

CHAPTER - 3. RESEARCH METHODOLOGY

The first two chapters have the product under study i.e., Organic Food Products and the concepts used in the study i.e., Consumer Attitude, Consumer Involvement and Purchasing Intention. Similarly, this chapter describes the Research Methodology used.

The first chapter gave insights on organic food products, the profile of the geographic regions in which this study was conducted and the theoretical concepts of consumer involvement, attitude and purchasing intention. It also described the rationale of this research. In the next chapter, an overview of related literature with regards to consumer involvement, attitude and purchasing intention was provided. So, the basic foundation of this research was laid. In this chapter, the overall research plan and process that was followed in this research is highlighted.

3.1 Purpose of the Research

This research can be classified as multivariate research as it involves the study of multiple concepts (variables) such as consumer involvement, consumer attitude and purchasing intention.

The purpose of this research was to study and examine consumer involvement, attitude and purchasing intention for organic food products in three selected cities of Gujarat viz., Ahmedabad, Surat and Vadodara. Specifically, the study examines the effect of consumer involvement on purchasing intention, the effect of consumer attitude on purchasing intention and the inter-relationship between consumer involvement, attitude and purchasing intention for organic food products.

3.2 Sample Plan

Initially, a minimum sample size of 750 respondents was considered appropriate. For this, the Stratified Random Sampling method was used in which the respondents were divided into four strata based on occupation which are –

- Service Class (Strata-1)
- Professional Class (Strata-2)
- Business Class (Strata-3)
- Home-makers (Strata-4)

Initially, it was planned to collect equal data (25%) from each stratum. Overall, 827 responses were received and considered valid for data analysis. Out of which 30.35% of respondents were from service class, 22.85% were professionals, 25.03% were businesspersons and the remaining 21.77% were home-makers. A detailed breakup of this data in terms of three selected cities is given in the next chapter.

3.2.1 Sources of Data

While conducting any research, two data sources are utilised. i.e., primary data and secondary data.

- **Primary Data**

Primary Data is the data collected directly from the respondents for the purpose of research. In this research, primary data was collected in the form structured questionnaire from three selected cities of Gujarat i.e., Ahmedabad, Surat and Vadodara.

- **Secondary Data**

In this research, secondary data was used to collect information about organic food products, information about the geographic region of the survey and concepts used including a review of relevant literature. Through these secondary sources, the foundation of this research was laid.

3.2.2 Research Approach

Research can be conducted in several ways. One such way is the survey method in which information is obtained in a systematic manner about variables that are not very easy to observe, like attitude and intentions (Hair et al., 2008). According to Hustvedt, surveys are a popular method of collecting descriptive data, and careful design of survey instruments reduces the bias. For this research, initially, a sample size of at least 750 respondents was considered suitable. This was planned to be conducted through survey method. However, due to the Covid-19 pandemic the data collection strategy was changed. Instead of physical collection of data, the structured tool was floated through Google forms. The forms were circulated to respondents residing in the selected cities only. Care was taken especially while collecting data that the responses received were from Ahmedabad, Surat and Vadodara only. Data that was obtained

from other cities / geographic regions was discarded. Also, incomplete forms were not considered for this study. Table No. 3.1 provides details of questionnaires accepted from total data collection.

Table 3. 1 Table Showing Total Responses Accepted

City	Total Forms Received	Total Forms Accepted	Total Forms Discarded	Form Acceptance Percentage
Ahmedabad	356	333	23	93.54
Surat	302	276	26	77.53
Vadodara	257	218	39	61.24
Total	915	827	88	90.38

As seen in the table, the forms were randomly distributed based on stratified random sampling as defined previously. Overall, 915 responses were received of which 827 were accepted for further data analysis. So, in total 90.38% of responses were considered valid. Likewise, in the case of Ahmedabad, 333 (93.54%) responses were considered valid, for Surat 276 (77.53%) responses were considered valid and for Vadodara 218 (61.24%) responses were considered valid.

3.2.3 Research Design

Research design is an important part of every research since it provides the conceptual structure of the limits for that research. In other words, it can also be termed as a systematic process for collection and analysis of the data in order to make the research relevant to the objective keeping in mind the overall economy in the process. (Kothari, Garg, 2019). This research falls under the category of descriptive research as, it describes purchasing intention of respondents for organic food products in selected cities of Gujarat, which were examined and analysed through consumer involvement, attitude and demographic variables. Thus, purchasing intention was considered as the dependent variable, and consumer involvement and attitude along with demographic variables were considered as independent variables.

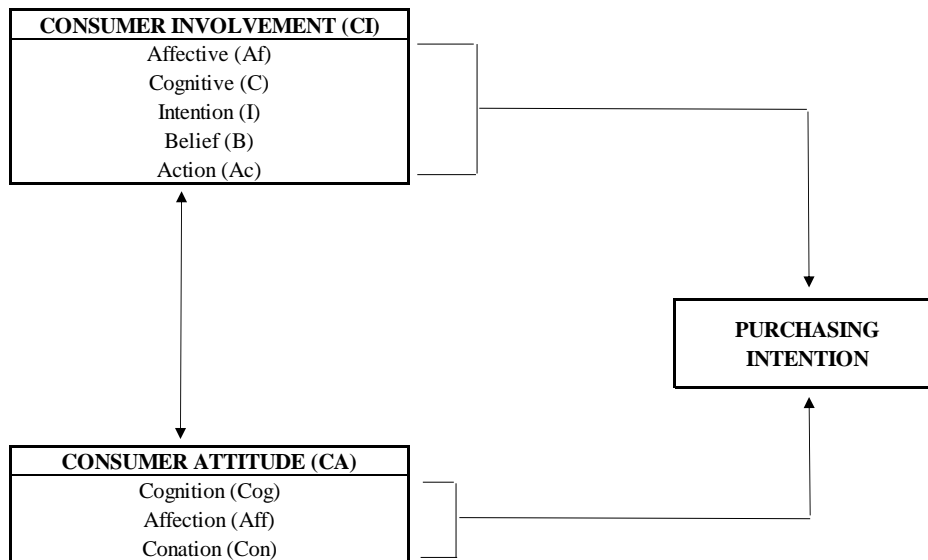
3.3 Research Construct

3.3.1 Pilot Study

Initially, a pilot study was conducted to test and validate (i) antecedents of consumer involvement and (ii) factors affecting consumer attitude. For this purpose, a sample size of 200

(80 from Ahmedabad, 70 from Surat and 50 from Vadodara). Figure 3.1 below represents the research construct for the pilot study.

Figure 3.1 Research Model



For this research, a modified version of Zaichkowsky’s Involvement Construct that was tested by Carmen Garcia et.al., was considered appropriate. Based on that construct, five dimensions were identified. These dimensions were (i) Affective (Af), (ii) Cognitive (C), (iii) Intention (I), (iv) Belief (B) and (v) Action (Ac).

Similarly, factors affecting attitude formation were also identified using the Tri-Component Model of Attitude Formation. Accordingly, three basic factors i.e., (i) Cognitive (Cog), (ii) Affective (Aff) and (iii) Conative (Con) were considered appropriate.

A structured tool was developed to test and validate consumer involvement and attitude for organic food products using the above-mentioned dimensions. Data was collected and factor analysis was applied to test, validate and if required, change the dimensions.

- **Consumer Involvement**

Based on the conceptualisation of involvement questionnaire by Carmen Garcia et.al., the following dimensions were considered.

- **Affective (Af)**

For high product involvement, people are emotionally attached and there is a special interest in that product (Krugman, 1965; Park and Mittal, 1985; Zaichkowsky, 1987).

- **Cognitive (C)**

Cognitive variables are those that are related to the creation of awareness, knowledge and perception about the product. In case of high-involvement products, customers undertake meticulous information search from various sources. Based on this information search, general awareness and perception is formed. Further, this collection of information also provides knowledge about different aspects of the product.

- **Intention (I)**

Intention is the willingness to act in a particular manner. Normally, higher the involvement, higher would be the intention.

- **Belief (B)**

Belief is defined by researchers as a brief description of something in the minds of the consumer (Kotler, et al. 2015). In case of high involvement product, the overall belief will be positive and favourable. Also, the tendency to undertake a detailed and in-depth buying process will be high.

- **Action (Ac)**

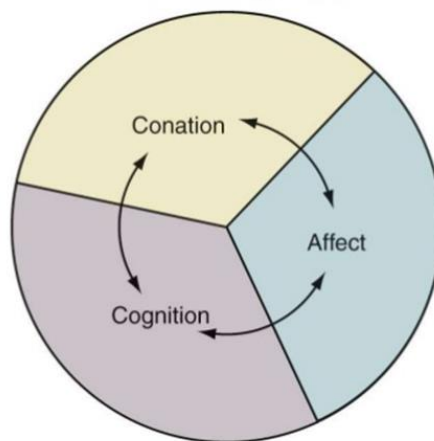
Action is the expression of the belief in practice. It can also be called implementation of the plans. In case where consumer involvement is high, the overall action with regards to buying decision process are likely to be favourable or positive.

- **Consumer Attitude**

Just like involvement, consumer attitude also was an independent variable in this research, which had an impact on purchasing intention for organic food products in selected cities of

Gujarat. This consumer attitude was examined using the Tri-Component Model of attitude formation. Past study of literature had revealed that there is a relationship between consumer attitude and involvement (Sheriff, et al., 1965). This relationship was discovered in the Social Judgement Theory of consumer behaviour. This theory focusses mainly on the processes undertaken internally by a person with regards to an object. Therefore, this research also has examined the impact of consumer involvement on consumer attitude towards organic food products. The Tri-Component model of consumer attitude formation suggests that attitude formation is the outcome of interaction between three variables or components as shown in Figure 3.2.

Figure 3. 2 Tri-Component Model of Attitude Formation



(Source: Schiffman et al, 2016)

- **Cognition**

Just like in the case of consumer involvement, this component affects attitude formation. It comprises the knowledge as well as perceptions held by consumers with respect to the attitude regarding a product or a service. There are different sources of acquiring these inputs. They include direct experience of using the product as well as other miscellaneous sources.

- **Affection**

The word affection itself is self-explanatory in the sense that, it deals with the consumers' emotions and feelings that are associated with a product or a service.

They provide an overall assessment regarding the attitude object and are expressed as being “favourable” or “unfavourable” or ‘good” or “bad”. These emotional expressions are also called evaluations of the consumer(s).

- **Conation**

This component deals with the potential behaviour of a consumer with respect to the attitude object. It showcases the propensity of a person to behave in a particular manner concerning a product or service.

According to the theory, all these components have an impact on each other. In other words, they are interrelated and this inter-relationship leads to attitude formation.

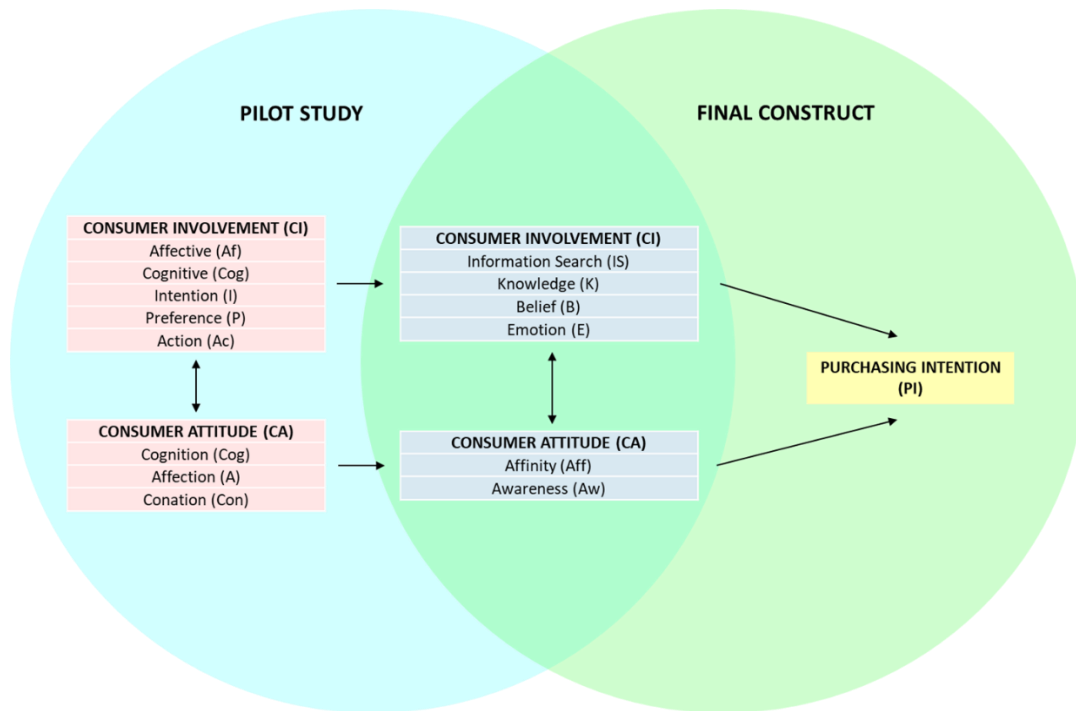
$$\text{Attitude} = \text{Cognition} + \text{Affection} + \text{Conation}$$

As previously mentioned, consumer involvement is likely to have an impact on both, attitude and purchasing intention. Therefore, this research has examined the extent of the impact of involvement on attitude and purchasing intention for organic food products in selected cities of Gujarat. Through research, it has been observed that in case of low and high involvement levels, the general buying behaviour and the cognitive process will not be the same. (Finn, 1982).

Research also suggested that attitude has a direct effect on purchase behaviour. This was identified through the examination of the relationship between involvement, attitude and behaviour (John Antil, 1983). Further, it was also observed that involvement has an impact on attitude and purchase intention (Kokkinaki and Lunt, 1997). When it comes to the relationship between attitude and involvement, Kassarijan found that consumers are not certain about their attitudes towards products with low involvement because such products are of little concern to them and hence, attitude formation does not take place.

3.3.2 Final Study

Figure 3. 3 Research Construct



Based on the results of pilot study, (i) antecedents of involvement and (ii) factors affecting consumer attitude were identified.

- **Consumer Involvement**

Based on the five dimensions identified, data was collected and factor analysis was applied. Through factor analysis, four antecedents of involvement were identified, tested and validated.

- **Information Search (IS)**

In case of higher involvement, consumers undertake meticulous information search. In case of low involvement, many a times consumers opt for impulse buying.

- **Knowledge (K)**

Knowledge has a direct relationship with consumer involvement. Higher the tendency to gather requisite knowledge, higher is the involvement.

- **Belief (B)**

Belief is defined by researchers as the brief description of something in the minds of consumer (Kotler, et.al., 2015). In case of high involvement product, the overall belief will be positive and favourable. Further, the tendency to undertake a detailed and in-depth buying process will be high.

- **Emotion (E)**

Emotion is the mental attachment of a consumer with an offering, brand or an idea. Higher the emotion, higher will be the involvement.

- **Consumer Attitude**

In the case of consumer attitude, the three dimensions considered for testing and validating were reduced to two based on the results of factor analysis. A brief about the two factors identified and named is presented below.

- **Affinity (Aff)**

Affinity is the strength of attachment a consumer has with an offering, brand or an idea. A higher affinity would result in a positive or favourable attitude.

- **Affection (Aw)**

Attitude formation is greatly impacted by the levels of awareness consumers have about an offering. More is the awareness, the greater would be the attitude formation.

- **Purchasing Intention**

In this research, purchasing intention for organic food products was considered a dependent variable. According to Engel (1990), purchasing intention is a psychological process of decision making with respect to various products and services. Consumers are generally

encouraged to purchase a product or service if it fulfils their demands to search for relevant information based on their personal experience and the external environment. In other words, a consumer undertakes a buying process where once a need is recognised, he/she starts collecting information about the product. This information is collected from various sources, both, personal as well as commercial. Nowadays, the sources of this information have expanded vastly, however, this entire process greatly depends on the involvement levels. The information so collected undergoes evaluations and comparisons and based on these evaluations, a final purchasing decision is made. As suggested earlier, in the case of high involvement products this process is detailed and sometimes time-consuming also. Whereas, for low involvement products, this process is either superficial or sometimes not followed. According to Dodds (1991), “purchasing intention is the probability of customer’s willingness to purchase”. The higher the perceived risk and value, the higher will be the purchasing intention. In this research, purchasing intention for organic food products was examined in three selected cities of Gujarat where the effect of consumer involvement and attitude was also analysed.

3.4 Questionnaire

Based on the results of pilot study antecedents of consumer involvement as well as factors affecting consumer attitude were finalised. In the next step, the final tool for the research was developed. A structured questionnaire was designed which had the following segments.

Part - I

The first part of the final questionnaire was to examine the levels of consumer involvement for organic food products in the selected cities of Gujarat. This was done through the study of its four antecedents which were finalised in the pilot study. For this purpose, statements were framed which were to be rated on a 5-point Likert scale. In this scale, ‘5’ was considered as ‘Strongly Agree’ and on the other extreme end ‘1’ was considered as ‘Strongly Disagree’. A total of 20 such statements were framed to measure all the four antecedents of involvement i.e., Information Search (IS), Knowledge (K), Belief (B) and Emotion (E).

Part – II

The second part of the questionnaire was aimed at examining consumer attitude. This was done by examining the two factors identified during the pilot study. A total of 13 statements to be rated on a 5-point Likert scale ranging from ‘Strongly Agree’ to ‘Strongly Disagree’ were framed.

Part – III

This part of the questionnaire tested the levels of purchasing intention for organic food products in the selected cities of Gujarat. For this purpose, also, like consumer involvement and attitude, statements were framed to be rated on a five-point Likert Scale where ‘5’ was considered ‘Strongly Agree’ and ‘1’ was considered ‘Strongly Disagree’. Purchasing intention was measured through eight statements to be rated by the respondents.

Part – IV

Along with the examination of the levels of consumer involvement, attitude and purchasing intention, one of the objectives was to analyse reasons for preference of organic food products. Based on the review of relevant literature as well as a pilot study undertaken, eight major reasons were identified. Respondents were asked to rate each of these reasons in a rank between 1 and 10 where, 10 was the most prominent reason and 1 was least prominent reason.

Part – V

Just as the reasons for preference, one of the objectives of this research was to analyse the problems faced by consumers in the purchasing/consumption of organic food products. Since, organic food products are in the nascent stage in India, some problems are likely to be there in their procurement and consumption. The methodology adopted for identifying these problems was the same as the one adopted in part -IV of the questionnaire. A total of seven major problems were identified which were to be ranked on a scale of 1 to 10, where 10 was the most prominent problem and 1 was the least prominent problem.

Part – VI

The final part of this questionnaire collected information regarding the demographic characteristics of the respondents. It collected information regarding gender, marital status, age group, occupation, income, education, family type, family size and city of residence.

The data thus collected was tabulated and analysed using software such as SPSS and Ms Excel. For the purpose of analysis in SPSS, the questionnaire was coded. While coding, statements which were negative were reverse-coded.

3.4.1 Demographic Factors in Questionnaire

- **Region**

Data was collected from the selected cities of Gujarat, i.e., Ahmedabad, Surat and Vadodara. Rural areas were not included in this research. Samples were selected from each city according to the size of its urban population. Thus, 333 responses were considered from Ahmedabad. 276 responses were considered from Surat and 218 responses were considered from Vadodara

- **Gender**

Gender was categorised as Females, Males and Others.

- **Marital Status**

Marital status provided information regarding the marriage status of respondents in the selected cities of Gujarat. It indicated whether the respondent was married or unmarried. For this research, the category ‘married’ also covered all the persons who were separated, widowed, etc. Hence, ‘unmarried’ respondents covered all those who were neither joined by marriage nor by civil union.

- **Age Group**

The age group covered the general age of respondents who were surveyed in this research. The age group of respondents was divided into six different groups which were –

- Age below or equal to 20 yrs.
- Age between 21 to 30 yrs.
- Age between 31 to 40 yrs.
- Age between 41 to 50yrs
- Age 51 to 60 yrs.
- Respondents who belong to the age of more than 60 yrs.
- **Occupation**
 - **Service Class** – Includes salary-earning respondents from Government, Semi-Government and Private Sector Organisations
 - **Profession** - Included respondents who were either technically qualified or members of professional associations. Accordingly, it included Doctors, Chartered Accountants, Company Secretaries, Consultants, Architects, Lawyers, etc.
 - **Business Class** – It included all the respondents who were carrying out trading and manufacturing activities through their own business of any form.
 - **Home-maker** – Included respondents who had the responsibility of managing the household and were not involved in any activities mentioned above.
- **Income**

In this research, income included the annual income of the entire family of the respondents from all sources. The respondents were asked to provide information regarding their annual income in a range instead of exact incomes. This was done because initially it was observed that respondents were either refusing to provide the information or were providing false information. In either case, it defeated the purpose of this research in a way. So the annual income was categorised into five classes as mentioned below-

- Annual income less than or equal to Rs. 2.00 lakhs
- Annual income between Rs. 2.01 lakhs up to Rs. 4.00 lakhs
- Annual income between Rs. 4.01 lakhs up to Rs. 6.00 lakhs
- Annual income between Rs. 6.01 lakhs up to Rs. 8.00 lakhs
- Annual income above Rs. 8.00 lakhs

- **Education**

There were five sub-categories with respect to the education of respondents.

- **Under Graduate** – All those respondents who were not graduates in any discipline. However, respondents who had diplomas, certifications and other such educational qualifications were included
- **Graduate** – This category included all those respondents who possessed Bachelor's degrees of any discipline like B.Com., BBA, B.Sc., B.E., B.Tech., etc.
- **Post Graduate** – This included all those respondents who had completed any kind of post-graduate qualification like M.Com., MBA, M.Sc., M.E., etc.
- **Doctorate** – This category included respondents who had either a Ph.D. or Post Doc. in any discipline. Respondents having M.Phil. were not considered in this category.
- **Professional** - This category included respondents who had professional memberships such as Doctors, Lawyers, Chartered Accountants, Company Secretaries, etc. Those respondents who were practicing a profession like Income Tax Consultant but were not members of any professional body were not included.

- **Family Type**

In this category, there were two sub-types.

- **Nuclear Family** – This family type included parents and their children if any.
- **Joint Family** – This family type included parents, their children and all other relatives/members who co-resided with the family.

- **Family Size**

The purpose of collecting information regarding family size was to, if possible, identify the different buying roles, family members played in purchasing organic food products. This category was again divided into three classes –

- Families having between 1 and 4 members
- Families having 5 and 7 members
- Families having more than 7 members

3.5 Statistical Methods used in the research

In this research different statistical techniques were used to test, validate, analyse and interpret the data collected. Following methods were applied –

- Frequency Distribution
- Chi-Square
- Cronbach's Alpha
- KMO test
- Bartlett's test
- Principal Axis Factoring (Factor Analysis)
- Mean Analysis
- Standard Deviation
- t-test
- ANOVA
- Karl Pearson's Coefficient of Correlation
- Regression Modelling
- Durbin Watson's Statistic

3.6 Data Reliability

In research, reliability is concerned with the estimation of the degrees to which a particular measure is free from any random or unstable error (Cooper and Schindler, 2008) It is important that the data collected is reliable and worth testing for results to be interpreted and hypotheses to be tested. If the data is found reliable, the results can be generalised. Reliability is the examination of the levels of consistency between multiple measures of a variable or construct (Hair J F., et al. 2007). A construct or variable can be considered reliable if the response for a question remains consistent over time. For this purpose, Cronbach's alpha is used. The idea behind this is, the higher the Cronbach's coefficient alpha is, the higher is the degree of inter-correlation among items in the scale. This shows how reliable a construct is. The acceptable range of Cronbach alpha is illustrated in Table 3.2.

Table 3. 2 Rule of thumb for Cronbach’s alpha (α) coefficient acceptable range.

Alpha Coefficient Range	Strength of Association
< 0.6	Poor
0.6 - < 0.7	Moderate
0.7 - < 0.8	Good
0.8 - < 0.9	Very Good
> 0.9	Excellent

In this research too, before undertaking any statistical test, the consistency and reliability of data was checked with the help of Cronbach’s alpha. The results so obtained, indicated the data to be highly reliable and internally consistent.

Table 3. 3 Test of Reliability of Data through Cronbach Alpha for Consumer Involvement towards Organic Food Products in selected cities of Gujarat.

Sr. No.	City	Cronbach	Sample
1	Ahmedabad	0.943	333
2	Surat	0.884	276
3	Vadodara	0.911	218
4	Overall	0.918	827

- From the table, it can be seen that, the data was found to be reliable and internally consistent (Overall Alpha = 0.918). Individually also the data was reliable and internally consistent for the three selected cities since the values were between 0.884 and 0.943.
- For Ahmedabad the Alpha was 0.943 while for Surat it was 0.884. For Vadodara the Alpha value was 0.911. All these values suggested that the data could be used be statistical analysis and would yield reliable results.

Table 3. 4 Test of Reliability of Data through Cronbach Alpha for Consumer Attitude towards Organic Food Products in selected cities of Gujarat.

Sr. No.	City	Cronbach	Sample
1	Ahmedabad	0.938	333
2	Surat	0.874	276
3	Vadodara	0.914	218
4	Overall	0.914	827

Table 3. 5 Test of Reliability of Data through Cronbach Alpha for Purchasing Intention towards Organic Food Products in selected cities of Gujarat.

Sr. No.	City	Cronbach	Sample
1	Ahmedabad	0.874	333
2	Surat	0.826	276
3	Vadodara	0.876	218
4	Overall	0.856	827

3.7 Brief Summary of Objectives

In Chapter no. 1, the objectives of this research were discussed in detail. However, it is imperative that the overall research process is inclined to the objectives of the research, hence, it was thought fit to briefly summarise the objectives of this research during the discussion of research methodology.

- To examine consumer involvement for organic food products (OFP) in selected cities of Gujarat.
- To examine consumer attitude for organic food products (OFP) in selected cities of Gujarat.
- To examine purchasing intention for organic food products (OFP) in selected cities of Gujarat.
- To examine the effect of consumer involvement on purchasing intention for organic food products (OFP) in selected cities of Gujarat.
- To examine the effect of consumer attitude on purchasing intention for organic food products (OFP) in selected cities of Gujarat.
- To examine the relationship between consumer involvement and consumer attitude towards organic food products (OFP) in selected cities of Gujarat.
- To examine the effect of consumer involvement and consumer attitude on purchasing intention for OFP in selected cities of Gujarat.
- To analyse reasons for preference of organic food products (OFP) in selected cities of Gujarat.
- To identify problems faced in the consumption of organic food products (OFP) in selected cities of Gujarat.

3.8 Variables of the study

Earlier, in Chapter 3.3 the research construct was laid out and explained in detail. According to that construct, this study attempted to examine the impact of consumer involvement and attitude on purchasing intention for organic food products in the selected cities of Gujarat. Consequently, the variables of the study were identified as –

- Dependent Variable – Purchasing Intention
- Independent Variables – (i) Consumer Involvement and (ii) Consumer Attitude

Along with these variables, data relating to the demographic characteristics of the respondents was also considered as an independent variable.

3.9 Hypotheses

- H₁: There is no significant consumer involvement for organic food products in selected cities of Gujarat.
- H₂: There is a lack of favourable consumer attitude towards organic food products in selected cities of Gujarat.
- H₃: There is a lack of significant purchasing intention for organic food products in selected cities of Gujarat.
- H₄: There is no significant relationship between consumer involvement and consumer attitude towards organic food products in selected cities of Gujarat.
- H₅: There is no significant impact of consumer involvement on purchasing intention for organic food products in selected cities of Gujarat.
- H₆: There is no significant impact of consumer attitude on purchasing intention for organic food products in selected cities of Gujarat.
- H₇: There is no significant impact of consumer involvement and consumer attitude on purchasing intention for organic food products in selected cities of Gujarat.