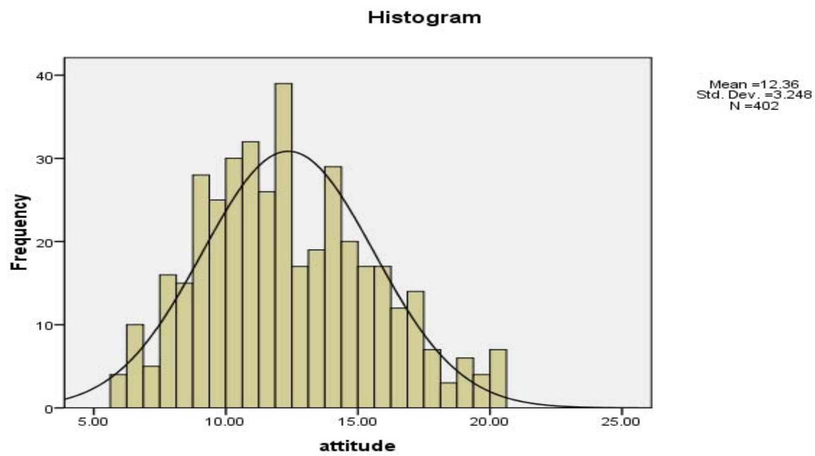


Fig 5.1 Distribution of Sample

According to Razali, Nornadiah; Wah, Yap Bee (2011), Shapiro – wilk tests has the best power for a given significance level to test the normalcy of the data. So this test has been used to check the normalcy of the data in the present case.

The following hypothesis had been made

H4o: The data is normally distributed.

H4a: the data is not normally distributed.

Table 5.27

Tests of Normality

	Kolmogorov-Smirnov[a]			**Shapiro-Wilk**		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Attitude	.061	402	.317	.983	402	.128

a. Lilliefors Significance Correction

The results shows that the obtained p value is greater than 0.05 (Table 5.27). Hence the null hypothesis is not rejected.

Thus the data is normally distributed. Hence parametric tests can be used to test the hypothesis.

5.4.2 COMPARING ATTITUDE OF TWO WHEELER, FOUR WHEELER AND TRUCKERS

The following hypothesis has been made to compare the attitude

$H5_0$: There is no significance difference between the attitude (Mean attitude score)of two wheeler, four wheeler and Truck users/ drivers towards NFR.

$H5_a$: There is a significance difference between the attitude(Mean attitude score) of two wheeler, four wheeler and Truck users/ drivers towards NFR.

Since we have to compare the attitude between three groups namely two wheeler, four wheeler and truckers, one way ANOVA was used to test the hypothesis.

Table 5.28

Test Statistics ANOVA

ANOVA					
Attitude	**Sum of Squares**	**Df**	**Mean Square**	**F**	**Sig.**
Between Groups	.138	2	.069	.007	.994
Within Groups	4230.409	399	10.603		
Total	4230.547	401			

The results of ANOVA shows a p value of 0.994(Table 5.28), which is greater than 0.05. Hence the null hypothesis is not rejected. Thus there is no significance difference between the average attitude of two wheeler, four wheeler and Truck users/ drivers. They all have same attitude towards the NFR services. It can be seen from the table 4.26 that the average attitude score is less than 16 hence we can say that they (all vehicle user/ drivers) do not have a strong positive attitude towards NFR outlets.

5.4.3 COMPARISON OF ATTITUDE OF COMMERCIAL AND NON-COMMERCIAL VEHICLE

To compare the attitude of commercial and non commercial vehicle's respondents the following hypothesis were made.

$H6_0$: There is no significance difference between the attitude (Mean attitude score) of commercial and non- commercial vehicle's user / drivers.

H6$_a$: There is a significance difference between the attitude (Mean attitude score) of commercial and non- commercial vehicle's user/drivers.

Two independent sample Z- test was used to test the hypothesis. The results of the test are as follows:

Table 5.29

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference Lower	Upper
Attitude	Equal variances assumed	.770	.381	.648	400	.518	.24539	.37889	-.49949	.99026
	Equal variances not assumed			.637	157.52	.525	.24539	.38505	-.51514	1.005

The results of the independent sample test (Table 5.29) indicates that the p value is greater than 0.05 hence the null hypothesis is not rejected. Thus we can conclude that there is no significance difference between the average attitudes of commercial and non- commercial vehicle's user/ driver. Thus both commercial and the non commercial vehicle user/ driver have same attitude towards NFR services. Since the average attitude score is not strong positive, we can say that neither commercial nor non- commercial vehicle user/ driver have a very strong positive attitude towards NFR services

5.4.4 COMPARISON OF ATTITUDE TOWARDS NFR AMONG DIFFERENT AGE GROUPS

The following hypothesis had been made to compare the attitude between different age group.

$H7_0$: There is no significant difference between the attitude (Mean attitude score) of respondents belonging to different age group.

$H7_a$: There is a significant difference between the attitude (Mean attitude score) of respondents belonging to different age group.

Since there were three age groups: up to 25 years, 25-40 years and 40 years and above, one way ANOVA was used to test the above hypothesis. The results of the one – way ANOVA indicates that the obtained p value is greater than 0.05 (Table 5.30). Hence the null hypothesis is not rejected. There is no significant difference between the attitudes towards NFR among different age group.

Table 5.30

Test Statistics ANOVA

ANOVA					
Attitude					
	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	26.729	2	13.364	1.268	.282
Within Groups	4203.818	399	10.536		
Total	4230.547	401			

5.4.5 COMPARISON OF ATTITUDE TOWARDS NFR AMONG PRIMARY AND NON- PRIMARY SHOPPERS

The attitude of primary and non primary shopper shoppers was compared with the help of two independent samples test.

to study the attitude

H7o : There is no significant difference between the attitude (Mean attitude score) of primary and non- primary shopper.

H7a : There is a significant difference between the attitude of (Mean attitude score) primary and non- primary shopper.

Two independent sample z- test was applied to study the difference of attitude among the primary and the non primary shoppers, the result obtained shows that the p value is greater than 0.05 (Table 5.31).

Thus we conclude that there is no significant difference between the average attitudes of primary and non- primary shopper. From the above study it can be said that attitude do not differ significantly between different any kind of vehicle user/ driver nor does it differ significantly between different age groups. Attitude towards NFR also do not differ significantly between commercial and non commercial vehicle and between primary and non primary shoppers.

Table 5.31

Independent Samples Test

	Levene's Test for Equality of Variances		z-test for Equality of Means						
Attitude	F	Sig.	Z	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
Equal variances assumed	.274	.601	.625	400	.533	.20272	.32450	-.43522	.84067
Equal variances not assumed			.626	399.97	.531	.20272	.32358	-.43341	.83886

5.6 SUMMARY OF HYPOTHESIS TESTING

Table 5.32

Summary of Hypothesis Testing

Objective	Hypothesis	Statistical Analysis	Hypothesis Rejected / Not Rejected
1	1	Chi Square	Rejected
	2	Chi square	Rejected
2	3	KMO , Bartlett's Test of Sphericity	Rejected
4	4	Kolmogorov – Smirnov and Shapiro – wilk	Not Rejected
	5	ANOVA	Not Rejected
	6	Z- Test	Not Rejected
	7	ANOVA	Not Rejected
	8	Z- Test	Not Rejected

CHAPTER 6

CONCLUSION AND RECOMMENDATIONS

After undertaking an in-depth study of the literature and conducting a research study to understand the attitude of the consumer towards the NFR offerings of major petro retailing companies, the conclusions drawn has been discussed in this chapter. Based on conclusions, the recommendations have been made for the various stakeholder of the oil retailing business.

6.1 CONCLUSION

The study shows that the NFR outlets are not popular in the daily routine; these are used only in emergency. The study also found that these services are used as they were conveniently located. The other reason for using these services was to save the time. The respondents used them as they wants to save time spent in going from one place to another for the want of the services (Table 5.10).

Out of all the services used, ATM was the most popular service followed by food products. A significant difference was found in the popularity of the NFR services among different types of vehicle user. The popular services among the truckers were ATM and vehicle repair where as among the four wheeler user / drivers the popular services were ATM and food services (Table 5.10).

The study also shows that the trucker's uses these services once in a while but the two wheeler and four wheeler users used them only in emergency (Table 5.10).

It was also found from the study that there are thirteen variables that determine the selection of the NFR outlets. These are convenience of the location, comfort of using the services, the various schemes offered by the outlets, the availability of trained staff, saving time by using these services, availability of branded products, ambience of the outlet, the opening hour of the outlet, the variety of merchandise offered, the price of the products and services available at the outlet, the cleanliness in and around the outlet, the surrounding of the outlet and the availability of parking facility((Table 5.14). However all these variables do not play equal role in the selection of the NFR outlet, the variable that is considered most important for the use of the NFR services is time saving i.e. the consumers will use these services only if they can save their time by using it (Table 5.23). These services will be used mostly to save the overall time required in getting the product or services.

The study shows that the most important belief about the NFR outlet is that they are open most of the time and hence can be used any time to get the required services. The variable least believed by the respondent was that NFR are for limited people (People with high income only) only and may not be very useful for general public. Thus consumers are aware that any individual can use NFR services. The respondents do not have a strong belief that enough parking space is available at these outlets (Table 5.24).

The study of evaluation of belief shows that the respondent would use the outlets only if it is conveniently located. People want convenience and they relate their convenience with time. Hence a particular outlet is considered convenient if it helps them in saving their time. The respondents do not have very high belief about the training of the staff i.e. they do not strongly believe that these staffs are well trained (Table 5.25).

The attitude calculated with the help of Fishbein multiattribute attitude model indicate that the respondents have highest attitude related with the convenience of location. Thus we can conclude that the respondent believes that these stores are conveniently located. The lowest attitude related with NFR is that it is a specialty store. Also the respondents have least belief that these are specialty store. The evaluation of belief indicates that the respondents do not bother about specialty store. Thus we can say that the respondents do not always wants to use specialty store. The consumers do not have a very good attitude towards the price of the products i.e. they do not agree that the products are offered at appropriate price. The findings of the study support the findings of the study by Kumar and Sahay who in their study have found that the customer perception about the facilities at the petrol pumps is poor (Table 5.26).

The study indicate that there is no significant difference between the attitude of any of these respondents on the basis of age, purpose of use of vehicle or the kind of vehicle they are using, hence we can conclude that attitude is a personal issue and has no influence of kind of vehicle they are using or the age (Table 5.27-5.31).

6.2 RECOMMENDATIONS

On the basis of this research following are the recommendations for the oil marketing companies and the other stakeholders of this business.

The first and the most important thing that should be done by the OMCs are to take measure to advertising and promote the NFR services to popularize them among the user. They should be promoted so that can be used in the daily routine instead of using them in emergency only. They should make marketing strategy in such a way that the NFR can be made popular for the general public. This will not only enhance their brand but may also significantly contribute towards their bottom-line.

Since ATMs are most popular NFR service more ATM should be installed at different outlets. As India is cash driven country it will be better to have an ATM associated with food and impulse buying items. Companies can use ATM to attract the consumer to petrol pumps.

Time saving is the most important variable affecting the selection of the NFR outlets so companies should take measures like fast billing, convenient display to reduce the average time taken to avail the services.

The staff at the NFR outlets should be trained to handle the consumers.

It is also observed from the study that parking facility is one of the most important obstacles in promoting the NFR services, companies should take measure to make parking hassle free.

The OMCs should offer competitive prices at these outlets. So that consumers can be attracted to these outlets.

The OMCs should ensure that every consumer (Two wheeler, Four wheeler, Truckers) who uses the NFR is treated well at the outlet as attitude is a so that a strong positive attitude can be developed among the consumers.

6.3 SCOPE OF FURTHER STUDY

The analysis of primary data indicates that the consumer as a strong belief that these outlets are open during odd hours, a further study about the usage pattern of the NFR outlets during odd hours can be done to have a better idea about the services that should be made available during odd hours.

The primary data also indicate that there is a need for training the staff at the NFR outlets. A further study can be done to find out kind of training that should be imparted to these staff.

Further study can also be done to find out the various parking alternatives that the company can adopt to solve the parking problem.

It has been found from the study that the consumer wants to save time by using the NFR services. A further research can be done to find out the various ways to save the time of the customers at the NFR outlet

SUMMARY

The research focuses on measuring consumers' attitude towards the NFR outlets of major petro retail companies. The companies have to look out for additional source of revenue as the world oil prices are continuously increasing and companies are restrained from increasing the prices of the fuel. Other reason for starting a NFR outlet is the entry of the private oil marketing companies. Because of these companies the oil retailing market has become more competitive.

It has been found from the study that the consumer uses these services only during emergency and not in their daily routine. The most preferred service among the consumers was ATMs followed by food services. It has also been found that there are thirteen factors, convenience, comfort, schemes, staff training, save time, branded products, ambience, opening hour, variety of merchandise, price, cleanliness, surrounding and parking facility that affects the selection of the NFR outlets. It has been found from the study that time saving was the most important factor for selecting a NFR outlet. The consumers were of the opinion that they will select NFR outlet to save their time

From the measurement of attitude towards NFR outlets, it has been found that the highest score of the attitude was that NFR outlets are conveniently located. The lowest attitude towards the NFR outlets was that it is a specialty store. The attitudes were measured using Fishbein, s multiattribute attitude model. It is found from the study that the popular services among the truckers were ATM

and vehicle repair where as among the two wheeler and four wheeler user / drivers the popular services were ATM and food services. It was also found from the study that truckers use these services once in a while whereas the respondents having two wheelers and four wheelers have used it in emergency only. The study shows that the most important belief about the NFR outlet is that they are open most of the time and hence can be used any time to get the required services. The variable least believed by the respondent was that NFR are for limited people

The study indicate that there is no significant difference between the attitude of any of these respondents on the basis of age, purpose of use of vehicle or the kind of vehicle they are using, hence we can conclude that attitude is a personal issue and has no influence of kind of vehicle they are using or the age.

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ANNEXURES

A 1. TOP COUNTRIES IN THE WORLD BY PURCHASING POWER PARITY

(a) List by the International Monetary Fund (2012)

Rank	Country	GDP (PPP) $Billion
—	World	82,762.149[4]
—	European Union	16,073.550[4]
1	United States	15,653.366
2	China	12,382.559
3	India	4,710.807

4	Japan	4,616.876
5	Germany	3,194.199
6	Russia	2,511.708
7	Brazil	2,365.875
8	United Kingdom	2,316.246
9	France	2,252.536
10	Italy	1,833.945

(b) List by the World Bank (2005–2011)

Rank	Country	GDP (PPP) $Billion	Year
—	World	78,940	2011

Rank	Country	GDP (PPP) $Billion	Year
—	European Union	15,700	2012 est.
1	United States	15,660	2012 est.
2	China	12,380	2012 est.
3	India	4,735	2012 est.
4	Japan	4,617	2012 est.
5	Germany	3,194	2012 est.
6	Russia	2,509	2012 est.
7	Brazil	2,362	2012 est.
8	United	2,323	2012 est.

Rank	Country	GDP (PPP) $Billion	Year
	Kingdom		
9	France	2,253	2012 est.
10	Italy	1,834	2012 est.

(c) List by the CIA World Fact book (1993–2012)

Rank	Country	GDP (PPP) $Billion	Year
—	World	78,940	2011
—	European Union	15,700	2012 est.
1	United States	15,660	2012 est.

2	China	12,380	2012 est.
3	India	4,735	2012 est.
4	Japan	4,617	2012 est.
5	Germany	3,194	2012 est.
6	Russia	2,509	2012 est.
7	Brazil	2,362	2012 est.
8	United Kingdom	2,323	2012 est.
10	Italy	1,834	2012 est.

A2. TOP COUNTRIES OF THE WORLD BY GDP

(a) List by the United Nations (2011)

Rank	Country/Region	GDP (Millions of $US)
	World	**70,201,920**
1	United States	14,991,300
2	China	7,203,784
3	Japan	5,870,357
4	Germany	3,604,061
5	France	2,775,518
6	Brazil	2,476,651
7	United Kingdom	2,429,184

8	Italy	2,195,937
9	India	1,897,608
10	Russia	1,857,770

(b) List by the World Bank (1990–2011)

Rank	Country/Region	GDP (Millions of $US)	Year
	World	**69,983,693**[n12]	**2011**
1	United States	15,094,000	2011
2	China	7,318,499[n2]	2011
3	Japan	5,867,154	2011
4	Germany	3,570,556	2011

5	France	2,773,032[n4]	2011
6	Brazil	2,476,652	2011
7	United Kingdom	2,431,589	2011
8	Italy	2,194,750	2011
9	Russia	1,857,770	2011
10	India	1,847,982	2011

(c) List by the CIA World Fact book (2000–2012)

Rank	Country/Region	GDP (Millions of $US)	Year
	World	71,620,000	2012 est.
	European Union	16,190,000	2012 est.

Rank	Country/Region	GDP (Millions of $US)	Year
1	United States	15,650,000	2012 est.
2	China	8,250,000	2012 est.
3	Japan	5,984,000	2012 est.
4	Germany	3,367,000	2012 est.
5	France	2,580,000	2012 est.
6	United Kingdom	2,434,000	2012 est.
7	Brazil	2,425,000	2012 est.
8	Italy	1,980,000	2012 est.
9	Russia	1,954,000	2012 est.

10	India	1,947,000	2012 es

A3 . TOP OIL CONSUMING COUNTRIES OF THE WORLD

Source: The World Fact book. 2011

Rank	Country/Region	Oil - consumption (bbl/day)	Date of information
-	World	93,250,000	2010 est.
1	United States	19,150,000	2010 est.
-	European Union	13,680,000	2010 est.
2	China	9,400,000	2011 est.
3	Japan	4,452,000	2010 est.
4	India	3,182,000	2010 est.
5	Saudi Arabia	2,643,000	2010 est.

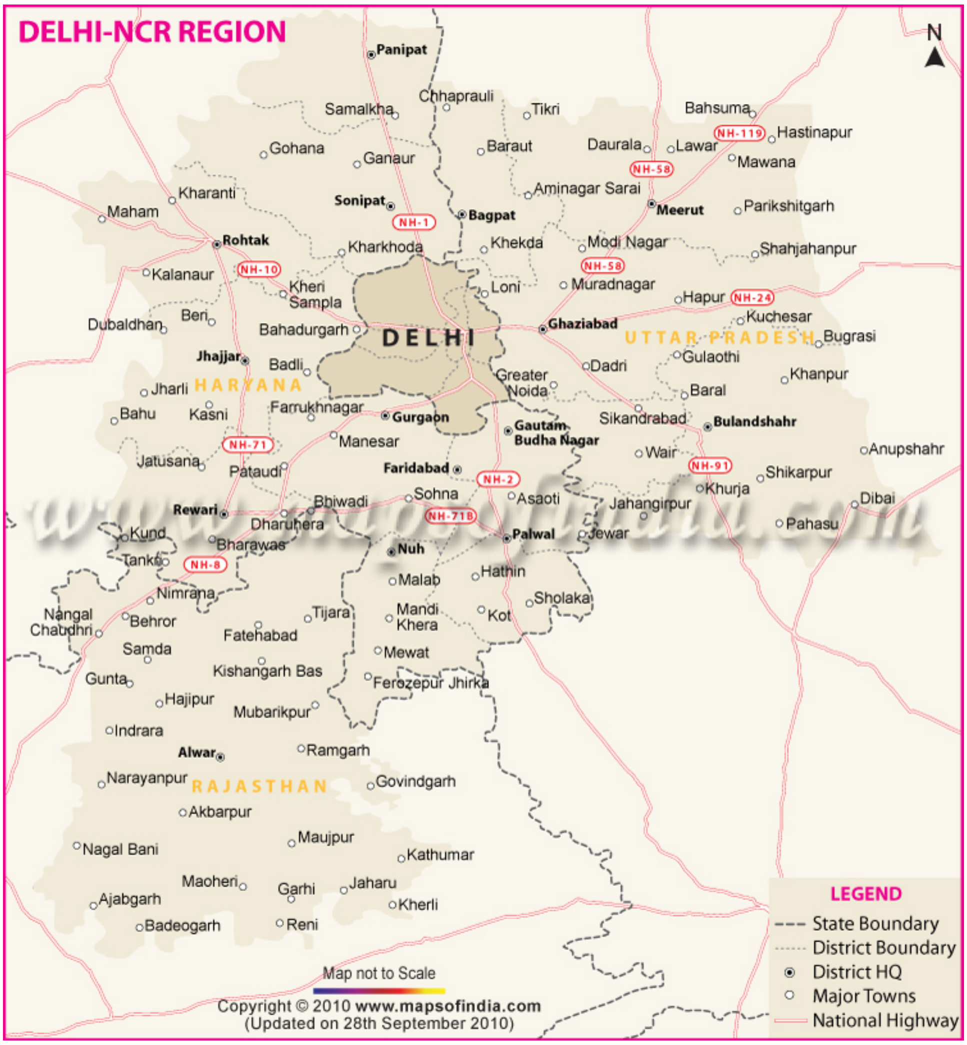
Rank	Country/Region	Oil - consumption (bbl/day)	Date of information
6	Germany	2,495,000	2010 est.
7	Canada	2,209,000	2010 est.
8	Russia	2,199,000	2010 est.
9	Korea, South	2,195,000	2011 est.
10	Mexico	2,073,000	2010 est.

A4. TOP OIL IMPORTING COUNTRIES OF THE WORLD

Source: The World Fact book 2012.

Rank	Country	Oil - imports (bbl/day)	
1	United States	10,270,000	
2	China	5,080,000	
3	Japan	4,394,000	
4	India	3,060,000	
5	Germany	2,671,000	
6	Netherlands	2,577,000	
7	Korea, South	2,500,000	
8	France	2,220,000	
9	Singapore	2,052,000	
10	Italy	1,800,000	

A5. MAP OF DELHI NCR



A6. CROSS TABULATION OF KIND OF VEHICLE AND NFR SERVICES USED

Count		Services Used				Total
		Food	Vehicle	ATM	Medical	
Vehicle kind	Two Wheeler	23	10	354	12	399
	Four Wheeler	14	12	34	7	67
	Truck	0	12	26	6	44
Total		**37**	**34**	**414**	**25**	**510**

A7. CROSS TABULATION OF KIND OF VEHICLE AND FREQUENCY OF PURCHASE FROM NFR OUTLET

Count		Frequency of purchase			Total
		Once in a while	In Emergency only	Every time I visit the petrol pump	
Vehicle kind	Two Wheeler	116	254	29	399
	Four Wheeler	11	53	3	67
	Truck	27	14	3	44
Total		**154**	**321**	**35**	**510**

A8. TABLE OF COMMUNALITIES

	Initial	Extraction
Enjoy	1.000	.801
Love	1.000	.781
Waste time	1.000	.776
Entertaining	1.000	.668
Prefer	1.000	.841
Nearness	1.000	.777
Convenience	1.000	.771
Same outlet	1.000	.792
Near office	1.000	.773
Near supermarket	1.000	.883
Economic value	1.000	.705
Price deal	1.000	.782
Pleasure saving	1.000	.708
Offer variety	1.000	.832
Inconvenient	1.000	.814
Spacious	1.000	.816
Attractive material	1.000	.843
Nothing of need	1.000	.699
Not attractive	1.000	.820
Shopping material good	1.000	.837
Clean public area	1.000	.833
Offer some scheme	1.000	.829
All leading brands	1.000	.805
Private brand	1.000	.631
High standard service	1.000	.846

	Initial	Extraction
No personal attention	1.000	.809
Easy attention	1.000	.785
Good behavior	1.000	.869
Feel safe	1.000	.879
Not courteous	1.000	.669
Answer my query	1.000	.804
Adequate training	1.000	.856
Pressurize customers	1.000	.689
Make feel better	1.000	.839
Worthwhile	1.000	.796
High price range	1.000	.741
Limited brands	1.000	.643
Get what I want	1.000	.882
Prefer expensive	1.000	.729
Withhold information	1.000	.827
Way to manage time	1.000	.813
Make life easier	1.000	.775
Fit with schedule	1.000	.790
Fast checkout	1.000	.889
Efficient queuing	1.000	.823
Attractive décor	1.000	.860
Promotional display	1.000	.914
Store ambience	1.000	.796
Spaced product display	1.000	.703
Easy to find	1.000	.809
Experience new things	1.000	.839

	Initial	Extraction
New offers	1.000	.791
Points	1.000	.870
Utilize card points	1.000	.900
Have petro cards	1.000	.832
Shop no loyalty	1.000	.783
Open	1.000	.841
Odd hours	1.000	.754
Time convenience	1.000	.838
Close most of the time	1.000	.733
Do not display free samples	1.000	.790
Provide usages of products	1.000	.818
Customer friendly policy	1.000	.730
Modern equipments	1.000	.845
Preferential treatment	1.000	.711
Parking space	1.000	.824
Safe parking	1.000	.759
Easy Parking	1.000	.831
Do not assists	1.000	.814
Make excuses	1.000	.827

Extraction Method: Principal Component Analysis.

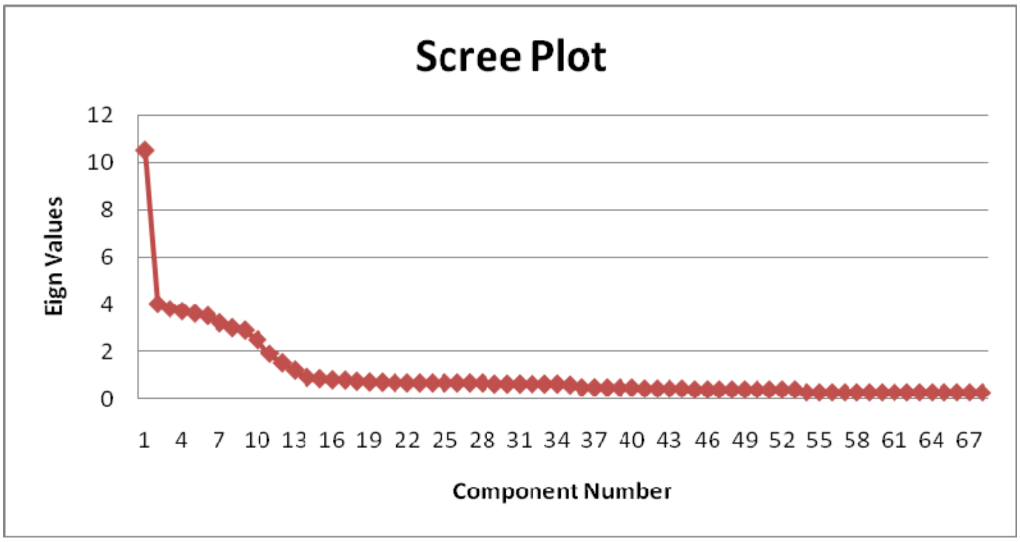
A9. TOTAL VARIANCE EXPLAINED

Component	Initial Eigen values			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	15.496	16.130	16.130	17.505	16.217	16.217
2	12.067	12.535	28.665	13.243	12.840	29.057
3	9.573	9.786	38.451	11.197	10.771	39.824
4	7.430	7.583	45.989	9.098	8.623	48.451
5	7.079	6.996	53.035	7.080	6.597	55.048
6	5.704	5.636	58.670	5.840	5.239	60.287
7	4.989	4.864	63.534	5.650	4.955	65.242
8	4.446	4.551	68.085	4.882	4.556	69.798
9	4.307	4.192	72.277	4.726	4.546	74.344
10	3.984	3.659	75.936	4.340	4.193	78.537
11	3.536	3.489	79.425	4.126	3.971	82.508
12	3.127	3.109	82.534	3.992	3.542	86.050
13	3.028	2.961	85.495	3.557	3.329	89.442
14	1.608	2.399	87.894			
15	1.482	2.212	90.106			
16	1.328	1.983	92.087			
17	1.268	1.893	93.982			
18	1.205	1.798	95.780			
19	1.125	0.835	96.850			
20	1.072	0.639	97.489			
21	1.045	0.532	98.021			
22	1.006	0.505	98.526			
23	.927	0.429	98.955			
24	.876	0.322	99.277			
25	.799	0.207	99.464			
26	.794	0.103	98.787			

27	.730	0.098	99.567			
28	.692	0.064	99.631			
29	.627	0.038	99.669			
30	.612	0.021	99.690			
31	.598	0.018	99.708			
32	.584	0.017	99.725			
33	.538	0.016	99.741			
34	.505	0.013	99.744			
35	.491	0.012	99.766			
36	.414	0.011	99.777			
37	.386	0.011	99.788			
38	.380	0.011	99.799			
39	.354	0.011	99.810			
40	.328	0.010	99.815			
41	.306	0.010	99.825			
42	.266	0.010	99.835			
43	.251	0.009	99.844			
44	.224	0.009	99.853			
45	.211	0.009	99.862			
46	.182	0.008	99.870			
47	.170	0.008	99.878			
48	.156	0.008	99.886			
49	.154	0.007	99.893			
50	.128	0.007	99.900			
51	.118	0.007	99.907			
52	.113	0.007	99.914			
53	.099	0.007	99.921			
54	.089	0.006	99.927			
55	.086	0.006	99.933			
56	.070	0.006	99.939			
57	.062	0.006	99.945			
58	.057	0.006	99.951			
59	.057	0.006	99.957			

60	.047	0.006	99.963			
61	.041	0.006	99.969			
62	.029	0.006	99.975			
63	.024	0.006	99.981			
64	.022	0.005	99.986			
65	.016	0.005	99.991			
66	.009	0.005	99.996			
67	.007	0.004	100			
Extraction Method: Principal Component Analysis.						

A 10. SCREE PLOT



A11. COMPONENT NUMBER

Component	1	2	3	4	5	6	7	8	9	10	11	12	13
1	.618	.324	.251	.281	.261	.194	.302	.217	.198	.063	.113	.034	.144
2	.279	-.117	-.147	.217	-.463	.204	-.229	.286	-.059	-.280	-.370	.283	.022
3	.130	.215	-.533	-.285	.249	-.217	.029	.128	.180	.126	-.147	.151	-.163
4	.111	.261	.177	-.197	-.045	.459	-.145	-.311	-.387	.431	-.270	.156	-.130
5	-.218	-.256	-.444	.534	.143	.388	.129	-.037	.107	.190	.064	.227	-.125
6	-.354	.266	.077	-.055	.217	.273	.039	.018	.324	-.104	-.276	.021	.102
7	-.102	.077	-.099	-.109	.097	-.106	-.252	.194	-.117	.297	.231	.229	.444
8	.208	-.621	.108	-.007	.496	.057	-.092	-.129	-.164	.012	-.050	-.127	.081
9	-.256	.050	.337	.256	.206	-.130	-.322	.001	.007	-.237	-.305	.152	.379
10	-.040	.120	.027	.212	-.104	.094	-.363	-.180	.304	.212	.080	-.468	-.335
11	.000	-.138	.153	.063	-.096	-.252	-.133	.226	.184	.279	-.015	.185	-.239
12	-.051	.221	-.173	.353	.039	-.321	-.030	-.301	-.016	.201	-.164	.019	.480
13	.253	.082	-.134	.146	.144	-.285	-.061	-.381	-.212	-.145	-.149	.158	-.667

Extraction Method: Principal Component Analysis.
13 component extracted

A 12. COMPONENT SCORE COEFFICIENT MATRIX

	Component												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Enjoy	-.024	.002	.309	.034	-.013	-.014	-.062	-.051	.025	.026	.035	.029	-.012
Love	-.033	-.065	.258	.030	.039	.003	-.019	.035	-.013	-.015	.006	-.053	-.134
Waste time	-.019	-.015	-.005	.043	.034	-.024	-.002	-.057	-.005	-.041	-.009	.143	-.101
Entertaining	-.024	-.016	.001	-.031	-.034	.039	.023	-.005	-.022	.017	-.033	.004	-.020
Prefer	.015	-.069	.013	-.132	.057	.265	.016	-.047	.075	.020	-.142	.075	-.111
Nearness	.453	.020	-.141	.051	.008	.054	.027	-.029	-.105	-.044	.074	-.083	.058
Convenience	.641	.163	-.040	-.008	.045	-.129	-.005	-.022	.018	.023	.008	.146	-.109
Same outlet	-.043	.177	-.010	.023	-.093	.001	-.051	.070	.054	.035	.040	-.009	.109
Near office	-.021	-.021	.019	.007	.015	-.004	.014	-.014	-.001	-.030	.086	.418	-.041
Near supermarket	-.014	-.010	.031	-.023	-.046	.085	-.004	-.094	.051	.036	-.062	.165	.049
Economic value	.027	.174	-.109	-.066	-.005	.167	-.173	.038	.025	-.040	-.021	-.119	.089
Price deal	.038	-.075	-.022	-.042	-.064	-.055	.086	-.030	-.017	-.013	-.034	.012	-.030
Pleasure saving	-.075	.061	.036	.037	.044	.010	-.028	.030	-.051	.026	.067	.002	-.036
Offer variety	-.029	.010	.070	.065	.031	.103	.090	.024	-.164	-.149	.118	.042	.004

Component													
	1	2	3	4	5	6	7	8	9	10	11	12	13
Inconvenient	.098	-.013	-.035	.052	-.003	.086	.089	.062	-.235	.000	-.067	-.171	-.062
Spacious	.134	.041	.029	.001	.014	-.096	-.078	.007	-.113	-.046	.003	-.128	.083
Attractive material	.189	.012	.034	-.040	-.074	-.004	-.015	-.119	.049	.042	.016	.019	.050
Nothing of need	-.059	-.034	.008	-.054	-.061	.030	.011	.065	.018	.108	-.038	-.040	.099
Not attractive	.016	-.029	-.028	-.011	.021	-.006	.085	-.015	.056	-.061	-.443	-.064	-.005
Shopping material good	.062	-.119	.034	-.070	.009	.087	.164	-.133	.130	.031	.002	.025	.094
Clean public area	.049	-.065	.077	-.046	.003	.013	-.103	-.112	.062	.011	.027	-.076	.290
Offer some scheme	-.029	-.004	.260	.031	-.083	-.064	.168	-.043	.048	.013	-.025	.080	-.013
All leading brands	.010	.060	-.030	.062	-.011	-.017	-.032	-.057	.004	.022	.055	-.015	.037
Private brand	-.024	.004	-.095	.060	.023	.033	.017	-.011	-.023	-.101	.001	-.043	.107
High standard service	.058	-.036	.078	-.113	-.009	.038	-.019	.159	-.076	.013	-.013	-.109	-.086
No personal attention	.046	.037	.027	.057	.072	-.054	-.123	.029	-.018	-.017	-.105	.028	.110

	Component												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Easy attention	.089	-.001	.003	.012	.021	-.008	.055	.013	-.056	-.090	-.089	-.080	-.062
Good behavior	.045	.252	.001	-.089	-.061	-.033	-.037	-.051	.051	-.009	.049	.023	-.059
Feel safe	.178	-.098	.036	-.162	.022	-.027	-.022	.155	.030	.023	-.049	.014	-.061
Not courteous	-.032	.051	-.023	-.024	-.018	.025	-.026	-.031	.047	-.006	-.050	-.064	-.003
Answer my query	-.012	.054	-.014	.009	.018	-.041	.000	.018	-.018	-.002	.011	.051	-.036
Adequate training	-.028	-.028	.093	.367	.023	-.160	-.065	-.022	-.012	.078	-.024	.048	-.044
Pressurize customers	.029	-.045	.086	.020	.036	.012	-.069	.058	-.031	.029	-.011	.016	-.410
Make feel better	-.046	.035	.047	-.015	.012	.076	-.138	.036	.350	-.031	.045	.038	.004
Worthwhile	-.007	-.004	.024	.082	.023	.039	-.113	-.042	.094	-.025	.129	-.094	-.028
High price range	.021	-.024	.043	.005	-.014	-.060	.025	.011	.057	.027	.014	.013	-.102
Limited brands	.062	.108	.019	.180	-.098	-.025	-.076	-.114	-.013	.037	.060	-.047	.042
Get what I want	-.014	.017	-.007	-.021	.014	.313	-.093	.035	.027	.042	.056	-.040	.013
Prefer expensive Items	.168	-.087	-.065	-.035	-.004	.128	-.092	.064	-.049	.030	.142	.020	.042

	Component												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Withhold information	.052	.010	-.027	.095	.044	.017	-.063	.032	-.073	.033	-.163	.132	.133
Way to manage time	.025	-.032	-.028	-.045	-.024	.088	.064	-.036	-.070	-.075	.148	.155	.065
Make life easier	-.079	.252	-.028	.045	.134	.022	-.006	-.054	-.168	-.068	-.029	-.011	.026
Fit with schedule	.000	-.023	.003	.005	.306	-.023	-.016	.043	-.090	.050	-.045	-.040	-.030
Fast checkout	-.036	-.005	-.006	-.019	.355	.022	-.029	.034	.031	-.059	-.053	-.007	-.041
Efficient queuing	-.003	-.013	-.018	-.017	.328	.034	-.116	.000	.020	-.016	.024	.070	-.008
Attractive décor	.029	-.096	.019	-.081	-.062	-.008	.206	-.077	.098	-.013	.221	.045	.055
Promotional display	-.100	.163	.030	.034	-.037	.038	.222	-.039	.016	.077	-.103	-.032	.009
Store ambience	-.018	-.012	-.020	.030	-.019	-.047	.369	.013	-.134	.059	-.069	.003	.035
Spaced product display	-.049	-.054	.018	.009	.023	.021	.049	.068	-.026	.362	-.045	-.020	.025
Easy to find	-.084	.007	.011	.027	-.010	.025	.006	.072	-.029	.368	.053	.041	-.031
Experience new things	-.031	.135	-.044	-.043	.006	-.039	.192	-.076	.087	-.076	.030	-.014	-.149

	Component												
	1	2	3	4	5	6	7	8	9	10	11	12	13
New offers	.013	-.007	-.034	-.050	-.075	.019	-.012	-.052	-.002	.067	-.012	.033	.022
Points	.122	-.069	-.001	.052	.034	-.052	-.053	-.059	.174	.006	-.059	-.020	-.083
Utilize card points	.108	.029	-.075	.075	.001	.008	.016	-.059	.055	-.060	-.023	-.012	-.229
Have petro cards	.198	.021	-.059	.058	.023	-.044	-.096	-.175	-.004	-.101	.069	.062	.014
Shop no loyalty	.137	-.001	-.079	-.006	-.069	-.111	-.030	-.034	.068	.092	-.062	.171	.026
Open	-.069	.036	-.015	.052	.020	.092	-.008	.293	-.063	-.072	.097	-.007	-.104
Odd hours	-.029	-.084	.022	-.040	-.013	-.028	-.014	.369	.027	.077	-.063	-.001	-.015
Time convenience	-.073	.107	-.015	.001	.092	-.136	.119	.130	-.129	-.031	-.084	-.041	-.006
Close most of the time	.126	-.095	-.044	.042	-.091	-.122	-.049	-.070	.028	.309	-.017	-.082	.045
Do not display free samples	.005	.014	.121	-.067	.024	-.118	-.034	.097	-.092	.042	-.096	.123	-.027
Provide usages of products	.066	.125	-.099	.094	.004	-.026	-.110	.218	-.028	.009	.100	-.149	-.059

	Component												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Customer friendly policy	-.045	.093	.174	-.089	-.073	.030	.022	.117	.040	-.004	-.045	.045	.012
Modern equipments	-.005	-.088	-.035	-.017	.017	-.022	.079	.035	.305	.038	-.167	-.092	.084
Preferential treatment	-.021	-.060	.012	-.015	.015	-.042	.004	.147	.065	.048	.065	.085	.119
Do not assists	-.061	.023	-.024	.300	-.048	.012	.076	.023	-.035	.037	-.016	-.050	-.013
Good Parking	-.021	-.060	.012	-.015	.015	-.042	.004	.147	.065	.048	.065	.085	.672
Safe parking	-.021	-.060	.012	-.015	.015	-.042	.004	.147	.065	.048	.065	.085	.529
Easy parking	.066	.125	-.099	.094	.004	-.026	-.110	.218	-.028	.009	.100	-.149	.831
Make excuses	-.090	-.045	.015	.094	-.113	.126	.101	.075	.056	-.021	-.012	-.003	.135

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

A 13. COMPONENT SCORE COVARIANCE MATRIX

Component	1	2	3	4	5	6	7	8	9	10	11	12	13
1	1.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
2	.000	1.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
3	.000	.000	1.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
4	.000	.000	.000	1.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
5	.000	.000	.000	.000	1.000	.000	.000	.000	.000	.000	.000	.000	.000
6	.000	.000	.000	.000	.000	1.000	.000	.000	.000	.000	.000	.000	.000
7	.000	.000	.000	.000	.000	.000	1.000	.000	.000	.000	.000	.000	.000
8	.000	.000	.000	.000	.000	.000	.000	1.000	.000	.000	.000	.000	.000
9	.000	.000	.000	.000	.000	.000	.000	.000	1.000	.000	.000	.000	.000
10	.000	.000	.000	.000	.000	.000	.000	.000	.000	1.000	.000	.000	.000
11	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	1.000	.000	.000
12	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	1.000	.000
13	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	1.000

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

A14. ROTATED COMPONENT MATRIX[A]

	Component												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Enjoy	.002	.823	.128	.060	.073	.081	-.065	-.153	-.020	.027	.058	-.053	.058
Love	.102	.722	-.021	.150	.063	.063	-.013	.006	-.012	-.079	.084	-.231	-.128
Waste time	.136	-.076	.024	.223	-.010	.004	-.041	-.032	.027	-.143	.003	.230	-.160
Entertaining	-.004	.014	.030	.003	-.245	.013	-.016	.005	-.018	-.102	-.058	-.063	-.020
Prefer	.150	-.016	.059	-.087	.066	.714	.025	-.110	.075	.079	-.337	.162	-.209
Nearness	.673	.040	-.260	.186	.001	.135	.044	.026	-.061	-.157	.169	-.143	.207
Convenience	.862	.381	-.058	-.035	-.044	-.258	.068	.026	.066	.142	.109	.240	-.122
Same outlet	.112	.588	.043	.028	.201	.007	.067	.223	.247	.006	-.039	.036	.145
Near office	.045	-.013	-.128	.081	.523	.063	-.008	.116	-.038	-.061	.010	.829	-.037
Near supermarket	.021	.085	-.037	-.090	.509	.274	-.124	-.082	.059	.056	-.397	.712	-.017
Economic value	.152	.419	-.168	-.136	-.057	.386	-.300	.100	.032	.517	-.146	-.067	.140
Price deal	.159	-.110	-.058	.006	-.009	-.038	.027	.113	.030	.653	-.032	.041	.084
Pleasure saving	.027	.160	.055	.071	.076	.000	-.155	.125	-.025	.719	.113	.018	.031

	Component												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Offer variety	.274	.078	.354	.328	.144	.348	.305	.118	.619	-.236	.260	.093	.154
Inconvenient	-.578	.029	.042	.176	-.014	.338	.211	.108	-.359	.023	-.144	-.213	-.084
Spacious	-.214	.167	.207	-.079	.143	.053	.560	.104	-.130	-.106	-.067	-.216	.162
Attractive material	.046	.223	.187	-.033	-.048	.127	.070	-.031	.748	.169	-.010	.071	.099
Nothing of need	.083	.042	.031	-.012	.017	-.011	-.063	-.176	.713	.153	-.003	-.053	.107
Not attractive	.023	-.052	-.074	.056	-.095	.061	.022	-.034	-.849	-.223	-.301	-.021	-.042
Shopping material good	.449	-.098	.141	.027	.111	.814	.367	-.054	.231	.083	.087	-.024	.234
Clean public area	.213	-.001	.430	.005	.154	.302	-.084	-.107	.095	-.068	.814	-.229	.575
Offer some scheme	.263	.204	.686	.147	-.008	.010	.326	.064	.149	-.008	-.008	.076	.090
All leading brands	.113	.045	.014	.059	-.054	.582	-.045	-.052	.026	.060	.003	-.031	.048
Private brand	.001	-.087	-.096	.179	.050	.715	.062	.021	-.024	-.055	.019	.008	.130
High standard service	.297	.034	.426	-.108	-.035	.106	.102	.208	-.136	.087	.146	-.212	-.064

	Component												
	1	2	3	4	5	6	7	8	9	10	11	12	13
No personal attention	.344	.221	.277	.292	.160	-.014	-.088	.155	-.003	.000	-.120	.124	.354
Easy attention	.558	.157	.138	.179	.168	.097	.232	.114	.017	-.198	-.096	-.100	-.050
Good behavior	.371	.750	.159	-.174	-.054	-.006	.077	.000	.149	.107	.138	.020	-.047
Feel safe	.029	.738	.158	-.215	.139	-.010	.141	.402	.100	.025	-.051	.729	-.018
Not courteous	-.082	.086	.109	.731	-.076	.139	-.073	-.083	.010	.144	.078	-.101	.107
Answer my query	.124	.150	-.140	.624	-.003	-.122	-.031	.030	-.091	.050	.037	.146	-.067
Adequate training	.058	-.088	.193	.835	.109	-.159	-.063	.035	.104	.055	-.071	.111	-.029
Pressurize customers	-.052	-.126	.068	.015	-.139	.094	-.168	-.068	-.076	.001	-.059	-.037	-.707
Make feel better	.018	.223	.085	.108	.131	.152	-.108	.237	.744	-.087	.037	.066	.020
Worthwhile	.244	.094	.217	.356	.193	.084	-.032	.015	.311	.682	.321	-.249	-.018
High price range	.002	.052	.018	-.034	-.016	-.037	.031	.054	.120	.751	.030	.039	-.060
Limited brands	.143	.255	.093	.357	-.080	.087	-.053	-.165	.009	.095	.067	-.059	.017

	Component												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Get what I want	.158	.793	.148	.159	.085	.461	.007	.011	.032	.239	.072	.002	-.017
Prefer expensive Items	.073	-.077	-.028	.061	.019	.547	.097	.184	-.082	.588	.203	.091	.069
Withhold information	.248	.074	-.030	.313	.002	.243	-.092	.155	-.156	-.005	-.399	.406	.340
Way to manage time	.347	.067	.017	.106	.823	.233	.229	.062	-.109	-.048	.329	.335	.139
Make life easier	.020	.657	.108	.073	.357	.127	.081	-.126	-.185	.028	-.024	.017	.151
Fit with schedule	.156	-.005	.053	-.048	.763	-.012	.096	.005	-.065	.234	-.010	-.072	.043
Fast checkout	.017	.051	.043	.024	.870	.035	.177	.001	.186	.015	.061	-.052	.043
Efficient queuing	.110	.070	.026	.031	.821	.068	.007	-.011	.132	.143	.135	.118	.089
Attractive decor	.194	-.069	.075	-.096	.188	-.053	.560	-.003	.269	.004	.550	-.039	.101
Promotional display	.060	.172	.185	.132	.105	.254	.623	-.065	.128	.260	-.090	-.048	.053
Store ambience	.301	.135	-.020	.099	.164	.018	.751	.108	-.101	.146	-.020	.036	.108
Spaced product display	.001	.069	.035	.038	.227	.166	.591	.008	-.044	.748	.040	-.039	.055

	Component												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Easy to find	-.098	.159	-.005	.050	.166	.167	.052	.012	-.025	.786	.186	.629	-.086
Experience new things	.129	.426	-.051	-.037	.225	.741	.508	-.051	.354	-.031	.195	-.116	-.245
New offers	.113	.186	.681	.031	.077	.074	.111	-.090	.053	.151	.019	.034	-.024
Points	.557	.050	.042	.311	.229	-.022	.094	.052	.402	.026	-.031	-.038	-.111
Utilize card points	.505	.193	-.115	.351	.115	.175	.185	.032	.253	.014	.012	.026	-.383
Have petro cards	.711	.167	.059	.301	.150	.055	.027	-.076	.075	-.143	.141	.113	.138
Shop no loyalty	.531	.164	-.087	.191	-.063	-.081	.104	.133	.153	.127	-.054	.341	.120
Open 24 X 7	.100	.082	-.058	.213	.039	.247	.048	.647	.123	-.145	.108	.123	-.067
Odd hours	.178	-.081	-.043	.056	-.061	-.100	-.001	.744	.142	.022	-.044	.126	.075
Time convenience	.114	.342	.076	-.025	.313	-.310	.280	.521	.043	-.102	-.092	-.070	.106
Close most of the time	.280	-.123	-.152	.001	-.053	-.196	-.109	.618	-.057	.163	.025	-.136	-.032
Do not display free samples	-.003	.079	.380	-.133	.012	-.125	-.111	.150	-.218	.079	-.102	.247	.150

	Component												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Provide usages of products	.324	.295	-.138	.241	-.021	-.025	.070	.472	.190	-.040	.216	-.224	-.019
Customer friendly policy	.177	.330	.406	-.185	-.209	.076	.005	.261	.029	-.035	-.153	.106	.072
Modern equipments	.103	-.019	-.074	.190	.205	-.045	.673	.194	.311	-.057	-.113	-.194	.180
Preferential treatment	.141	-.033	.034	.149	.117	-.135	.163	.378	.204	-.051	.275	.133	.310
Do not assists	.111	-.026	-.016	.763	-.105	.238	.170	.136	.061	.082	-.032	.012	.006
Good Parking	.177	.330	.406	-.185	-.209	.076	.005	.261	.029	-.035	-.153	.106	.872
Safe parking	.103	-.019	-.074	.190	.205	-.045	.311	.194	.673	-.057	-.113	-.194	.680
Easy parking	.032	-.057	.138	.470	-.196	.390	.256	.250	.160	-.147	.014	.057	.789

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

A15. REDUCED COMPONENTS MATRIX

	Component												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Enjoy		.823											
Love		.722											
Waste time													
Entertaining													
Prefer						.714							
Nearness	.673												
Convenience	.862												
Same outlet		.588											
Near office					.523							.829	
Near supermarket					.509							.712	
Economic value										.517			
Price deal										.653			
Pleasure saving										.719			
Offer variety									.619				

	Component												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Inconvenient	-.578												
Spacious							.560						
Attractive material									.748				
Nothing of need									-.713				
Not attractive									.849				
Shopping material good						.814							
Clean public area											.814		
Offer some scheme			.686										
All leading brands						.582							
Private brand						.715							
High standard service													
No personal attention													

Component													
	1	2	3	4	5	6	7	8	9	10	11	12	13
Easy attention	.558												
Good behavior		.750											
Feel safe		.738										.729	
Not courteous				.731									
Answer my query				.624									
Adequate training				.835									
Pressurize customers													
Make feel better									.744				
Worthwhile										.682			
High price range										.751			
Limited brands													
Get what I want		.793											

	Component												
	1	2	3		45	6	7	8	9	10	11	12	13
Prefer expensive Items						.547				.588			
Withhold information													
Way to manage time					.823								
Make life easier		.657											
Fit with schedule					.763								
Fast checkout					.870								
Efficient queuing					.821								
Attractive decor							.560				.550		
Promotional display							.623						
Store ambience							.751						
Spaced product display							.591						

	Component												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Easy to find												.629	
Experience new things						.741							
New offers			.681										
Points	.557												
Utilize card points	.505												
Have petro cards	.711												
Shop no loyalty	.531												
Open 24 X7								.647					
Odd hours								.744					
Time convenience								.521					
Close most of the time								.618					
Do not display free samples													

	Component												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Provide usages of products													
Customer friendly policy													
Modern equipments							.673						
Preferential treatment													
Do not assists				.763									
Good Parking													.872
Safe parking													.680
Easy parking													.789

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

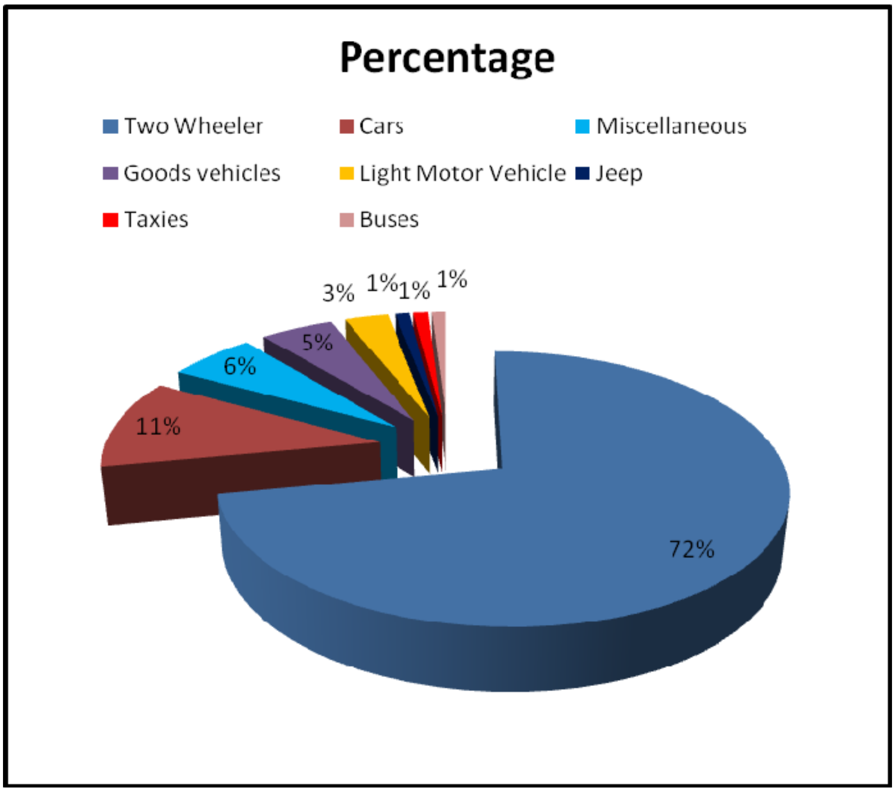
A 16. PERCENTAGE VARIANCE AND CUMULATIVE VARIANCE PERCENT

Component	Percentage of variance	Cumulative percent
Component 1	16.21	16.21
Component 2	12.84	29.05
Component 3	10.8	39.82
Component 4	8.6	48.45
Component 5	6.5	55.04
Component 6	5.2	60.29
Component 7	4.9	65.24
Component 8	4.5	69.80
Component 9	4.5	74.34
Component 10	4.1	78.54
Component 11	3.9	82.50
Component 12	3.5	86.05
Component 13	3.3	89.44

A 17. PERCENTAGE OF DIFFERENT TYPES OF VEHICLES REGISTERED IN DELHI

Year	Cars and Jeeps	Motor Cycles and Scooters	Auto and Rickshaws	Taxies	Buses *	Goods and Vehicles	Total
1996-97	24.79	65.88	2.81	0.53	1.04	4.95	100
1997-98	25.24	65.67	2.64	0.55	1.07	4.83	100
1998-99	25.51	65.47	2.71	0.53	1.1	4.68	100
1999-00	25.94	65.15	2.59	0.53	1.13	4.66	100
2000-01	26.64	64.53	2.52	0.53	1.2	4.59	100
2006-07	30.66	63.64	1.43	0.48	0.9	2.89	100
2007-08	30.73	63.58	1.33	0.54	0.93	2.85	100
2008-09	30.92	63.17	1.4	0.66	0.91	2.91	100
2009-10	31.21	62.85	1.34	0.7	0.89	2.99	100

A 18. PERCENTAGE OF DIFFERENT TYPES OF VEHICLES IN INDIA



Source : Inputs from Petroleum Planning & Analysis Cell (PPAC), Ministry of Petroleum & Natural Gas, Government of India

A 19. QUESTIONNAIRE OF FIRST SURVEY

Dear Sir / Madam,

You are invited to participate in this study related to how customers value their experience when they use different non fuel retail services available at the petrol retail outlets. This questionnaire will take almost 10 minutes of your precious time. The research data will be used only for this research only. Your privacy will be protected as the survey does not ask for information like name and contact number.

This research is purely done for my PhD work with the University of Petroleum and Energy Studies, Dehradun and will be used for that purpose only. If you have any query you can contact me at my mobile Number 9278221238

You are free to refuse to participate or withdraw your participation at any time, your participation is purely voluntary.

Please read all the questions. There is no right or wrong answer. We (Me and University) are interested in your true experience and opinion.

Thanks and Regards

Sandhya Rai

PhD Scholar

Do you own a vehicle

Yes (   )   No (   )

1. **What kind**

Two wheeler (   )   Four Wheeler (   )
Truck (   )

2. **How frequently you go to petrol pumps**

Daily (   )   Once a week (   )   Twice a week (   )
others (   )

3. **Have you ever used any of Non Fuel Retail services (Other than fuel / Lubricant) at the petrol pump?**

Yes (   )   No (   )

4. **Please name the service you have purchased frequently**

Food (   )   Vehicle (   )   ATM (   )
Medical (   )

Any other (Name---)

6. **How frequently you used NFR services**

Every time I visit the petrol pumps (   )   Once in a while (   )

In Emergency only (   )

7. Why you have used NFR Services

For Convenience ( ) For Time Saving ( )

In Emergency ( )

Other ( ) Please specify ---

8. Rate the following statements about NFR outlets on a scale of 1-5

Where 5 – Strongly agree, 4- Agree, 3- Neutral, 2- Disagree, 1- Strongly disagree

Particular	5	4	3	2	1
I enjoy shopping more than most people do					
I love to do shopping when I can find time					
Shopping is a waste of time					
Shopping is entertaining to me					
I prefer to use NFR outlets as compare to other petrol pumps					

Particular	**5**	**4**	**3**	**2**	**1**
I buy fuel form the petrol pump near my home					
I choose my petrol pump based on my convenience					
In always purchase fuel from the same outlet					
I get my vehicle filled at the outlet near my office					
I purchase fuel from the outlet near a supermarket					
Products of NFR are of good economic value					
Taking advantage of the price deal at the NFR makes me feel good					
I would get a lot of pleasure knowing that I would save money at NFR					
NFR offers a good selection of well known brands					
NFR offer a variety of products					
There are lots of shoppers in the store and it is inconvenient to move around					
The store feel very spacious and give me an open airy feeling since the ceilings are high and light is bright					

Particular	**5**	**4**	**3**	**2**	**1**
NFR have attractive material associated with their shopping (Bags, catalogs etc.)					
I don’t find here store for all of my need					
Public space are not attractive					
Material associated with the store service (shopping bags , shopping carts, catalogs or statements) are visually attractive and easy to use.					
The store has clean, attractive and convenient public area (restrooms , toilets etc)					
I always find special offers and scheme in the store					
Most of the services are provided by the leading brand in the category					
Lots of private brands can be seen at the retail outlets					
Companies are running with own brand					
Services available are of very high standard					
The employee at NFR outlets do not offer the personal attention I needed form them					
The employees at the NFR outlets are never too busy to respond to my request					

Particular	**5**	**4**	**3**	**2**	**1**
The behavior of the employee instill confidence in me					
I feel safe conducting business with the employee at NFR outlets					
The employees are not courteous at most of the outlets					
The employee at the outlets are able to answer my questions					
The store provide adequate training to its employee					
The employee at this store pressurize customer into a purchase					
When I am in a down mood I go to NFR outlet to make me feel better					
When I use NFR I feel I am getting value for money / time / effort					
Comparing tangible and intangible cost I pay , NFR is worthwhile					
The outlet mostly sells products of high price range					
Most of the products / services are highly priced					
Very limited brands are available at the outlets					

Particular	**5**	**4**	**3**	**2**	**1**
I always gets what I want from these outlets					
The store sell a more expensive product when a less expensive one would be the best for the customer					
The store withhold the information of an upcoming that will include the item the customer is buying					
Using NFR is an efficient way to manage time					
NFR makes my life easier					
NFR use fit with my schedule					
NFR have fast check out services.					
The store has an efficient queuing system					
NFR outlets have attractive décor					
NFR have attractive products and promotional display					
I am satisfied with my shopping experience because of store ambience					
NFR have well spaced product display					
The layout make it easy to find what is needed					
I use NFR to experience new things					
I use NFR outlets to see what new offers are available					

Particular	**5**	**4**	**3**	**2**	**1**
I use NFR as I get points to shop from it					
I use NFR as the cards points cannot be utilized anywhere else					
I use NFR as I have petro card					
I shop here though I have no loyalty card					
The NFR outlet is open 24X7					
In case of odd hour need I use NFR outlets					
I get the product at any convenient time					
Most of the time the outlets are close					
The store does not display the free samples					
The display makes it easy to find what is needed					
The store provide demonstration of usefulness and usage of the product					
The policy of the outlets is customer friendly					
The outlet have a modern looking equipments and fixtures					
The outlet gives preferential treatments to certain customers					
The employee of the outlets do not assist those less likely to buy					
The outlet makes excuses about certain products when they are not in a position to deliver it					

Particular	5	4	3	2	1
The outlet have good parking space					
The parking space is safe					
It is easy to park at the parking near the outlet					

Personal Information

1. **Age** …………Yrs Gender………………..
2. **Address --**
3. **Occupation** Working Professional ( )
   Business Person ( ) Others ( )
4. **Annual Income**

Less than 5 Lakh ( ) Between 5- 10 Lakh ( ) More than 10 Lakh ( )

Thank You

A 20. QUESTIONNAIRE OF SECOND SURVEY

Dear Sir / Madam,

You are invited to participate in this study related to how customers value their experience when they use different non fuel retail services available at the petrol retail outlets. **Non – fuel retail services are services other than fuel or lubricants that are available at a fuel stations at some price for example gift shops, vehicle repair shops, florist, courier services etc. Free services like air filling or windshield cleaning are not included in this category.** This questionnaire will take almost 10 minutes of your precious time. The research data will be used only for this research only. Your privacy will be protected as the survey does not ask for information like name and contact number of the respondent.

This research is purely done for my PhD work with the University of Petroleum And Energy Studies, Dehradun and will be used for that purpose only. If you have any query you can contact me at my mobile Number 9278221238

You are free to refuse to participate or withdraw your participation at any time, your participation is purely voluntary.

Please read all the questions. There is no right or wrong answer. We (Me and University) are interested in your true experience and opinion.

Thanks and Regards

Sandhya Rai

Consumer information and knowledge of Non – Fuel Retailing services

1. What vehicle do you use frequently

   a. Two wheeler b. Four wheeler

   c. Truck

2. What is the purpose for using the vehicle

   a. Commercial b. Non commercial

3. Have you seen anything other than fuel and lubricant which was available (Displayed / Sold) at a fuel station?

   Yes ( ) No ( )

   If yes please tick the service / services seen

   a. Food ( )
   b. Vehicle Repair / Maintenance ( )
   c. ATM ( )
   d. Medical ( )
   e. Any other (Name---------------------------------------)

4. Please rank the following attributes from 1 to 13 in the order of their relative importance they carry in your opinion about the place you shop (1 being the most important and 2, second most important and so on …..) .

Particular	Rank
Convenience to reach	
Surroundings	
Comfort in buying the products	
Schemes available	
Trained Staff	
Time saving	
Ambience	
Open at odd hours	
Cleanliness in and around	
Parking space	
Price of merchandise	
Availability of branded products	
Variety of merchandise	

5. Please tick the box that best describe your BELIEF TOWARDS NFR OUTLETS

	Strongly Agree (5)	Somewhat Agree (4)	Not Sure (3)	Somewhat disagree (2)	Strongly Disagree (1)
It is convenient to shop from NFR outlets.					
NFR outlets offer attractive schemes.					
The staffs at these outlets are trained.					
Shopping from NFR outlets saves time.					
The ambience within the outlet is very soothing.					
NFR outlets are opened most of the time.					
Branded products are available at the outlets					
NFR outlets offer a variety of merchandise.					
The merchandises offered are appropriately priced.					
These outlets are meant for limited people.					

	Strongly Agree (5)	Somewhat Agree (4)	Not Sure (3)	Somewhat disagree (2)	Strongly Disagree (1)
Standardized products and services are offered at these outlets					
Parking facility at NFR are appropriate					
The surrounding around NFR outlets is very clean.					

6. Please tick the appropriate box.

<u>EVALUATION OF BELIEF TOWARDS NFR OUTLETS</u>

	Strongly Agree (5)	Somewhat agree (4)	Not Sure (3)	Somewhat disagree (2)	Strongly Disagree (1)
The place I shop should be conveniently located					
The outlets where I go for shopping should offer attractive schemes.					
I visit those outlets only whose staff are well trained					
I prefer to save time while shopping					

	Strongly Agree (5)	Somewhat Agree (4)	Not Sure (3)	Somewhat disagree (2)	Strongly Disagree (1)
I prefer to go to those outlets only whose surrounding is very much soothing					
Most of my purchasing is during odd hours.					
I love to shop for branded products					
I prefer to shop from place having ample variety					
I buy appropriately priced products					
I prefer to shop from specialty store					
I buy High standard products only					
I shop from place having appropriate parking facility.					
I prefer that outlet only which has clean and attractive public area					

7. PERSONAL INFORMATION

Age …………Yrs Gender………………..

City --

Which of the following best describe your occupation?

Working Professional ( ) Business Personnel ( )

Others ( ) Please Specify …………………………

Are you the primary shopper for your household?

Yes ( ) No ( )

Which of the following best describe your ----- Lakhs

<u>**Thank you**</u>

A21. CURRICULUM-VITAE

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WORK EXPERIENCE: **Academic- 9 years.**

1. Presently working as **Assistant Professor** in Institute of Management Studies **(IMS),** Ghaziabad.
2. Worked as **Assistant Professor** in Accurate Business School, Greater Noida.
3. Worked as **Lecturer MBA** in Janhit Institute of Education & Information, Greater Noida, (Affiliated to U.P. Tech. University, Lucknow.)
4. Worked as **Project Officer** in ***Better Think Learning systems,*** Chandigarh.

SUBJECTS TAUGHT:

Business Statistics, Research Methodology, Marketing Research, Retail Operation Management, Production and Operations Management.

JOB RESPONSIBILITIES:

Teaching, Organizing seminars, Conducting internal examinations, Organizing fest and sports competitions, students counseling etc.

EDUCATIONAL QUALIFICATION:

M.Sc. (Math) from H.P. University, Shimla, 2004

B.Sc. (Non-medical) from Punjab University, 2001

12th from CBSE Board, New Delhi in 1998

PROFESSIONAL QUALIFICATION:

MBA (Marketing) from Kurukshetra University, 2008

PhD Perusing PhD from College of Management, and Economic Studies, University of Petroleum and Energy Studies, Dehradun, India. The topic of the research is "Consumer Attitude Towards Non Fuel Offerings of Major Petro-Retailing Companies in Delhi NCR"**.**

RESEARCH PAPERS:

[1] Rai, Sandhya, Razdan, Atul and Pahwa, M.S. "Opportunities in Non fuel Retailing in India" , *AIMT Journal of Management,* Volume 1, No.2, 2012.

[2] Rai, Sandhya, Razdan, Atul and Pahwa, M.S. " A study on Factors affecting selection of Non fuel retail outlets in India" *Asia Pacific Business Review*, 2012.

[3] Rai, Anand and Rai, Sandhya "Factors Affecting Financial Sustainability of Microfinance Institutions" *Journal of Economics and Sustainable Development*, vol. 3, no. 6, pp. 1-9, June, 2012.

[4] Rai, Sandhya, Razdan, Atul and Pahwa, M.S. " Consumer attitude and behavior towards Non- Fuel Retailing in Delhi NCR" *International Journal of Management and Strategy*, vol. 3 issue 5, July – Dec 2012.

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[1] Rai,Anand and Rai, Sandhya, "Sustainability Reporting- a recent trend and future prospects in India "In: *International Conference on Corporate Social Responsibility & Sustainable Development "SERD, Bangkok, Thailand, 3-6 June, 2013.*

[2] Rai, Sandhya, "A Study on Determinant of Non – Fuel Retail Selection Decision in India "In: *International Conference on Excellence in Research & Education "IIM Indore, 9-12 May, 2013.*

[3] Rai Sandhya "Information Technology for Competitive Advantage in Petro Retail Industry" In: International Conference on "*Leveraging Information Technology for Competitive Advantage (ICIT2013)*" on Feb. 21-22, 2013 organized by Asia-Pacific Institute of Management (New Delhi).

[4] Rai Sandhya "Non Fuel Retailing in India – Opportunities and Challenges" In *National conference on Achieving Business Excellence in a Turbulent Global Economy*, India, April 2012.

[5] Rai Sandhya "Impact of Information Technology on Supply Chain Management" In the *National seminar on Supply chain Management in SMEs: Gaining Competitive Advantage,* ITS college Greater Noida, November 2009.

FDPS / SEMINARS

[1] Attended a seminar on "Six Sigma a break through approach" organized by Galgotia Business School, Greater Noida on 15th June 2006.

[2] Attended two days conference organized by AIMA on Enabling Knowledge Based Economic Growth in September 2009.

[3] Attended FDP on SPSS organized by Galgotia Business School, Greater Noida on 8^{th} May 2010.

[4] Attended one day training in Team building at Accurate Institute of Management and Technology on 18^{th} may 2010.

[5] Attended one week faculty development program in Teaching Innovations, organized by Department of Science and Technology: Government of India in May 2011.

[6] Attended one day national seminar on "Faculty Development in Management Education: Opportunities and Challenges" Organized by AIMA in May 2012.

Personal Information:

Name	: Sandhya Rai
Date of Birth	: 16 Oct. 1980
Father's Name	: Arun Kumar Rai
Marital Status	: Married to Dr Anand Rai