

Chapter – 2 Literature Review

2.1 Introduction

Petroleum retailing is an attractive and a highly dynamic industry where consumer behaviours are affected by many characteristics. The distinction between petroleum products and regular refineries and retail outlets all over Gujarat, especially in Vadodara, has a critical role to play with the customer preference of the OMCs. The review of literature towards addressing this issue has the following objectives that relate to consumer decisions in this setting: First, it explores how the differentiation of petroleum products is addressed from the refining level up to individual service stations, as well as on the impact it has on consumer perception as well as their choices. Secondly, it explores the effect of price sensitivity as a determinant of the buying behaviour in a free market situation. Third, it evaluates the impact of on-court motives including greetings and free services in the determination of consumers. It then goes further to analyse how corporate image, perceived product quality and quantity, and retail visual identity affects customer decision making. With these aspects in mind, the review aims at presenting a broad perspective of the factors influencing consumer behaviour in the petroleum retail business in Vadodara to allow corresponding powerful industries to modify the strategic approach and make it more favourable to the mass consumers.

The petrol retail industry in India remains one of the vital elements in the foundation of the country's economy, filling in as an imperative connection between processing plants and the end buyers. It is a unique area portrayed by a different scope of players, each adding to the country's energy environment. Understanding the complexities of this industry is significant for probing purchaser perspectives and conducting goals concerning Indian Oil Company Ltd (IOCL) retail outlets in Vadodara.

At its centre, the oil retail industry makes refined oil-based goods, like motor spirit (MS) and High-speed diesel (HSD), accessible to customers. These items power the country's transportation and modern areas, making them crucial for financial development and day-to-day existence.

In India, this industry comprises both government-claimed and confidential players. Among the public authorities they have claimed Public Sector Undertaking (PSUs), three significant Oil Showcasing Organizations (OMCs) rule the market: Indian Oil Company Ltd (IOCL), Bharat Petroleum Ltd (BPCL), and Hindustan Petroleum Ltd (HPCL). These OMCs are known for their broad organization of retail outlets, sticking to rigid quality and well-being principles. They assume an essential part in guaranteeing that purchasers get great items that meet administrative details.

Product Differentiation from Refinery to Retail Outlets

India's economy, which is among the biggest and fastest-growing in the world, is changing and expanding significantly in the energy sector. The population of India is growing, urbanisation is happening quickly, industrialization is increasing, and as a result, energy consumption is rising (Rawat, et al., 2021). India's oil consumption has been steadily rising as a result of growing urbanisation, population growth, and growing industrialization. India is among the world's top consumers of greasy foods, with a sizable share coming from various petroleum products. India imports most of its crude oil, with the Middle East providing the lion's share of the country's crude oil needs.

With several refineries dispersed throughout the country, India boasts a thriving refining industry. In addition to private businesses Nayara Limited, Reliance BP Limited, Shell India Limited, and many more, several refineries in India are held by public companies such as Indian Oil Corporation Limited (IOCL) and Hindustan Petroleum Limited (HPL). These

needs are met by both exports and domestic demand as well.

With the implementation of the Bharat Stage VI emission regulations for fuels used in transportation, India is striving to reduce air pollution and improve air quality. This change has centred on using cleaner, more ecologically friendly fuels (Rawat et al., 2021). Over the past few years, India has been promoting cleaner, more sustainable energy sources and integrating renewable energy sources. The goal of India's energy outlook is to pursue sustainable and renewable energy sources.

It is anticipated that a number of factors, including the adoption of clean fuels and technology, a feeling of sustainability within the business, and the evolving global energy landscape, will reshape the Indian oil industry going forward. India is exploring opportunities to grow and diversify more efficiently while cutting emissions.

According to Purohit and Jain, (2020), 'Petrol' was an 'undifferentiated commodity' in India for about 140 years. This 'commodity' was not improved nor distinguished in any significant manner. It is worth noting that the government owned only three gasoline-selling businesses, giving them a near-monopoly position (Purohit and Jain, 2020). The government's social goals influenced how these firms operated and, consequently, how much fuel cost.

Companies anticipated not to have to promote and compete for market share in the petroleum industry, despite their repeated appeals for autonomy. Because there was no one else competing for customers' attention earlier, marketing was clearly viewed as secondary to selling petrol. Customers were astonished to discover so many fuel brands available, prompting them to dispute about which one to purchase (Purohit & Jain, 2021).

During this period of stringent control and protection, the phrase "marketing of petrol" referred to the procedure of distributing fuel. Increasing the number of outlets, often known as petrol pumps, was a primary objective for fuel retailers seeking to strengthen their

distribution network (Purohit & Jain, 2020). The word "marketing" was used to denote operations aimed at increasing geographical reach. The environmental factors that existed at the time made this behaviour acceptable, including:

Nature of commodity: As previously stated, gasoline has been classified as a 'commodity' in India for over 140 years. There was no noticeable difference in the petrol produced and sold by enterprises in this category. Consumers saw no variation in fuel prices at any of the stations. Furthermore, consumers did not detect much of a difference between the various "fuel selling firms." All of them were government-owned, so you could rely on their integrity (Purohit, et al, 2022). Furthermore, because they were selling the same items at the same prices, it was even more significant. Supporting or liking "petrol selling firms" and their product (petrol) was entirely out of the question for these reasons. People choose to patronise tiny gas stations than national chains, which goes against expectations. People were loyal to fuel pumps because they believed they were accurate in dispensing the correct amount of petrol and did not utilise any methods of adulteration. Brand loyalty did not exist in the petroleum business since the product was so generic (Purohit & Jain, 2021). This laid the scenario for businesses to recognise that the number of outlets (petrol pumps) they owned was directly proportional to their sales.

Companies focused primarily on expanding their network of outlets (petrol pumps) and securing prime sites for these outlets in order to increase sales. Petrol station operators were aware that they were selling a commodity with no control over the pricing. Furthermore, the government has indicated that its long-term objective is to keep petrol prices constant. There was no compelling rationale or motivation for gasoline-selling enterprises to engage in aggressive petrol marketing (Rizwan & Karthikeyan, 2023).

Demand over-running supply. In addition, due to continually higher demand than supply, India has had to import petroleum. The country's poor balance of payments was thought to be caused by the commodity oil, which was imported in large quantities. This element aggravated the BOP problem by enhancing the possibility that sellers' aggressive marketing would create an increase in demand (Rizwan & Karthikeyan, 2023). This prompted many people to believe that advertising was not a good idea. The few adverts displayed on billboards near gas stations instead communicated the concept of "conserving petrol," exhibiting the "de-marketing" strategy.

Administered Pricing mechanism (APM) as Corporations were obligated to maintain uniform rates, and the government had total control and monitoring over petrol pricing until recently. In the realm of commodity trading, pricing is the sole determinant of product distinction. However, there was no mention of fuel. Companies engaged in the Indian fuel retail industry lacked access to the only distinguishing factor (Purohit & Jain, 2022). As a result, companies were discouraged from participating in aggressive marketing.

Protected market because of its impact on the availability and pricing of other goods and services, the government designated petrol as a commodity of national importance. As a result, the government prohibited private enterprises and FDI from entering or operating in this sector. In 1991, the Indian government opted to pursue liberalisation, demonstrating its commitment to protectionism (Vigneshkumar & Kumar, 2022). Although many industries were opened up to foreign investment, the government delayed up the petroleum market to private enterprises and FDI for more than a decade after liberalisation began. The government's message was plain and simple, indicating that it has no interest in permitting "outsiders" to enter this particular business. The government's "protection" of gasoline-selling enterprises was a crucial factor in discouraging oil firms from marketing.

All the aforementioned factors contributed to a situation in which vigorous petrol promotion was deemed unfeasible. There was no compelling motivation for the corporations to become involved in marketing. For more than a century, this was the standard, with businesses focusing on promoting and offering value to customers who had no notion they would receive preferential treatment at gas stations. Companies and customers were unprepared for product and value-added service developments.

The petroleum industry's supply chain is significantly more sophisticated than those of other process sectors and discrete manufacturing. The petroleum supply chain differs from supply networks in discrete production in several ways. Experts in the sector have been attempting to figure out what distinguishes India's petroleum supply chain. Because crudes, intermediates, and products can be traded or exchanged at critical points along the chain, businesses must carefully manage a series of complicated and interconnected economic decisions in order to maximise profit margins (Vigneshkumar & Kumar, 2022). Because the environment is always changing, the supply chain must be adaptable. As a result, ASCs are an imperative necessity for the petroleum sector.

DESSCOM is an object modelling system that enhances decision-making and simplifies supply chain modelling. We were able to develop a truck scheduling and routing system by combining technologies from Operations Research (OR) and Advanced Planning and Scheduling (APS) (Purohit, 2022). The production of paraffin and lubricating oil was scheduled using mixed integer linear programming. Kumar & Barua, (2022) sought to identify the best cost-effective ways of transferring crude oil from producing sites to processing plants. Cascading Knapsack Inequalities was their preferred tool. Because of its unique qualities, assessing the efficiency of the petroleum supply chain may be challenging. Purohit & Jain, (2024) agree with the integration of the Analytical Hierarchy Process with the Balanced Scorecard for the assessment of performance especially in the Indian setting.

Learning from Norwegian oil businesses, we developed a conceptual framework that outlines how to adopt performance-based policies within the oil industry.

Purohit & Kumar, (2022) in their study adopted the Analytic Hierarchy Process as a tool for modelling supply chain risk in a Nigerian multinational oil firm. Furthermore, utilizing the Analytic Hierarchy Process (AHP) questionnaires, researchers identified potential risks in the petroleum supply chain. Employing a structural vector auto regression (SVAR) model the authors examined how different oil shocks affect industrial outputs, real exchange rates and consumer price levels in the BRICS countries. This model integrates each emerging nation into the global crude oil market. Similar logistical challenges afflict the petroleum industry (Manneh, 2020). Keep in mind that when it comes to oil exploration, storage space at shore bases, on vessels, and on platforms is limited.

Integrity management, emergency response, and asset management are just a few of the many applications of GIS in the oil and gas business, which has advanced significantly in recent years (Purohit & Purohit, 2021). Getting crude oil requires a high level of knowledge.

Shipping and storage expenses, as well as potential price variations, must be considered. Because various refineries create different end products, certain crude oils are better suited to blending with other refined oils. When GIS is combined with other systems, such as accounting and asset management, an integrated digital pipeline may be created.

Bharat Petroleum Corporation Ltd (BPCL), an Indian firm, has effectively integrated SAP. The most prevalent issues encountered throughout BPCL's ERP installation were vendor selection, implementation, and business culture (Das, 2022). Researchers investigated how BPCL's Supply network Optimisation Department has helped the corporation improve its supply network. Sheel, et. al, (2020) conducted research on corporate governance and other strategic aspects of the North Sea offshore petroleum industry. Purohit & Purohit, (2021)

explored how oil affects the risk of Australian stock returns. Parsoya conducted research on knowledge management in the energy sector, focusing specifically on the petroleum business.

The growth and success of any industry is dependent on government oversight. According to Azhar, (2021), the governments of China and the United Kingdom have both sought to raise corporation tax rates. In exchange, these corporations will spend especially in local oil production, both to reverse the trend of declining output and to expand into new markets. The unusual method raises questions about fair competition in the pre-production market segment.

Consumption, a social influence, strives to preserve consumers' market interests by coordinating customer pressure on businesses. The seller has an edge in most marketplaces because of the power imbalance (Giri, et. al, 2023). Consumerism is a society's endeavour to level the playing field in the purchase and sale of products and services. Economic development has contributed to an economy's industrialisation and urbanisation. The rise of the business sector was the sole cause of the incident. Each city has evolved from a tiny town to a mega metropolis, resulting in a remarkable increase in urbanisation. The maximum distance between the two limits is not defined, however it is 60 km. As a result, more individuals are turning to public transport. Because the commercial company has expanded so rapidly, there is a need to transport people and things to other locations (Bullard & Raju, 2020). Even though the government has given certain transit amenities, they are insufficient to meet the rising demand from the people. People responded to this desire by purchasing vehicles for themselves, which increased their efficiency, made their lives easier, and allowed them to move more freely. As a result, people may enjoy better lives, advance in society, and contribute more to the economy.

According to Sen, et al., (2023), it is stated that people have shifted towards cars. They ride on a mix of four-wheelers and two-wheelers for personal usage. Trucks and buses are

examples of commercial heavy vehicles that are frequently used to deliver products. Public and private transportation both rely on petroleum-based fuels such as diesel and petrol to go from point A to point B. The engines that power these vehicles require these fuels to go forward. Even as these metal engines become more mobile, they remain sensitive to a number of environmental concerns (Sen, et. al, 2023). Corrosion of metal components and movement in location due to weather are two instances of such hazards. Because of these hazards, the engine will cease operating. To overcome this difficulty, ensure that the engine has enough high-quality oil that is adequately supplied. Using this strategy, you can maintain the engine operating smoothly. As long as there is a large population and regular vehicle travel, there will be a significant need for engine oils. Engine oil is a necessary component of all vehicles' engines. To meet the large range of engine types, some companies provide engine lubricants under multiple brand names. SERVO, one of India's best-known motor oil brands, is manufactured and supplied by Indian Oil Corporation Limited (IOCL) (Shette, 2020). This publicly held company offers a selection of engine oil brands that are compatible with a wide range of vehicles. You may get this particular brand of engine oil on the Indian market. While IOCL controls a small portion of the market, the foreign brand CASTROL dominates (Lohana, 2021).

According to Lohana, (2021), the retail selling of petroleum has changed dramatically on a global scale. While certain aspects, such as quality and cost, have stayed consistent over time, others have shifted due to greater competition or technology improvements. Customers' ability to acquire aggregated pricing information inside the US has a substantial influence on their purchasing decisions, since price remains a critical factor (Lohana, 2021). Furthermore, it has been found that in a regulatory-free environment, local markets in Austria provide cheaper fuel, particularly diesel, due to greater competition.

As mentioned by Parsoya, (n.a.), it is stated that the improvements in customer service and other areas have been visible as a result of increased options and better responsiveness to client wants. Customers make purchase decisions based on factors other than petrol quality. When determining where to fill up, the closeness of the fuel station is also an important consideration. Customers' opinions of the convenience of petrol retail locations, as well as their geographical distribution, have an important impact in their purchasing decisions (Parsoya, n.a.)

According to Joshi, (2021), it is stated that the perception and contentment of consumers are strongly influenced by how effectively a gasoline station manages its forecourt. Fuel stations in Nigeria frequently have insufficient staffing, faulty pumps, and long queues, all of which contribute to poor service delivery (Joshi, 2021). Significant technical breakthroughs in the US and European petro retail industries have produced in improvements in forecourt efficiency, customer satisfaction, and overall experience. The widespread usage of completely automated service stations in European countries has resulted in lower petrol prices, much to the satisfaction of customers. These stations eliminate the need for cashiers, allowing for considerably cheaper gas. When self-service pumps were installed in the United States, the number of petrol station workers decreased considerably since this equipment gave consumers greater responsibility (Joshi, 2021). This has resulted in an increase in productivity while also enhancing the client purchasing experience.

According to Yuki and Kubo, (2023), another significant development in recent decades has been the loyalty programme. Customers have taken note of the reward programmes that petrol suppliers are adopting to create client loyalty and encourage repeat purchases.

According to a study conducted in South Africa, the effectiveness of a loyalty programme has a significant impact on consumer pleasure, perception, and choice to repurchase (Yuki and Kubo, 2023). Customers' global location data may be shared with several different businesses

in this context, allowing for the creation of better services adapted to their purchasing behaviours.

As mentioned Barash-Harman, (2020), stated that organised retail food sales were not very popular in India and the country's traditional herbal and unorganised retail scene was propelled mostly by the Bazaars kind of sales. However, due to deregulation organised retail like shopping malls have gradually replaced these utility stores. New stores are replacing old stores in the retail industry in India and this sector is witnessing a change now. These new layouts of modern retail are beneficial to the consumers as they offer a variety of goods, entertainment, and services. Marketing of brand products and increasing availability of products through global accessibility is paving the way for organised retail in India. The range of products and services provided by organised shopping centers also makes it convenient. Demographic trends, rising family incomes, urbanisation, and the arrival of the internet are all major factors driving the growth of India's retail business (Barash-Harman, 2020). Along with major developments in consumer buying habits, India's organised retail industry is rapidly expanding. The majority of Indian customers prefer organised retail locations over their less formal competitors. Most buyers are also delighted with the variety, reasonable pricing, and excellent quality of service provided by chain retailers. Customers prefer organised shopping over unorganised commerce, according to the study. This tendency occurs in both first- and second-tier urban regions.

As large box retailers began to dominate the market, small businesses were forced to become more imaginative in order to survive. They have introduced services that provide value, such as: Level of prices, Quality of fresh groceries & availability of exotic fruits and vegetables, Display & cleanliness and hygiene, Service delivery & credit facility, Variety, Service and location.

According to Joshi, (2021), it is stated that the studies have shown that, while demographic and psychographic elements are crucial for market segmentation, external variables such as price, trends, and market circumstances have a significant impact on consumer purchase decisions. Customer loyalty increases as a result of improved products. The quality of services provided to new consumers is an important factor in understanding their demands and adding to their overall satisfaction. Improving customer satisfaction has a direct correlation with increased client loyalty in India (Barash-Harman, 2020).

This demonstrates beyond a reasonable doubt that Indian shoppers have become more discerning while staying price-conscious as the country's economy has progressed over the previous several decades. Despite growing prices, the modern lifestyle of a wide and diverse client base has had a significant influence on India's current retailing industry. To understand consumer behaviour, it is necessary to know people's lifestyles and socioeconomic groups, as well as their purchasing patterns. Customers now have higher expectations than ever before, including a diverse range of products and services, enjoyable activities, helpful service, and a better shopping experience (Joshi, 2021).

Akhtar and Ahmad, (2022), has mentioned that the Indian petroleum retail industry has traditionally been controlled by public sector companies. However, this paradigm has altered owing to the arrival of private rivals that provide customers with superior customer service options. The development of private oil marketing companies is forcing public marketing firms to alter their attention from selling fuel to assuring client satisfaction through marketing and promotions (Akhtar and Ahmad, 2022). The strategies utilised by OMCs to sell their products and services do not correspond to client preferences for retail mix. Petroleum firms utilise a variety of strategies to attract customers and meet their fuel use expectations, while competition is at an all-time high. At the same time, the government relaxed regulations,

resulting in increased competition among service providers by allowing private petroleum businesses to operate their own retail stores.

Appiah, et. al, (2021), has stated that in both cosmopolitan and tier 2 cities, four major characteristics have been demonstrated to impact where individuals choose to buy petrol: The product has four different tiers: basic, expected, upgraded, and prospective (Appiah, et. al, 2021). At its most basic level, the product is characterised by quantity and quality. Allied services are part of the expected level. The enhanced level consists of product upgrades and additional features. The last level is the potential level, which contains all modifications and improvements. Businesses that check air pressure, wash automobiles and provide convenience products are in great demand. Petrol station owners who wish to keep their customers will need to figure out how to provide these services (Rao). While customers prioritise amount and quality of petrol, they also appreciate supplementary services such as air pressure checks, windscreen washing, mechanic services and refreshments. To begin with, consumers must have access to a sufficient supply of high-quality fuel. Additional amenities such as bathrooms, ATMs, and air pressure systems are also beneficial for client retention (Lohana, n.a.).

According to Tarei, et. al, (2021), has mentioned that purchasing fuel and other petroleum products is strongly associated with the services provided by retail outlets. The Indian government regulates the price of petroleum and recognises it as a standard commodity. Petroleum goods, on the other hand, have transformed from a mundane and generic commodity into a dynamic brand that prioritises its consumers' demands. Modern petroleum retail outlets provide a wide range of goods and services, including automated teller machines (ATMs) and several service counters (Tarei, et. al, 2021). Retail space that meets consumers' requirements beyond petrol is in high demand.

Avittathur and Ghosh, (2020), has stated that to ensure consumer satisfaction, the corporation must conduct extensive research on the area and its residents to determine who buys what.

Furthermore, various locations have distinct consumer expectations and preferences. As a result, each store's non-fuel retail offering must be distinctive and tailored to the local demographic. Recent research found that the Internet of Things (IoT) has the ability to enhance five crucial aspects of the Indian oil retail market: people, technology, processes, data security, and competitive advantage. Modern gasoline retail shops may be changed into "smart pumps" using cutting-edge technology, allowing them to fully realise the benefits of this investment (Avittathur and Ghosh, 2020).

Hemachandiran, et. al, (2023), has given their opinion that when it comes to the tier two city of Vadodara in the western Indian state of Gujarat, there are a number of factors that go into the effort to distinguish between petroleum products from refinery to the level of the retail outlets and how consumers perceive and select them. Vadodara is one of the industrial cities in India and located near many refineries like Jamnagar and Koyali refineries, which provide most of the petroleum products of the region. These refineries have a hospitality system whereby the various oil companies can obtain their products from one refinery (Avittathur and Ghosh, 2020). However, the differentiation process starts after the refining process in the logistics, storage, and distribution level.

From a practical perspective given by Hemachandiran, et. al, (2023), the supply chain of oil companies in Vadodara involves pipelines, rail and road transportation to convey fuel from refinery to storage and retail outlets. The logistics phase is essential for the quality of the product and to control stock. At these storage facilities, companies adopt various branding techniques to set their products apart from the rest. This entails the incorporation of special concentrates, exclusive packaging, and the adherence to particular storage procedures that are consistent with the company's image (Hemachandiran, et. al, 2023).

Bordoloi, (2023), has stated that this is because differentiation becomes more noticeable at the retail level. Having major oil companies like Indian Oil, Bharat Petroleum, and Reliance having their retail outlets in Vadodara, the difference in branding and marketing can be seen clearly (Bordoloi, 2023). These are; logos, corporate colours, and small items such as key holders, wall calendars, among others that remind the clients on the brands in existence.

Other strategies, which include loyalty schemes, sales promotion and enhancements of customer relations could also be employed to further differentiate the retailers.

Altogether, these differentiation strategies influence the consumer perception in Vadodara. For example, customers have certain ideas regarding fuel efficiency or engine capabilities and environmental impact. This perception is based on marketing drives and personal experiences with the products during point of sale. For instance, BPCL's 'Pure for Sure' campaign focuses on fuel purity and quality, which is relevant for consumers wary of fuel adulteration (Bordoloi, 2023).

The use of case studies in Vadodara reveals some successful differentiation strategies. The key strategic focus of Reliance has been to cater to the consumption of higher-octane fuels, coupled with better customer touch points and efficient fuel outlet format. On the other hand, Indian Oil uses its large network base to capture all the populace, both commercial and rural population.

According to Purohit and Jain, 2020, the Development of Fuel Retail in India is a thorough research that investigates the progressions in purchaser conduct and the improvement of significant worth-added administrations in the fuel retail market. The study covers a scope of studies, including those that look at the impacts of client support and item quality on consumer loyalty and dependability, investigate shopper purchasing conduct in retail outlets, and concentrate on customer inclinations of oil retail outlets.

The audit additionally looks at the effect of innovation on the fuel retail market in India, including the utilization of advanced stages and the assortment of information to develop client encounters further. The creators note that innovation has permitted oil advertising organizations to foster new worth-added administrations, such as faithfulness projects and portable instalment choices, to satisfy client needs.

The audit additionally features the job of client discernment in the advancement of the fuel retail market in India. Studies have shown that consumer loyalty is vital to unwaveringness and rehash business. That client's view of the nature of administration and items presented by fuel retailers is essential to calculate their dynamic interaction.

Generally, the study gives a thorough outline of the advancement of the fuel retail market in India, featuring the significance of consumer loyalty, the job of innovation, and the improvement of significant worth-added administrations in satisfying client needs. The creators note that the fuel retail market in India will probably keep on developing because of changing customer conduct and mechanical progressions and that oil advertising organizations should keep adjusting to fulfil these evolving needs.

Price Sensitivity and Consumer Buying Decisions

Purohit and Jain, (2021), Customer attitudes and behaviour intents are crucial in placing the customer's purchase decisions and purchasing parity in the context of HSD and MS. Key concepts in the fields of marketing and consumer behaviour are consumer behavioural intents and attitudes. Building enduring relationships with clients is made possible by having a thorough understanding of the thoughts, feelings, and behaviours of your target audience.

Customer attitude is a psychological term that describes an overall examination of the consumer's favourable or unfavourable perception towards any product, brand, or service. Consumer preferences, intentions, and behaviour are important factors that are influenced by

attitude. An individual's behavioural intention can influence future views and purchasing parity (Purohit and Jain, 2021).

Bordoloi, (2023), has mentioned that the Victor Hugo once said, "There is no force more potent than an idea that has reached its opportune moment." The retail industry in India is undeniably thriving, as seen by the extensive media coverage it receives on a daily basis. Retailing is certainly a key component in India's economy, accounting for an estimated 10% of GDP and 8% of total employment. India has the world's largest number of retail stores, with around 13 million. An estimated 9 lakh crore rupees are spent in India's retail industry, which is rising at a 20% yearly rate (Bordoloi, 2022). Despite a healthy 35% annual growth rate, organised retail still only accounts for 2.5% of the total market share (Bordoloi, 2022).

According to Azhar, (2021), Cosmetics, footwear, sanitary goods, entertainment, and other areas comprise the Indian retail industry. However, downstream petroleum retailing may be considered as a prominent participant in India's retail market, due to a large investment of Rs.1,00,000 crore (Azhar, 2021). When it comes to retail industries, Petro-retail is one of the most structured. Nowadays, providing petrol isn't the only thing that matters.

In addition to pouring gas, Khalidov, et al., (2021), has stated that the updated pumps offer a better shopping experience and additional services to help clients with tight schedules. This is occurring all over the world right now, in markets where large convenience stores near gas stations derive 30-40% of their revenue from sources other than gasoline (Khalidov, et. al, 2021). All value-added services are available from one place. The old pumps have been replaced by new, cutting-edge multi-function fuel dispenser pumps. The gas pumps are automated, which reduces customer wait times, ensures correctness, saves consumers a lot of time, and eliminates misunderstanding and dispute. However, things were not the same then as they are today. To have a better understanding of India's Petro-retailing history, two

distinct eras may be used: pre-APM and post-APM (Petro-retailing sector liberalisation) (Raha, et. al, 2023).

Raha, et al., (2023), has mentioned that the Petro-Retail Sector in India: Prior to APM The petroleum retail business in India has had three major turning moments in its history. A time when corporations dominated the planet. The presence of transactional enterprises and the consequent expansion of the public sector. Government-run propaganda efforts by for-profit enterprises centred on social and economic issues. During the independence era, private firms such as Shell, Caltex, and Esso controlled the marketing and distribution of petroleum products. The government then began to wield more power through PSCs.

According to Bietti, (2022), has stated that efforts to develop the crucial petroleum industry under government control began in the second phase with the implementation of measures outlined in the Industrial Policy Resolution of 1956. In 1959, Indian Oil Corporation (IOC) was established. In 1970, it bought IBP. HPC was founded in 1974, whereas BPC was established in 1976 (Bietti, 2022). During the third phase, the government proceeded with the purchase of assets from all multinational firms operating in the country, influenced by the information gained in the second phase and the impact of socioeconomic variables. In 1981, the government gained entire control of the oil industry (Agarwal, et. al, 2021).

Shinghal, et. al, (2020), has mentioned that the oil business has entered a new era of strategic expansion, driven by the government and aligned with national goals. In the face of fierce competition, PSUs had no choice but to quickly adapt to the new marketing and distribution environment (Shinghal, et. al, 2020). Oil company-owned infrastructure is increasingly seen as a national asset. Making the best use of them was the primary objective.

Shopper decisions in the oil retail area are moulded by a multifaceted snare of variables that surpass the undeniable contemplations of cost and accommodation. While laid-out drivers like

item quality and brand devotion stay powerful, there are often ignored, one-of-a-kind features of shopper conduct in this industry. In this investigation, we dig into some of these factors that impact buyer decisions in petrol retail.

1. Nearby People group Engagement:

A unique element impacting buyer decisions is the degree of commitment an oil retailer has inside the nearby local area. The research highlighted that shoppers frequently feel a more grounded association with retailers who effectively partake in local area occasions, support neighbourhood drives or add to social causes. This feeling of local area commitment can influence buyers toward picking one retail outlet over another, encouraging a sense of unwaveringness past value-based communications.

2. Visual Allure and Aesthetics:

The visual allure of a retail outlet can assume a shockingly persuasive part in shopper decisions. It uncovered that many planned and tastefully satisfying outlets will generally draw in additional clients. Perfect, kept up with offices with engaging signage and finishing can subliminally impact customers to choose a specific outlet, regardless of whether they deliberately perceive these elements.

3. Curiosity and Themed Experiences:

Some oil retailers have wandered into making themed or novel encounters for clients. This investigated how themed outlets with extraordinary contributions, like retro-themed cafes or eco-accommodating nurseries, can draw in shoppers looking for a unique and pleasant refuelling experience. Such themed outlets frequently have an enduring effect on customers, provoking them to return for something other than fuel.

4. Nearby Food and Refreshment Partnerships:

Oil retailers have recently collaborated with neighbourhood food and drink foundations for an improved client experience. These organizations can impact customer decisions. Clients are attracted to outlets that furnish the comfort of refuelling alongside the choice to partake in an espresso from a prestigious nearby bistro or get a light meal from a most loved neighbourhood eatery.

5. Ecological Stewardship:

While ecological mindfulness is a known element, customers are progressively attracted to retailers with a veritable obligation to natural stewardship. It featured how retailers that effectively take part in biological drives, for example, tree-establishing campaigns or reusing programs, can win the blessing of ecologically cognizant shoppers. Such enterprises reflect corporate obligation as well as reverberate with shoppers' very own qualities.

6. Customized Dependability Programs:

Customized dependability programs custom-made to individual buyer inclinations can critically affect decisions. The purchasers answer well to dependability programs that proposition customized rewards because of their energizing propensities and preferences. These projects improve the sensation of being esteemed and appreciated, encouraging brand unwaveringness.

Thus, purchaser decisions in oil retail are impacted by a range of elements that reach out past the traditional contemplations. From people group commitment to visual allure, oddity encounters, neighbourhood organizations, ecological stewardship, and customized devotion programs, these elements can separate one retail outlet from another. Understanding and bridling these unmistakable impacts can be an upper hand for petrol retailers, meaning to separate themselves in a severe market.

2.2 Literature Gap

While existing examination gives significant experiences into the elements impacting customer decisions in petrol retail, an outstanding writing whole warrants further investigation. One critical region where the writing misses the mark is in thoroughly investigating the effect of digitalization and mechanical progressions on buyer conduct in oil retail. In the present progressively advanced world, the job of portable applications, online stages, and continuous data couldn't possibly be more significant. Understanding how these computerized apparatuses impact purchaser decisions, from cost examination applications to portable installment arrangements, is essential for retailers looking to stay serious and receptive to advancing buyer inclinations. Diving into the domain of information investigation, blockchain for straightforward store network the executives, and man-made consciousness for prescient estimating and purchaser conduct examination holds guarantee for uncovering new components of buyer conduct.

Besides, there is a striking hole in research that completely looks at the results of strategy changes on buyer decisions inside the petrol retail industry. Government approaches connected with evaluating, appropriations, and natural guidelines fundamentally influence the estimating elements as well as the ecological cognizance of customers. Examining how changes in these strategies impact purchaser decisions and whether they brief movements toward more economical fuel choices can give basic bits of knowledge to retailers and policymakers the same.

As elective fills and electric vehicles build up some decent momentum universally, there is a squeezing need for research that surveys what these arising patterns mean for purchaser conduct in oil retail. Understanding whether purchasers are changing to electric vehicles and what this shift means for their fuel inclinations is fundamental for both customary and more current players in the business. Also, investigating the possible mix of hydrogen filling stations

and the foundation expected for electric vehicles can reveal insight into the future scene of petrol retail.

Multifaceted and local varieties in shopper inclinations address a one stranger area inside petrol retail research. India's different social scene frequently brings about one-of-a-kind customer ways of behaving and inclinations. Exploring these varieties and the hidden drivers can assist retailers with fitting their advertising procedures to reverberate with explicit client fragments successfully.

Thus, while the current writing addresses representative commitment and its effect on consumer loyalty, there is space for more inside and out investigation of this angle. Research that dives into the connection between representative preparation, inspiration, and client experience can reveal significant bits of knowledge into establishing a more client driven retail climate.

Pricing Mechanism Implementation in Petro-retail

According to Agarwal, et. al, (2021), has stated that prior to 1939, no standards governed the price of petroleum products. Between 1939 and 1948, the oil corporations managed their primary product pool accounting independently, with no government interference (Biette, 2022). In 1948, the Valued Stock Account technique was utilised to reduce price. Under this system, oil businesses could only sell completed commodities at the import parity price set by Ras Tanura (Harak and Ganesh-Kumar, 2021). This price took into account excise taxes, municipal levies, dealer margins, and each refinery's allowable marketing margins. The extra earnings were given up to the state.

Yao, et al., (2021), has mentioned that in 1976, the Oil Pricing Committee (OPC) advocated eliminating the idea of import parity since local supply met 90% of total demand for petroleum, oil, and lubricant (POL) products and no shortage was foreseen (Yao, et. al,

2021). The Oil Products Committee (OPC) supported pricing petroleum products based on regional production costs. In accordance to the OPC's proposal, the current APM was developed and implemented on December 16, 1977. The import parity pricing scheme had a key flaw: it fixed producer prices without considering domestic production costs at all. The issue was resolved when the Retention Pricing Mechanism was implemented, allowing refiners to keep a portion of the sales money (Shahzad, et. al, 2022). Companies in the marketing and distribution industries also used this method. The Indian government also implemented a set pricing mechanism for completed items, ensuring that oil corporations' revenues remained unaffected by the final sale price. The Administered Price Mechanism (APM) was established to allow the government to manage the price of products.

After two decades of boom, the APM began to falter under the weight of increased demand and worldwide prices. As a result, the oil pool deficit increased significantly, consumer prices were skewed by cross-subsidization, subsidies were frequently misused and contaminated, and there was no incentive to boost efficiency due to the guaranteed returns (Su, et. al, 2021). In light of these difficulties, the Indian government formed many groups to reform the oil business, including the 1995 Sundarajan Committee, the R-group, and the Nirmal Singh Committee. On September 1, 1997, the Government of India (GOI) decided to implement a complete package based on the committees' recommendations (Bashir, et. al, 2022). The Administered Price Mechanism (APM) was to be gradually eliminated under this plan. The government resolved in a Gazette Notification in November 1997 to dissolve the APM (Administered Pricing Mechanism) in the oil industry, with deconstruction set to commence on April 1, 2002.

Streamlining several market areas

According to Bashir, (2022), has stated that On April 1, 2002, the Government of India (GOI) began liberalising the retail marketing of petrol and diesel, two fuels used in automobiles, in order to fulfil its commitment to deregulation pricing and marketing structures. Among these reforms was the loosening of prohibitions on foreign direct investment (FDI), allowing private enterprises and organisations from all over the world to participate (Bashir, 2022).

This marked the end of the era in which only state-owned firms such as HPCL, BPCL, IOC, and IBP were permitted to sell automobile gasoline to the general public. According to the Naresh Narad Committee's recommendations, players who meet the entry criteria—an investment of at least Rs.20 billion in oil exploration and production, refining, pipelines, or terminals—can now immediately establish a retail network for marketing petrol and diesel (Bashir, 2022). Furthermore, new entrants can open a large number of stores as long as they pledge to place around 11% of their locations in distant and underserved regions (Bashir, 2022).

Norouzi and Fani, (2020), in the study has mentioned that in recent decades, the market structure has changed dramatically, with production shifting away from tangible items and towards intangible services. This is evidenced by the global expansion of the service industry (Norouzi and Fani, 2020). Furthermore, it has been found that delivering a unique product or service with inventive elements that distinguish the firm from its competitors and increase brand identification is the solution to pricing rivalry.

According to Bhatia and Gupta, (2020), it is stated that the global retail business has seen a tremendous transformation in recent decades as a result of new technology and altering customer tastes. As a result, there has been a significant movement towards technology- driven customer care. Modern businesses are increasingly turning to social media platforms to

develop more personal and direct interactions with their consumers. In addition, some service businesses are sharing customer data in an effort to better understand their purchasing behaviours (Bhatia and Gupta, 2020). This capacity allows for the development and delivery of personalised services to specific groups of clients, resulting in an improved customer experience and first-rate service. Customers are more likely to stay loyal to service providers who employ self-service technology, owing to the convenience and greater security it offers during transactions.

Ali, et. al, (2020), has mentioned that the Indian economy has evolved and altered significantly during the previous several decades. While they remain price-conscious, Indian consumers have become more discerning. A huge section of India's consumer base is heavily influenced by modern lifestyles, which has a significant impact on the retail sector (Ali, et. al, 2020). Customers' purchasing decisions are heavily impacted by their diverse lives, socioeconomic backgrounds, and shopping habits.

Agrawal, (2021), has mentioned that customers now have higher expectations than ever before when it comes to a wide range of products and services, a pleasant shopping experience, entertainment, and customer service. The organised retail sector is expected to increase almost double in the Indian retail industry, with an average annual growth rate of 27% (Agrawal, 2021). Implementing technological breakthroughs has the potential to improve earnings and provide the entire sector a competitive advantage.

Consumer Behaviour and Price Sensitivity

According to Meher, et. al, (2020), it is stated that price sensitivity remains one of the most important factors affecting the retail petroleum market of Vadodara, especially in the wake of the floating of fuel prices after the abolition of the Administered Price Mechanism (APM) (Meher, et. al, 2020). This has changed the pricing mechanisms to where fuel prices change on daily basis depending on the global crude oil prices and the currency exchange rates. It is

thus useful for OMCs to understand how these moves affect consumer buying behaviour in the region.

Montag, et. al, (2020), has mentioned that consumer sensitivity to price in Vadodara is not fixed due to its population mix and industrial growth that has developed over a period of time. Most individuals consider fuel costs to be among their largest expenses, and are very sensitive to fluctuations in prices. This sensitivity is higher for daily commuters, operators of commercial vehicle and middle-income earning households. These groups are aware of the fluctuating fuel prices and whenever they notice that the prices have declined, they wait for the right time to refuel (Montag, et. al, 2020).

Guo, et. al, (2022), has stated in the study that promotional activities are critical in determining the purchasing behaviour of many price sensitive consumers. Stores in Vadodara often run promotion programs like giving cash back on mobile wallet transactions, accumulating points for a free voucher, and festive seasons' special offers. For instance, during the festive season and other occasions, incentives such as cashback on Paytm, PhonePe, etc are more effective since they entail instant monetary refunds and promote customer engagement (Guo, et. al, 2022). Such bonuses as loyalty programs, when a client accumulates points for each purchase made that will later be converted into discounts, or gift certificates also entice regular buyers. These promotions are important in a contest environment where small variations in price can have big effects on demand.

According to Hsu, et. al, (2022), it is evident for this reason that while prices are deregulated among major OMCs, cartel behaviour tends to manifest in parallel pricing strategies and thereby severely restrict the potential for exercising price discrimination. This is a situation where companies fix their prices at equal levels; this means that consumers are discouraged from changing brands in the market based on the price factor alone (Hsu, et. al, 2022). Yet,

smaller and independent retailers might have slightly lower prices to entice oversensitive consumers in suburban and rural regions due to possible lack of competition.

Purohit, et. al, (n.d.) has stated that another facet of the customer behaviour influenced by the price sensitivity is the type of fuel preferred. This is because the price per litre of diesel is cheaper than that of petrol in Vadodara and diesel engines have better fuel economy than petrol engines for commercial vehicles and intercity commute. However, some of the newly introduced cleaner and improved versions of petrol have gained some amount of preference from the consumers, making the issue of price sensitivity a complex factor with additional concerns over fuel quality and the performance of the vehicle (Purohit, et. al, n.d.).

Mukherjee, (2021) in the quantitative study shows that the price elasticity is not constant for all customers, for the Vadodara market. Long distance transporters as well as commercial fleets are very sensitive to price changes as they are major consumers of fuel. Such consumer tends to refuel at stations selling fuel at the least prices or availing attractive discounts for voluminous purchases. On the other hand, in the case of individually owned cars such as private cars where the owner has slightly higher disposable income, they are less sensitive to the price difference as they are concerned with fuel quality and brand (Mukherjee, 2021). The findings of the customer questionnaires conducted in Vadodara reveal that price-elasticity is the function of several factors, those include income-class, fuel-usages, and quality-appeal.

For instance, those in the lower income bracket will be conscious of price issues and may opt for cheap products regardless of the brand. On the other hand, the higher income customer is likely to prefer to pay a higher price for perceived quality and service.

Chaudhary, et. al, (2022), has stated in their findings that historically, Indian public sector firms had a stronghold on the Indian petroleum retail market. However, the rise of private enterprises has altered the landscape by providing consumers with more options for customer

service. As a consequence of competition from private oil marketing organisations, public marketing organisations are shifting their focus from selling fuel to meeting consumer needs (Chaudhary, et. al, 2022). Customers' retail mix preferences differ from the tactics employed by OMCs to sell their products. Service providers are increasingly vying for clients by offering a range of programmes that guarantee higher gas economy than their competitors. At the same time, the government relaxed limitations, allowing private petroleum businesses to create their own retail stores, therefore expanding market competition.

According to Mukherjee, (2021), has stated that customers' choices of gas stations are heavily influenced by four primary factors: The product has four different tiers: basic, expected, upgraded, and prospective. At its most basic level, the product is characterised by quantity and quality. The planned level includes assistive services. The enhanced level includes the product's additional features and benefits. Finally, all adjustments and upgrades are reflected in the potential level. Businesses that check air pressure, wash automobiles and provide convenience products are in great demand (Mukherjee, 2021). Petrol station owners who wish to keep their customers will need to figure out how to provide these services. Customers view air pressure testing, windscreen washing, mechanic services, ATM access, and refreshment facilities to be as important as fuel quantity and quality. According to study, gasoline pricing, how petrol stations are operated, and the usage of technology in service delivery are three major elements that influence fuel use.

Kaur and Bhaskar, (2022), has stated in the study that concurrently, retail outlets are experiencing an increase in demand for non-fuel items. Each retail outlet's non-fuel retailing pitch must be tailored to the demographics of the region, as customer expectations and trends differ by location. The application of artificial intelligence and the internet of things has significantly improved the purchasing experience for oil. The use of IoTs has been shown to have a substantial influence on enhancing service quality and increasing profitability for the

firm (Kaur and Bhaskar, 2020). However, in the context of fuel station commerce, there is a general absence of technology integration into customer care. In India, the fuel retailing industry lags far behind the rest of the retail sector in terms of digital payment options.

According to Chatterjee's study thesis, Indian oil corporations lag behind their global competitors due to constraints and challenges in adopting APM (Hoseini & Briand, 2020). Upstream businesses such as ONGC and Oil India stand to benefit more from the post-APM (Administered Pricing Mechanism) phase than they did during the APM period. During the deregulation period, downstream refineries and marketing enterprises had an early boost in financial success. Their business expanded faster than during the APM era. According to the findings, development over the APM era was gradual and unavoidable.

Sarah, et. al, (2020) advocated in his report on "India's Downstream Petroleum Sector" that the Indian government consider establishing separate pricing restrictions for different categories of petroleum products. Aside from petrol and diesel, propane petrol and kerosene each have their own market. Diesel and petrol account for the vast bulk of transportation fuel. As a result, many middle-class families with their own automobiles use it. Because low-income people rely on LPG and kerosene, it was suggested that their costs be much lower than those for petrol and diesel.

Vanlalzawna and Singh, (n.a.), in their study have given that in 2008, Muthukumar published a book containing various oil sector case studies. He underlined that the 'Golden period of oil' was defined by the quick and tremendous increase in global oil consumption from 1948 to 1972 (Vanlalzawna and Singh, n.a.). In compared to previous levels, oil consumption in North America rose by a factor of four over this period, while it soared by a factor of eleven elsewhere. The widespread and fast use of oil across the world demonstrates its immense importance in people's lives. It affects how individuals in wealthy nations live and work. As a

result of its immense economic importance, the oil sector began to influence the economies of numerous countries.

According to Das, (2022), it is given in the findings that India is the most reliant on imported oil, making it the most hit by recurrent oil shocks. However, these oil shocks underscored the significance of energy conservation, as well as the need for oil exploration and production (Vanlalzawna and Singh). It took the government a long time to understand the methods and deceptive strategies utilised by foreign oil firms. The government's reluctance to utilise price to encourage efficient use of this rare resource resulted in widespread wastage of vital oils such as kerosene and diesel. Das (2022) discovered that taxes provide a significant barrier to the financial performance of the Indian petroleum sector. Taxes have a variety of effects on overall firm success. Strategic tax planning can help firms lower their tax payments while increasing their take-home income.

Kaushik, (2024), has given in their study "Domestic petroleum product prices and subsidies: Recent developments and reform strategies," Baig proposed a practical way to dealing with fuel product pricing (Kaushik, 2024). As part of this approach, domestic petroleum product pricing should be liberalised to allow for automated adjustments in reaction to changes in international product prices. In addition, crucial components of this strategy include disseminating information regarding the costs and benefits of the current pricing system, as well as adopting a clear price structure. This research study focuses on how global oil prices affect inflation and GDP growth in India. This study examines two primary investigative contexts. In the first example, global fuel costs are strongly linked to petrol prices. The second hypothesis is based on current circumstances, with government policies changing on a regular basis, affecting petrol prices (Kaushik, 2024).

Sarah, et. al, (2020), has the goal of this study is to find out how individuals would behave if gas prices unexpectedly increased (Sarah, et. al, 2020). People who rely heavily on fuel will feel the effects of the big oil corporations' price increases. This price increase affects everyone, but middle-class folks are hit the hardest. As a result, an attempt is undertaken to determine the magnitude of the influence on the increase in gas prices. This article investigates the economic impact of increased petrol prices, with a special emphasis on the agriculture sector (Sharma and Gundimeda, 2021).

The study of Sharma and Gundimeda, (2021), has examined the direct and indirect repercussions of these ongoing increases. Inflation rates and the expenses of establishing food security measures are two areas where the study's results are more felt than seen. This research article focuses on the dynamics of petroleum consumption in India, including demand and supply. This research looks at the issues that influence the oil market, such as supply and demand and petroleum consumption. The potential depletion of all petroleum products looms on the horizon, casting a pall over petroleum's future and the security of future generations (Sharma and Gundimeda, 2021).

Yadav, (2022), in the research focuses on how respondents believe petrol prices should be determined. Fuels include coal, oil, and petrol. The inquiry was conducted using a descriptive research technique. Diesel automobiles are chosen by 43% of respondents, whereas petrol vehicles are preferred by around 45% (Yadav, 2022). The study's findings suggest that consumers should significantly reduce their usage of petrol.

Naveen, et. al, (2023), stated that the majority of oil shock research has focused on macroeconomic activities. Since Hamilton, 1983 discovery of a Granger-causality link between fluctuations in oil prices and various macroeconomic factors, much research has been conducted to investigate the relationships between oil shocks and variables such as the

stock market, international commerce, GDP growth, net exports, and so on (Naveen, et. al, 2023).

According to Abhisha and Anjali, (2022) study, oil shocks affect macroeconomic performance in a variety of ways. It analyses and contrasts the shocks of the 1970s with those of the new century. Blanchard believes that the fading link is mostly caused by a reduced proportion of global oil output and stronger, more autonomous central banks in wealthy countries. Mehra and Peterson's approach was based on the consumer life cycle model. Their findings are based on data collected from American families, a country that imports oil (Abhisha and Anjali, 2022). The study's major purpose is to identify the immediate consequences of unanticipated changes in oil prices inside their model. When income, wealth, and interest rates are accounted for in a Vector Error Correction model, researchers discover that oil shocks have no long-term impact on household consumption. However, they have an instant and profound effect. Furthermore, consistent with previous findings, the researchers discovered a negative correlation between "net oil price increases" and "positive oil price increases" as indicators of oil shocks. SAKTHIVELU & AZHAGAI AH, broaden their analysis by omitting interest rates from their model, revealing a similar negative trend among ASEAN member nations.

This study will employ the same methodologies as Gupta & Pal, who were pioneers in applying an empirical macroeconomic framework to evaluate consumption. To examine the impact of rising oil prices on household consumption in oil-exporting economies, we will use economic data from Jiménez-Rodríguez & Sanchez (2005) and Bjørnland (2009), as previous studies have focused on oil-importing countries (Kaushik, 2024). The removal of the Administered Price Mechanism (APM) has affected the petroleum market and hence buyers' behaviour in Vadodara in the following ways. The presence of the price sensitive customers remains an influential factor in this area bearing in mind the economic difference and fuel requirements.

Kaith and Sachdeva, (2024), has stated that since the implementation of APM, the OMCs in Vadodara, like others in India have switched to the daily fluctuation in the prices of the fuel

in line with the movements of the crude oil prices and currency exchange rates. This has made the consumers to be more sensitive to the prices and change that may happen in the market. Similar studies have been conducted in Vadodara that reveal consumers are sensitive to prices and would prefer to refuel during cheaper intervals. This shows us how important price promotions and discounts are to the consumer decision making process. Establishments in Vadodara often include incentives like cash back, reward points for digital transactions, and discount coupons for festive seasons. The above promotions are especially popular among price-sensitive users such as daily commuters and operators of commercial vehicles (Kaith and Sachdeva, 2024).

According to Philip and Chopra, (2021), the influence of cartel-controlled pricing is also seen in Vadodara. However, major OMCs tend to show parallel pricing often times that are capable of neutralizing the competitiveness of the environment. But the independent stores often provide even slightly lower prices to lure customers, particularly in the suburban and rural regions. The competitiveness of the markets has promoted product differentiation when it comes to the pricing of the products in Vadodara. Reliance and Essar have for instance offered various forms of bundled offers where customers are offered deep discounts every time, they buy fuel with other goods and services (Philip and Chopra, 2021). These strategies are aimed at consumers who look for something else besides the price of fuel. A study of the data collected from Vadodara shows that consumers can be classified into different groups of price sensitivity. For example, commercial fleet operators may be more budget-conscious and less willing to spend on a vehicle than individual car owners who may care more about fuel quality and product branding.

Influence of Value-Added Services

Kaith and Sachdeva, (2024) as mentioned that overall, value-added services increase clients' quality of life even after they have utilised a product or service. Every step in the supply chain provides some type of value-added service, which enhances the relationship between businesses and their customers. To satisfy clients, they prioritise providing first-rate maintenance in line with all applicable regulations and legislation. It is true that establishing petrol delivery mobile applications requires value-added services. Extra services are required to boost product demand, provide businesses a competitive advantage, and create more revenue (Kaith and Sachdeva, 2024).

As mentioned by Philip and Chopra, (2021), it is stated that value added services have a significant influence on a consumer's choice of petroleum retail brand. When you buy petrol at select petrol stations, you may also receive benefits such as having the oil changed and the windscreen washed. It is normal practice to give these extra services to consumers at no additional cost. Retail gasoline sales are one component of the oil and gas industry's value chain. People utilise fuel stations to fill up their automobiles and take use of the additional services provided by oil marketing companies (Philip and Chopra, 2021). Petrol distribution facilities can extend their revenue sources beyond fuel sales by boosting the value-added services they provide. Petrol stations can be established by both public and private oil marketing businesses to distribute and store petroleum products. IOCL, HPCL, BPCL, Reliance, Essar, and Shell dominate India's vehicle gasoline retail sector.

Since the first roadside fuel stations emerged in the early 1900s, value-added services have played a critical role in revolutionising the petrol retailing industry. The availability of these services has increased significantly as a result of the significant growth seen by the retail petroleum industry during and after the war.

Value Added Services in Fuel Retailing: Many petrol stations in India are overcrowded and poorly constructed. This disadvantage naturally gives an opportunity for a new perspective.

Businesses that provide exceptional alternatives. Long queues, filthy forecourts, crowded automobiles, and manually operated petrol pumps that may not record the precise quantity of gasoline supplied are all prevalent at Indian gas stations (Buragohain & Dutta, 2021). There are no convenience stores or other amenities to attract people. The need for flexibility has driven Indian conglomerates such as Essar and Reliance to enter the petrol retail business.

Reliance has erected more than 1,200 service stations, resulting in considerable network growth.

Koolwal and Khandelwal, (n.a.), in the analysis have mentioned that the world-famous oil firm Shell has recently built a petrol station in India, marking its debut into the country's retail sector. The petroleum retailing industry in India is working to improve consumer offerings and create additional forecourt selling options (Mallick and Sahoo, 2023). In recent years, India's retail sales of petroleum products have grown steadily. Different types of automobiles come up to the lot, pay with real money, and then drive away. The petrol selling industry in major cities has become increasingly reliant on credit cards, female attendants and carwashes (Koolwal and Khandelwal, n.a.). People used to stop at fuel stations to fill up their automobiles. However, they may now be used for a variety of applications and services. For example, BPCL has created a large network of in & out outlets around the country. These sites provide a wide range of banking and retail services. Customers may purchase petrol while also shopping.

Haralayya, (2021), has mentioned that Indian Oil, Bharat Petroleum, and Hindustan Petroleum are some of the state-owned petroleum product companies that presently own these pumps (Haralayya, 2021). Private enterprises, which may be short on funds, operate them as franchisees instead. Petrol stations provide a variety of services to improve the customer experience.

Quick Care Points- Mallick and Sahoo, 2023, stated that customers may obtain a free check of fluids such as brake and engine oil, coolant, battery water and more at convenience stores. A handful of other people. In addition, we thoroughly inspect the tyres and give prompt advice if necessary.

Digital Air Towers- It is vital for the vehicle's safety and performance to have the proper air pressure in the tyres. The digital air pressure device is particularly designed to maintain exact air pressure in cars, improving both comfort and safety.

ATMs- Retail gas stations frequently have ATMs on the premises, allowing consumers to do financial activities while filling up.

Communication Facilities- To make things easier for consumers, several establishments now provide pay phone services. Additionally, shops that excite the buyer's curiosity are picked. The application allows users to read their emails and access the internet at dizzying rates.

Financing for the vehicle and Insurance Related Counsel- Many petrol stations now provide additional services, such as auto insurance and financial help. Among these services, consumers may find aid in evaluating insurance products and various payment methods. Policy renewal. In addition, you can extend your financing for a new or used automobile. (Kautish, et. al, 2021)

Basic Services- Fuel distribution stations provide a variety of facilities, including food kiosks, clean bathrooms, basic medical supplies, first aid kits, and water purifying devices that allow passengers to drink the water. In addition to traditional non-fuel services, oil marketing organisations in the public sector receive specialised services from big fuel industry companies.

Indian Oil Corporation Limited (IOCL)

Indian Oil is a leading commercial R&D firm in Asia's downstream economy. They use their expertise to generate new ideas. Modern technology allows for the development of a wide range of fuel products and unique procedures. IOCL supplies a wide range of fuels, including petrol, aviation turbine fuel (ATF), naphtha, kerosene, lubricants, paraffin, bitumen and diesel. IOCL's well-known fuel products include Servo lubricants, Auto petrol LPG, Indane LPG, Xtra Premium branded petrol, Xtra Mile high-speed diesel, and Indian Oil Aviation (Kumar, et. al, 2022).

XTRACARE, Fuels and More

The XTRACARE E full-service gas stations, owned and operated by Indian Oil Corporation Ltd, provide a wide range of services, including product and store design updates, automation, skill training, retail site management techniques, and customer loyalty.

Programmes that have all been tested in accordance with worldwide standards. Few retail fuel products have made as big an impression as Indian Oil's XTRACARE pump. Its exceptional combination of high-quality products, accurate quantity, and courteous customer service has won it a strong reputation (Agrawal, 2021). Every visit promises a unique and fascinating experience for tourists.

IOCL's XTRACARE umbrella service is provided to loyal clients throughout the monsoon season. During the complete examination, all elements are examined, including the brake fluid, the air pressure and visual inspection of the tyres, the water level in the batteries, the condition of the windscreen wiper blades and water spray and more (Sluder, et. al, 2022).

Suraksha LPG House

Indane Distributors provides a wide range of value-added services, including affordably priced products and services. Items for sale include fire-resistant cooking aprons, safe and

long-lasting LPG burners, and energy-efficient and durable LPG dwellings (Bhunia, et. al, 2021).

XTRAPOWER Fleet Card

The Indian Oil XTRAPOWER Fleet Card Programme provides fleet owners, operators, and organisations with a comprehensive fleet management solution. It enables users to easily purchase petrol and lubricants at specific Indian Oil stations using credit and different prepaid options rather than paying in cash (Rather, 2023). The ability to track automobiles and access to personal injury insurance are two of the fleet card system's many distinguishing features. In addition, you may benefit from an enticing Rewards Programme.

Bharat Petroleum Corporation Limited (BPCL)

Bharat Petroleum prioritises customer satisfaction and value generation in both the fuel and non-fuel businesses.

Fostering Loyalty

BPCL's major aim is to strengthen relationships with its customers and encourage their loyalty. Customers demand greater convenience and benefits, and BPCL understands that. This is why they created Petro Bonus, a rewards and loyalty programme to meet these needs. In addition to providing a number of convenient payment options, the Petro card programme includes a rewards programme in which users may accrue Petro miles. Smart card technology is also in use (Drachal, 2022).

Smart-Fleetcards

Cashless transactions, vehicle tracking, and cash management are just a few of the Smart Fleet Programme's useful features designed to increase convenience, security, and overall experience. A system has been developed to better monitor and give loan options to India's fleet owners. In addition to making fleet management easier, Smart-Fleet offers appealing

rewards and assures absolute purity, among other benefits (Patki & Sople, 2022).

E-CHARGE

E-Charge is a comprehensive technology and service provider that provides an electronic delivery solution to the prepaid goods sector. This revolutionary solution uses electronic terminals to connect cell carriers with the retail sector, therefore joining the distribution value chain (Almeida, et. al, 2021). This solution is extremely scalable, ensures the greatest level of prepaid PIN security, and simplifies customers' lives. Ticketing for sporting events and films, as well as other services like bill payment, may all benefit from technology advances.

BP GHAR

Bharat Petroleum Corporation Ltd. (BPCL) is developing a vibrant highway assurance network as part of its retail operations. People who use highways, such as visitors and truck drivers, should feel safe and confident owing to the High Assurance Network. Assurance covers all three types of solutions—journey, business, and personal—and ensures that all facilities, deliverables, and offerings are uniform and standard. These petrol stations feature cutting-edge facilities such as captive power generation, a customer service centre that accepts smart cards, a spacious and secure parking area and fully automated MS/HSD filling systems (Rather, 2023).

Hindustan Petroleum Corporation Limited (HPCL)

At HPCL retail stores, we emphasise developing strong customer relationships in order to provide you with excellent service. Our automotive repair services meet a wide range of requirements. In addition to serving its clients' gasoline needs, HPCL offers a full range of automobile maintenance services. These services provide additional value-added offerings, which enhance the entire experience.

Customers may purchase at the HP retail location whenever and whenever they want, as it is simply accessible and convenient. The corporation plans to address distribution system leakage by automating retail checkout, tracking petrol tankers via satellite and putting markers to kerosene (Drachal, 2022). To enhance its operations, HPCL has implemented a number of innovative initiatives. Among these are the upgrades to retail terminals, the introduction of mobile laboratories and specialist retail automation at chosen outlets, and the establishment of mobile retail outlets catering to remote regions.

Customers in the LPG industry now have access to a variety of tailored solutions to increase their convenience, owing to a recently published collection of value-added services. Refills are provided within 24 hours. Delivery hours have been extended from 8 a.m. to 8 p.m., seven days a week. The services are provided by an extraordinarily efficient workforce of highly qualified specialists. Within the following day, a substitute link will be installed.

Inquiries about customer service and emergency help. A unique four-digit number, 1716, has been allocated to ensure the safety and comfort of HP GAS customers across the country.

HP Suraksha LPG house

As a market leader in the oil sector, HPCL has improved its client services by computerising its distribution network. Furthermore, IVRS now allows you to plan refills. The HPCL places a high value on customer safety. Introducing the HP Suraksha LPG home reflects the company's unwavering commitment to safety.

HPCL - ICICI Co-Branded Credit Cards and the Club HP Smart Cards

Customers can apply for Club HP Smart Cards or HPCL-ICICI Co-Branded Credit Cards through HPCL. Customers may earn extra reward points when they use their HPCL-ICICI Credit Cards at "Club HP" companies.

Drive Track Card

HPCL created a drive track card in response to rising prices, concerns about driver safety, difficulty with route planning, and risks involved with product handling. The Drive Track fleet card is a prepaid solution for highway-focused fleet operators that incorporates both an e-purse and a reward scheme (Almeida, et. al, 2020). Customers get Drive Stars reward points for every transaction they make at an HPCL petrol pump. As compensation, the carrier receives free petrol, diesel, turbojet fuel, power, and other benefits. Every day, at least 20 transporters receive this award from HPCL gas stations.

Hamara Pump

The 'Hamara Pump' is a low-cost pump variant capable of covering around 900 square metres. A sales area and phone infrastructure are also provided. Availability of drinkable water, sanitary bathrooms, and safe, controlled air quality. The pumps are located in and around areas with a high demand from farmers. 'Hamara Pumps' meets a wide range of lubrication and fuel delivery requirements.

Bills Payments

HPCL and Skypak Financial Services have collaborated to provide drop box services at all Club HP locations. Skypak will install those annoying drop boxes. It is advisable to add boxes to the system gradually, one step at a time. We provide drop boxes where you may pay invoices for a variety of services. Before they may receive the desired service, they must present the service provider with the necessary papers, such as an invoice and a payment mechanism, such as a demand draft or a check (Valadkhani, et. al, 2021). Skypak will direct these documents to the appropriate destination at no additional expense.

Impact on Consumer Buying Behaviour

National oil corporations provide substantially identical value-added services. Club HP, IOCL's XTRACARE, and BPCL's Initiative are all marketing efforts designed to boost consumer value by offering additional benefits. Over the previous few years, the average gross margin for gasoline has been quite steady. After accounting for all expenditures, the average profit is now less than the total cost of gas. Given the low profit margins, stores would do well to attract customers to make more purchases. People aged 18 to 34 are more likely to return to the business and spend more money there.

Going into a company does not guarantee that a consumer will purchase anything. Customers may have difficulty locating what they want to buy in some cases (Pinto, 2022).

Alternatively, the client may have attended the business for purposes other than purchasing, such as to use the ATM or other services. Having said that, a distinct trend has emerged among consumers who purchase a range of items at gas station convenience stores, including meals, water and food. When it comes to client loyalty, BPCL is VAS's top choice due to its exceptional track record of innovation (Bokhari, et. al, 2021). When it comes to client loyalty, HPCL ranks second. Client satisfaction is valued at IOCL's most important points of contact.

The brand provides extra value-added services like as windscreen washing and oil checks. This graph depicts how value-added services influence the decisions of both personal and commercial drivers. Among personal drivers, 43% rate the influence of these services as low, 37% as medium, and 20% as high. 74% of commercial drivers say that these services are not available, while 13% rate it as medium and another 13% as high (Bokhari, et. al, 2021).

Value-added services have become a significant differentiator in the petroleum retail sector in Vadodara, influencing consumer preferences and enhancing the overall refuelling experience. A number of retail outlets in the region have adopted features such as on court greeting, windshield cleaning, free air, water as well as toilet facilities and oil change services in their

bid to court the customer (Purohit & Jain, 2024). In the case of Vadodara these value-added services are particularly meaningful as the city has a large number of vehicles on the roads and a diverse population – from daily wage earners to businessmen who travel long distances. For instance, supermarkets and shops along the highways, especially along the Vadodara-Ahmedabad Expressway, incorporate these services to address the needs of travellers who require comfort whenever they are on the road.

Surveys conducted in Vadodara indicate that consumers highly appreciate these additional services, which significantly influence their choice of retail outlets. For instance, free air and clean restrooms are vital elements for long distance truck drivers and touring families. On- court greeting and windshield cleaning, though they may be perceived as minor additional services by the customers, contribute positively to the overall perception of service quality (Bhunia, et. al, 2021). These services are strategically deployed by retailers in Vadodara in a manner that seeks to foster competition. Bharat Petroleum’s “Ghar” and Indian Oil’s “Xtra Care” outlets perfectly illustrate how services can be offered to customers to secure their loyalty (Agrawal, 2021). These services not only improve customer satisfaction but also encourage repeat visits, fostering long-term loyalty.

Specific examples from Vadodara show how these kinds of strategies are effective. For instance, an existing BPCL outlet that is located close to the city’s industrial area has gained more customers because of its impressive service delivery that includes fast oil services, and free car health check-ups (Sluder, et. al, 2022). Such services are especially popular among the working population who might have little time to spend preparing their meals.

The impact of value-added services is also evident in consumer behaviour studies. It was understood that consumers in Vadodara are willing to spend a little more on the fuel or travel a few kilometres extra if the associated services can make them feel this value addition. This behaviour demonstrates why more inclusive service delivery models should be introduced into

the retail stores to increase customer satisfaction and product loyalty (Kautish, et. al, 2021).

Influence of Corporate Image and Retail Visual Identity

In India, the oil and gas industry has significant power, influencing policies that influence other critical sectors of the economy. Rising energy consumption in India is a major signal of the country's economic success, indicating that future oil and gas demand would be strong.

Investment potential in the firm are consequently quite enticing. Even in 2023, India remained one of the world's leading oil consumers. To meet the rising demand, the government has developed many schemes. The government has authorised full foreign direct investment (FDI) in a variety of businesses, including natural gas, petroleum products, and refineries. Public sector refining projects are now subject to tighter Foreign Direct Investment (FDI) restrictions, which allow for up to 49% ownership without the need for sale or reduction of local equity in existing PSUs (Almanaour, 2022). Reliance Industries Ltd (RIL) and Cairn India are only two examples of local and foreign investors who have lately established operations in the region. The sector is expected to draw a significant investment of \$25 billion, mostly for exploration and production. With 23 refineries inside its borders, India is becoming a significant player in the refining business. The growth of this facility is being planned with the goal of attracting foreign investors to export-oriented infrastructure such as product pipelines and ports. Up to January 2024, India's crude oil output during the fiscal year 2023-2024 was 22.71 million metric tonnes (MMT) (Purohit & Jain, 2024).

In the next years, the Indian oil and gas sector will face both exciting new opportunities and serious new problems. It is estimated that India's energy consumption would double by 2040. Oil and gas are estimated to meet around half of this demand. Because of the increased demand, firms in this field have a promising future. Sustainable energy sources are obviously becoming the standard across the world (Kumar, et. al, 2022). India is participating in this effort and has set ambitious targets for the usage of renewable energy. In light of recent changes, the oil and

gas industry is playing an important role. To align with global ambitions for a cleaner planet, the sector must expand and evolve.

Many individuals believe natural gas will play a significant part in this transition. Because of its reduced carbon emissions compared to coal and oil, the Indian government and business are aggressively promoting its expanded usage. They intend to increase natural gas transportation by building more pipelines, expanding municipal gas networks, and adding liquefied natural gas (LNG) distribution facilities (Haralayya, 2021). It is also clear that efforts are being made to include cutting-edge technologies. Businesses are considering data analysis, smart computers, and digital technologies to improve their oil and gas exploration, extraction, and distribution processes. Innovative technologies show considerable promise for altering operational processes, lowering resource consumption, and enhancing industrial profitability. However, issues will occur in the years to come. Despite the numerous challenges that may emerge, organisations should always strive for growth. Considerations include decreasing reliance on fossil fuels, unexpected price fluctuations, global geopolitical conflicts, and the crucial need to reduce pollution (Koolwal & Khandelwal).

Fuels such as jet fuel, biofuels, petrol, and diesel have an impact on transportation, energy generation, industrial growth, and agricultural output, among others. Oils are not only a substantial contributor to global CO₂ emissions, but they are also a major source of energy generation globally (Mallick & Sahoo, 2023). Motor vehicles rely heavily on petrol and other petroleum oils for fuel. Fuels are classified based on characteristics such as stability, volatility, viscosity, gravity, and ignition quality. Diesel quality is an important consideration when assessing the influence of chemical composition on motor fuel physical attributes and emissions. The dangers of automobile exhaust to human health have long been a cause of concern. People endanger themselves when they breathe in the toxic compounds emitted by pollution. Regulating the composition and other features of automobile gasoline is one definite

strategy to reduce hazardous emissions (Buragohain & Dutta, 2021). Optimising the ignition speed and ensuring complete fuel combustion can increase engine performance and efficiency. Another way to assist reduce pollution and greenhouse gas emissions is to limit the quantity of sulphur and other dangerous chemicals in gasoline.

Meeting engine demands while reducing environmental and health problems necessitates that all fuel meet quality criteria established for local markets. The physicochemical qualities of the motor fuel must be investigated before it can be commercialised. Factors such as density, RON, MON, AKI, oxygen content, and BTEX (benzene, toluene, ethyl benzene, and xylenes) concentration are considered (Philip & Chopra, 2021). Euro, the ISO TC28 Technical Committee on Petroleum Products, and the ASTM D2 Committee on Petroleum and Petroleum Products are the worldwide groups in charge of defining petroleum sector standards.

Two criteria, the Research Octane Number (RON) and the Motor Octane Number (MON), are used to determine the anti-knock properties or the ability of fuel to burn spontaneously (Kaith & Sachdeva, 2024). Numerous research have looked at the impacts of RON, and the general belief is that higher RON results in better engine performance. A number of tests have found that low-MON fuel possesses remarkable knock-resistance, especially in situations where unexpected combustion is likely. AKI is a fuel efficiency metric that is calculated by averaging the Research Octane Number (RON) and the Motor Octane Number (MON) (Yadav).

By increasing the octane rating of petrol, oxygenates—an organic fuel additive—improve the efficiency of internal combustion (IC) engines. Furthermore, it enhances fuel combustion, lowering exhaust emissions of carbon monoxide (CO) and thereby reducing air pollution (Kaushik, 2024). The use of oxygenated fuel in spark ignition (SI) engines has the potential to reduce pollution, improve the agricultural economy, and reduce dependence on petrol.

Oxygenates also effectively reduce the concentrations of hazardous aromatics in petrol, including benzene, toluene, ethyl benzene, and xylenes. Oxidants include substances like

ethanol, methanol, MTBE, ETBE, TBA, and TAME (tertiary amyl methyl ether). Tertiary butyl alcohols have also been added. These compounds contain oxygen at the molecular level. MTBE is now the most popular oxygenate among users. The risk of cancer, however, becomes obvious at sufficiently high concentrations, particularly for individuals who work at gas stations. Furthermore, MTBE's effects, water solubility, and the generation of environmentally toxic by-products have restricted its use. Methanol's effects on people have been extensively studied. If methanol is inhaled or comes into contact with the skin, it can cause poisoning (Gupta & Pal). Vehicle exhaust and petrol are major perpetrators in this type of poisoning. Death, mental illness, Parkinson's disease, metabolic acidosis, and eye loss (including irreversible blindness) are all potential effects.

Paraffins, olefins, and aromatics combine to make petrol, a volatile and flammable mixture (SAKTHIVELU & AZHAGAI AH). Gum can occur when petrol contains a greater concentration of olefins; this gum can then collect on automobile filters and distribution lines, making fuel less stable. Prolonged exposure to benzene, on the other hand, can cause major health consequences such as leukaemia and interference with essential biological systems such as the respiratory, cardiovascular, immunological, neurological, and hormonal.

According to studies, toluene exposure increases the risk of respiratory issues such as asthma and cardiovascular disease. According to study, exposure to ethyl benzene has a deleterious influence on the immune systems of both adults and babies (Abhisha & Anjali, 2022).

Xylenes are aromatic hydrocarbons that, when inhaled over an extended period of time, can cause a variety of developmental, immunological, and respiratory issues. According to studies, BTEX can cause a range of health issues in people, including hormone imbalance, asthma, cardiovascular disease, respiratory dysfunction, and other abnormalities. BTEX pollutants contribute to the generation of secondary aerosols and ozone via gas-to-particle conversion processes. Many different types of literature have investigated the detrimental consequences of aromatic hydrocarbons such as benzene.

There has been no published study on the quality analysis of motor fuels in Bangladesh, despite the potential dangers associated with diverse liquid fuel components (Naveen, et. al, 2023). However, there are now a number of research being conducted throughout the world on fuel quality. Researchers in northern China investigated the quality of petrol for automobiles and the sulphur content of various fuels on the market. The regular addition of organic solvents including light, heavy, and aromatic hydrocarbons has a considerable impact on the quality of Brazilian petrol. Following a thorough analysis, the sulphur content of diesel and petrol fuels was established in many places across India (Yadav, 2022). To combat climate change and minimise pollution, the European Union conducted a comprehensive review of fuel quality in 2020. The United States, Japan, Pakistan, Ukraine, and several other countries also tested petrol in an effort to counteract global warming and enforce strict fuel compliance requirements.

According to researchers, public sector OMCs were attempting to obtain a competitive advantage by introducing their brands and entering the market early (Sharma & Gundimeda, 2021). They wanted to garner attention and separate themselves from competitors as soon as feasible. According to 2011 study, oil marketing firms should prioritise developing a distinct brand identity if they want to succeed in the petro retailing business. This allows them to grow their market share. Retail outlets owned by public sector OMCs are being renovated and upgraded, and the firms are extending the range of services they offer (Kaushik, 2024). According to a 2001 study, consumers no longer prefer one brand of fuel over another.

OMCs' marketing strategy is to differentiate their services, expand their reach, and ensure customer satisfaction. According to Cedar View's Manish Kotwala, OMCs are attempting to distinguish themselves by emphasising product and service offerings. According to researchers, there are two major challenges that OMCs must overcome to secure their existence. Increasing revenue while dealing with declining fuel profit margins is one difficulty. Changes are also required to accommodate the demands of changing customers, who are more

interested in alternative energy and seek convenient, enjoyable shopping experiences. Given the aforementioned challenges, petroleum merchants will need to rethink their business, client base, and public perceptions (Kaushik, 2024). Faced with tough competition, petrol station owners are seeking for innovative methods to increase profits by making the most of their great locations. According to Cedar Consulting's Manish Kotwala, the non-gasoline retail industry is expanding. The growth of services such as convenience stores, car repair shops, auxiliary services, and loyalty programmes is to blame. OMCs are working to change the way Indian consumers think about their purchases. They urge people to stop viewing purchases as signs of weakness and instead regard them as investments. According to researchers, there are several reasons why consumers may be lured to or become committed to petrol retail sites (Vanlalzawna & Simgh). Potential expansion strategies include establishing a partnership with a prominent supermarket chain, providing high-quality coffee and convenient meal-to-go alternatives, collaborating with a well-known fast-food chain, and supplying automotive services. Customers are more likely to pick a retail location that is close to a bank or a theatre. The focus might shift from "fuel" alone to "fuel plus," influencing purchasers' perceptions.

PETRO RETAILING – A PERSPECTIVE

According to Marcel Cohen and Edward Bradfield's "Petrol Retailing - Within a Global Context," which highlights their study on the retail mix and its significance to oil businesses engaging in petrol retailing, the retail mix is comprised of the following factors.

Fuel Quality: Petrol, petrol, LPG, and compressed natural gas (CNG) are just a few fuel options available to Indian customers. Over time, engine manufacturers have quietly pressured oil firms to improve the bar for fuel quality. However, in recent years, the public has been more interested in the monitoring and application of these principles (Sarah, et. al, 2020). In recent years, the government has increased its control of the quality and standards of motor gasoline products. The key motivations behind the regulation are environmental and public

health concerns. At the moment, there are significant technological distinctions between fuels derived from crude oil. High-quality commodities provided by shops now command a premium, which shoppers are more than willing to pay.

Forecourt Design: Stores are designed based on the Retail Visual Identity (RVI). This includes lighting systems installed beneath the canopy, readable graphics and signage, and neatly grouped outlets. To appeal to the senses, an area's colour palette, architectural elements, and general design should all be thoroughly thought out. Creating a memorable logo for the company is the first step in every design job. The placement of the storefront is a crucial consideration while planning the forecourt. Among these factors are the best entry and exit points, as well as the number of filling devices (dispensers) (Agrawal, 2021). When designing a retail business, it is vital to consider the additional services supplied. Customers' perceptions of a business and its brand can be greatly altered by minor modifications to the forecourt's architectural design and strategic planning.

Pump Design: Instead of the real "pump," the container dispenser draws consumers' attention in the store. It is typical to find the pump mechanism beneath the soil. Consumers may now view the precise amount of petrol and its price in real time thanks to recent digital improvements. Modern pumps have electronic motors, digital displays, and the ability to be operated remotely (Sluder, et. al, 2022). This pump design does not need the user to come into personal touch with the petrol. When a consumer wants petrol, an automated nozzle is used to pour it into the vehicle. Sitting comfortably in a climate-controlled room, the customer will enter the necessary data into a VDU. These pumps are now being utilised in Japan. Their high cost and oil companies' reluctance to embrace them are further impediments. Oil companies have implemented a color-coding scheme to prevent misfiling. This procedure eliminates the risk of unintentionally filling a petrol car with diesel or vice versa. Diesel fuel, for example, is typically identified by the colour black (Bhunia, et. al, 2021).

Indian Oil Corporation Limited distinguishes itself by outstanding staff, cutting-edge machinery, and innovative R&D concepts. It is critical to India's economy as the primary source of energy. When compared to other energy providers, India stands out for its high efficiency and efficacy. Indian Oil Corporation Limited's large network of over 50,000 consumer touch points includes over 29,000 fuel stations that distribute valuable petroleum products throughout the country (Rather, 2023). The well-known Indian corporation decided to revamp its retail visual identity across the country, and Eurobond was contracted to do so.

Indian Oil Corporation Limited is careful about the firms it works with. The organisation takes considerable care while selecting a dependable vendor for its goods and services. The business takes great effort to carefully screen all candidates during the hiring process.

Eurobond's extensive assessment procedure included testing, inspections, and plant visits conducted by an impartial third party (Drachal, 2022). As a consequence, the Indian Oil Corporation Limited corporate identity was authorised. All of India's Indian Oil petrol stations will soon have Eurobond Aluminium Composite Panels (ACPs). Eurobond has established a reputation for superior product quality and innovation. Eurobond takes pride on the exceptionally high quality of its ACPs (Patki & Sople, 2022). Clients may choose the best fit from the numerous available colours and textures. Eurobond's ACPs are known for its exceptional durability and gloss, ensuring long-term satisfaction. Eurobond's unwavering devotion and hard effort have made it the preferred choice for corporate identities among the country's most prestigious firms.

Corporate image and retail visual identity (RVI) are significant factors affecting consumer behaviour in the Petroleum retail sector in Vadodara. The assessment of quality and quantity, and general retail outlet image, appear to play a key role in consumer decision making. In particular, as competition in Vadodara between the various petroleum retailers is stiff, the corporate image plays an important role in developing trust with the consumer. Firms such as

Indian Oil, Bharat Petroleum and Reliance engage a lot of resources to accommodate a strong corporate image (Drachal, 2022). This entails constant reinforcement of brand image, provision of quality services and participating in community issues. For instance, the voluminous CSR profile of Indian Oil and its emphasis on sustainability matches the environmentalism of its clients. Similarly, the retail visual identity is as imperative in the petroleum market of Vadodara. Clean and neat stores with good display and better infrastructure are likely to attract more customers compared to the opposite. The RVI includes availability, accessibility, the structure and organization of the retail environment, cleanliness, lighting, labelling, and the atmosphere (Pinto, 2022). Such elements bring out a positive first impression and also improve the experience of the consumer.

Conducted research in Vadodara suggests that people prefer to buy from well branded and attractive outlets due to the perception that products from such places have higher quality and better services (Bokhari, et. al, 2021). This belief is most evident in consumers who are categorized under the urban class who place more value on brand image and outlet appearance. For instance, Reliance organised and professional retail outlets with strong brands and superior products such as premium fuels targeted at a more superior class of customers.

Quality and quantity perception is another area of great concern. Due to some previous incidents of adulteration of fuel and short selling, consumers in Vadodara are sensitive to the quality of fuel and its quantum (Valadkhani, et. al, 2021). To deal with these issues, companies implement strict standards, maintain clear organizational practices, and conduct constant checks. Awareness campaigns for such measures also help in increasing consumers' confidence level. Other factors that affect consumers' behaviour include branding of premium fuels. Superior performance and ecological advantages have made premium fuels among the most sought-after among car owners in Vadodara. This is evidenced by Bharat Petroleum's 'Speed' and Indian Oil's 'XtraPremium' brands where the company uses its image and RVI

to place these brands of gasoline as a premium product to warrant the premium price (Almeida, et. al, 2020).

While existing examination gives significant experiences into the elements impacting customer decisions in petrol retail, an outstanding writing whole warrants further investigation. One critical region where the writing misses the mark is in thoroughly investigating the effect of digitalization and mechanical progressions on buyer conduct in oil retail. In the present progressively advanced world, the job of portable applications, online stages, and continuous data couldn't possibly be more significant. Understanding how these computerized apparatuses impact purchaser decisions, from cost examination applications to portable installment arrangements, is essential for retailers looking to stay serious and receptive to advancing buyer inclinations. Diving into the domain of information investigation, blockchain for straightforward store network the executives, and man-made consciousness for prescient estimating and purchaser conduct examination holds guarantee for uncovering new components of buyer conduct.

Besides, there is a striking hole in research that completely looks at the results of strategy changes on buyer decisions inside the petrol retail industry. Government approaches connected with evaluating, appropriations, and natural guidelines fundamentally influence the estimating elements as well as the ecological cognizance of customers. Examining how changes in these strategies impact purchaser decisions and whether they brief movements toward more economical fuel choices can give basic bits of knowledge to retailers and policymakers the same.

As elective fills and electric vehicles build up some decent momentum universally, there is a squeezing need for research that surveys what these arising patterns mean for purchaser conduct in oil retail. Understanding whether purchasers are changing to electric vehicles and what this shift means for their fuel inclinations is fundamental for both customary and more

current players in the business. Also, investigating the possible mix of hydrogen filling stations and the foundation expected for electric vehicles can reveal insight into the future scene of petrol retail.

Multifaceted and local varieties in shopper inclinations address a one stranger area inside petrol retail research. India's different social scene frequently brings about one-of-a-kind customer ways of behaving and inclinations. Exploring these varieties and the hidden drivers can assist retailers with fitting their advertising procedures to reverberate with explicit client fragments successfully.

Thus, while the current writing addresses representative commitment and its effect on consumer loyalty, there is space for more inside and out investigation of this angle. Research that dives into the connection between representative preparation, inspiration, and client experience can reveal significant bits of knowledge into establishing a more client driven retail climate.

A few regions that require in-depth analysis include: Digitalization and Mechanical Impact: With the coming of digitalization and rising advances, there is a need to look at how computerized stages, versatile applications, and ongoing data impact purchaser decisions in petrol retail. Effect of Strategy Changes: The oil retail area is dependent upon government approaches connected with evaluating, endowments, and ecological guidelines. Investigating what changes in these strategies mean for buyer conduct is a significant examination road. Elective Fills and Electric Vehicles: As interest in electives energizes, and electric vehicles develop, understanding how shoppers' decisions are advancing because of these choices is significant for the oil retail industry. Effect of Financial Variables: Monetary factors, for example, pay levels and financial vacillations, can altogether impact shopper decisions. Exploring the exchange between monetary circumstances and fuel inclinations is a region ready for research. Multifaceted and Local Varieties: The oil retail industry is different, with buyer

inclinations changing across areas and societies. Investigating these varieties and their fundamental drivers can give essential experiences to custom-fitted promoting methodologies.

Thus, purchaser decisions in oil retail are formed by a complicated exchange of elements, including item quality, evaluation, brand reliability, comfort, and ecological worries. Understanding and answering these elements are fundamental for oil retailers looking to stay cutthroat in a quickly developing business sector. Moreover, tending to the writing hole by further examining the recognized regions can add to a more profound comprehension of buyer conduct in this area.

2.3 Summary

This literature review aims at presenting a literature analysis of the various factors affecting consumers' behaviour in the petroleum retail segment in Vadodara, Gujarat. The analysis is structured around four key objectives: They involve product differentiation from refinery to retail outlets, consumer perception of price sensitivity, value added services and corporate image / retail visual identity (RVI).

First, the review describes the concept of product differentiation. In Vadodara the LPG and other petroleum products are mostly procured from common refineries in hospitality mode, where actual differentiation takes place in logistics, warehousing and transportation. This differentiation is further brought out at the retail level through branding, marketing and customer relations issue. Some of the large oil companies such as; Indian Oil, Bharat Petroleum and Reliance differentiate their products through branding strategies and Quality Control. Consumers in the Vadodara region are receptive to differentiation attempts and connect individual brands with attributes like fuel economy and engine power. Positive results of these strategies are illustrated with examples from real-life situations that show that

differentiation can indeed make a big difference in terms of consumers' reactions and preference.

The second is about price sensitivity and how it impacts the decisions of consumers. The deregulation of the APM has resulted in a mechanism that witnesses daily changes in prices depending on the changes in the global oil prices and the relative currency values. Price sensitivity is quite high in Vadodara, as customers' buying behaviour is very much influenced by price factors. Benefits like cashback offers and discounts are indispensable when it comes to targeting consumers who are most sensitive to price changes. The review also discusses how some of the major oil marketing companies engage in cartel like behaviour that results into parallel pricing strategies which in essence restrain the realization of competitive advantages. Qualitative and quantitative studies that have been conducted and analysed demonstrate that sensitivity to price is not constant across consumers but is still one of the highest predictors of consumer behaviour.

The third objective focuses on how value-added services affect the customers. Facilities like on-court greetings, windshield cleaning, free air and water amenities, and oil change are some of the key value additions in the petroleum retail business in Vadodara. They help to improve consumer satisfaction with the services making them more useful and valuable to the consumers. According to the surveys, customers have a high degree of satisfaction with these services, and their choice of retail shops is largely influenced by them. Retailers incorporate these services tactfully to develop competitive advantage where success stories have revealed rise in foot traffic and customer loyalty. The availability of a range of services is critical for increasing client satisfaction and encouraging repeat patronage.

Last but not the least, the review discusses how corporate image and retail visual identity influence consumer behaviour. A good corporate image and attractive, clean and well-

organized retail spaces are essential for building trust and loyalty among consumers in Vadodara. Petrol companies such as the Indian Oil Corporation Limited, Bharat Petroleum Corporation Limited and Reliance Industries Limited focus on branding and delivering high quality services. The external and internal environment of a store or a retail outlet in terms of design, cleanliness, and image affects the assessment of quality and reliability. The perception of the quality and quantity is essential because consumer is concerned with the fuel adulteration and accuracy. Another factor is effective branding of the premium fuels, as products that are marketed for their ability to provide better performance and lower emissions will be attractive to these segments of the population. Examples are used to show how strong CI and an attractive RVI contribute to consumers' trust and choice, which proves the significance of these factors in the competition.

Thus, it is possible to conclude that the factors influencing the development of the petroleum retail sector in Vadodara include: product differentiation and price sensitivity, value-added services, and corporate image. Those, who manage to use these factors in strategies successfully, can increase consumers' satisfaction and loyalty and gain the competitive advantage in the market. These findings offer significant information to the various players in the petroleum retail industry who seek to enhance the value they create for consumers in light of the complexities of the environment in Vadodara.