

Chapter 3: **Research Methodology**

3.1 Research Methodology:

This section explains the methods and strategies that are used to oversee the research project in order to pinpoint the variables that affect consumers' decisions to buy Motor Spirit and High-Speed Diesel. A strategy or methodology that is specifically used to choose, separate, analyse, and evaluate information or data in respect to a certain examination point is called a research system, according to Ørngreen and Levinsen (2017). This thesis research methodology outlines the methods for assisting the reader in ascertaining the validity of the paper's review and findings. With the incorporation of renewable energies, India has been promoting cleaner, more sustainable energy sources in recent years.

In this part of the thesis, the author will explain how to assess the validity of the paper's conclusions and review for the reader. The methods used to collect the data and an explanation of how it was arranged or interpreted to get the intended outcomes are covered in this area of the thesis. With a thesis that has been bolstered by a range of logical interpretations and investigative choices, "research" refers to the process of looking for and gathering facts while maintaining this perspective. It's therefore reasonable to assume that the cycles for overseeing the thesis process, as well as the tools and techniques that will be used in the work, will be the focus of this section. Notably, when assessing the information thesis outcomes, it is best to start by examining the various perspectives of numerous individuals, as opposed to examining the results from the viewpoint of a single individual.

3.2 Research Design:

The cross-sectional research methodology was used because it was useful in obtaining meaningful data from the sample respondents during the time of the study. This is useful for examining the attitudes and behavioural intents of customers in relation to gasoline purchases made at Vadodara's retail petrol shops. Time-efficient and cost-effective, this study allows

researchers to interview a large number of respondents to capture a snapshot of consumer attitudes. The study of cross-sectional working, integration with present operations, and development of decision-making are the goals of the research.

Working within the limits of time and research resources, the cross-sectional study was addressing practical consequences. This will enable the gathering of sufficient data, representing the sample responses, and enabling cross-analysis to obtain a comprehensive analysis. According to Ørngreen and Levinsen (2017), the cross-sectional method is helpful in deciding the research's conclusions since it examines how even a minor change in the project's scope can have a lasting impact on the project, cause delays, and have financial ramifications. the methodical and accurate portrayal of shifts in customer attitudes and behaviours through retail establishments. Thus, in this context, the cross-sectional design will be helpful.

The unique phenomena can be utilised to evaluate and emphasise the project's features when talking about the nature of the undertaking and the reasons for the delay. According to Ledford and Gast (2018), the architecture is chosen to enable a critical study of the collected data.

3.3 Data Collection:

Primary data collection in the study has involved conducting interviews and distributing surveys in order to gather data. In order to comprehend how particular scope features can affect the retail outlets in Vadodara while acquiring MS and HSD, it is crucial to gain a thorough understanding of customer behaviour and attitude. This is a result of the research being done on retail locations when MS and HSD are purchased, as well as any modifications and their extent. For the purpose of providing a more thorough understanding and an improved analysis, information will be gathered from primary as well as secondary sources (Ørngreen and Levinsen, 2017). The secondary sources include research on projects and scope modifications that has already been finished in addition to studies of customer behaviour and attitude.

The literature study from prior studies and peer reviews is obtained exclusively from trustworthy secondary sources of information in order to conduct the final analysis and

ascertain how changes in customer attitude and behaviour. Conversely, the primary data will be gathered subsequent to the owners' and people's perceptions of the retail categories (Ørngreen and Levinsen, 2017). Questionnaires and interviews with people who have a direct or indirect relationship to the industry will be used to collect the primary data. The research used a mixed data collection methodology to gain a better grasp of the topic and to present better and influential analysis that is realistic to the current circumstances (Ørngreen and Levinsen, 2017).

Sampling Technique and Sample Size

Sample size of 50 is chosen for the survey to gain the insights from the people who are the retail customers of fuel who are purchasing on the MS and HSD manually. The proprietors of the retail outlets of Indian Oil Corporation Ltd. (IOCL) in Vadodara will be interviewed ten times in order to get information about consumer attitudes and behavioural intentions about the purchase of Motor Spirit (MS) and High-Speed Diesel (HSD). To obtain information about customer patterns and trends, a random sampling of end consumers will be conducted when they visit retail outlets. The owners of the designated outlets will be chosen for this purpose.

3.4 Data Analysis:

In the research, the mixed analysis approach has been implemented. The investigator has furnished the measurable information by aggregating the answers to several targeted queries. The quantitative data shows the number of individuals or the direction society is taking in terms of the attitudes and behaviours of consumers at Vadodara's retail establishments (Fletcher, 2017). The qualitative data illustrates the calibre of the quantitative investigation to supplement the quantitative study. Qualitative data is valuable in supplying the understanding component of quantitative data, as the former can only be understood by experts and academics. Fletcher, (2017), has mentioned that in order to confirm the research's validity among average people, a qualitative analysis will also be included.

3.5 Sample Area:

This study will explore the attitudes and behavioural intentions of customers about the purchase of Motor Spirit and High-Speed Diesel. The sample region for this study will be the city of Vadodara. This city was chosen because it is a developing city that is undergoing tremendous economic growth. This was the rationale for the selection.

3.6 Limitations:

The different client perceptions and behaviours make it impossible to generalise the study findings to various cities and regions. Because the chosen sample size is constrained, variations in sample size will impact the characteristic. With a change in consumer conduct and perspective, the attitude and behaviour of the consumer can also alter. Numerous aspects that affect consumer behaviour are the focus of the study, thus some undiscovered factors that could affect a decision to buy may be taken into consideration. The concept does not completely handle exogenous issues like laws and national policies. The research serves as a snapshot of consumer behaviour and attitudes at any given moment.

This needs to take into account the longitudinal study that must record how circumstances change over time. The difficulties that practical data gathering presents, including survey rates and accessibility issues that could compromise the completeness of the information. Notwithstanding its many shortcomings, the study hopes to provide insightful information about consumer attitudes, behaviours, and purchases related to MS and HSD. The research findings can be used to make strategic improvements and well-informed judgements that fall within the purview of the study, laying the groundwork for future research endeavours.

3.7 Research Ethics:

When conducting the investigation for the thesis, the researcher took into consideration all of the generally acknowledged ethical criteria. The manner in which the research is phrased guarantees that no person or group's feelings will be damaged in any given situation. The research has not

been more or less biased towards any particular population than any other population. Since the information was obtained from businesses and other studies, the researcher has ensured that the anonymity of the material has been maintained. The decisions that the researcher made throughout the course of the study were informed by these ethical standards. According to the findings of the research, there are no harmful actions or social ethics that violate human rights. According to Zangirolami-Raimundo et al. (2018), every ethical compliance is adhered to specifically, beginning with the selection of the research's theme and going all the way through to its conclusion.

From the perspective of Zangirolami-Raimundo et al. (2018), ethics can be defined as the moral principles and values that must be upheld in order to ensure that the findings of the research can be generalised. The application of ethical principles helps to ensure that research is conducted in a manner that is consistent, hence reducing the likelihood of misunderstandings and incorrect interpretations. For the purpose of ensuring that the terminology used would not be harmful to any person or group, the research was carried out with careful consideration for all of the ethical standards that are now in circulation. For the purpose of the study, there was no predetermined target population, and any sensitive information that was gathered from the company or from other researchers was kept confidential. In order to ensure that no animals were hurt and that social ethics that are relevant to human rights were not broken, the researcher made sure to adhere to the moral criteria that were defined during the course of the study.

The research was carried out in accordance with the ethical norms throughout the entire process, beginning with the selection of the theme and ending with the analysis. Ethical considerations were taken into account in order to ensure that the findings of the research may be directly applied to any circumstance. Additionally, ethical compliance was maintained at all times in order to avoid misunderstandings and misunderstandings that were misinterpreted. The investigator has provided assurances that the data that was used in the study are both accurate and reliable. Utilising secondary data sources that have been subjected to validation

and peer review has been the primary focus of the researcher in order to ensure that the findings are accurate. For the sake of preserving the validity of the study's conclusions and preventing any potential false findings, no information was collected from websites that did not adhere to ethical standards.

In the same way that the reliability of the research will be determined by assessing the internal and external validity of the findings, the validity of the study will be evaluated by applying the findings to a variety of different contexts and situations that occur in the real world. The results of the validity and reliability tests have been of great assistance in drawing conclusions on these issues for the publication. It is possible to find genuine, unaltered data in the paper that contains the research.