

Chapter – 3: Research Methodology

3.0 INTRODUCTION

In this chapter, an attempt has been made to discuss in detail the research methodology and its various components used by the researcher in conducting the research study. The research study was undertaken in the Western Region of India. The researcher attempts to present in brief the research process and research methodology used for the analysis of the data collected from the states of the Western Region of India.

This chapter provides the research design, objectives, the nature and source of data collected for the study, and details about the research tools used for the research purpose. This chapter also provides a brief overview of the independent and dependent variables under study and provides the limitations and delimitations of the study. It also gives details about how the hypothesis was developed.

Statistical packages and their tools and techniques, such as SPSS and Excel, have been used for analysing the data and testing the hypotheses developed by the researcher.

3.1 KEY TERMS OF THE RESEARCH STUDY:

The basic terms used in the study have been defined as follows:

1. **Consumer:** A Consumer is a person who purchases a product or avails a service for a consideration, either for his personal use or to earn his livelihood by means of self-employment. The consideration may be: paid, promised, partly paid or partly promised.
2. **Consumer Behaviour:** “The behaviour that consumers display in searching for, purchasing, using, evaluating, and disposing of products and services that they expect will satisfy their needs.”
3. **Consumer Buying Behaviour:** Consumer buying behaviour is a process of choosing, purchasing, using, and disposing of products or services by individuals and groups in order to satisfy their needs and wants.
4. **Online Buying:** Online buying is a process whereby consumers directly buy goods, services, etc. from a seller without an intermediary service over the Internet.

5. **Offline Buying:** Offline buying a traditional way of purchasing services or products by directly visiting the store/shop/ or vendor.
6. **Durable Products:** Durable products are long-lasting products that are able to last for a really long time without losing their primary functionality.
7. **Non-Durable Products:** Non-durable products are not meant for repeated use and in fact, they start to wear out after the first use itself.

3.2 THE RATIONALE OF THE RESEARCH STUDY:

Online buying has created a new generation of consumers who like to buy online. Getting anything by a click of the mouse, right from fashion accessories to jewellery, apparel, electronic items, crockery, home appliances, personal care products, and more. Along with offline buying, which still lets the consumers feel the entire experience of buying, besides saving us time from visiting an offline store and staying away from the hassles involved, one can gain an additional advantage, i.e., saving a lot of money. This study focuses on consumer's buying behaviour for durable and non-durable products, either online or offline. The researcher, through the research study, has made an attempt to understand the association between the buying behaviour of consumers and different modes of buying for various durable and non-durable products in western India. The researcher has also attempted to study whether there is any difference in buying behaviour with respect to online buying and offline buying for durable and non-durable products. In addition, the study also investigates various factors that influence the buying decisions of consumers.

3.3 STATEMENT OF THE PROBLEM:

The scope of the study is limited to examining the buying behaviour, the linkage between the mode of buying, various factors affecting the decision and the ones that influence the decision of buying and their impact on consumer's in states of Western India viz., Gujarat, Maharashtra, Rajasthan, Goa, U.T. of Dadra Nagar Haveli and Daman and Diu. A structured non-disguised questionnaire was used to collect the primary data from the target consumers.

The representative sampling units were selected consumers from the state of western India.

“An Analytical Study of Online v/s Offline Buying Behaviour of Consumers of Western India for Selected Durable and Non-Durable Products”

3.4 OBJECTIVES OF THE RESEARCH STUDY:

The study broadly compares online v/s offline buying behaviour with respect to selected durable and non-durable products. The objectives are:

1. To compare the demographic variables of consumers in terms of online and offline buying.
2. To study the factors that motivates the consumer to go for online buying.
3. To study the factors that motivates the consumer to go for offline buying.
4. To study the factors influencing the consumer to switch from offline buying to online buying.
5. To study the factors influencing the consumer to switch from online buying to offline buying.
6. To examine the relationship between factors and online buying and offline buying.
7. To suggest appropriate measures for improving the buying behaviour of durable and non-durable products for online and offline buying.

3.5 BENEFITS OF THE STUDY:

- This study contributes to understanding the difference in the buying pattern.
- This study attempted to provide recommendations and suggestions which will be beneficial for marketers to improve their buying behaviour.
- This study helps sellers to identify the areas of improvement that are needed to increase the level of customer satisfaction.

- This study not only provides sound literature for academic and research scholars to pursue further research in the future but also provides a scope for further research.

3.6 RESEARCH DESIGN:

A combination of two types of research design is used in this study, Descriptive Research, Analytical Research and Explanatory Research. Descriptive is due to the fact-finding characteristics of consumers, their satisfaction level, buying behaviour and their impact on purchase. The study is explanatory due to its ability to explain why online or offline buying is occurring, elaborate, extend or test the theory. The study is analytical due to the characteristics of its analysis. It involves a sound and scientific analysis of data with the help of measures of central tendency, measures of variation, hypothesis testing, correlation and regression analysis.

3.7 RESEARCH METHODOLOGY:

The researcher in this section, makes an effort to outline the different aspects of the research methodology. The researcher has already put forward the various aspects of research, such as the rationale of the study, basic terms, objectives, hypotheses of the research study and research design. Research Methodology also covers other important areas viz., sources of data or information, sampling decisions, drafting of questionnaire and data analysis and interpretation of research studies. The result, findings, implications, conclusions, recommendations, and suggestions of the research study will follow thereafter.

3.7.1 SOURCES OF DATA

3.7.1.1 Collection of Primary Data

Primary data was collected from the target consumers of the selected states and Union Territory. A structured, non-disguised questionnaire was also administered to get the valuable responses of the respondents.

3.7.1.2 Collection of Secondary Data

Secondary data has been collected from reliable and authentic sources like various online and offline newspapers; research journals; published as well as unpublished reports; websites, and search engines.

A suggestive list of the journals included, viz., Journal of Marketing Research, Journal of Marketing Science, Journal of Marketing, and the Journal of the American Marketing Association. The researcher has also made use of various websites and search engines available on the Internet and the relevant data that has been used for the purpose of the study has been taken from books, journals and electronic media.

3.7.2 PILOT SURVEY

Pilot Survey and Pre Test of Instrument : The questionnaire has been pre tested on the 217 consumers. Thereafter necessary modifications were incorporated on the observation of pilot study. The questionnaire thus modified was administered among the sample information.

3.7.3 RESEARCH INSTRUMENT

The researcher used a structured, non-disguised questionnaire to collect the primary data from the respondents. The respondents were from four states and 1 Union Territory (i.e., Gujarat, Maharashtra, Rajasthan, Goa, UT of DNH and Daman & Diu) of Western India. The questionnaire contains four sections. The first section of the questionnaire relates to the demographic profile of the respondents. The second section of the questionnaire includes questions relating to preferences. The third section of the questionnaire incorporates questions pertaining to buying behaviour. The fourth section of the questionnaire incorporates questions pertaining to the impact of Covid 19 buying behaviour.

3.8 SAMPLE DECISION

In this research, the sample design was used on the basis of the suitability and availability of the requisite sampling frame. Here, the convenience sampling method is preferred and used by the researcher to select the respondents.

3.8.1 Population

All consumers (Children, Youth and Elderly People) of selected Western India constitute the population for this study.

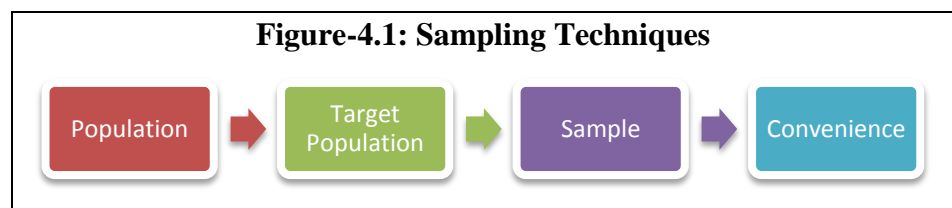
3.8.2 Target population

Target Population for this study is the selected consumers (children, youth, and elderly people) of Gujarat, Maharashtra, Rajasthan, Goa and U.T. of DNH and Daman & Diu in general and the selected cities of Gujarat, Maharashtra, Rajasthan and Goa state.

3.8.3 Sampling Techniques

Convenience sampling has been used for this study due to the data requirements and its diversity. No other sampling techniques are found to be more appropriate than convenience sampling. The researcher has selected four major states of Western India viz. Gujarat, Maharashtra, Rajasthan and Goa. From the selected states, various major cities have been selected, considering their importance.

The sampling techniques is drawn as under



3.8.4 Sampling Frame

The consumers of selected state of Western India are taken as the sample frame of the study.

3.8.5 Sampling Unit

The selected consumers (children, youth, and elderly people) of Gujarat, Maharashtra, Rajasthan, Goa and U.T. of DNH and Daman &

Diu of selected state of Western India are considered to be sampling unit for the purpose of this study.

3.8.6 Sample Size

To find out the appropriate number of samples, researchers have used the Sample Size formula for the standard error of the proportion as below:

$$\text{SampleSize (n)} = \pi (1 - \pi) z^2 / D^2$$

Where,

N	Sample Size
Π	The estimated population proportion (based on the literature review and researcher's judgment) estimates that 40% (0.40) of the target population (Consumers) are making use of online tools for buying.
Z	The level of confidence is 95% and the associated z value is 1.96.
D	The level of precision and desired precision is such that the allowable interval is set as $D = P$ (Sample Proportion) – (population Proportion) = 0.05.

This formula is taken from the book “Marketing Research – An Applied Orientation” by Naresh K. Malhotra (Sixth Edition) Pearson Publication, pp. 377-379

Calculation of Sample Size

$$n = \pi (1 -)^2 D^2$$

$$n = \frac{0.40 (1 - 0.40)^2 (1.96)^2}{(0.05)^2}$$

$$n = \frac{0.40 (0.36) (3.8416)}{0.0025}$$

$$0.0025$$

$$n = \frac{0.5531904}{0.0025}$$

$$0.0025$$

$$n = 221.27$$

So, the sample size rounded off to 222.

Also, based on the calculated sample size of 221, also determine the total sample size. Considering the 4 major states namely Gujarat, Maharashtra , Rajasthan , Goa and 1 U.T. of DNH and Daman and Diu as strata, the total sample size for this research is $(221 \times 7) 1547$.

Sample Size for a Research Study

Table 3.1: Sample Size for Research Study

Sr. No.	Name of the States	Children	Youth	Elderly People	Total
1	Gujarat	125	125	125	375
2	Maharashtra	125	125	125	375
3	Rajasthan	125	125	125	375
4	Goa	75	75	75	225
5	Union Territory of Dadra Nagar Haveli, Daman & Diu	50	50	50	150
6	TOTAL	500	500	500	1500

3.8.7 Sampling Design:

For the given research study, the researcher has applied a nonprobability sampling design followed by a convenient sampling method that was used to draw representative samples. The consumers of the selected western region, i.e., four states and 1 union territory, and thereby major cities from this region were considered for questionnaires.

3.8.8 Sampling Method:

Considering the nature of the research study, a convenient sampling method has been used by the researcher in the research study.

3.8.9 Sampling Media:

Primary data using a structured non-disguised questionnaire was collected from the consumer's selected western region i.e four states and 1 union territory and thereby major cities from this region.

3.9 DRAFTING OF THE STRUCTURED NON-DISGUISED QUESTIONNAIRE:

A structured, non-disguised questionnaire was put to use to measure the selected consumers' buying behaviour for durable and non-durable goods through online buying or offline buying. The final draft of the questionnaire was prepared after conducting a pilot study so as to make the required changes and alterations in the questionnaire.

The first section of the structured questionnaire dealt with the collection of the demographic profile of the consumers' viz., gender, age, residential location, state, marital status, qualification, occupation, income, family type, earning member in the family and number of members in the family.

The second part of the structured questionnaire included items related to preferences in buying methods. A 5-pointer scale is used and is defined as 1 equals highly preferred, 2 equals preferred, 3 equals neutral, 4 equals least preferred, 5 equals not preferred.

The third part of the structured questionnaire included items related to experiences of buying online buying and offline buying. The section covered 7 questions to measure the buying behaviour and experiences of the consumers on a 5-point scale defined as 1 equals highly preferred, 2 equals preferred, 3 equals neutral, 4 equals least preferred, 5 equals not preferred.

The last part of the questionnaire covered questions relating to the impact of Covid 19 on the buying behaviour of consumers. Taking into consideration the main objective of the research study and the other objectives, based on the review of literature, the researcher drafted the questionnaire.

3.10 RELIABILITY AND VALIDITY OF THE QUESTIONNAIRE

The study is valid if its measures actually measure what they claim to and if there are no logical errors in drawing conclusions from the data (Garson, 2002). Therefore, different steps were taken to ensure the validity of the study. The theories that have been selected for the study were clearly described and the research question has been formulated based on the previous theories. To check the content validity of the questionnaire, various experts in the field of

academics and psychologists from different organizations were contacted and the components of the questionnaire were modified as per their instructions.

According to Garson (2002), reliability is a measure of the extent to which an item, scale, or instrument will yield the same score when administered at different times, locations, or populations, when the two administrations do not differ in relevant variables. The objective is to make sure that if another investigator followed the same procedures and used the same case study objects, the same conclusion would be made.

Cronbach's Alpha Reliability Index was used to evaluate the internal consistency of each construct. Hair et al. (1998) suggest that an acceptable level of reliability index should be maintained at a minimum of 0.5 in order to satisfy the early stages of research, and over 0.7 is considered to be a good level.

3.11 STATISTICAL TECHNIQUES USED FOR ANALYSING THE DATA:

For analysis and interpretation, the collected data were processed, classified and tabulated using appropriate statistical techniques. They are briefly described below:

- 1) Frequency distribution, Cross tabulation and percentage:** The use of frequency distribution, cross-tabulation, and percentage to comprehend the nature of data and to make meaningful comparisons is beneficial.
- 2) Measures of Central Tendency and Dispersion:** It is used for arriving at mean and dispersion i.e variation from mean among various respondents.
- 3) Mean and Standard deviation:** A mean is a measure of central tendency that identifies and compares the central tendency. The standard deviation is a measure of dispersion that indicates how far something deviates from the mean.
- 4) Correlation and Regression Analysis:** Pearson's product-moment correlation coefficient is used to determine the cause and effect

connection between the dependent and independent variables. The regression analysis determines how effectively a collection of variables explains the dependent variable, as well as the direction and magnitude of its influence on the dependent variable.

- 5) **Parametric and Non-Parametric:** Parametric and non-parametric tests are used for testing relevant hypothesis.

3.12 VARIABLES UNDER STUDY

Table-3.2: Variables under Study

Independent Variables	Dependent Variables
<ul style="list-style-type: none"> - Demographic Variables (Age, Gender, Marital Status, Family Type, Family Monthly Income, Occupational Status, Decision Maker, Number of Earning Members) - Physical location of employees (Selected Western Region States and cities) - Frequency of Buying - Price - Return Policy - Convenience - Tangibility - Quality - Trust - After Sales Service 	<ul style="list-style-type: none"> - Buying Behaviour With Market Type

3.13 HYPOTHESIS

- **H0₁:** There is no significant association between demographic profile and the mode of buying.
- **H0₂:** There is no significant relation between purchase decisions for durable products and the mode of buying
- **H0₃:** There is no significant relation between purchase decisions for non-durable products and the mode of buying.
- **H0₄:** There is no significant association between trust and the mode of buying.
- **H0₅:** There is no significant association between price and the mode of buying.

- **H0₆:** There is no significant association between return policy and the mode of buying.
- **H0₇:** There is no significant association between Convenience and the mode of buying
- **H0₈:** There is no significant association between tangibility and the mode of buying.
- **H0₉:** There is no significant association between quality and the mode of buying.
- **H0₁₀:** There is no significant association between after sales service and the mode of buying.
- **H0₁₁:** There is no significant association between the frequency of buying durable products and the mode of buying.
- **H0₁₂:** There is no significant association between the frequency of buying non-durable products and the mode of buying.
- **H0₁₃:** There is no significant association between reasons for switching from offline market to online market and mode of buying
- **H0₁₄:** There is no significant association between reasons for switching from online market to offline market and mode of buying.

3.14 OPERATIONAL DEFINITIONS

- **Durable Products :** Durable goods are good that does not quickly wear out or, more specifically, one that yields utility over time rather than being completely consumed in one use.
- **Non Durable Products :** Nondurable goods are the opposite of durable goods. They may be defined either as goods that are immediately consumed in one use or ones that have a lifespan of less than three years.
- **Online Buying :** Online buying is a type of electronic commerce that enables buyers to transact with sellers directly over the Internet using a web browser or a mobile app. Alternative names are: e-web-store, e-buy, e-store, Internet buy, web-buy, web-store, online store, online storefront and virtual store.
- **Offline Buying :** Offline buying is the traditional way of buying being present at the counter or buy or store. traditional or offline buying

implies you may just go to the store, buy or mall and get what you need.

- **Buying Behaviour :** "Consumer behaviour is the study of the process involved when individuals or groups select, purchase, use or dispose of products, services, ideas or experiences to satisfy needs and desires.

3.15 LIMITATIONS OF THE STUDY

- As the data is collected through the questionnaire, there may be a possibility that consumers may not be fully loyal in answering the questions.
- Due to a busy routine, the consumers may not be able to devote sufficient time to fill out the questionnaire.
- The time constraint is one of the limitations as the data is collected from the consumers of the selected region within a period of one year.
- The cost constraint is also a limiting factor, as the increased sample size increases the cost of data collection.
- The data was collected from five regions. Hence, the result may not be generalized to other regions.
- The present study is limited to the factors affecting choice and buying behaviour for durable and non-durable products in the selected states, viz., Gujarat, Maharashtra, Rajasthan, Goa, U.T. of DNH and Daman & Diu.
- The research study is in the nature of a sample survey therefore, only the representative samples from the entire population of the Selected States have been considered, unlike the entire population of the population survey.
- Errors due to misinterpretation or misunderstanding, or inattention of the selected consumers might or might not have affected results systematically.
- Though the results of the study obtained from selected samples are fairly meaningful, due care should be exercised in extending its conclusions to include conducting a similar study in any other state.
- The researcher has applied quantitative methods in establishing relationships between variables, which is valuable, but, it is also

considered weak when applied to identify the reasons for those relationships.

3.15 DELIMITATIONS OF THE STUDY

- The assumption has been made that all the respondents have access to smartphones.
- It is assumed that all the respondents have access to the internet facility.
- The study is limited to only western states namely: Gujarat, Maharashtra, Rajasthan, Goa and UT Administration of DNH and Daman & Diu. Again, the study is also limited to selected major cities only.
- Sampling technique considered for the study purpose is also the delimitation. Some other sampling techniques may be used to conduct the same study for selected states as well as cities.

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