

**CONSUMER BEHAVIOUR  
AND  
MARKETING RESEARCH**

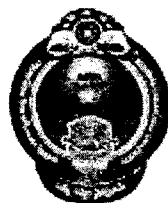
# CONSUMER BEHAVIOUR AND MARKETING RESEARCH

Developed by

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**ACHARYA NAGARJUNA UNIVERSITY**

**Centre for Distance Education**

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(DEMBA 4)

EXECUTIVE M.B.A. DEGREE EXAMINATION, DECEMBER 2008.

Group A — Marketing

Paper IV — CONSUMER BEHAVIOUR AND MARKETING RESEARCH

Time : Three hours

Maximum : 75 marks

SECTION A — (3 × 5 = 15 marks)

Answer any THREE questions.

1. (a) Consumer behaviour models.
- (b) Reference groups.
- (c) Consumer dissatisfaction.
- (d) Need for marketing research.
- (e) Buyer Behaviour.
- (f) Kanuk's model of consumer decision making.

SECTION B — (3 × 15 = 45 marks)

Answer any THREE questions.

2. What do you understand by consumer behaviour? What is its importance?
3. Discuss about the determinants of consumer behaviour.
4. What are the differences between primary and secondary data?
5. What are the differences between research questions and hypothesis?
6. Explain about research problem and major steps involved in designing a research problem.
7. What do you understand by customer satisfaction? How do you deal with consumer satisfaction?

SECTION C — (15 marks)

(Compulsory)

8. A large non-profit organisation which does research in the field of cancer is concerned that there are large number of people throughout the country who know little about the disease. They have hired your marketing research consulting firm to do a national image study for them and have given you a budget of Rs. 10 lakh. How would you design this research project?

(DEMBA 4)

**EXECUTIVE M.B.A. DEGREE EXAMINATION, MAY 2008.**  
**First and Second Year**  
**Group A — Marketing**  
**Paper IV — CONSUMER BEHAVIOUR AND MARKETING RESEARCH**

Time : Three hours

Maximum : 75 marks

**SECTION A — (3 × 5 = 15 marks)**

Answer any THREE questions.

1. (a) Scope of Consumer Behaviour
- (b) Attitudes
- (c) Research problem
- (d) Research Design
- (e) Hypothesis Development
- (f) Consumer Dissatisfaction.

**SECTION B — (3 × 15 = 45 marks)**

Answer any THREE questions.

2. What do you understand by consumer behaviour? What is the need for the study of consumer behaviour?
3. Discuss about Schiffman and Kanuk's model of consumer decision making.
4. Explain the various determinants of consumer behaviour.
5. Define marketing research. Explain its nature and scope.
6. Explain the various methods of collecting data.
7. Why is it important to define the marketing research problem appropriately? Explain the major steps in designing research problem.

**SECTION C — (15 marks)**

(Compulsory)

8. Top management of a large multinational firm is giving serious consideration to buy a smaller company that manufactures a wide range of good products. This would be an entirely new line for the larger corporation. Develop a marketing research proposal that would cover the important questions raised about the potential company that may be acquired.

**EXECUTIVE M.B.A. DEGREE EXAMINATION, DECEMBER 2009.**  
**GROUP A — Marketing**  
**Paper IV — CONSUMER BEHAVIOUR AND MARKETING RESEARCH**

Time : Three hours

Maximum : 75 marks

**SECTION A — (3 × 5 = 15 marks)**

Answer any THREE of the following.

1. (a) Consumer perception.
- (b) Buying motives.
- (c) Secondary data.
- (d) Market research.
- (e) Hypothesis testing.
- (f) Consumer satisfaction.

**SECTION B — (3 × 15 = 45 marks)**

Answer any THREE of the following.

2. Explain in detail the different models of consumer behaviour.
3. What is motivation? Explain the influence of motivational activities on consumer behaviour.
4. Identify the sources of customer dissatisfaction.
5. What is research design? What are the criteria of a good research design?
6. What are the major differences among the Likert and Semantic differential scales?
7. What is the necessity of defining a research problem? Explain.

**SECTION C — (15 marks)**

Compulsory.

8. Case Study

The Yorkshire Tavern is a chain of five entertainment restaurants located in four major cities in the state of Florida. The original Yorkshire Tavern was opened in 1985 in Orlando by an English expatriate, Alfred Smythe. The restaurant offers “a taste of olde England” in the form of a six-course Elizabethan feast and “merrie olde English” entertainment from Shakespeare’s plays. All is provided by serving wenches bearing pots of pullets and puddings and tapsters wielding mighty spigots. The unique aspect of this restaurant is that the audience becomes involved in the show that is conducted throughout the meal, with members at each table being appointed Keeper of the food and Keeper of the wine and ale. Adding to the authenticity of the atmosphere, Mr. Smythe has hired entertainers from England.

Mr. Smythe feels that “the key to the continued success of this type of operation is the maintenance of a friendly, lively ambience with a royal feast fit for kings and queens”. In the past he has always been personally involved in the operations of each tavern, but that has become impossible since the chain has grown. As a result, Mr. Smythe has had to pay a premium to hire top-quality tavern managers who have come from England.

Despite the care Mr. Smythe has taken to ensure the quality of his operation, he still feels that he needs some mechanism that would permit the patrons of the tavern to express their feelings as to the quality of the food and entertainment. Mr. Smythe is considering three alternative forms of marketing research :

- Option 1 : A short questionnaire will be placed on each table. The customers who wish to criticize, praise, or offer suggestions would be asked to complete the form and give it to their waiter or waitress.
- Option 2 : A trained interviewer will visit each tavern in each city on an unannounced basis where he or she will select customers to be interviewed as they are leaving the tavern.
- Option 3 : A marketing research firm will be hired to conduct a telephone interview of a random sample of adults in each of the four cities.

Questions :

- (a) Discuss the types of non-sampling errors, if any, that would likely be present in each of the sampling options that might distort the results.
- (b) Which option, if any, would you recommend to Mr. Smythe?

**EXECUTIVE M.B.A. DEGREE EXAMINATION, MAY 2009.**

**Group A — Marketing**

**Paper IV — CONSUMER BEHAVIOUR AND MARKETING RESEARCH**

Time : Three hours

Maximum : 75 marks

**SECTION A — (3 × 5 = 15 marks)**

Answer any THREE questions.

1. (a) Consumer behaviour
- (b) Buying motives
- (c) Research design
- (d) Personality
- (e) Hypothesis
- (f) Consumer satisfaction.

**SECTION B — (3 × 15 = 45 marks)**

Answer any THREE questions.

2. Explain the need and development of consumer behaviour.
3. What are the determinants of consumer behaviour? Explain.
4. Explain in detail the Schiffman and Kanuk's model of consumer decision making.
5. Define marketing research. Bring out the nature and scope of marketing research.
6. Elucidate the major steps in designing a research problem.
7. What do you mean by attitudes measurement? Explain the specific attitude scale adopted to marketing studies.

**SECTION C — (15 marks)**

(Compulsory)

8. Case Study.

William Elliot, research director for International Research Designs, has just completed a study for International Toys, Inc. Mr. Elliot was involved in a consumer-use test of a new toy named Lawn Darts. The toy was made for children age 7 and older. The object of the toy was to throw the oversized darts, which were sharply pointed, across the lawn about 25 feet and try to make them land in a targeted area. The targeted area was a plastic doughnut 1 foot in diameter. As part of the test, Lawn Darts were placed in a sample of 200 homes throughout the United States. After a month's usage of the toy, the parents were asked to read a questionnaire to the children and record their answers; the parents were also asked to report their children's reaction to the toy.

After the data were analysed at research headquarters, Mr. Elliot began to interpret the findings. The results indicated that the children appeared to enjoy the game of Lawn Darts. However, numerous parents had reported that the children began to misuse the product. After a few days of playing the game as instructed, the intended use had changed. The typical complaint from the parents was that the children began



throwing the darts at other children as if they were a weapon. Parents even reported that children had to be taken to local hospitals for treatment of puncture wounds caused by the darts.

Mr. Elliot had presented both a written report and an oral presentation of his company's findings to International Toys management responsible for this product. In both reports, Mr. Elliott stressed the parents' concern about the consistent misuse of the toy and the danger it presented to children. Mr. Elliot, recommended that International Toys reconsider the introduction of such a product. However, William Elliot left the executive meeting with International Toys' management planning to introduce Lawn Darts, even in light of the research findings. They did, however, make one concession. They would include in the instructions a warning to parents as to the potential misuse of Lawn Darts, and state that the game should be played only under the guidance of an adult.

Question :

What action, if any, should Mr. Elliot take?

(DEMBA 4)

**EXECUTIVE M.B.A. DEGREE EXAMINATION, JUNE 2010.**

**Group A – Marketing**

**Paper IV — CONSUMER BEHAVIOUR AND MARKETING RESEARCH**

Time : Three hours

Maximum : 75 marks

**SECTION A — (3 x 5 = 15 marks)**

Answer any THREE of the following.

1. (a) Cognitive dissonance.
- (b) Non-financial motivation.
- (c) Sources consumer dissatisfaction.
- (d) Post-purchase behaviour.
- (e) Family life cycle.
- (f) Research problem.

**SECTION B — (3 x 15 = 45 marks)**

Answer any THREE of the following.

2. Why is it necessary to study consumer behaviour?
3. Discuss psychological models relating to consumer behaviour.
4. State the buying motives of ultimate consumer.
5. Describe the nature and scope of marketing research.
6. Explain the sources of collecting secondary data.
7. What are the techniques employed to analyse market data?

**SECTION C — (15 marks) (Compulsory)**

8. Ultra High Temperature (UHT) treated pasteurized milk is being sold in tetrapacks and these packs have a shelf life of around three months without refrigeration. The Tetra Brik Aseptic (TBA) with 4.5 percent fat content Costs around Rs. 20-24 per litre. Tetra Fino Aseptic (TFA) packs which could preserve milk for 45 days cost about 40% lower than TBA packs. TFA is used by Vijaya and the price per litre is Rs. 19. In spite of the advantage of these kinds of tetra packs, consumer receptivity towards the product is low. Consumers in India have been used to boil milk for generations and may not appreciate the fact that pasteurised milk need not be boiled (even the pouches which are pasteurised and refrigerated). Secondly, there is also the taste factor associated with boiling. Tetrapacked milk was introduced as early as 1980 by the manufacturers of Amul (GCMMF) but the product did not catch up. But changing lifestyles and power cuts (required for refrigeration) may encourage consumers to try this product under the present day context. Tetra Pak India is attempting to create an awareness about the benefits of tetrapacked milk. The annual production of milk is a round 72 billion litres per annum and out of this only about 12% is packaged.

Questions :

- (a) How would you use consumer behavior principles to formulate a communication plan for tetrapacked milk?
- (b) Suggest a suitable strategy for marketing the product.

EXECUTIVE M.B.A. DEGREE EXAMINATION, DECEMBER 2010.

Group A — Marketing

Paper IV — CONSUMER BEHAVIOUR AND MARKETING RESEARCH

Time : Three hours

Maximum : 75 marks

SECTION A — (3 × 5 = 15 marks)

Answer any THREE of the following.

1. (a) Concept of ultimate consumer.
- (b) Indicators of personality.
- (c) Consumer satisfaction survey.
- (d) Testing of hypothesis.
- (e) Likerts' scale.

SECTION B — (3 × 15 = 45 marks)

Answer any THREE of the following.

2. Examine economic models relating to consumer behaviour.
3. Explain the influence of reference group on consumer behaviour.
4. Critically examine Schiffmann and Karuks model of consumer decision-making.
5. What are different methods of collections primary data?
6. Elucidate the steps involved in the design of research process.
7. Enumerate the attitude scales adopted for marketing studies.

SECTION C — (15 marks)

(Compulsory)

8. Case Study:

Sugandh Incorp was a company carrying on business in cosmetics and perfumes. They were not following the marketing concept and were catching to a target market which was using their products. In other words, they only concentrated on what they would make, and did not bother about changes in preferences of their target market.

They were later joined by Mr. Prabhu, a marketing graduate who advised the company regarding the changing consumer preferences, and the changes that were necessary to be incorporated in the product. He emphasised upon the income factors, and social factors only. He modernised the products to a great extent, and invested about 30 lakhs on new packing. etc. Even after six months of these changes brought about by him, the company did not seem to have a proportionate increase in sales.

The assistant manager and the product manager were not very happy with the changes, and thought that although an effort has been made in the right direction, some important factors concerning consumer behaviour had been neglected.

Questions :

- (a) Do you agree with the assistant and production managers? Why?
- (b) What other factors, if any, could have been considered?

(DMM 03)

**P.G. DIPLOMA EXAMINATION, MAY 2008.**  
**Marketing Management**  
**Paper III — CONSUMER BEHAVIOUR AND MARKETING RESEARCH**

Time : Three hours

Maximum : 75 marks

Answer any FIVE questions.

1. Explain the development of consumer behaviour.
2. Describe diversity of consumer behaviour.
3. What are the determinants of consumer behaviour? Explain.
4. What is the role of reference groups in influencing consumers?
5. Explain 'Schiffman and Kanuk's model of consumer decision making.
6. How do deal with consumer satisfaction and dissatisfaction? Explain.
7. Explain the process of marketing research.
8. Discuss various methods of collecting primary and secondary data.
9. Discuss different specific attitude scales adopted to marketing studies.
10. Explain various techniques of analysing data in research.

(DMM 03)

**P.G. DIPLOMA EXAMINATION, DECEMBER 2008.**  
**Marketing Management**  
**Paper III — CONSUMER BEHAVIOUR AND MARKETING RESEARCH**

Time : Three hours

Maximum : 75 marks

Answer any FIVE questions.

1. Explain different models of consumer behaviour.
2. What is the need to study consumer behaviour? Explain.
3. Discuss the role of perception in determining consumer behaviour.
4. How family members and friends influence a consumer? Explain.
5. Explain the steps involved in consumer decision making process.
6. Explain various buying motives that drive consumer to take decision.
7. Discuss the nature and scope of marketing research.
8. Describe the process of Research design.
9. Explain the steps in designing a Research problem.
10. What is Hypothesis? Explain how to develop and test hypothesis.

(DMM 03)

**P.G. DIPLOMA EXAMINATION, DECEMBER 2009.**  
**Marketing Management**  
**Paper III — CONSUMER BEHAVIOUR AND MARKETING RESEARCH**

Time : Three hours

Maximum : 75 marks

Answer any FIVE questions.

(5 × 15 = 75)

1. Discuss the concept and need for Consumer Behaviour.
2. What are the determinants of Consumer Behaviour?
3. Write a detailed note on the Development of Consumer Behaviour.
4. Discuss the steps involved in Consumer Decision Making Process.
5. Explain the need to study consumer behaviour.
6. Explain the nature and steps in designing the Research problem.
7. Write a note on the scope of marketing research.
8. Describe the various methods of collection of data.
9. How members of family and friends influence consumer?
10. Define Hypothesis. How do you test a hypothesis?

(DMM 03)

**P.G. DIPLOMA EXAMINATION, DECEMBER 2010.**  
**Marketing Management**  
**Paper III — CONSUMER BEHAVIOUR AND MARKETING RESEARCH**

Time : Three hours

Maximum : 75 marks

Answer any FIVE questions.  
All questions carry equal marks.

1. Industrial user behaves rationally. Comment.
2. Critically examine economic model of consumer behaviour.
3. How do you evaluate the influence of reference group of consumer behaviour?
4. Discuss the relationship between personality and consumer behaviour.
5. What are the measures of consumer satisfaction?
6. State different types of consumer decision making.
7. Enumerate logically the steps involve in marketing research.
8. Distinguish between primary data and secondary data.
9. Explain the scaling techniques employed in marketing research.
10. How do you prepare design for a marketing problem known to you?

(DMM 03)

**P.G. DIPLOMA EXAMINATION, JUNE 2010.**  
**Marketing Management**  
**Paper III — CONSUMER BEHAVIOUR AND MARKETING RESEARCH.**

Time : Three hours

Maximum : 75 marks

Answer any FIVE of the following.  
All questions carry equal marks.

1. Explain the diversity of consumer behavior.
2. Enumerate the consumer Behavior models.
3. Analyze the development of consumer behavior.
4. List out the determinants of consumer behavior.
5. Explain the major features of Schiffman and Kanuk's model of Consumer Decision Making.
6. What are the steps involved in consumer decision making process?
7. Explain the nature and scope of marketing research.
8. List out the steps involved in designing a research problem.
9. Discuss the major problems of interdisciplinary research.
10. What are the main characteristics of a good hypothesis?



(DMM 03)

**P.G. DIPLOMA EXAMINATION, MAY 2009.**

**Marketing Management**

**Paper III — CONSUMER BEHAVIOUR AND MARKETING RESEARCH**

Time : Three hours

Maximum : 75 marks

Answer any FIVE questions.

(5 × 15 = 75)

1. Discuss the concept and need for Consumer Behaviour.
2. Write a detailed note on the Development of Consumer Behaviour.
3. Enumerate the determinants of Consumer Behaviour.
4. What is the need to study Consumer Behaviour?
5. Discuss the steps involved in Consumer Decision Making Process.
6. Discuss the nature and scope of the Marketing Research.
7. Discuss the nature and steps in designing the Research Problem.
8. Do you think that members of family and friends influence consumer.
9. What are the various methods of collection of data?
10. What is Hypothesis? Explain how to develop and test hypothesis.

# For Executive and P.G. Diploma MBA

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## Lesson - 1

# Basics of the Study of Consumer Behaviour

## Objectives

After going through this chapter you will be able to understand:

- What is the meaning of the terms 'Consumer' and 'Consumer Behaviour'?
- The diversity of consumer behaviour in terms of the various factors and disciplines influencing consumer behaviour
- What is the need for marketers to understand and study consumer behaviour?
- How did the disciplines of consumer behaviour develop.

## Structure:

- 1.1 Introduction
- 1.2 Diversity of Consumer Behaviour
- 1.3 The Emerging New Consumer
- 1.4 Definition of Consumer Behaviour
- 1.5 Interdisciplinary Dimensions of Consumer Behaviour
- 1.6 Concept and Need for Studying Consumer Behaviour
- 1.7 Development of Consumer Behaviour
- 1.8 Activities
- 1.9 Summary
- 1.10 Self Assessment Questions
- 1.11 Additional Reading

## 1.1 Introduction:

In the last few years of this millennium, the market arena has been witness to a lot of changes taking place. Few of these changes have been in the form of wider reach of consumers especially due to the progress made in the field of satellite channel and information technology, more (and wider) competition resulting in the availability of a greater assortment of products and services and rise in double income households and more disposable income leading to increase in consumption of more products and services. However, with the market being flooded with many me-too brands enjoying more or less same equity, firms have realised that they need to have an excellent knowledge of the target market's consumer behaviour. Such information would not only help them to satisfy the consumers but in the face of intense competition, develop the ability to identify and deliver superior customer value through innovative product and service offerings. Simply put firms need to develop a deep appreciation of the various facet of consumer behaviour.

In this chapter we commence with trying to understand the diverse disciplines which influence consumer behaviour. Then we make an attempt to understand the concept of consumer behaviour and the need to study it. Finally briefly try to know and what to the development of consumer behaviour as a separated filed of study.

## 1.2 Diversity of Consmuer Behaviour:

Traditionally the word 'customer' was used to define people whom the organisation dealt with externally. Though the word 'Customer' is used as a single unit, purchases could be made both by individuals and groups of people involved in the decision making process. The term customer refers to the purchaser of a product or services. They may or may not be the ultimate consumer. Whereas the consumer refers to the end user of a product or service. They may or may not be the customer.

Thus, understanding of the term 'Customer' and 'consumer' is necessary especially in the event of the dramatic shifts that have been witnessed at the market place since the 1990s. This is visible from the sharp changes in demography, drastic variations in the life style patterns of the consumers and the revolution that has taken place in the field of communication technology. Marketers are being exposed to a new generation of customers. These new generation customers have to be differentiated on the basis of individual differences in consumer expectations, preference for more choice (options), not very brand loyal and even willing to try competing brands so as to obtain the perceived higher value satisfaction. From the above discussions it is obvious, that marketers have to re do the exercise of analysing consumer behaviour. It would be difficult to classify the present generation of customers by the conventional demographic variables. So marketers are engaged in gauging the behaviour of the customers by trying to identify the sources, timing and direction of the changes in the consumer behaviour and also the emerging new competencies and perspectives.....all to enable them to respond to and tackle the emerging challenges at the market place. To quote George S. Day "*Every dimension of market orientation emphasises the ability of the firm to learn about customers, competitors and channel members in order to continuously sense and act on trends in prospective markets*".

To match the varying consumer tastes and behaviour, markets have also adopted strategies like stressing on value pricing (high quality at a reasonable lower price) and relationship marketing (servicing to add to customer delight which can in the long run can result in brand or store. loyalty). They have also taken steps by moving away from the traditional distribution channels, to customised designed channels and how to direct marketing (or selling directly to the consumer). This can be seen by the lot of glitter shines on the shelves of exclusive and not-so-exclusive retail outlets around the country, some in an attempt at imitating the giant supermarkets, departmental stores and places of the affluent societies. This penetration has percolated deeper into other cities and smaller towns rights up to the rural habitats.

The new products and product styles are transforming the total ambience and are acting as stimulants be it essential items like food and clothing or household accessories or status symbols like jewellery, ACs, home theatres and even cellular phones. This can be visible in the cultural changes in the major segments of life.

- Prime needs-health, hygiene, basic foods and clothing.
- Living styles-expressed in products such as jeans, fun foods, CD's.
- limitation of the affluent and ego based life styles expressed in expressive watches, luxury cars.

- High technology to match global competitiveness-faxes,e-mail,Internet,photocopying machines alongwith CAD,CAM and imaging.

All this only goes to prove the significant concern for the consumer who has become the primary force and the ultimate target of all the marketers. So the challenge before the marketer is to determine the appropriate marketing channels and consumer psychographics to have a better understanding of the behavioural aspects of target market. Another relevant aspect is that in spite of being surrounded by diverse goods and services, and the freedom to choose the desired product or service, there are also many similarities found among consumers. For instance, all human beings desire to have clothes. But the type of clothes preferred by us will be influenced by several environmental factors such as social and cultural environment. There are other demographic variables such as age, sex, education, geographical, location etc., which will have a say in the type of clothes worn by a person. But marketers can take respite from the fact that we (human beings) are all consumers. And as consumers, we play a vital role in the development of the economy.

### 1.3 The Emerging new Consumer :

From early millennium onwards, marketers are having to deal with an emerging new consumer. Ofcourse, the new consumers are not necessarily 'new' in the absolute sense, they differ from the old consumer in terms of their expectations, values and patterns of behaviour. As a result, the challenge before the marketer is to have a high degree of understanding of the consumers' motivations and channelise all marketing efforts to clearly satisfy their 'specific needs'.

The new consumer can be characterised by a new value system, with greater price sensitivity and more awareness of value for money, willingness to experiment with new ideas and technologies etc.

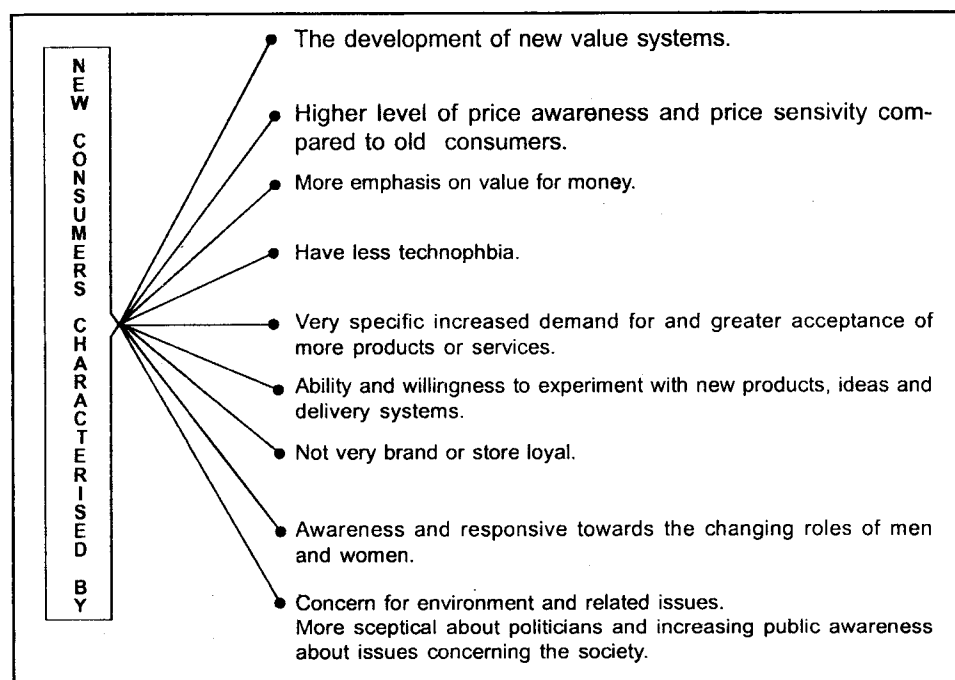


Figure 1.1 Characteristics of the 'new' consumer.

## 1.4 Definition of Consumer Behaviour:

*Consumer behaviour is defined as the behaviour that consumers display in searching for, purchasing, using, evaluating and disposing of products and services that they expect will satisfy their needs.* (L.G. Schiffman, L.L. Kanuk, 2005).

As per the above definition, consumer behaviour tries to understand how consumers (individuals) make decisions on consumption related items. That is, this study tries to seek answers on questions related to the consumers decisions on what to buy, why they buy it, when and where they buy it, how often they buy and use it, consumers evaluation of the purchased (or consumed) item and the impact of such evaluations on future purchase behaviour and finally on how they dispose off it.

Irrespective of our diverse backgrounds each one of us is a consumer. We are regular consumers of food, clothing, shelter, vehicles, services etc. We, as consumers are also contributing to the overall growth of our economy. However, in order to build, grow and succeed in the evolving market place, marketers are required to make all efforts to have a thorough understanding of their consumers. They need to be clear about their consumers in terms of — what they want, how much they are willing to spend, where do they work, who are their personal and social influencers, how they spend their leisure time etc. Marketers make use of consumer behaviour study to understand how consumption related decisions are made, the impact of personal and group pressure on their purchase decisions, the role of the social, cultural influence on the purchase behaviour and so on.

According to Sheth and Mittal, '*Customer behaviour is the mental and physical activities undertaken by household and business customers that result in decisions and actions to pay for, purchase and use products and services*'. (Jagdish N. Sheth, Banwari Mittal, 2003).

The above definition includes the behaviours of both the household and business (organisational) customers. The mental and physical activities undertaken by the customer include :

- (a) *Mental* : Assessing the suitability of the product or service brand, making inferences about a product's (or services) quality from advertising information and evaluating its performance after consuming the product or service.
- (b) *Physical* : Visiting stores, searching for information on the product (or services) from various sources, reading various reports (or business magazines) to have an idea about the product or services actual performance, talking to sales personnel and issuing a purchase order.

It is to be understood that the term consumer behaviour can be used to describe two different kinds of consuming entities :

- The *personal consumer* who purchases goods and services for his or her own use, for the use of the household or as a gift for a friend. In all the above contexts. the products or services are purchased for the use of, by the ultimate consumer (or end users).
- The *organisational consumers* will be inclusive of profit and not-for-profit run businesses, government agencies (local, state and central) as well as institutions (educational, hospitals, hotels etc.) all of which are required to buy products, tools, equipments and services in order to run their organisations.

From a marketer's point of view, end-use consumption is perhaps the most pervasive of all types of consumer behaviour, because it involves every person of each age group and background carrying out the role of either a buyer or user or both.

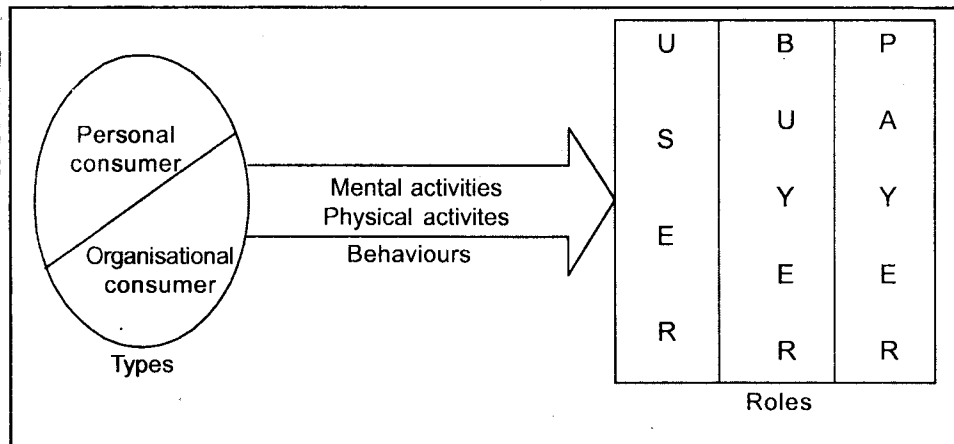


Figure 1.2 Consumer types, behaviours and roles.

### 1.5 Inter Disciplinary Dimensions of Consumer Behaviour:

Consumer vary tremendously in their ages, income, education level, mobility pattern and tastes and preferences. Around two decades ago it was argued that Economics was marketing's "Mother" discipline. This was because it was seen that consumer purchase decision is governed by their economic and mental forces. Mental forces like fear, pride, fashion possessions, sex or romance, vanity etc., create desires and wants in the minds of the consumers, but economic forces such as purchasing power may come in the way of satisfying those wants hence the consumer has to choose between those wants and select the products according to the priority of consumption. However, the rapid changes taking place in the external environment, has also had a bearing on the consumer behaviour and is seen in the complex manner in which a consumer behaves. Researches in this field have shown that the light that has been shed on the human behaviour can in general by the behavioural sciences, be extended to the study of the behaviour exhibited by individuals in their roles as buyers/consumers. So consumer behaviour can be said to be the blending of all those bodies of knowledge concerning with human behaviour-behavioural sciences.

To facilitate better understanding of the inter disciplinary dimension of consumer behaviour, concepts have been borrowed from the other scientific disciplines and these have a bearing on the consumer behaviour as given here under:

**TABLE 1.a The various disciplines having influence on the consumer behaviour**

Sr. No.	Discipline	Comprising of Or governed by
1.	Economics	Demand, Supply, Income, Purchasing Power.
2.	Psychology	Needs & Motivation, Personality, Perception, Learning. Attitudes.
3.	Sociology	Society, Social class, Power, Esteem, Status.
4.	Socio Psychology	Group Behaviour, Conformity to group norms, Group influences, Role leader, Values, Belief, Caste system.
5.	Cultural Anthropology	Attitude towards wealth, Joint family system.



## 1. Economics

Economics as a discipline is said to be a traditional one. It works on the principle that man is a rational human being. He will be primarily motivated by economic incentives and is willing to do things which will maximise his economic returns. As mentioned in the beginning of this chapter as a consumer man's behaviour always involves choice. This is because he may not be able to consume all the goods and services he would like. So he will choose from among the various alternatives available the one which is within his purchasing power.

Demand (Consumption) and supply (Production) are two important elements in economics. This discipline of economics involves trying to study the various needs and wants of the people at large and then understand how these needs and wants are satisfied by man. Generally stated a market can be said to be the area of influence governed by the forces of demand and supply. Under economics, to a firm a market comprises of a group of people with unsatisfied needs and wants with money to spend and also the willingness to spend it. Marketing decision makers have the responsibility of regulating the timing and character of demand for various products offered by them. Hence it can be said that marketing alone can put various goods and services in the hands of the consumers and satisfy their needs and wants.

In economics, demand is always considered to be a function of price. Higher the price lesser the demand for the product and visa versa. The basic economic theory has concentrated on the price quantity relationship ignoring the other determinants of demand.

Marketing success greatly depends on the ability of the marketer to forecast the demand for his product. This will enable him to make optimum utilisation of the available scarce resources for production and distribution of goods and services. Generally market demand gets affected if there is a change in any of the four marketing ps.. namely product, price place and promotion.

More over population shift, drop in income, change in tastes and preference etc. are the other factors which may affect demand.

While trying to understand the economic dimension of market potential or consumer behaviour under economics it has been observed that the income/money to spend or purchasing power of the people affects or influences the consumer behaviour. Income can further be divided into two parts, disposable income (take home pay or income minus taxes) and discretionary income (Purchasing power or income left after paying taxes and spending on basic necessary items like food clothing home etc). It is the ability and willingness to spend discretionary income which affects the demand for the product. Usually income, savings, credit and assets are effective elements of a person's purchasing power. However, if one wants to analyse the demand for a product one has to consider the economic ability backed by the willingness to buy.

Since economics recognises man as a rational human being who will try to maximise satisfaction from the available resources the marketer must try to influence consumer behaviour by offering a wide range of qualitative products, which are easily available at affordable prices. in various colours, sizes etc.. This can be taken as the basis for determining the potential demand for a product. It is actually people with unmet wants who create marketing opportunities and people with wants and purchasing power who make markets more effective. This is because such unmet needs and wants can be given the shape of goods and services by the marketers and offered to the target market.



Figure 1.3 The various disciplines affecting consumer behaviour

Thus by studying economics, while trying to understand the complex buyer behaviour one can gain insight into the role played by demand in the flow of marketing activity. A marketer could use this information to manufacture goods/services to satisfy the demand of the consumer.

## 2. Psychology

It is referred to as science, a study of the mind and its processes (study of individuals). Thus psychology as a branch of behavioural sciences tries to probe and understand how an individual's mind works while taking decisions. Here psychology is trying to understand the role played by needs and motivation, personality, perception, learning, level of involvement and attitude in influencing the consumer's decision making process.

Now, we will briefly touch upon the above concepts to know how they affect the consumer behaviour.

- **Needs and Motivation:** Needs are a basic part of human make-up. It is said to be a state of felt deprivation in a person.

Motivation is another closely related factor affecting consumer behaviour. It is said that behind every action of every human being there is a particular need or motive. Motivation can be defined as those forces which cause persons to behave in certain ways. Motivation encompasses all those pressures and influences that trigger, channelise and sustain consumer behaviour. An understanding of consumer motivation considerably helps marketers to develop insight into the needs/motives and tension of consumer which may be profitably used to develop and sell suitable products and services.

- **Personality:** D.E. James has opined in his book 'Introduction to Psychology' that "it is better to consider the individual aspects of a person's make up as bricks and personality as the whole house of bricks held together with cement."

Personality is a complex psychological concept and reflects an individual's differences (traits) in his relationship with other people and his environment. Marketers generally are able to categorise consumers on the basis of personality traits such as dominance, sociability, friendliness, aggressiveness, dependence etc. and work out marketing packages accordingly.

- **Perception:** People have the tendency to view the same phenomenon differently. **Perception may be defined as a process by which an individual selects, organises, interprets stimuli into meaningful coherent picture of the world.**

The perceptions of individuals are selectively organised. Consumer behaviour is strongly affected by the concept of perceived quality. In the absence of direct experience or other information, consumers after rely on price and the store image as an indicator of the perceived quality of the products available there.

- **Learning:** Learning may be defined as the process by which individuals acquire the purchase and consumption knowledge and experience they apply to future related behaviour. Marketers are interested in knowing how consumers learn to respond to products and brands. They have analysed that motivation can act as a cue/stimuli to guide consumer action in the desired direction by being involved in a learning process. Further, they have applied the leaning process to study the effectiveness of advertising and then use this information to teach consumers about their products and develop brand loyalty.

- **Attitude:** Attitudes can be said to be an overall evaluation that allows one to respond in a consistently favourable or unfavourable manner with respect to a given object or alternative.

Attitudes are typically associated with the notion of 'liking' or 'disliking' someone or some object. They are inner expressions which reflect whether a person is favourably or unfavourably predisposed to a product or a brand. Marketers are interested in knowing how consumer attitudes are formed and how they can be changed.

## 1.6 Concept and Need for Studying consumer Behaviour:

Consumer behaviour can be said to be the study of how individuals make decisions on how to spend their available resources (time, money, effort), on various consumption-related items. This simple definition of consumer behaviour tells marketers to resolve every activity around the ultimate consumer and gauge their behaviour by specifically focusing on:

Who buys products or services?

How do they buy products or services? Where do they buy them?

How often do they buy them?

When do they buy them?

Why do they buy them? And

How often do they use them?

These questions will help in understanding better what factors influence the decision making process of the consumers. The decision making process identifies the number of people who are involved in this process and ascribes a role to them -like the user, decider, influencer, and buyer. It is believed that consumers or customers make purchase decisions on the basis of receipt of a small number of selectively chosen pieces of information. Thus it will be very important to understand what and how much information is required by the customer to help them to evaluate the goods and services offerings.

The following diagram (Figure. 1. 4 ) will help in throwing light on the consumer decision making behaviour.

	High involvement purchase decision	Low involvement purchase decision
Decision making (information search, consider brand alternatives)	Complex decision making (Automobiles, autos)	Variety seeking (cereals)
Habit (little or no information search, considers only one brand)	Brand loyalty (cigarettes, perfumes)	Inertia (canned vegetables paper towels)
	Involvement in purchase decision	

**Figure 1.4 Consumer decision making**

Source: Assaell (1987) Consumer Behaviour and Marketing Action, Kent Publishing company. Re-adapted: Understanding Customers 1996-97, Rosemary Phipps and Craig Simmons 1996.

From the above figure we can see that the involvement of the consumer in the decision-making process will vary with the type of purchase involved - like in case of complex product there will be high involvement and so on. Thus, it is very important to understand what information the customer feels will help to evaluate goods and services.

The consumer decision making process goes beyond the facets such as what features or product design will be acceptable to consumers, what benefits are they seeking from their products, what price will be suitable etc., Today consumer behaviour even includes the post purchase satisfaction or dissatisfaction behaviour. Because the post purchase behaviour of the customers will have repercussions on the communications (word-of-mouth) they have with the firm's prospective customers.

Usually, there are two types of customers - the personal consumer and organisational consumer. The various factors influencing the consumers purchase decision is given hereunder:

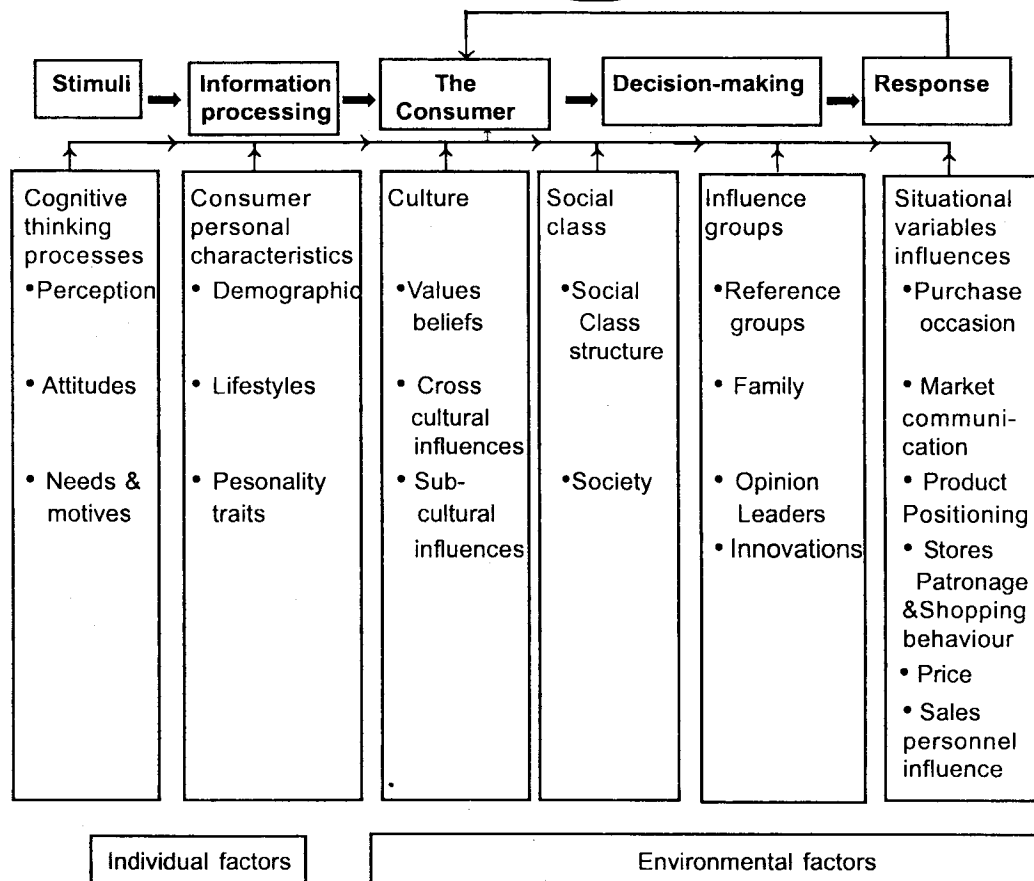


Figure 1.5: The various individual and environmental factors influencing purchase decisions.

Source: Assaell (1987) Consumer Behaviour and Marketing Action Kent publishing house.

Figure 1.5 shows that right from stimuli (stimulant) till the consumers response, there are many individual and environmental factors influencing the consumers purchase decision.

In the case of organisational buying process the types of buying situation will be different but the categorisation in terms of low involvement and high involvement purchases made by individuals is similar. The usual types of buying situation in organisational buying is straight re-buy, modified re-buy and new task.

The marketers look into the decision-making unit in both the cases i.e. personal purchases as well as industrial purchases. Then depending upon the 'role' of the person who is most likely to influence the decision they decide to direct more of the promotional efforts at them.

### WHO IS INTERESTED IN THE STUDY OF CONSUMER BEHAVIOUR?

It has been aptly said that the field of consumer behaviour holds interest for various categories of people such as the consumers, marketers and students of marketing.

All the firms have started considering 'customer' as the 'king' or 'queen'. Interestingly, presently the market place is flooded with many new players including the host of MNCs resulting in the availability of more number of brands in every segment of the market. On account of this, the customer has started being choicy about what to buy. Thus all firms are becoming not only customer focused but in the long run are also trying to build. This is done by continuously updating knowledge, information and understanding of the customer needs and expectations.

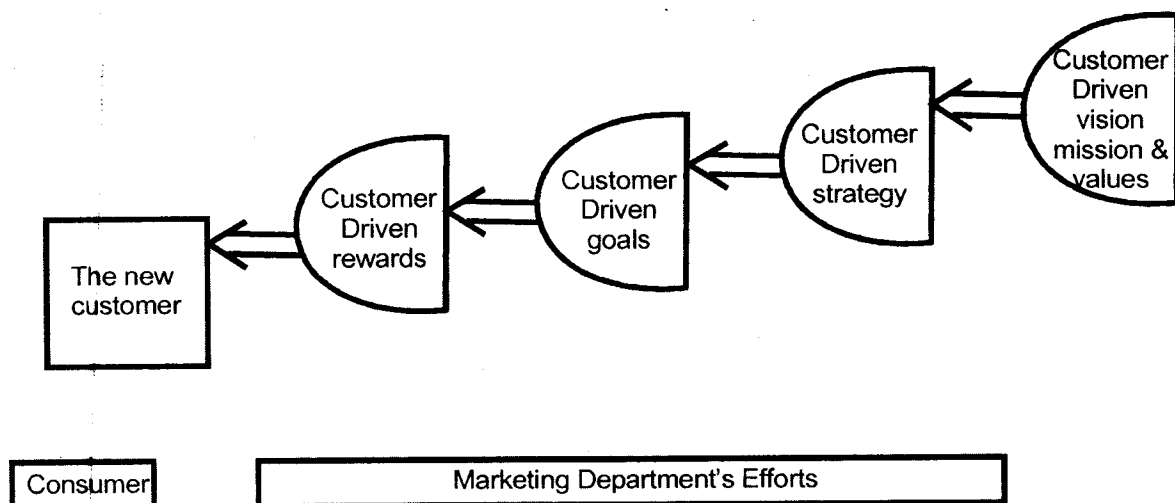


Figure 1.6: Customer focus plans of competing firm's marketing department

Awareness of such devotion from the firm has initiated consumers to take more interest into their own consumption related decisions. They are keen to gain more knowledge about taking various decisions related to products and the proportional influences that persuade them to buy. Thus, the study of consumer behaviour will enable them to become better and wiser consumers. *Marketers* have woken up to the reality that to exist in a competitive environment they have to be more customer focused. On one hand, they (the firms) are facing a situation of sustained liquidity crunch, followed by a rising rate of inflation along with the increasing competition eating into their margins and sales. On the other side, marketers have observed that the choice empowered customer cannot be taken for granted. This is particularly true because of the rapidly rising consumer earnings, sharp drop in the savings rate - resulting in a huge amount of disposable income to be lavished on customers products and services. Simultaneously, there are changes occurring in the personal, social and cultural influences, with the leaps and bounds made in the fields of science and technology - making the consumer more individualistic, conscious (about the products or services to fulfil their needs) or choosy. So the study of consumer behaviour will help marketers to assess the consumers needs and wants, and take better strategic marketing decisions.

Having a better understanding of consumer behaviour will help them to become better than their competitors. On understanding consumer behaviour they will be able to predict the consumers acceptance of their various informational and environmental cues and thus plan their marketing programmes or strategies accordingly.

As students of marketing, one will be more concerned with the study of consumer behaviour. Such a study will help to gauge into the consumer's mind and understand the various consumption related aspects of individuals (consumers). As students of marketing, understanding of consumer behaviour will make the study of 'marketing management' more interesting, understandable and increase awareness of its practical implications.

Consumer behaviour has been referred to as "All the psychological, social and physical behaviour of all potential consumers as they become aware of, evaluate, purchase, consume and tell others about products and services". Thus, understanding of consumer behaviour will help them (students) to learn about the various internal and external influences which impel them to behave as they do.

## 1.7 Development of Consumer Behavior:

Consumer behaviour as a separate field of study has only gained attention from the absence of a history or a separate research of its own, this new discipline borrowed concepts from other scientific disciplines such as -

- Psychology (the study of individuals)
- Sociology (the study of groups)
- Socio-psychology (the study of how persons are influenced by groups) .
- Cultural anthropology (the influence of the culture and society on the individual) .
- Economics (relationship between demand and supply in the flow of marketing).

Initially, the study of consumer research was emphasising from a managerial perspective.

In that, if the marketing manager could obtain consumption related behaviour i.e., if able to predict consumer behaviour, then they could influence it. This type of (consumer behaviour approach came to be known as *positivism*.

But there are a group of academicians, who are interested in the study of consumer behaviour, so as to understand it better. This approach is of interest to the academicians because they are more interested in knowing consumption behaviour going by the influence of the various disciplines on the consumer behaviour. This approach of studying the consumer behaviour with a view of understanding consumption behaviour and the interpretations, such behaviour is known as '*interpretivism or post-modernism*.' These interprevists have included many subjective aspects of consumer behaviour such as the effect of emotions, type of situations etc. These interprevists have also treated each purchase experience as unique because of the many variables which influence the behaviour at that particular moment of time. On account of its focus on the consumption experience, the interpretive approach is also referred to as *experientialism*.

While conducting consumer researches, it was realised that in spite of easy acceptance of fashion and fads, consumers also had a preference for *differentiated products* so as to match their special needs, personalities and life styles. Thus, came into existence the importance of *market segmentation*. Thus, the field of consumer behaviour will be helpful for adopting the process of market segmentation. This is a process of dividing the total potential market into smaller, homogeneous segments, based on similar needs of the target market and producing a product that will meet those needs at a profit.

Similarly, the study of consumer behaviour will also help in the process of *Product positioning*. This refers to a marketing strategy adopted so as to position the product with a specific image in the minds of the people. This is usually done with the aid of various promotional techniques, such as to vary the perceived product image to match the specific needs of the target market. Other fields which can make use of consumer behaviour studies is the *development of new products*, *growth of non profit marketing* and *international marketing*. Today with most of the firms going global, there is an increasing importance being given to consumer behaviour across borders to have more information about cross cultural consumer needs and preferences and consumption habits. This information can help marketers devise the necessary promotional strategies to be adopted to meet the needs of target foreign consumers.

### 1.8 Activities:

(1) As a part of your summer project, an advertising agency has asked you to identify, the psychological, sociological and cultural factors which can influence the purchase of a 'notebook PC'. What is the conclusion drawn by you?

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(2) Select a 'ipod' brand that you are planning to purchase because it has features suitable for your needs. Do you feel that the development of this brand has been guided by consumer research? Why?

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### 1.9 Summary:

Consumers are referred to all those individuals who buy products and services either for themselves or on behalf of their households. Consumers buy products and services in order to meet the physical demands of life, apart from using these purchases to indicate their roles in the society, to express their personalities, communicate their attitudes and opinions, stress on the values held by them and also to demonstrate their wealth.

Consumer behaviour is defined as the behaviour that consumers display in searching for purchasing, using evaluating and disposing of product and services that they expect will satisfy their needs. The term consumer behaviour can be used to describe two different kinds of consuming entities.

- (a) The personal consumer (who purchases products and services for his or her use or for the household or to gift it to a friend)



- (b) The organisational consumers (which will include organisations run for profit and not for profit, government agencies as well institutions, whole purchase products, tools, equipments and services in order to run their organisations.
- Consumers behaviour vary based on their ages, income, education level, mobility pattern, tastes and preferences etc. This diversity in consumer behaviour can be attributed to the melding of all those bodies of knowledge concerning with human behaviour - behavioural sciences. The inter disciplinary dimensions influencing consumers behaviour can be said to be the effect of economics, psychology, sociology, socio psychology, and cultural anthropology.
  - The concept and field of consumer behaviour study will be of interest to various categories of people such as the consumers, marketers and students of marketing. **Consumer** need to understand their own consumption related decisions in order to be knowledgeable and make the most of the promotional offerings made by various marketers. **Marketers** need to understand consumer behaviour in order to be more customer focused and exist in the competitive marketing environment. **Students of marketing** need to study consumer behaviour in order to gauge into the consumer mind and understand the various consumption related aspects of individuals.
  - Consumer behaviour as a separate field of study has gained attention only from the 1960s. Initially, the study of consumer research emphasised more on a managerial perspective i.e. if the marketing manager could obtain consumption related behaviour, they are able to predict consumer behaviour and then influence it. This type of consumer behaviour approach came to be known as **positivism**. Academicians approach to study consumer behaviour was with a view of understanding consumption behaviour and the interpretations of such behaviour. This approach of interpreting consumer behaviour is known as interpretivism or post modernism or experimentalism.

### 1.10 Self Assessment Questions:

- (1) What do you understand by the terms 'Customer' and 'Consumer behaviour'?
- (2) 'The study of consumer behaviour will help in the development of suitable marketing strategy'. Substantiate this statement giving suitable examples.
- (3) 'Diversity of consumer behaviour can be understood by looking into the various disciplines which influence buying behaviour of individuals' - Explain this statement by taking the example of consumers who shop at 'Big Bazaar' outlets.
- (4) Make a comparison of the positivist and interpretivist perspectives on the study and analysis of consumption behaviour.

### 1.11 Additional Reading:

- (1) Suja Nair, *Consumer Behaviour in Indian Perspective*, Himalaya Publishing House, Mumbai, 2005.
- (2) Leon G. Schiffman and Leslie Lazar Ksanuk, *Consumer Behaviour*, 8th edition, Prentice Hall of India Pvt. Ltd., New Delhi, 2005.

- (3) Harold H. Kassarian and Peter D. Benett, *Consumer Behaviour*, Prentice Hall of India Pvt. Ltd., New Delhi, 1985.
- (4) Arunava Sinha, Chhaya Udayan Ray and Abhijit Roy. The customer value chain, *Business Today*, January 7-21, 1997.
- (5) Rosemary Phipps and Craig Simmons., *Understanding Customers 1996-97*, Butterworth Heinemann Oxford, 1996.



## Lesson - 2

# Understanding of Consumer Behaviour Models

## Objectives

After going through this chapter you will be able to understand:

- The earlier models: namely- The Economic model, the Learning model, the Pschoanalytic model and the Sociological model.
- The specific models giving a comprehensive view on all the aspects of buying situation:
  - The Howard-Sheth model of buying behaviour
  - The Nicosia model
  - Webstar and Wind Model of Organisational buying behaviour
  - The Engle-Kollat-Blackwell Model
  - The EBM (Engle Blackwell and Miniard) Model
  - The Sheth Model of Industrial Buying.

## Structure:

- 2.1 Introduction
- 2.2 The Economic Model
- 2.3 The Learning Model
- 2.4 The Pschoanalytic Model
  - The Sociological Model
  - The Howard - Sheth Model of Buying Behaviour
  - The Nicosia Model
  - Webstar and Wind Model of Organizational Buying Behaviour
  - The Engel- Kollat- Blackwell Model
  - The Engel- Blackwell and Miniard (EBM) Model
  - The Sheth Model of Industrial Buying
- 2.5 Activity
- 2.6 Summary
- 2.7 Self Assessment Questions
- 2.8 Additional Reading

## 2.1 Introduction:

Generally put, model is an abstract representation of a process or relationship. Development of models can:

- help in the development of theories.
- help in understanding complex relationships
- provide the framework for discussion and further research work.

Human beings have the tendency to develop models so as to make sense of the world and in the hope that it will help to predict the likely courses of events.

In this chapter, the primary concern in using models is to understand the relevance of consumer decision making process. Discussion on the various consumer behaviour models can help both consumer behaviorists as well as marketers to develop an understanding of the 'how' and 'why' of the consumer decision making process. The models discussed in the chapter start with single models such as the economic model, learning model, psychoanalytic model and sociological model to specific models such as the Howard – Sheth model, Nicosia Model, Webstar and Wind model of organizational buying behaviour, The EKB model, EBM model and the Sheth model of industrial buying. All the models of consumer behaviour attempt to give a comprehensive view of all those aspects of the buying situation which are deemed to be significant by their creators.

## 2.2 Economic Model:

Under economics, it is assumed that man is a rational human being, who will evaluate all the alternatives in terms of cost and value received and select that product/service which gives him/her maximum satisfaction (utility). Consumers are assumed to follow the principle of maximum utility based on the law of diminishing marginal utility. It is assumed that with limited purchasing power, and a set of needs and tastes, a consumer will allocate his/her expenditure over different products at given prices so as to maximise utility.

The law of equimarginal utility enables him to secure maximum utility from limited purchasing power.

Economic model of consumer behaviour is unidimensional. This means that buying decisions of a person are governed by the concept of utility. Being a rational man he will make his purchase decisions with the intention of maximising the utility/benefits.

Economic model is based on certain predictions of buying behaviour 1. *Price effect* - lesser the price of the product, more will be the quantity purchased, 2. Lesser the price of the substitute product, lesser will be the quantity of the original product bought (*substitution effect*) 3. More the purchasing power, more will be the quantity purchased (*income effect*).

The assumption about the rational behaviour of human beings have been challenged by the behavioural scientists. They are of the opinion that while the predictions are useful, the model only explains how a consumer ought to behave. It does not throw light on how will the consumer actually behave.

Behavioural scientists argue that the economic model is incomplete. Economics is assuming the market to be homogeneous, and that buyers will think and act alike. And that they will only concentrate on one aspect of the product i.e., income. This model ignores all the other aspects such as perception, motivation, learning, attitude and personality and socio cultural factors. It has always been agreed upon that man is a complex entity, a puzzle, a riddle. Hence, it is very important to have a multi-disciplinary approach to understand consumer behaviour. Further, in today's environment, apart from the various psychological, socio cultural determinants of the consumer, it has been observed that the consumer also gets influenced by other marketing variables namely -

products (ones which are technologically advanced), effective distribution network and marketing communication (media and promotion techniques). Thus man cannot be assumed to be a rational person and price is not the only factor which influences his purchase decision. Behavioural scientists have opined that a broader perspective has to be taken while trying to analyse buying behaviour, not only economics but the role played by needs, motives, personality and self concept and socio cultural factors should be considered to understand what will be the buyer's responses to various stimulus and in turn what will be the effect of this on consumer's buying behaviour.

## 2.3 Learning Model

Unlike the economists, classical psychologists have been interested in the formation and satisfaction of needs and tastes. They argued that living beings were influenced by both innate needs such as the primary needs of hunger, thirst, sex shelter and learned needs like fear & guilt. A drive (internal stimulus) which when directed towards a drive reducing object becomes a motive. The various products or services will act as stimuli to satisfy drives. For instance, a hungry person will be driven towards food, which after consumption will reduce the drive and provide satisfaction. According to learning theorists, this response of satisfaction (feeling) reinforces the relationship between drive and the drive reducing stimulus object as well as the related cues. Further, when consumers learn to associate connection between stimulus and response, it becomes a habit. There are certain cognitive theorists, who have advocated that human beings not only learn to link stimulus with response (S-R) but also results in the formation of other cognitive processes such as, attitudes, values, beliefs, motivation etc.

In marketing context, 'learning' help marketers to understand how consumers learn to respond in new marketing situations, or how they have learned and responded in the past in similar situations. Very often it is observed that consumer's experience with one product from a firm is likely to be generalised to the other products of the firm. Conversely, consumers also learn to discriminate and this information will be useful in working out different marketing strategies. Simply stated this learning model will help marketers to promote associations of products with strong drives and cues and positive re-inforcements.

## 2.4 Psychoanalytic Model

This model is based on the work of psychologists who were concerned with personality. They were of the view that human needs and motives operated at the conscious as well as sub-conscious levels. This theory was developed by Sigmund Freud. According to him human behaviour (personality) is the outcome of (a) 'id' - the source of all psychic energy which drives us as action (b) 'super ego' - the internal representation of what is approved by the society (c) 'ego' - the conscious directing 'id' impulses to find gratification in a socially accepted manner. Thus, we can say that human behaviour is directed by a complex set of deep seated motives.

From marketing point of view this means that buyers will be influenced by symbolic factors in buying a product. Motivational research has been involved in investigating motives of consumer behaviour so as to develop suitable marketing implications accordingly. Marketers have been using this approach to generate ideas for developing product - design, features, advertising and other promotional techniques.

### (1) THE SOCIOLOGICAL MODEL

According to this model the individual buyer is a part of the institution called society. Since he is living in a society, he gets influenced by it and in turn also influences it in its path of development. He is playing many roles as a part of various formal and informal associations or organisations i.e.

as a family member, as an employee of a firm, as a member of a professional forum and as an active member of an informal cultural organisation. Such interactions leave some impressions on him and may play a role in influencing his buying behaviour.

Intimate groups comprising of family, friend and close colleagues exercise a strong influence on the life style and the buying behaviour of an individual member. The peer group plays a very important role in acting as an influencing factor especially in adopting particular life styles and buying behaviour patterns. The group generally has an informal opinion leader, whose views are respected by the group. This leader is able to influence the members life style and buying decisions.

Similarly, depending on the income, occupation, place of residence etc. each individual member is recognised as belonging to a certain social class. As a member of a particular class, he may enjoy certain status and prestige. Further, each class has its own standards of life style and buying behaviour pattern. So an individual member will adopt the role suitable to conform to the style and behavioural pattern of the social class to which he/she belongs.

The marketers through a process of market segmentation can work out on the common behaviour patterns of a specific class and group of buyers and try to influence their buying pattern.

## (2) THE HOWARD-SHETH MODEL OF BUYING BEHAVIOUR

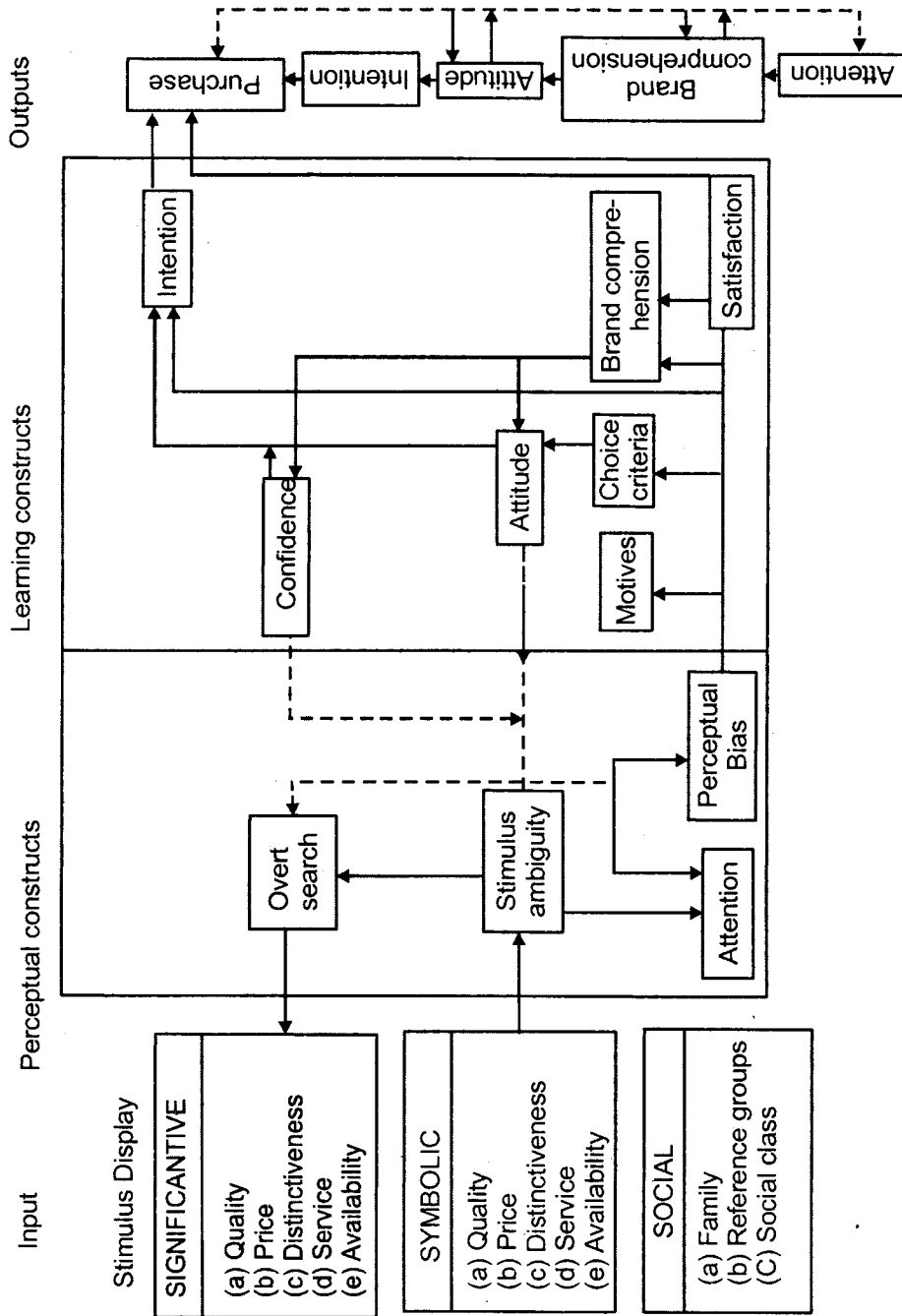
This model basically serves two purposes :

- (1) It indicates how complex the whole question of consumer behaviour really is.
- (2) It provides the frame work for including various concepts like learning, perception, attitudes etc., which play a role in influencing consumer behaviour.

*Inputs:* In the Howard-Sheth theory, the most significant stimulus affecting the buying behaviour are the information cues about the characteristics of the product. These cues may be *significant* if it comes to the buyer from the product itself when he is involved in a shopping activity. A similar set of cues, which are *symbolic* in nature may also act as information sources.

Both these significant and symbolic information cues represent the firms marketing efforts. The product or broad characteristics acting as information cues are quality, price, distinctiveness, service and availability. There are impersonal sources like mass media communication and advertising, over which the firm has no control. However, the information sources also include sales and service personnel who can add and help the marketing efforts of the firm. The third source is *social information* cues which could affect buying behaviour towards the product or brand and these include family, friends or other members of the groups with whom the buyer comes into contact or to which he aspires to be in. This social source is personal and the company/ marketer has no control over this source.

**The Howard Sheth Model**



**Figure 2.1 Howard Sheth model of buying behaviour**  
 Source: I. N. Sheth and J. A. Howard, 'The Theory of Buyer Behaviour, Wiley, 1969)

	Personal (social)	Impersonal
Commercial	(a) Sales men (b) Service personal	(a) Product (significant) (b) Advertising (symbolic)
Non-commercial	(a) Family (b) Reference group (c) Social class	(a) Print media (New Stories) (b) Independent Testing such as consumer reports.

Figure 2.2: Information sources

(source: Consumer Behavior-Peter D. Bennett &amp; Harold H. Kassarijian, 87')

### Perceptual Constructs

This refers to all the complex states or psychological processes (perception) and how the individual deals with the information cues received from various sources. It can be seen that all information available is not attended to (attention) and may not always be crystal clear in its meanings (stimulus ambiguity). Although the individual may be engaged in an overt search for information, sometimes he/she may be bombarded with unwanted information. Moreover, any information cues to which the individual may attend may be distorted (perceptual bias) as a result of his own frame of reference.

### Learning Constructs

The second set of hypothetical constructs in this theory are more complex and numerous. 'Motives' refers to the goals the individual attempts to achieve through his/her buying behaviour. These goals are derived from the various drives (needs) which may be acting as a cue for his/her motive.

More closely related to the buyers intention is his attitude towards the product/brand. Whether he/she has formed a positive attitude and if not will there be a change in the attitude etc., are some of the factors which may affect the attitude an individual has towards the product or brand.

Other learning constructs include 'brand comprehension' i.e., knowledge/awareness about the brand characteristic features that forms the basis for the buyers evoked set of alternatives; choice criteria, and the confidence the individual has about his/her brand comprehension, attitudes or intentions. Finally, the model includes a construct, 'satisfaction'. This refers to "feedback" mechanism, i.e., the post purchase and post use evaluation of the output of the process.

**Exogenous variables:** This theory also includes a number of variables which are not explained but have a bearing on some or all of the constructs discussed above and indirectly influences the output or consumer response.

- (1) *Social and organisational setting:* Man is basically a social animal. Because of his interactions with various groups and society, they look to each other for guidance regarding what to buy, how to buy/dress, etc.
- (2) *Social class:* In order to conform to the norms of the social class to which he/she belongs. the individual will be engaged in a behaviour which will be acceptable to the social class to which he belongs.
- (3) *Culture:* refers to the shared, somewhat consistent pattern of behaviour of a group of people. Each culture has a set of beliefs, values, etc. So the pattern of buyer behaviour will



be based on a pattern of behaviour shared in a specific subset of the larger culture -a subculture trait.

- (4) *Purchasing power/Financial status* :The money/ income available for purchasing goods and services during some specified time period also plays a role in influencing the consumption pattern and thereby his buying behaviour.

### (3) THE NICOSIA MODEL

In the last few years marketing scholars have build buyer behaviour models taking the marketing man's point of view. The Nicosia model is one such buyer behaviour model. It also is said to be a systems model, because the human being is analysed as a system, with stimuli as the input to the system and the human behaviour as an output of the system.

This model was developed in 1966, by Francesco Nicosia, an expert in consumer motivation and behaviour. The Nicosia model tries to explain buyer behaviour by establishing a link between the organisation and its (prospective) consumer. The model suggests that messages from the firm first influences the predisposition of the consumer towards the product or service. Based on the situation, the consumer will have a certain attitude towards the product. This may result in a search for the product or an evaluation of the product attributes by the consumer. If the above step satisfies the consumer, it may result in a positive response, with a decision to buy the product otherwise the reverse may occur. This is a brief mention about the activity explanations in the above model.

The Nicosia model, groups the above activity explanations into four basic areas -

Field one has two sub areas - the consumers attribute and the firm's attributes. The

advertising message sent from the company will reach the consumer's attributes. Depending on the way, the message is received by the consumer, a certain attribute may develop. This newly developed attribute becomes the input for Area two.

The second area or area two- is related to the search and evaluation, undertaken by the consumer, of the advertised product and also to verify if other alternatives are available. In case the above step results in a motivation to buy the product/service, it becomes the input for third area.

The third area explains how the consumer actually buys the product.

And area four is related to the uses of the purchased items. This fourth area can also be used as an output to receive feedback on sales results to the firm (refer to fig. 2.6).

### (4) WEBSTER AND WIND MODEL OF ORGANISATIONAL BUYING BEHAVIOUR

This is a complex model developed by F.E. Webster and Y. Wind, as an attempt to explain the multifaceted nature of organisational buying behaviour. This model refers to the environmental,

organisational, interpersonal and individual buying determinants which influences the organisational buyer(s). These determinants influence both the individual and group decision making processes and consequently the final buying decisions.

The environmental determinants comprise of the physical & technological factors, economic, political, legal and socio cultural environmental factors. These are external factors which cannot be controlled, but an understanding of the same may be crucial to succeed.

The organisational determinant is based on Harold Leavitt's four elements of buying organisation namely - people, technology, structure and task. (Source: The Organizational World WR. Dill and

H. Eyring, Harcourt Leavitt H.J., Harcourt Brace Jovanovich, 1973) This is seen in 'Buying Centre', mentioned in the figure: 2.3 - The buying concepts emphasises the fact that a number of people participate in the buying decision process consisting of individuals and groups from the various functional areas in the organisation.

An individual may be involved in one or more buying roles during organisational buying.

These roles are:

- (a) *Users*: The ultimate users who often initiate the buying process and help in defining specifications.
- (b) *Influencers*: They may or may not be directly connected with the decision. But their views or judgements of a product or a supplier carry a lot of weightage.
- (c) *Buyers*: Those people who negotiate the purchase.
- (d) *Deciders*: The people who take the actual decision (they may be formal or informal decision makers)
- (e) *Gate Keeper*: The person who regulates the flow of information.

This model is a valuable contribution and helps in revealing the whole range of direct & indirect influences which affect the organisational buying behaviour. However, the limitation is that this model provides a static representation of a dynamic situation.

#### **(5) THE ENGEL - KOLLAT - BLACKWELL MODEL**

This model talks of consumer behaviour as a decision-making process in the form of five step (activities) which occur over a period of time. Apart from these basic core steps, the model also includes a number of other related variables grouped into five categories.

*Information input*

*Information processing*

*Product - brand evaluation*

*General motivating influences*

*Internationalised environmental influences*

The arrows shown in the model indicate the direction in which the influence is exerted. The five steps (activities) involved in the decision process stage are briefly explained hereunder:

- (1) *Problem Recognition*: The consumer will recognise a difference between his or her actual state and what the ideal state should be. This may occur on account of an external stimuli, for example a young girl has seen an advertisement of an exhibition of American Diamonds and may feel the desire to possess the same or seeing a beautiful dress displayed in the show-room may make a youngster to feel the need for a new dress.

It may be noted that the consumer must perceive a sufficiently large discrepancy between actual and ideal states in order to be activated, recognise a problem and find a way to solve it.

- (2) *Information Search*: Initially the information available with the consumer may be consistent to the beliefs and attitudes held by him or her. While being involved in an information

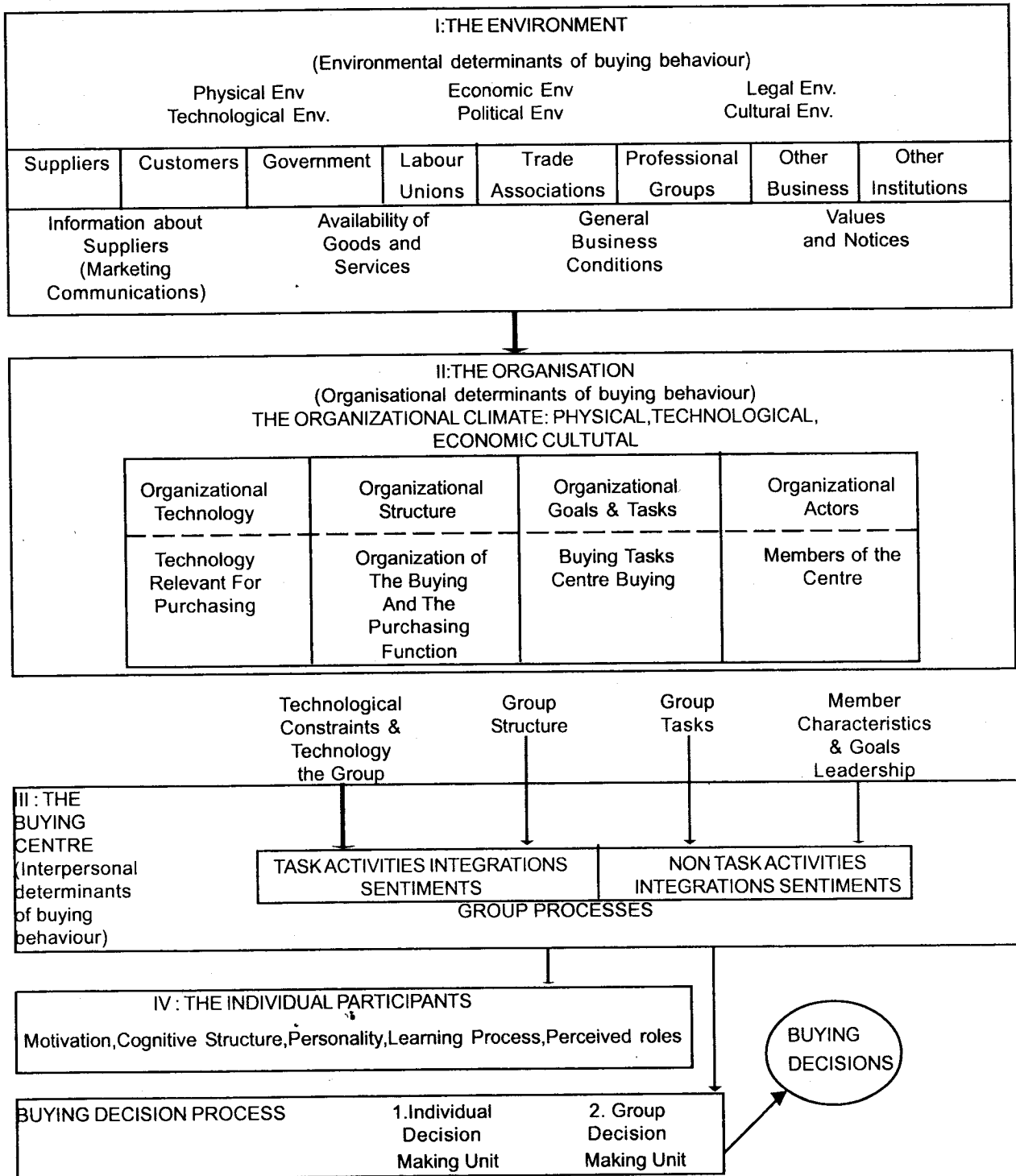


Figure 2.3 Webster and Wind model Organisational Buying Behaviour

(Source : W. Webster and Y. Wind, *Organizational Buying Behaviour*, Prentice-Hall, 1972)

seeking or search stage, the consumer will try to gather more information from various sources. These sources could be sales persons, personal or friends or neighbours or mass communication media. The information processing takes place in various stages. The individual gets exposure of the stimuli which may catch his or her attention, be received and stored or retained in memory. This method of information processing is selective in nature and the consumer will accept the information which is conclusive to what is perceived by them.

- (3) *Alternative Evaluation* : Now the individual will evaluate the alternative brands. The methods used for evaluating the various products will be dependent on the consumers' underlying goals, motives and personality. The consumer also has certain (predetermined) beliefs about the various brands in terms of the characteristics associated with the different brands. Based on these beliefs the consumer will respond either positively or negatively towards a particular brand.
- (4) *Choice*: The consumer's choice will depend on his or her intention and attitude. The choice will also depend upon normative compliance and anticipated circumstances.

Normative compliance relates to the extent to which the consumer is influenced by other people like friends, family members etc. Thus normative compliance and anticipated circumstances will attempt to influence the individual. The person's choice of the product can also be dependent on the sensitivity of the individual to handle unanticipated circumstances like losing the job, funds diverted for another urgent cause etc.

At this stage, a purchase decision is likely to occur unless if confronted by an anticipated circumstance. In case of the latter occurring, it may act as a barrier to the purchase decision.

- (5) *Outcome*: The outcome may be either positive or negative. If the end result is positive, the outcome will also be positive. Conversely, if there is dissonance, that is, a feeling of doubt experienced by the consumer, about the choice made by him or her the outcome will not be positive. Now the consumer will search for more information to support his or her choice.

The above mentioned Engel-Kollat-Blackwell model has taken into consideration a large number of variables which influence the consumer. The model has also emphasised on the conscious decision making process adopted by a consumer. The model is easy to understand and is flexible, that is, it recognises that a consumer may not go through all the steps always. This is because in case of repeat purchases the consumer may bypass some of the steps.

One limitation of this model is the inclusion of environmental variables and general motivating influences but not specifying the effect of these on the buyer behaviour.

## **(6) ENGEL, BLACKWELL AND MINIARD (EBM) MODEL**

This model is a development of the original Engel, Kollat and Blackwell model first introduced in 1968. It shares certain things with the Howard-Sheth model. Both have similar scope and have the same level of complexity. Primarily the core of the EBM model is a decision process, which is augmented with inputs from information processing and other influencing factors also.

The model has distinctive four sections, namely: *Input, Information Processing, Decision Process and Variables influencing decision process.*

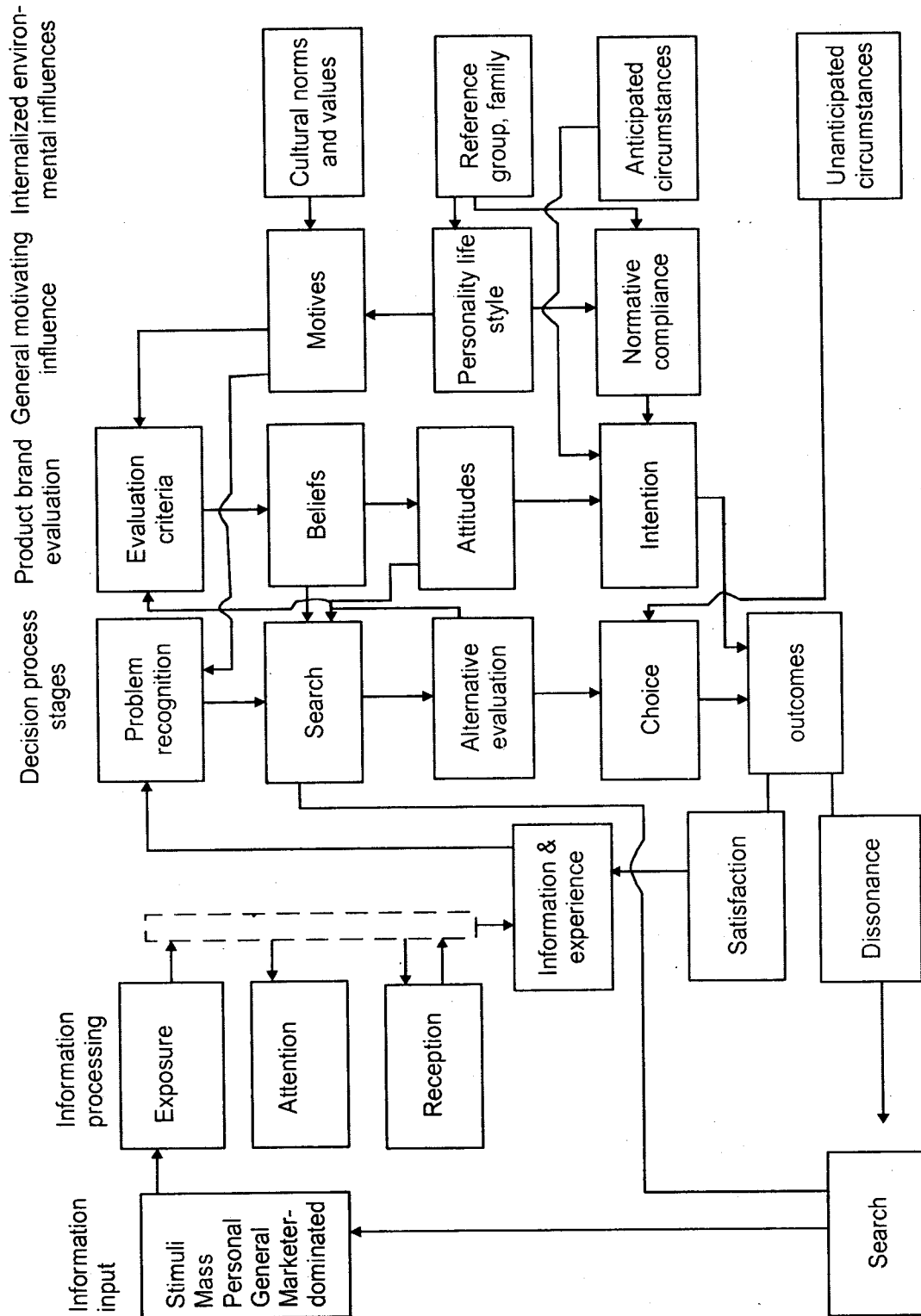


Figure 2.4 Engel-Kollat-Blackwell model  
 (Source : J. Engel, D. Kollat and R. Blackwell, *Consumer Behaviour*, Dryden Press, New York, 1978)

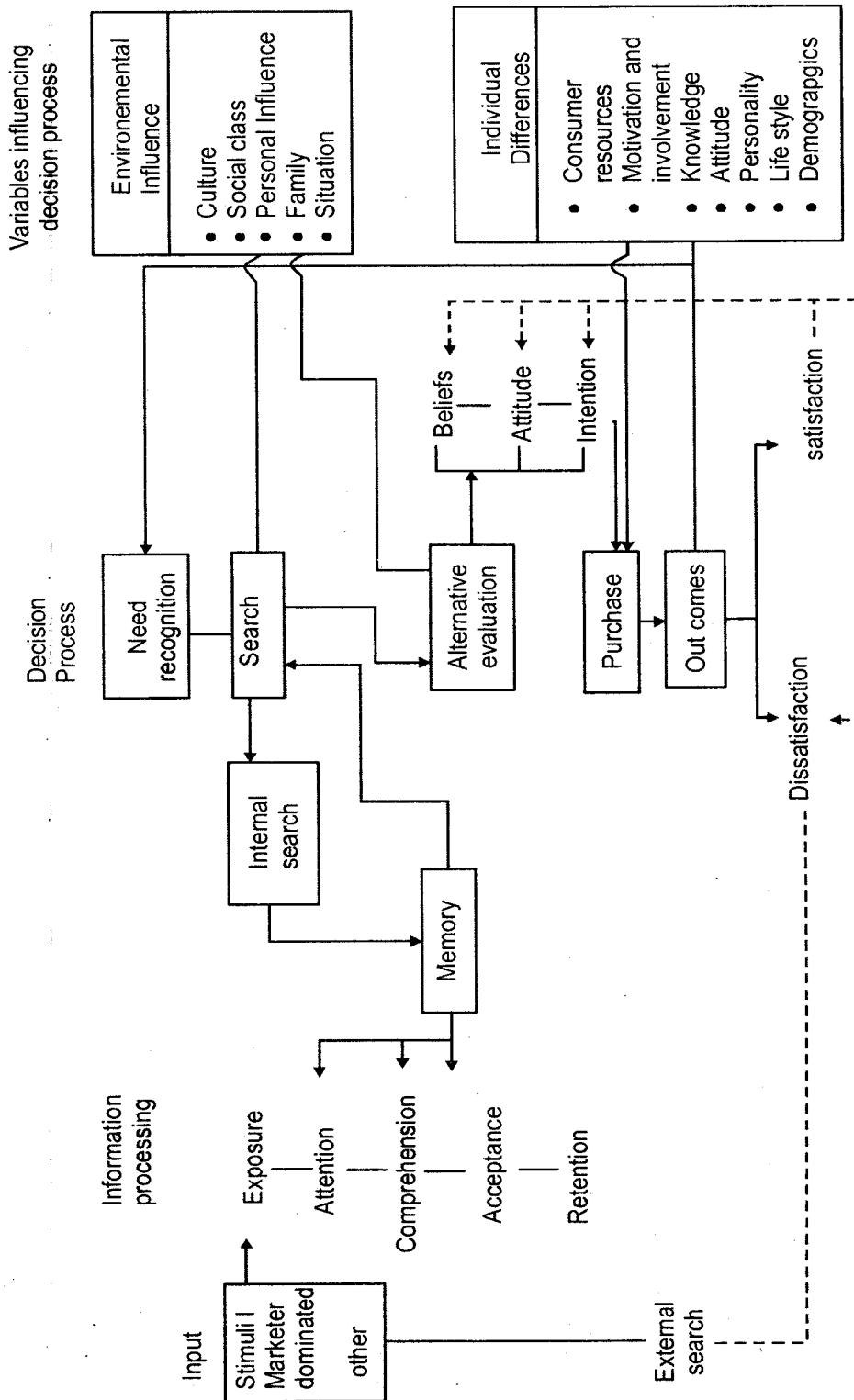


Figure 2.5 Engel, Blackwell and Miniard model  
 (Source: Engel, J.F., Blackwell, R.D., and Miniard P.W. *Consumer Behaviour*, 5th edn., Hinsdale IL, Dryden Press, 1968)

## Information Input

Information from marketing and non marketing sources are fed into the information processing section of the model. The model also suggests additional information to be collected as a part of an external information search especially when not enough information is available from memory or when post-purchase dissonance occurs.

## Information Processing

Before information can be used in the rest of the model, the consumer will first be exposed to the information processing. That is the consumer must get exposed to the information, attend to it, comprehend or understand it, accept it and finally retain it in memory. Any selective attention or exposure mechanisms (which may occur in post purchase dissonance) would operate at this stage.

*Decision Process* :This process consists of five basis stages:

*Need Recognition*: This acknowledges the fact that there exists a problem. That is, the individual is aware that there is a need to be satisfied.

*Search* :When enough information is available in memory to take a decision, then only internal search will be required. If information is scarce, an external search for information is undertaken.

*Alternative evaluation*: Now an evaluation of the alternatives found during the search is undertaken. We can see from the model, that this takes into account our attitudes and beliefs also.

*Purchase*: A purchase is made based on the chosen alternative.

*Outcomes*: The outcome can be either positive or negative depending on whether the purchase satisfies the original perceived need. Disatisfaction can lead to post-purchase dissonance.

## Variables Influencing Decision Process

This section will consider the individual, social, and situational factors which influence the decision processes.

The EBM model is very flexible and more coherent than the Howard Sheth model of consumer behaviour. It also includes human processes like memory, information processing and considers both the positive and negative purchase outcomes.

However the model has been criticised on two aspects. Firstly, on the somewhat vague definition of the role of the influencing variables and secondly, it is felt that the separation of information search and alternative evaluation is somewhat artificial.

## (7) THE SHETH MODEL OF INDUSTRIAL BUYING

This model concentrates on the purchasing process and highlights the importance of four main factors:

- (a) The expectations of the individuals making up the DMU (Decision Making Unit)
- (b) The characteristics of both the product and the organisation
- (c) The nature of the decision making process
- (d) The situation variables

Field 1:  
From Source of a message to  
consumer's attitude

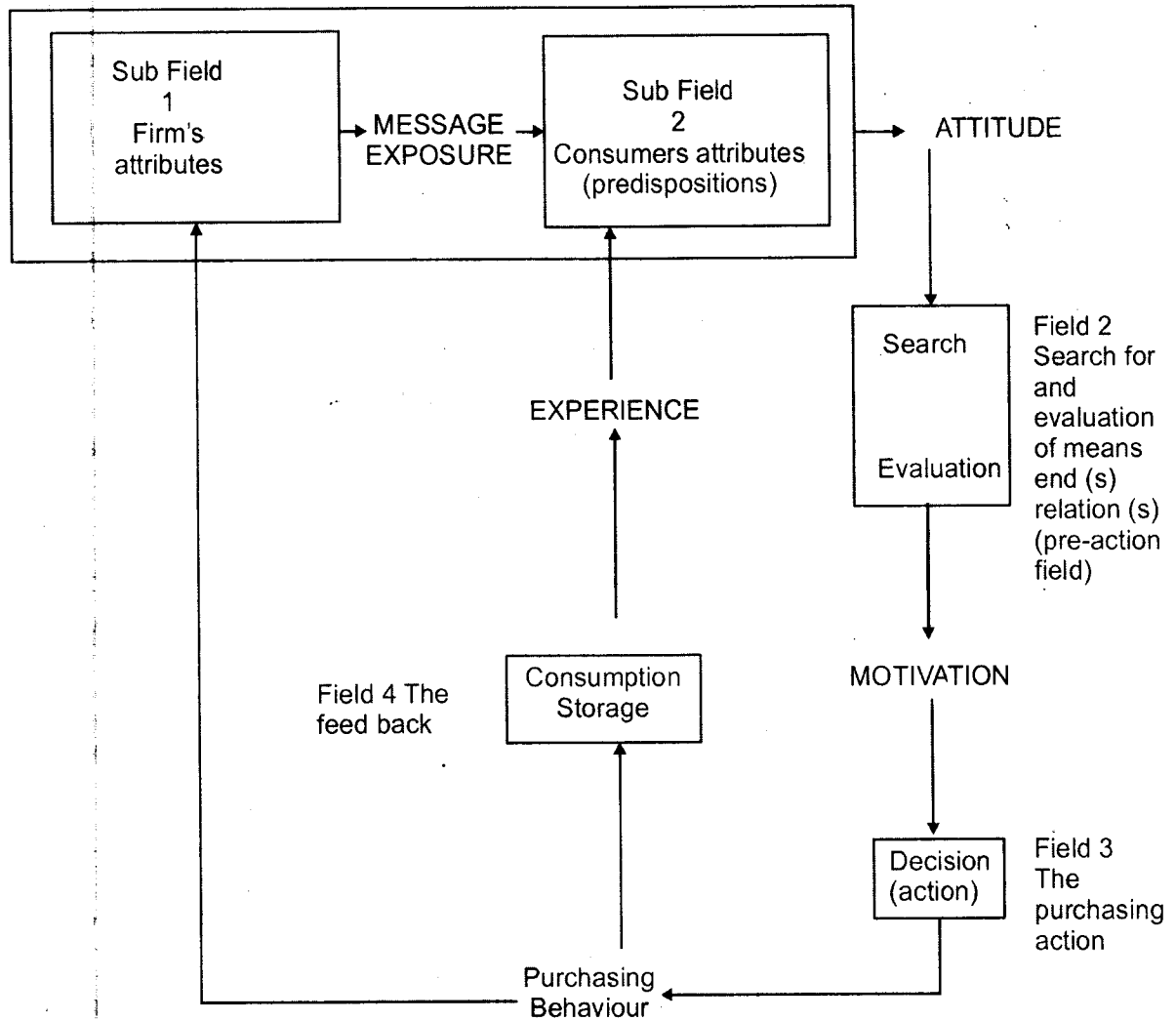


Figure 2.6 Nicosia Model in brief



These factors are discussed more in detail :

### I. Expectations within the Organisation

These elements are mentioned under (1). According to Sheth, every person in the DMU brings with him, his own unique set of attitudes and orientations. Their expectations will be conditioned by the *individual background (1 a) education (general or professional), role orientation (Accountant, Production Manager, Engineer etc.), life style*.

Their expectations will all be influenced by

- The various *sources of information (1 b)* - (sales persons, exhibition and trade shows, direct mail, press releases, journal advertising, professional and technical conferences, trade news, world of mouth) and the process through which they have obtained the information.
- *Perceptual distortion (1 d)* (could be as a result of the form of communication).
- The person's previous *experience (1 e)* which will mediate the incoming information.
- The *active search (1 c)* can be carried out by anyone listed in the DMU - purchasing agents, engineers, users, others.

### II. Characteristics of the Product and the Buying Organisation

In the figure 2.7 of the model these elements are coded (2). In this model Sheth talks of the actual buying process and contends that it is affected by :

#### The Product Specific Factors (2a) which are:

- *Time pressure*: Group decision will take longer time as compared to individual ones.
- *Perceived risk*: When the decision involves risk, more members of the DMU will be involved.
- *Type of purchase*: If the type of problem is an extensive problem, then more members of the DMU will be required unlike a simple repeat purchase, where a single individual can be asked to carry out the decision.

#### Company Specific Factors (2b) are:

- *Organizational orientation*: Is the firm sales and marketing oriented? Or is it technology dominated one etc.? Depending on how the organisation sees itself will determine the internal power balance and influence in the DMU.
- *Organization size*: The size of the organisation, will determine the group decision making. If the organisation size is small, it is more likely that a single buyer will possess all the relevant information. But if the organisation is a large one, it is more likely that there will be group decision making.
- *Degree of centralization*: Decentralized organisation involve a lot more people in the decision making than centralized organisations, which have a centralized buying function.

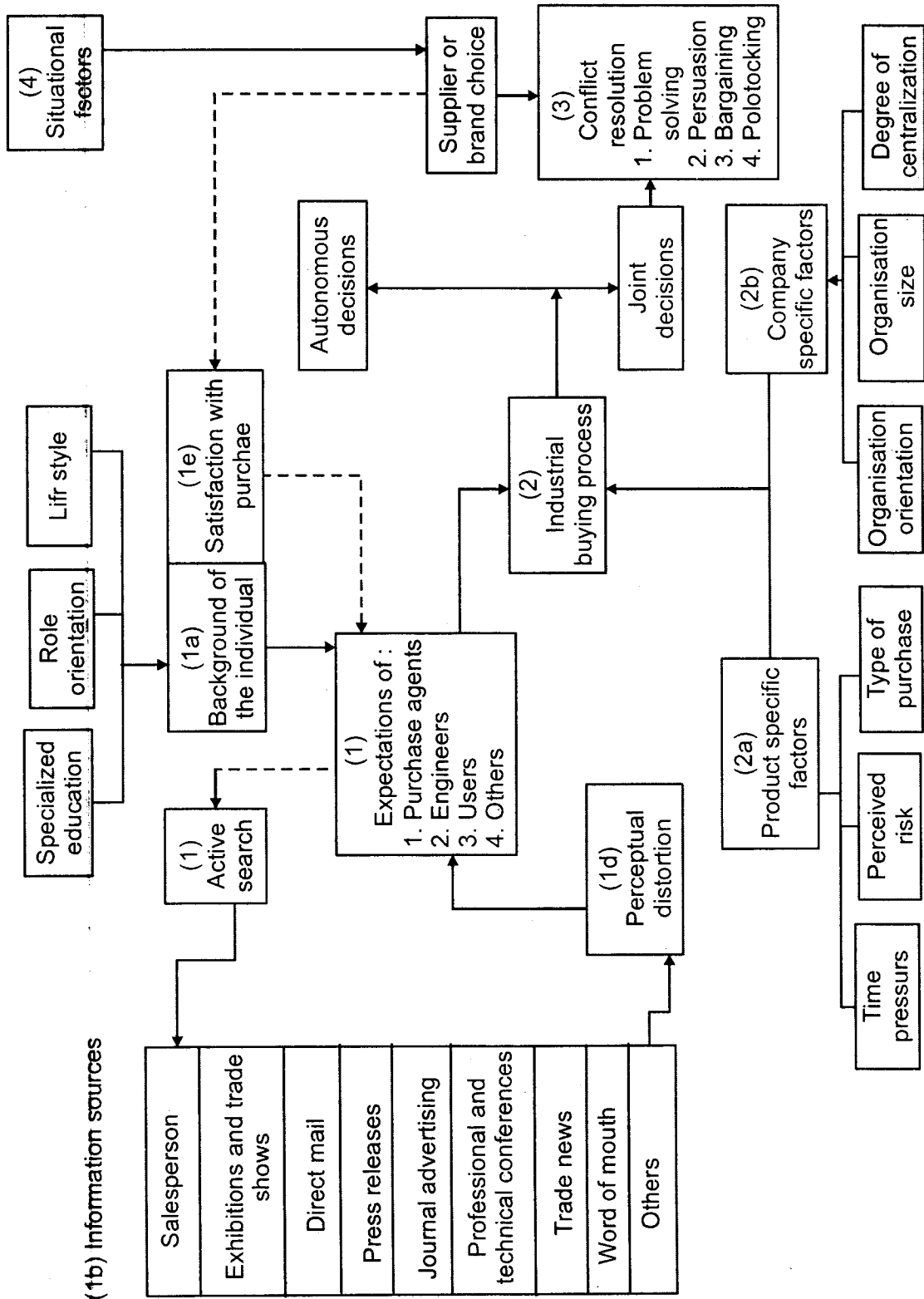


Figure 2.7 Model of Industrial behaviour  
 (Source : Sheth J. N. in Journal of Marketing 1973.37(4), pp 50-56)

### III. Nature of the Decision-making Process

In the model, the elements are coded (3) Sheth has differentiated between autonomous decisions and those taken jointly by the DMU. When a decision is taken autonomously, it is usually (relatively) straight forward. However, when a group is involved in decision-making, conflict is likely to arise because of the different goals and orientations with the people within the group.

The model also devotes a section (3) on how to solve the conflict:

- Problem solving
- Persuasion
- Bargaining
- Politicking

### IV. Situational Variables

These elements are coded (4) in the model. Here Sheth has referred to unforeseen factors, those which fall outside the control of the DMU and could affect the purchasing organisation or the suppliers. For example - industrial relation problem, major breakdowns, cash flow problems, bankruptcy etc.

### 2.5 Activity:

Find two print advertisements, one that illustrates the sociological model and another one that illustrates the learning model of consumer behaviour. Why did you select these advertisements. In your opinion, why did the marketers select the approaches depicted in the advertisements ?

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### 2.6 Summary:

There are various models used to understand consumer behaviour.

- The economic model works on the assumption that being a rational human being, the consumer will evaluate all the alternatives in terms of cost and value received and select that product or service which will give him or her maximum satisfaction.
- The psychological model tries to understand consumer behaviour by understanding the role of motivation and learning in consumers decision-making process.
- The psychoanalytic model is based on the work of pshychologists who were concerned with personality and views human behaviour to be diverted by a complete set of deep seated motives and symbolic factors which influences consumers buying behaviour.

- The sociological model talks of man as a part of an institution – the society, and it is these interactions which play a role in influencing its buyer behaviour.
- A very important model explaining the buyer behaviour is the one developed by John A. Howard and Jagdish N. Sheth. This model very elaborately explains firstly – on how complex the whole question of consumer behaviour really is and secondly – provides the framework which binds together all the psychological concepts like perception, learning etc. which are being referred to at numerous places in this model.
- The Nicosia Model tries to explain the buyer behaviour by grouping the activity of consumer buying into four areas and establishing a link between the organization and its prospective consumer.
- The Webster and Wind model is a complex model developed by F.E Webster and Y. Wind, where in an attempt is made to explain the multifaceted nature of organizational buying behaviour.
- The Engel –Kollat – Blackwell model talks of consumer behaviour as a decision-making process in the form of five steps (activities) which occur over a period of time.
- Engel, Blackwell and Miniard (EBM) model is a development of the original Engel, Kollat and Blackwell model and also shares certain things with the Howard-Sheth model. This EBM model has four distinctive sections namely: Input, Information processing, Decision process and Variables influencing decision process, with the core model being related to the decision process.

## 2.7 Self Assessment Questions:

- (1) What do you understand by the term consumer behaviour models?
- (2) Compare and contrast the economic, sociological, psychoanalytic and learning models of consumer behaviour.
- (3) Briefly examine the 'Nicosia Model'.
- (4) Bring out the importance of the 'Webster and Wind model of Organisational Buying Behaviour' and 'The Sheth model of Industrial Buying'.
- (5) 'The Engel Blackwell and Miniard (EBM) model is a development of the original Engel, Kollat Blackwell model'. In this context briefly explain both the models.

## 2.8 Additional Reading:

- (1) J.N. Sheth and J.A. Howard, "The Theory of Buyer Behavior": New York, Wiley, 1969.
- (2) W. Webster and J. Wind, "Organization Buying Behavior": Prentice Hall, 1972.
- (3) J.F. Engel, D.T. Kollat, R.D. Blackwell, *Consumer Behavior*, Dryden Press, New York, 1968.
- (4) Nicosia, F.M., "Consumer Decision Processes": Englewood Cliffs, N.J, Prentice Hall, 1966.
- (5) J. F. Engel, D.T. Kollat and P.W. Miniard, "Consumer Behaviour", (5th edn.,) Hinsdale IL Dryden Press, 1968.
- (6) Sheth J.N, "Model of Industrial Behaviour" Journal of Marketing 1973, 37(4), pp. 50 - 56.

- (7) Nair Suja, "*Consumer Behaviour*" – Text and Cases, Himalaya Publishing House, 1999.
- (8) Bennett Peter D. and Kassarian, "*Consumer Behaviour*" Prentice Hall of India Pvt. Ltd., New Delhi, 1987.



## Lesson - 3

# Perception and Learning

## Objectives

After you go through the chapter, you will be able to understand:

- What is the meaning of the term 'perception' and which are the consumer characteristics affecting perception?
- How the perceptual process takes place?
- What is the meaning of the term 'Learning'?
- What are the components or elements of the learning process?
- Which are the three different mechanisms of learning?

## Structure:

- 3.1 Introduction
- 3.2 Meaning of 'Perception'.
- 3.3 Consumer Characteristics Affecting Perception
- 3.4 Perceptual Selection, Organization and Interpretation.
- 3.5 What is Learning?
- 3.6 Components or Elements of Learning Process
- 3.7 Mechanisms of Learning: Cognitive Learning, Classical Conditioning, Instrumental Conditioning.
- 3.8 Activity
- 3.9 Summary
- 3.10 Self Assessment Questions
- 3.11 Additional Reading

## 3.1 Introduction:

There is tendency among individuals to view the same phenomenon or event or situation differently and accordingly, *responds* also in a unique way. For, as diverse individuals we have a natural tendency to consider 'reality' as a unique personal occurrence based on one's own needs, wants, attitude, belief, value system and past experience. We can understand this better by quoting an example. On the basis of feedback received from the readers of the Economic Times, (Brand Equity), the advertisement of 'Sun feast Biscuits' was rated as the Best. Their comments (readers) were summed up as "Sun feast Biscuits are irresistible across all age groups, it seems, with this multigenerational spot tickling the palate. The dad's success in delivering a biscuit packet to his son and the latter's victory in the race leaves the viewer on an upbeat note". On the other hand, Ashutosh Khanna's (COO, Grey Worldwide India) View on the same ad has been "This is one storyline that defies description. All one can take out is a school kid, his father Sharukh Khan, a

forgotten pack of biscuits that is eaten by the dad and some other people and kids in school. The phrase 'Khaaya Kya'?. Pointers hackneyed, Uninteresting, this ad seemed to confuse a catchphrase with a strategy no insight, no engagement, no differentiation. Just a catchphrase and a celebrity to help recall scores in research and after that, no doubt...."

The above example shows how the same ad (Sun feast biscuit) is viewed and perceived, to draw different comments from two types of viewers. This are comments from two types of viewers. This is a common occurrence among human beings. An individual's behaviour is governed by what he or she perceives and may not be based on 'actual facts' or reality. So also the behaviour of the consumer will be in concurrence to his or her perception of 'reality' and knowledge of the world around.

How individuals learn is a matter of great interest to marketers. This is because they (marketers) are interested in teaching them in their role as consumers to learn about products, (their attributes) and potential benefits i.e., where to buy them, how to use them, how to maintain them and even how to dispose of them. Marketers are interested in knowing about every aspect of consumers learning process, so as to develop suitable communication strategies.

In this chapter we will discuss about the various facets of perception and learning. This will help in understanding how consumers develop certain perceptions about products and also on the principles of consumer learning.

### **3.2 Meaning of Perception:**

*"Perception is the process of selecting, organising and interpreting or attaching meaning to events happening in the Environment".*

From the above definition of perception it can be said that it is a mental process, where by an individual selects data or information from the environment, organises it and then draws significance or meaning from it. Since perception is a subjective process, different people may perceive the environmental occurrence of an event differently on the basis of the situational aspects absorbed by them, on how they organise this information to draw meaning and interpret it to obtain a meaningful understanding of the situation.

### **3.3 Consumer Characteristics Affecting Perception:**

It is generally a combination of external and internal factors which can affect an individual customer's perception about a product or service. However, here we are referring specifically to the consumer's internal factors which can play upon the inner minds of the consumers and affect their perceptual process. These internal factors affecting a consumer's perception are presented in Figure 3.1.

#### **(1) Selective Attention**

Consumers have the tendency to consciously see and hear only certain aspects of the advertising message which is being communicated. Hence people are able to sense and receive only limited information from the environment. Such perceptual selectivity can be associated with the inner needs of an individual. This feeling of awareness of a need results in the person experiencing discomfort when he thinks he is missing something. And in the process, he will choose to listen to only those ads of products or services which will satisfy his needs. For instance, if a consumer's need at a particular point of time, is to purchase a pair of sports shoes, his mind will be ready to receive only those stimuli which will provide him information on sports shoes.

## (2) Selective Exposure

People use selective exposure and try to avoid coming into contact with any communication which will be contradictory to their strongly held beliefs and attitudes. Selective exposure is also referred to as a part of the process of cognitive dissonance. That is consumers will seek out messages which they feel are sympathetic to their causes and action and avoid messages which they perceive to be threatening in nature. For example, when the consumer after the purchase of a product or service, is unsure or dissatisfied with its performance, he (or she) will try to reduce the dissonance. For this, he (or she) will seek positive information which will reiterate the high value of the product purchased or avoid information which will speak against the (perumed high value) product.

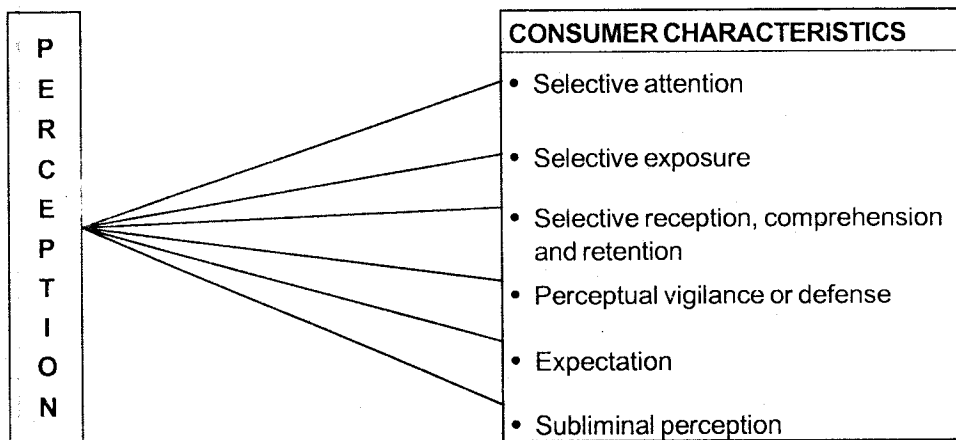


Figure 3.1. Consumer characteristics affecting perception.

The challenge before the marketer is to determine what will attract the consumer's selective attention and work out such stimuli.

## (3) Selective Reception, Comprehension and Retention

There is a natural tendency among people to be selective in their tendency to receive certain information and retain it in such a way that will support their preconceptions. Consumers are likely to retain information which support their beliefs and attitudes. So our above mentioned customer is likely to retain in memory only the positive aspects of *Nike Shoes* (say) and conveniently forget the good points of the competing brands. Looking into the selective reception, comprehension and retention of information by consumers, marketers have to work very hard at getting across their brand messages through to their target audience.

## (4) Perceptual Vigilance or Defence

Consumers may subconsciously screen out the stimuli which is found to be psychologically threatening, even if the exposure has taken place. Perceptual vigilance can be said to be in reference to the way in which consumers maintain their prior beliefs. For example, in a restaurant, the manager will behave properly with the customer, who is upset with the customer services, ignoring the fact that in the first place, it was the customer who behaved badly. Thus individuals unconsciously may distort information which is not consistent with their needs, beliefs, opinion or attitudes.

## (5) Expectation

Expectation refers to the state of anticipation of a particular behaviour from a person. Consumers also tend to perceive products and product attributes based on their expectation. A customer who



has been told that *Kingfisher Airlines* offers a very enjoyable travelling experience will in all probability perceive to get the same exposure when he boards the airlines. Advertisers are looking out for various ways to attract the attention of their target customers. They have found stimuli which sharply conflicts with expectations often received more attention than those which conform to expectation. In 1998 when *Santro*, was advertised as 'A tall boy model design' different from its competitors, the tag of an unusual car drew a lot of attention. When Santro was initially launched, there was a lot of negative expectation build up regarding its look and performance. However, within a short span there has been a change in the perception and even today it is receiving an overwhelming response from its customers.

### (6) Subliminal Perception

Subliminal perception is used to describe something below the level of perception. People can get stimulated below their conscious awareness level. Such persons can perceive stimuli without being consciously aware that they are doing so.

There are three forms of subliminal perception :

- A visual stimuli presented in brief.
- Speech given fast in low volume auditory messages.
- Embedded or hidden imagery or words, given either in print ads, or on product labels.

But in spite of many studies conducted by researchers and academicians (since 1950's) they have not been able to collect real evidence that subliminal advertising persuades people to buy goods or services.

### 3.4 Perceptual Selection, Organisation and Interpretation:

As human beings, we are continuously exposed to various stimuli such as sound, smell, pressure etc. which will be perceived and cognitively organised into a logical pattern before one acts upon it. Since each individual is unique each one's perceptual process will be based on how one sees and perceives the world.

The dynamics of the perceptual process can be understood by taking a note of the input-through put-output approach. This approach is based on the fact that there is an input which when processed gives output. Refer to Figure 3.2. Specifically put:

- Perceptual inputs will comprise of stimuli (Such as people, events etc.) in the environment.
- The actual aspects of perceptual mechanism include – the selection, organisation and interpretation.
- The perceptual outputs will be the behaviour or action of the individual *i.e.* the resultant opinions, feelings.

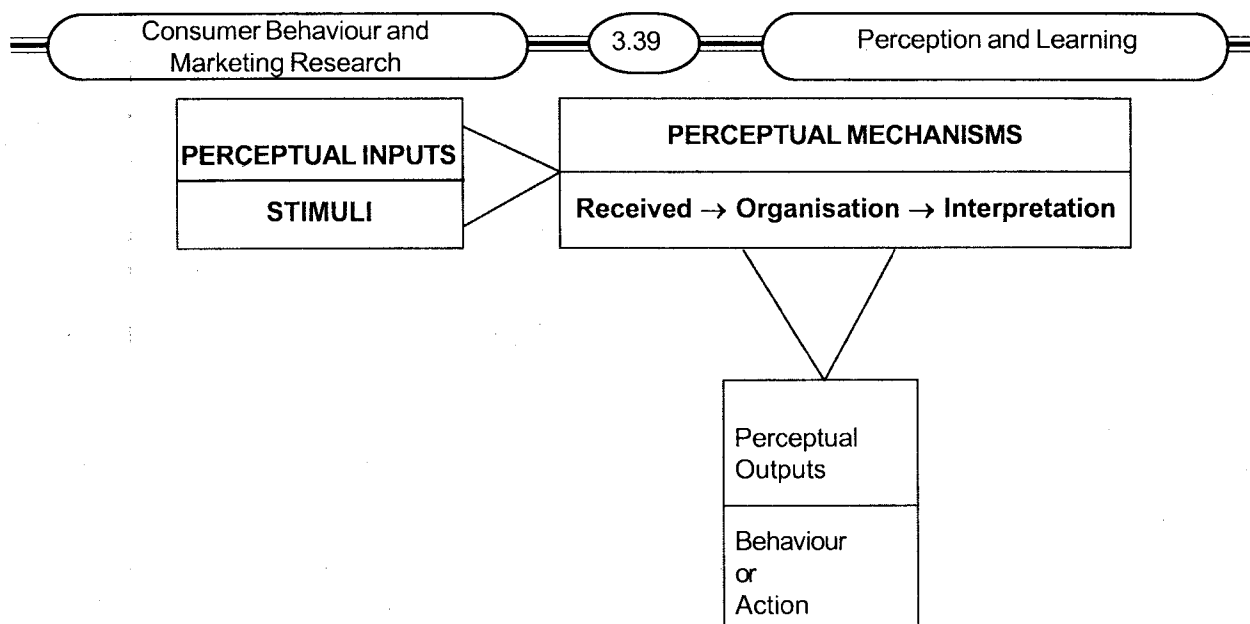


Fig. 3.2. The perceptual process.

As seen in the figure 3.2. the first step in the perceptual process is the presence of stimuli. Though the presence of stimulus is necessary for perception, it is not the actual process of perception. In fact in the perceptual mechanism, it is the selection, organisation and interpretation which are very necessary for understanding perception.

*Perceptual Selection.* Individuals exercise selectivity in consciously recognising only certain aspects of the environment as stimuli. So when they are bombarded with various stimuli, they will be selective in the perceptual process. The selection of the stimuli will be dependent on two major factors apart from the nature of the stimulus itself - the individual's (consumer's) previous experience as it affects their expectations and their motives at that time. Either of these factors can raise the probability of the stimulus to be perceived.

*Nature of the Stimulus.* When we discuss the nature of the stimulus (product), it could be its physical attributes, the package design, the brand name, the advertisement, the commercials, the placement or position of the ad, the time of releasing the ad, etc.

Most of the marketers use the principle of 'contrast' to draw attention to the compelling attributes of a stimulus, that is their products. Ultimately the aim of every advertiser will be to adopt unique methods with varying differentiation so as to penetrate the consumer's perceptual screen.

For instance, many of the advertisers use the print media to communicate through ads oversized, poster like advertisement for all types of products ranging from cosmetics to automobiles.

*Expectations:* Expectations affect what a person perceives. Expectations are related with the state of anticipation a consumer has from a particular product or service.

*Motives :* People have a tendency to perceive things they need or want. There is more awareness of the stimuli which are relevant to the consumers's needs and interest. At that time he or she will not be aware of or not be motivated by those stimuli which are irrelevant to their needs. For instance, say a young girl is interested in the purchase of cosmetics. So she is likely to be attracted to, notice and be interested in those ads or information about cosmetics available in the

market, their brand name, their utility etc. All other stimuli not related to this need will be ignored by the girl. So her perceptual process will be selective and she will choose only those elements in the environment which are important to her at that time.

Realising this, marketers could determine the various attributes of the product category which are likely to motivate the consumers, or they could ascertain what the consumers perceive their needs to be in relation to the product category. Once this information is obtained, they can think of market segmentation, on the basis of the needs of the consumers and also use differential advertisements to match the perception of that consumer market by positioning their product accordingly.

The other aspects of perceptual selectivity like selective exposure, selective attention and perceptual defence has already been dealt to earlier in this chapter and so will not be repeated here.

*Perceptual Blocking.* Another aspect of perceptual selectivity is perceptual blocking. When consumers are bombarded with lots of information, there is a general tendency to 'block out' some stimuli from their conscious awareness. It will be noticed that when consumers are exposed to many advertisements together, they will automatically switch off from their mental set most of the advertisements. For example popular serials such as 'Kyunki.....' are sponsored by many products of commercial viability. The advertisements of all the sponsored products are shown (at times even repeated many times) in short intervals of time during the telecast of the serial on the television. But most of these ads are perpetually 'blocked out' by consumers due to over exposure.

### **(1) Perceptual Organisation**

People do not experience all the stimuli selected by them as separate and discrete sensations. They rather, organise this stimuli into groups and perceive them as unified wholes. This method of perceptual organisation enables individuals to view life in a simplified manner.

The underlying principles helping individuals in perceptual organisation was first developed by the Gestalt psychologists. These principles help in understanding perceptual organisations, which are primarily related to the physiological events occurring in the nervous system of the individual in direct reaction to stimuli by the physical objects. There are three basic principles used in perceptual organisation -figure and ground, grouping and closure.

*Figure and Ground.* People tend to organise information on the basis of the figure-ground principle. This involves that in perceiving stimuli or phenomena, the tendency is to keep certain phenomena in focus and other phenomena in the background. Figure is perceived to be dominant and more attention is paid to it, while ground is given less prominence and attention and is kept in the background.

Like perceptual selection, perceptual organisation also gets affected by motives and by expectation based on experience. Advertisers plan their advertisements such that what they want to be prominently noticed (products or the brand) is seen as figure rather than as ground. If jingle is used, care is taken to ensure that the jingle is seen as figure and not overshadowed by the music played in the background. Even, whenever the print media is used, marketers exercise care to display their products in a more dominant way so that the features they want to be noted are clearly perceived by the consumers.

*Grouping.* In grouping, the perceiver groups the different stimuli based on the principle of their similarity or proximity. This means all those stimuli which are grouped together are likely to be

perceived as having same characteristics. The perception of stimuli as groups of information will facilitate easy memorising and recall by consumers.

Marketers are using this principle to get a unified picture and co-relate desired connection with their products. For instance, one of the commercials for 'Cadbury' shows an old grandfather blowing bubbles with his little grand children.

Cadbury was promoting chocolates by associating with the natural spontaneous behaviour on the part of adults. The ad also conveyed the message "The real taste of life". This grouping will convey to the consumer that chocolates is a universal product to be enjoyed by all, without age barriers.

*Closure.* When faced with incomplete information, individuals have the tendency to fill in the gaps themselves so as to gain a more meaningful information. They feel ill at ease when faced with an incomplete picture. They prefer to organise their perceptions so as to form a complete picture. In other words, if people are exposed to incomplete stimuli, they tend to perceive it as complete, by either consciously or subconsciously filling up the missing gaps. This may be done on the basis of his or her (the individual's) past experience, past information or on hunches. This concept of closure can be seen as the tension experienced by a person when a task is incomplete, and the satisfaction and relief that may be experienced on its completion.

At times, some of the advertisements are given in an incomplete manner, where broken lines are put, which have to be filled in with certain alphabets in order to convey some meaning. People usually fill up these gaps to get the picture or meaning.

## (2) Perceptual Interpretation

We have seen that perception is a personal phenomenon. People have the tendency to interpret the meaning of what they have selectively perceived and organised on the basis of their own assumptions about the stimuli. This interpretation of the stimuli will be dependent on what the individual expects to see in the light of his previous experience, intuition, data received, motives and interests at the time of perception.

It is likely that the stimuli are highly ambiguous. Some stimuli may be strong while others may be weak. Moreover, based on the angles at which stimuli is viewed, varying distances and changing levels of illumination, it is likely that there may occur fluctuations in the stimuli. Due to the ambiguity of the stimuli, the individual will prefer to interpret the sensory inputs received by him or her, such that it fulfills their personal needs, interests and so on. Thus we can say that the perceptual interpretation of the stimuli by individuals are also in relative terms. So there are chances of misinterpretation. But in order to understand how close a person's interpretation is to reality, we will have to determine the clarity of the stimulus, the previous experience of the perceiver, the individual's motives (or needs) and interests.

## (3) Price Perception (and its relationship to Quality)

Consumers perceive value in brands when :

- They are cost driven brands *i.e.*, that brand costs less when compared to competing brands offering similar benefits.
- The product brands have certain unique value added benefits which offsets their premium pricing.

For instance, internationally acclaimed camera makers, Cannon Inc made their debut in the Indian market by launching four new camera models – EOS 88WPI, Prima Zoom 85 and EOS 3. The prices of these models had been determined so as to tap the market looking for quality. Especially the estimated price of EOS 88 and EOS 3 being Rs. 16,000 and Rs. 55,000 respectively. These models of Canon camera are targeted at professional users who are looking for exclusive features.

Various research studies have revealed that consumers rely on price as an indicator of product quality. This is especially true when they have little information on the product (or brand) or they are not confident about their ability to make decisions on such grounds as familiarity with the brand name, and experience with the product.

### 3.5 What is Learning?:

Simply stated learning can be defined “as a relatively enduring change in behaviour due to experience”. But, since learning theorists do not agree on how learning takes place, it will be difficult to come up with a generally acceptable definition of learning. However, from a marketing perspective, consumer learning can be said to be “**The process by which person acquires the purchase and consumption knowledge and experience that they apply to future related behaviour**”. There are a few important aspects in both the above definitions worth noting.

Learning involves a change in behaviour, though this change is not necessarily an improvement over previous behaviour.

Learning is a process which continuously evolves and changes as a result of newly acquired knowledge. This consumer learning can occur with increased knowledge based on getting information from reading magazines or articles or books, through observation, from thinking or from discussions.

The behavioural change is based on some form of practice or experience. This newly acquired knowledge and experience serve as a feedback to the person and also forms the basis for future behaviour in similar situations.

From the above definitions we can see that learning is based on two vital aspects—behaviour and experience. Though it must be remembered that all learning is not deliberately sought. Because learning can be intentional (i.e., it is acquired after a deliberate attempt at a careful search for information or learning can be incidental (i.e. it is acquired by accident without much effort). Intentional learning occurs when the individual is deliberately searching for information in the utility, benefits etc. of a brand, before he or she purchases the product. While incidental learning occurs when individuals, learn the brand names example Coke, Pepsi, Thums-Up etc., even though the consumer's attention may be somewhere else—reading a newspaper article or magazine rather than on the advertisement being shown on the television.

The learning process can include all range or types of learning processes starting from simple almost reflexive responses to the learning of abstract concepts and complex problem solving. Learning theorists have advocated the use of various distinctive models of learning to explain the existence of different types of learning.

### 3.6 Components or Elements of Learning Process:

An individual receives a variety of stimulus inputs. When specific stimuli become associated with specific responses in a sufficiently permanent manner then the occurrences of the stimuli tends to bring out a particular response, we say learning has occurred. But to understand the learning process, we have to consider the various Components or elements of the learning process. These components are: Drive, cues, response, reinforcement and retention.

**(1) Drive :** Learning occurs because of the presence of drive. *Drive is said to be any strong stimuli that impels action.* The drive arouses in an individual an urge to respond to the stimuli and thus forms the basis of motivation. There is a lot of difference between a motive and a drive.

A motive is based on needs and goals, i.e., a motive is purposeful or directed towards the specific goal while drive refers to an increased probability of activity without actually specifying the nature of the activity.

Motivation is also an important concept for learning theory. Learning occurs because of motivation. For instance, a young working executive is interested in the purchase of a (time saving) washing machine -so she (the executive) will be motivated to get all information related to a washing machine - the features (whether it is preferable to go for a top loading washing machine, or a front loading washing machine), the various brands available, prices, quality of performance, the time saved in case of the various types of washing machines. The degree of involvement will be dependent on the consumers level of motivation which will be seen in the way she searches for more information and tries to increase her knowledge about the product or service.

Drive as mentioned above will be the presence of any strong stimulus which impels action. For example, seeing a new washing machine at her friend's place and having seen advertisements about many new washing machines, must have acted as the "drive", for the above mentioned executive. This drive gets converted to motivation when she sets out to learn more about the product i.e. washing machine. So the task before the marketers will be to motivate consumers by using various marketing mix elements. They can also involve the consumers in a learning process whereby they learn to associate their (consumers) motives with their product or service offerings. But in the first place, marketers must understand that to predict consumer behaviour, they will have to establish which drives are stimulating the most.

**(2) Cues :** *Cue stimuli can be any object existing in the environment, as perceived by the individual.* If motives stimulates the learning process, it is the cues which serve the purpose for stimuli and gives direction to these motives. So marketers have to determine the conditions under which a stimulus (or cue) will increase the probability of eliciting a specific response. For instance, seeing an advertisement for 'a package tour deal to important destinations in South India may act as a cue for a middle aged executive, who may suddenly realise that by going for the tour package deal, he will be able to fulfil his long cherished dream of visiting important cities in the South alongwith enjoying a vacation with his family. Marketers attempt at using many advertising, packaging, styling, POP displays etc. to act as cues and help consumers fulfil their needs in product-specific ways.

Marketers have to take care that the cues used by them to stimulate the consumers are consistent with consumer expectations. They have to exercise care so that it does not fall below consumers expectations. For instance high class consumers expect priced products such as designer clothes, with matching jewellery and other accessories to be available in certain exclusive retail outlets-only and also the advertisements for such products be displayed in certain elite class magazines. If such consumer expectations are not adhered to, then the product may not act as a stimuli to elicit the desired response from the target market. Brands such as *Tanishq* watches, *Club Med* failed to motivate their consumer segment sufficiently because of this reason.

**(3) Response:** The stimuli will result in responses. How people react to a drive or cue, i.e. how they behave constitutes their response. The response may be in the physical form or may be in terms of complex phenomena such as attitudes, familiarity, perception, etc. Learning can take place even when the responses are not over. For instance, there are many manufacturers of various types of vehicles in the two wheeler market segment. And inspite of providing consistent

cues to the target market, they may not be successful in stimulating demand, even if say, the individuals are motivated to buy. But if in the event of the manufacturer succeeding in planting and creating a favourable image of the firm and the product in the minds of the consumers, it is more likely that he or she will be interested in the purchase of the particular product or brand. For example the tremendous response received by 'Santro' and 'Indica' in the small car segment.

Psychologists have suggested measuring of learning process in behavioural terms, that is responses must be operationally defined and preferably physically observable. The stimuli or a need or motive may evoke many responses. As mentioned earlier cues will provide a sense of direction. But the problem arises when there are many cues competing for the consumer's attention. During such times, the response from the individual consumer will be dependent on his or her previous learning and this in turn, may depend on which responses were reinforced in the past.

**(4) Reinforcement:** Re-inforcement is a very basic condition of learning. Without re-inforcement, we cannot observe any measurable modification of behaviour. Re-inforcement is closely related to the psychological process of motivation. *Re-inforcement refers to those environmental events, which increases the likelihood of specific response occurring in the future as a result of particular cues or stimuli*. The role of re-inforcements in learning has been highlighted by Edward L. Thorndike - Of several responses made to the same situation, those which are accompanied or closely followed by satisfaction (reinforcements) are more likely to recur. Those which are accompanied or closely followed by discomfort (negative re-inforcement or punishment) will be less likely to re-occur.

If a young girl finds using a particular brand of cosmetics helped her to win the beauty contest in her college, she is likely to buy and use the advertised brand of cosmetic again and again. Here through re-inforcement learning has taken place, especially since she won the beauty contest after using the cosmetics for the first time.

So she feels that the product has lived up to her expectations. Whereas in case the cosmetic had not helped in the first time of its usage, then it is unlikely of being purchased again by the young girl, even if extensive advertising or sales techniques were used by the marketer.

**(5) Retention:** *The stability of learned behaviour maintained by the individual over a period of time is called retention*. Retention is a well learned response which is achieved with the passage of time. Thus under repeated conditions of positive re-inforcement, there is a tendency for the conditioned response to continue for a long period of time. When a consumer is very much satisfied with a particular product or brand, he or she will learn to positively re-inforce using the product. For example, when a lady receives a very good response on visiting a particular retail outlet for the first time, she will learn to positively respond by visiting this retail outlet again whenever the need arises. If she continues with this store patronage over a period of time, this learned behaviour is known as retention.

### 3.7 Mechanisms of Learning:

There are three different mechanisms of learning : Cognitive learning, classical conditioning and instrumental conditioning.

#### (1) Cognitive Learning

The cognitive school views learning as problem solving and concentrates on the changes occurring in the consumer's psychological set (the consumer's attitudes and desired benefits) as a result of learning. People usually talk about cognitive learning or acquiring new information from written or oral communication. When one acquires information about something either incidentally

or deliberately, one is involved in the process of learning.

Cognitive learning takes place at two levels :

- *Rote memorization* : when active rehearsal (say trying to remember a phone number) or passive repeated exposure to the information. Repeated exposure to the same ad helps to create a rote memory of the brand (top of the mind brand awareness) name.
- *Problem solving*: This type of cognitive learning takes place when the customer is actively processing information to reach a certain judgement or decision.

Thus, cognitive learning takes place within a framework of complex decision-making (which is more relevant to habit) which may lead to routine purchase behaviour when the consumer is satisfied with the brand and repurchases it over a period of time.

## (2) Classical Conditioning

Ivan P. Pavlov was a Russian psychologist interested in the learning process which takes place among humans and animals. He studied the learning process by experimenting on animals. In his experiments, Pavlov harassed a dog, gave him some meat and observed that the dog salivated. This salivation is said to be an inherent reflex. Next, he rang the bell just before offering it the meat. This sequence was repeated several times. In the next step, Pavlov merely rang the bell without giving any meat powder. The dog, however, continued to salivate. The dog was said to have been conditioned to salivate at the ringing of the bell.

In the experiment, the meat powder is called an *unconditioned stimulus* (UCS) and the bell the conditioned stimulus (CS). UCS refers to a stimulus towards which the person (or customer) already has a pre-existing specific response, so the response to it need not be conditioned. In the above experiment the salivating response to the meat powder itself did not have to be learned since it already existed as an instinctual response. It is only the conditioning (or transfer) of this response to a previously neutral bell stimulus that constitutes 'learning'.

In case of CS, it is a stimulus to which the person does not have a response or a pre-existing response which needs to be modified, thus a new response needs to be conditioned. In the experiment, the dog had not found the sound of the bell appealing and had never salivated before on learning it. But now, the dog's involuntary reflexive reaction is to salivate. This is *classical conditioning* at work. Classical conditioning is the process by which a person learns an association between two stimuli due to their constant appearance as a pair.

Classical conditioning, is pervasive and used by marketers to influence consumer's buying behaviour. For instance, studies have shown that music can influence the speed with which customers shop, their willingness to spend, their perceptions of value and much more. *Audio Stream Solution* is involved using sophisticated software, hardware and technology to provide a customised mix of music and branded messages as in-store audio solution to retailers such as *Adidas, McDonalds, Lifestyle, Giant, God's Gyn, Globus* etc. Playing the right kind of music at the retail outlets has made a positive influence on shopping behaviour. Depending on the time of day, audience and intended reaction from the customer, songs are slotted into these bands. They also have the facility of pre-programmed, in-store messages (welcome messages, advertisement for a particular product or spot promotions) that can be inserted at regular intervals and changed according to the day, time and audience. Shoppers have the tendency to spend more time in the store, when slow music is played and also buy more products than when fast peppy music is played.



Marketers have been using this principle by pairing their brand (say *Pepsi T.V.*, *Santro Xing Car* etc.) with a likeable personality or celebrity like (Priyanka Chopra, Kareena Kapoor and Sharukh Khan). This is because, the celebrity's personality, by classical conditioning, rubs on to the product. Some firms even give claim about their wellknown clients, (Premier Management institutes boast about their placements for their outgoing students) to prospective customers.

### (3) Instrumental Conditioning

Another learning mechanism is *instrumental conditioning* where one learns to respond in certain ways because it is rewarding, *i.e.*, a response is instrumental to obtain a reward. It is for this reason, that we frequent a particular legal consultant, because the consultancy services is very good or we visit a particular restaurant more often because we find the food there tasty and satisfying.

B.F. Skinner is an American psychologist who formed the theory of *behaviourism* and is popularly known as the "*Father of behaviourism*". He began experiments to understand the causes of human behaviour. He was not convinced with the prevailing explanation that human behaviour was caused by unobservable "inner forces" such as desire, motives etc. He felt that since these inner forces could not be observed, they could not be scientifically verified. Hence he suggested a simpler theory which could be verified by direct observation : *Behaviour occurs because it is re-inforced or rewarded*. This theory came to be known as behaviourism.

In his book on *Science and Human Behaviour* Skinner argues that the pecking behaviour of pigeons can be explained by "external reinforcements" or rewards and there was no need to invoke "internal drivers and states". Similarly, argues Skinner that human behaviour can be shaped or modified by rewarding that behaviour. Simply put, human beings can be made to learn a behaviour by re-inforcement or rewards.

Marketers have also been using this learning mechanism either by making the product its own intrinsic reward (a unique product) or by offering extrinsic rewards such as coupons, free gifts, sweepstakes and rebates. A well known example of instrumental learning is the frequent flier programmes offered by various airlines such as *Indian Airlines*, *Jet Airways* etc. where the customer is rewarded accumulated mileage points towards future free flight awards.

### 3.8 Activity:

Select five examples of advertisements where you feel the advertiser is drawing the attention of the customers to learn more about the product or service using 'certain' stimulus factors. How did you identify these stimulus factors? Do you feel that the marketer has been successful in the usage of the stimulus factors? Why?

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### 3.9 Summary:

- Perception is the process of selecting, organizing and interpreting or attaching meaning to events happening in the environment.
- The consumer characteristics affecting perception are selective reception, comprehension and retention, perceptual vigilance or defense, expectation and subliminal perception. (Stimulus), perceptual mechanism (selection, organization Interpretation) and perceptual outputs (behaviour or action)
- Consumer learning can be said to be “The process by which persons acquires the purchase and consumption knowledge and experience that they apply to future related behaviour”.
- In order to understand the learning process, it is necessary to consider the various components or elements which include: Drive, (Use, Response, Reinforcement and Retention).
- There are three mechanisms which throw light on how individuals are involved in learning. There mechanisms of learning are cognitive learning school of thought, Classical conditioning school of thought and instrumental conditioning school of thought.

### 3.10 Self Assessment Questions:

- (1) Define Perception. ‘Perception refers to the way in which people make sense of the world’ In the light of this statement explain how an understanding of the perception process and perceptual factors can help a company selling insurance policies to influence their target consumers purchase decisions.
- (2) What do you understand by the terms ‘Learning’ and ‘Consumer Learning’?
- (3) Explain the relevance of the different mechanisms of learning.
- (4) Briefly explain the basic elements that contribute to an understanding of the learning process.

### 3.11 Additional Reading:

- (1) Suja Nair, *Consumer Behaviour in Indian Perspective*, Himalaya Publishing House, Mumbai, 2005, pp. 39-90.
- (2) Henry Assael, *Consumer Behaviour and Marketing Action*, 6<sup>th</sup> ed. Thomson Learning, Singapore, 2001, pp. 105-122, 206-237.
- (3) Liz Hill & Terry O’ Sullivan, *Foundation Marketing*, 3<sup>rd</sup> ed, Pearson Education Ltd., England, 2004,
- (4) Jagdish N. Sheth and Banwari Mittal, *Customer Behavior*, Thomson South-Western Learning, Singapore, 2003.

## Lesson - 4

# Personality - Attitudes and Behaviour

## Objectives

After going through the chapter you will be able to understand:

- The meaning of the term 'Personality' and its relevance to Marketing.
- Which are the theories of personality relevant to consumer behaviour?
- How to define 'Attitudes', what are its characteristics and components?
- What is the role of attitudes in developing marketing strategy?
- Which are the few important theories of Attitude?
- Which are the factors involved in attitude formation
- What is the relationship between attitude and behaviour?
- What does one understand by attitude re-enforcement and change?
- How does one explain attitude change before, during and after purchase?

## Structure:

- 4.1 Introduction
- 4.2 Meaning of Personality
- 4.3 Personality and Marketing
- 4.4 Theories of Personality (Psycho-analytic theory, Freudian Theory, Neo Freudian Personality theory, Jung Personality Theory)
- 4.5 Definition and Nature of Attitudes.
- 4.6 Components of Attitudes
- 4.7 Role of Attitudes in Developing Marketing Strategy
- 4.8 Factors Involved in Attitude Formation.
- 4.9 Relationship Between Beliefs and Attitudes
- 4.10 Relationship Between Attitude and Behaviour.
- 4.11 Attitude Re-enforcement and Change
- 4.12 Attitude Change Before and During Purchase
- 4.13 Attitude Change After Purchase.
- 4.14 Activity
- 4.15 Summary
- 4.16 Self Assessment Questions
- 4.17 Additional Reading

## 4.1 Introduction:

Personality is a term used to describe persons. While perception and learning deal with specific aspects of human behaviour, personality takes the whole person concept. Marketers also attempt to use personality traits and build personality brands to appeal to consumers.

- For instance:**
- *Femina* : 'A woman of substance'
  - *'Mountain Dew'* : (A Lemon Drink)
  - *'The Spirit of Adventure'* – Do the Dew'
  - *'Peter England'* : The honest Shirt.

In this Chapter, We have tried to understand the meaning of the term 'personality' and its role in various consumer related concepts i.e. how personality theories have influenced marketers to re-examine the inter relationship between personality and the other individual determinants of behaviour such as consumer attitude and behaviour and motivation Social Psychologists have viewed attitudes as a major construct leading to behaviour. It is said that attitudes is a major construct leading to behavior. It is said that attitudes affect and influence the perception of products, brands, people, exposure to and comprehension of information, choice of friends and so on. Markets are interested in analyzing and understanding the consumer's attitudes towards their products and service. Such information will help them in devising suitable marketing programmes.

In this Chapter, we start with defining, understanding the nature of attitudes and learning about the components of attitudes. We have also tried to understand the role of attitudes in developing marketing strategy, factors involved in attitude formation, the theories of attitude, how attitudes can change and its relation with beliefs.

## 4.2 Meaning of Personality:

Personality is an individual psychogenic trait which influences consumer behaviour. *Personality has been defined as patterns of individual behaviour that are consistent and enduring.* That is, it refers to a person's consistent ways of responding to the environment in which he or she lives.

Very often, we hear of people being described as innovative, tradition bound, stubborn, open-minded, dogmatic, introvert, extrovert, aggressive, meek and so on. These are all references made of those people's personalities. It is said that humans develop personality because it is efficient to build a standard repertoire of responses to one's environment rather than developing a new response everytime a situation arises. A few of these standard responses will apply to a person's behaviour as a customer.

It is said that customer personality is a function of two factors : genetic determination and environmental conditioning. B.F. Skinner is the leading proponent of *genetic determination* and his theory known as behaviourism theory advocates that a person develops a pattern of behavioural responses because of the rewards and punishments offered by his or her environment. Hence, personality (a consistent pattern of behavioural responses is formed and moulded by means of environmental (society) shaping.

While, according to Hans Eysenck, biogenetic factors are important causes of individual differences. He cites the example of a person's relative introversion/extroversion personality — which highly depends upon arousal of the brain as mediated by the body systems. Introverts exhibit a more intense state of arousal than extroverts. Introverts tend to avoid additional stimulation because

their internal mechanism are chronically switched to a 'high-gain' position. While, extroverts with intrinsically lower levels of stimulation, tend to seek it from their external environment.

### 4.3 Personality and Marketing:

Studying of personality characteristics can work as valuable guides to the understanding of consumer behaviour. Marketers have been using suitable personalities to communicate the goodness of the product or service being offered. They are very much convinced that what consumers purchase and when and how they purchase and consume are likely to be influenced by personality factors. Some of the successful ad campaigns where the marketer was able to connect with the customer due to right personality characteristics are :

- The popularity of the serial '*Jassi Jaissi Koi Nahin*' where the personality of the unique protagonist 'Jassi', is someone a commoner can identify with. She was shown as a less than ordinary looking 'plain Jane' trying to make her way in a world where good looks and glamour matter more than they should. This show has been successful because of the strong consumer insight that people have a tendency to judge others by the way they look.
- '*Innova*' has filmstar Aamir Khan endorsing the car — implying the 'style and comfort' which this personality derives while driving '*Innova*'.
- The ad for *Wagon R* communicates the look of an exciting lifestyle with the car in an appealing manner.
- The *Activa* ad showing a young girl riding a scooter with her boyfriend on back seat communicates about the *individuality* of the women of today who are smart and confident too.
- *Lakme's* fruit shock make up for lips, nails, eyes or skin is said to contain do good fruits extracts. This is conveyed by women who look stunning in their fruity, juicy makeup in the ad. Every women would like to get attention and look young eternally. The personality of the Lakme women (with the energy and individuality) can easily connect with women who also desire to be like the Lakme women.
- Brands such as *Horlicks* and *Boost* have a strong nutritive association. This fact is endorsed by a tall strong and sharp child for Horlicks. Mothers are always concerned about whether their children are getting the required nutrition especially during their growing years. This personality of a growing child is portrayed in Horlicks. *Boost* has eminent sport personalities (Sachin Tendulkar and V. Sewag) revealing the reason for their excellent performance on the cricket field — '*Boost is the secret of our energy*'.

### 4.4 Theories of Personality:

We will discuss four theories of personality relevant to consumer behaviour.

A trait can be defined as a distinguished and enduring attribute of a person which is portrayed consistently in a number of situations and differs from person to person. The trait of a person is quantitative and empirical in nature. It talks of certain specific psychological traits.

Trait theorists advocated that personality tests will indicate the individual differences in terms of specific traits. There are some personality tests based on a single trait personality (which measures only one trait – say self confidence) being specifically used to analyse consumer behaviour. Such tailor made personality tests are specifically used to measure consumer traits such as :

- Consumer innovativeness (to what extent a person is receptive to a new buying experience)
- Consumer susceptibility to interpersonal influence (SUSCEP) (To understand how consumers will respond to social influences)
- Consumer Materialism (To ascertain the extend to which consumer's are attached to worldly 'material' possessions)
- Consumer ethnocentrism (CETSCALE) (The likelihood of consumer accepting or rejecting foreign-made products)

### (1) Psychoanalytic Theory

Psychoanalytic Theory goes beyond studying the traits of groups of people. This theory is based on indepth study of individual personalities. Psychoanalytic theory developed by Sigmund Freud at the beginning of the twentieth century has been a major contribution to psychological thought especially on the term 'Personality'. This theory has been developed on the premise that unconscious (biological) needs or drives all are root forces determining human motivation and personality.

The psychoanalytic theory of Freud emphasises on the fact that human personality is made up of three main interdependent forces - the Id, the Ego and the Superego. And human behaviour is dependent on the interaction of these three systems.

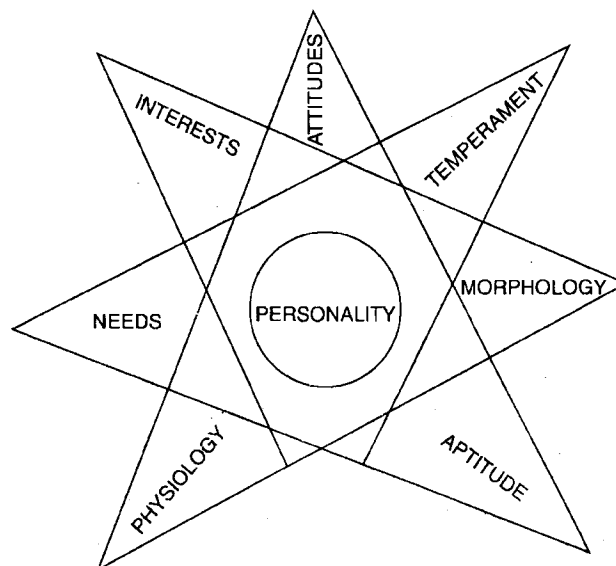


Figure 4.1. Personality Traits

(Source : E.R. Hilgard, *Introduction to Psychology*, Harcourt Barce, Jovanorich, New York 1962 p. 452)

**Id** : The id is referred to as the source of all its driving psychic energy (the libido). All the instinctive cravings, needs, desires which demands immediate gratification - all have their origin in id. The human being will seek immediate satisfaction without much concern for the specific means of satisfaction. However, it is not possible for man to express his basic impulses or animalistic nature in society because then it would mean going against rules, mores and values. Thus this makes it necessary to have a second system of personality.

**Super ego :** It is the internal representative of the traditional values and ideals of society. The function of the super ego is to restrict those impulses (which are condemned by the society) of the id. The super ego can be conceptualised as the moral arm of the personality. The super ego's role is to ensure that the individual satisfies his needs in a manner which is acceptable to the society.

**Ego:** There could be conflict between 'id' and 'Super ego'. Ego is the individual's conscious control. It will act as an internal force to control and re-direct the id-impulses and the sociocultural restraints exercised by the super ego. Figure 4.2 shows the inter-relationship between the Id, Super ego and Ego.

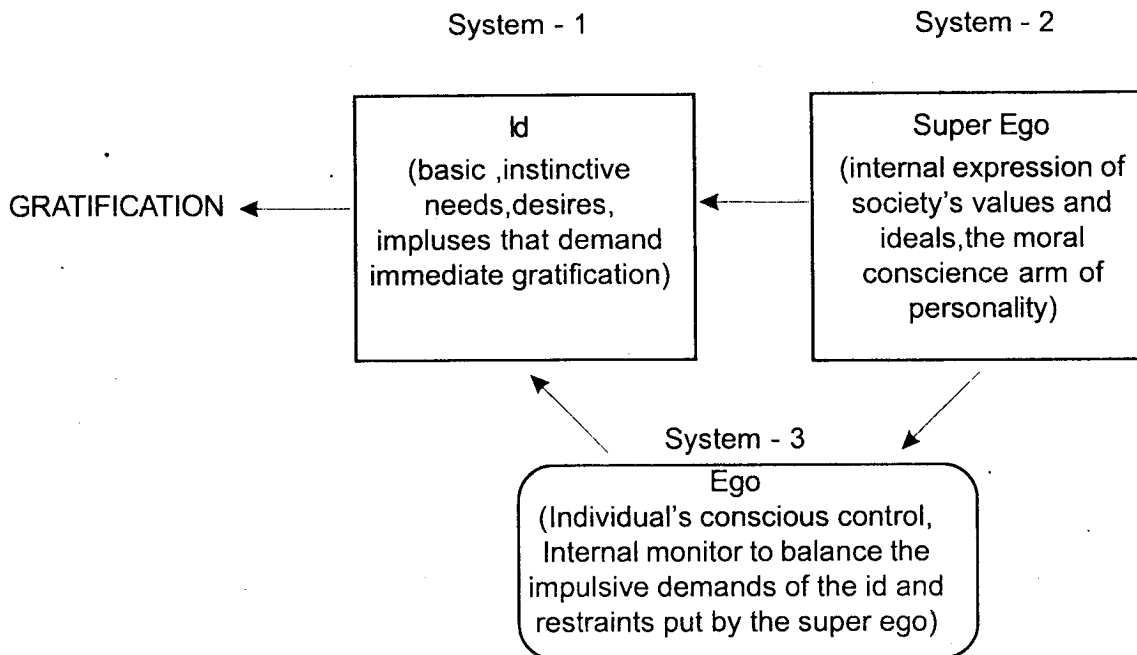


Fig. 4.2. The inter-relation between the 'id', 'super ego' and 'ego' systems of personality.

### Stage in the Development of Personality

Sigmund Freud has also suggested various stages in the development of personality. He stresses on the formation of an individual's personality, as he or she passes through a number of distinct stages in infant and child development. Sigmund Freud has named the stages based on the regions of the body whose stimulation allows the discharge of sexual energy or libido. He has labelled these as oral, anal, phallic, latency and genital stages. Sigmund Freud was the first psychologist to propogate that childhood events may have a bearing on adult behaviour and consciousness.

**(1) Oral Stage :** This refers to the first year of life. Infants are totally dependent on others for survival. It is the first time the infant experiences social contact with the outer world by using his or her mouth for eating, sucking and drinking.

Freud believed that the mouth remains an important erogenous zone throughout life. The first stage problem arises at the end of the oral stage when the child is made to wean away from the mother's breast or from the feeding bottle.

**(2) Anal Stage :** During this stage (*i.e.* the second and third years of life) the focus of libidal energy shifts from mouth to the anal region. Now the child's primary source of pleasure is by trying to control bowel movements. The problem in this stage is when parents try to toilet train their child. The method used by the parents will have an influence in the personality exhibited during the child's adulthood.

**Table 4.1 Freud's stages of Personality Development**

<b>Stage</b>	<b>Period of life</b>	<b>Characteristics</b>
Oral	From Birth to one year	Oral gratification through the mouth and first social contact with the outside world
Anal	One to three years	Derives pleasure from trying to control bowel movements, given exposure to toilet training
Phallic	Three to four years	Interested in sexual organs, may experience oedipal conflict, may learn to identify with same sex parent.
Latency	Five years to adolescence	Sexual concerns lie dormant
Genital	Adolescence to adulthood	Renewal of sexual interest and establishment of nature sexual relationship

**(3) Phallic Stage :** In this stage (at around four years of age) the child will experience self oriented sexual pleasure by examining their sexual organs and showing interest in matters of birth and sex; The problem arises with the occurrence of the so called Oedipus complex. The child experiences sexual desire for the parent of the opposite sex, though he may both love and hate his parents. Freud has opined that how the child resolves this crises will be reflected in his or her relationships with persons of the opposite sex and authority figures.

**(4) Latency Stage :** This period is referred to the period between the ages of four-six years till the onset of adolescence.

Freud believed that during the period of Five years till the beginning of adoldescence, the child loses interest in sexual matters and is more interested in the external world and wants to increase his knowledge about the external world. He or she is to acquire knowledge and skills needed to move along in the work day world.

**(5) Genital Stage :** This stage occurs during adolescence to adulthood. Now the individual experiences an increased awareness of an interest in the opposite sex. They also go beyond self oriented love and love for parents.

Going by Freud's above theory, it is suggested that an adult's personality will be dependent on how well he or she deals with all the problems that are experienced while passing through all the above stages. For instance, Freud has cited evidence of the attachment of the libido to the oral zone. Accordingly if a child's oral needs have not been satisfied adequately, in the initial 'oral stage' the person during adulthood will show a personality which includes traits such as gum chewing, nail biting, smoking, over eating etc. When an individual (males) is fixated at the phallic stage, may display traits such as boastful, vain, brash and ambitious. They will also strive to assert their masculinity and virility. While in case the woman gets fixated at the phallic stage the traits visible during adulthood will be flirtatious, seductive and promiscuity, although they may appear naive and innocent in sexual relationship. innocent in sexual relationship.



## (2) Freudian Theory and Consumer Behaviour

Going by the premise that human drives are largely unconscious and usually consumers are unaware of the true reason for buying various goods and services, researchers are applying Freud's psychoanalytic theory to the consumer purchases or consumption situations by considering them as an extension of the consumers own personality.

### Brand Positioning and Brand Personality

The concept of product positioning was introduced to the marketing world more than three decades ago. But it has come a long way and today it is used to emphasise on 'brands' and brand differentiation. Positioning is adopted by marketers so as to carve out a distinct and valued slot in the consumer's mind, for their brand. Marketers will try to match the attributes of their brand with the consumer's needs.

Consumers have a tendency to assign certain psychological and symbolic values to the brand. They prefer to look beyond the functional value and performance and look at 'it' with human description. In the words of Wendy Gordon, "*The term brand personality is a Metaphor for the emotional relationship that exists between a consumer and a brand*".

Marketers are using psychographic base to describe the personality traits of the target market. A well known example can be of the 'Garden Vareli' dress material for woman. The 'Vareli girl' was projected as younger woman, whose personality was different from the usual Indian women (who preferred wearing a saree). Vareli was targeted at women whose aspirations ran high. She had a unique combination of being universal and yet unpredictable. The Garden Vareli girl was keen to venture and explore new territories and also do exotic things. Thus 'Garden Vareli' was given a feminine persona to match the consumers view at the market place.

Consumers may not only assign personality traits to products and services but they also tend to associate personality factors with specific colours. Union Carbide has associated its *Red Everready Batteries* — with red colour, which connotes excitement ("Give me Red"). In the detergents market, 'White or Blue' — is associated with superior quality '*Ariel Micro Shine*', '*Surf*' or '*Nirma Super*'. Pearl, Silver, Gold colours suggest something with premium price or royal, wealthy — like '*De Beers, Diamond, Tanishq watches* and so on. Green colour signifies close association with nature - '*Hamam Soap*', '*Nirma Lime, Liril* etc.

To gain a better insight into consumer acceptance, researchers use a variety of qualitative research measurement techniques observation, depth interviews, projective techniques and so on.

## (3) Neo Freudian Personality Theory

There were several Freud's colleagues who disagreed with his rigid adherence to consider only the basic biological or instinctive as determinants of personality. According to these neo-Freudian's, social relationships played a vital role in the formation and development of personality. Alfred Adler, for instance, was of the opinion that the basic drive of man is to *Strive for Superiority*. So all efforts of the individual will be aimed at perfecting one self and to overcome the feelings of inferiority. A unique aspect of personality is that each child is born in a different world and hence will learn and adopt different behaviour patterns for striving.

Eric Fromm speaks on man's goal to *escape from his bonds* (loneliness) and seek love, brotherliness and security. Another Neo Freudian, Harry Stack Sullivan was the one to stress on

man's need for *inter-relationships with other men*. He opined that people continuously looked for establishing significant and rewarding relationships with others. He gave a lot of emphasis on the individual's efforts to reduce tensions, such as anxiety.

Another social theorist, Karen Horney also felt that the main drive of man was to cope with anxiety. She gave importance to the *parent-child relationship* and on how an individual's personality can develop life long patterns of behaviour as he learns to cope with his anxieties and strives to reduce them.

Horney's views has been expressed well in a research project by Joel Cohen. Horney had proposed to classify three personality groups of individuals, in coping with anxiety:

- Compliant type of individuals.
- Aggressive individuals.
- Detached persons.
- The compliant individuals are those who desire to be included in activities of groups. They desire to be loved, want appreciation feeling of being needed.
- The aggressive individuals seek to cope with anxiety by going against others. They try to achieve success, prestige and administration. They desire to excel and see others as competitors.
- The detached persons attempt to put emotional distance between themselves and others. They prefer to have independence, self reliance, self sufficiency and to be free from obligations.

Although the Neo Freudians did not have influence in the field of marketing, many of the advertisements indicate that marketers have been using neo Freudian theory intuitively. Ads depicting products or services which provide an opportunity to belong, be appreciated by others or social group setting are being portrayed as reference of compliant individuals.

For example, advertisements of *Close-up confidence*, *Rexona deodorant*, *Lifebuoy plus soap*, *Denim after shave*, *Old Spice deodorant*, *Godrej Hair Dye*, etc. help in creating self confidence or in reducing anxiety.

A personality test based on Horney's theory known as CAD has been developed and tested to study consumer behaviour. It helped to uncover a number of tentative relationships between college students and their products and brand usage patterns.

#### (4) Jung's Personality Theory

Carl Jung of Zurich was a contemporary and colleague of Freud. He had undertaken systematic investigations of the unconscious dynamics with the association test. He had given more attention to the question of personality type in the association test. And based on the typology of the personality, he had grouped them into two fundamental types.

- (1) Extrovert.
- (2) Introvert.

The Extrovert was very much interested in building a social relationship. While the introvert was found to be pre-occupied with his own inner world of fantasy and body activity and was relatively

incapable of outgoing social interactions. This conception was further elaborated by going for a sub division of the mental operation into four fundamental activities :

- Sensing.
- Feeling.
- Thinking.
- Intuiting.

These four psychological functions of 'grouping personality' is very often used for gathering and evaluating information. According to Jung, individuals are strong either in 'sensation' or 'intuition' while gathering information, and while evaluating the information they are strong either in 'thinking' or 'feeling'.

Carl Jung's theories and personality types are very relevant to consumer behaviour. Marketers are benefited by using Myers-Briggs type Indicators that measures the following pairs of psychological dimensions:

- Sensing - Intuiting.
- Thinking - Feeling
- Extroversion - Introversion.
- Judging - Perceiving.

Each of the above four pairs show two distinct different personality characteristics which offers a picture of how consumers respond to the world around them. In order to avoid complexities with too many combinations of personality types, a consumer researcher suggested to investigate consumption relevance with two pairs of dimensions.

- Sensing - intuiting.
- Thinking - feeling.

As mentioned above sensation and intuiting will help consumers to obtain and find out about things and products. Whereas, the thinking and feeling dimensions can be related to the decision styles adopted by the consumers. Such psychological inventory indicators will help in learning about the four personality types impact on consumer information processing, their decision-making process and other consumption related issues that will enable marketers to satisfy consumer needs in a better manner.

For instance, we presume four individuals were faced with a situation when they have to take decisions regarding whether and how much of, to purchase new public issue shares. Both the Sensing - Thinking (ST) and Sensing - Feeling (SF) types will try to gather all information related to the company coming out with the new issue, read magazines such as "Data Quest" etc. and secure all the relevant facts. Though, the ST types may arrive at their own decision and purchase the new shares directly from the market. As against this the SF prospective investor is likely to include the recommendations of others before finally purchasing the new issue shares through a full service broker. The intuitive - thinking (IT) and intuitive - feeling (IF) consumers are likely to purchase the shares using their gut feeling or hunch. The IT consumers would rely on their imaginations and carefully think over the option. Although IF would also rely on their imagination while making a choice, their ultimate decision can be influenced by the information received from others like comments expressed in a social gathering and so on.

Some of the advertisements have been communicating consumer targeted messages which may be said to be of the Jungian personality types.

**Table 4.1 Few characteristics of selected Jungian personality types**

<i>Sensing Thinking (ST)</i>	<i>Intuitive Thinking (IT)</i>
<ul style="list-style-type: none"> <li>• Logical, empirical and rational in decision-making</li> <li>• Risk avoider, will search in depth for decision-making information</li> <li>• Price sensitive and materialistic in considering motives</li> <li>• Short-term consideration in decision-making</li> <li>• Considers personal values rather than logic-empirical viewpoint.</li> <li>• Makes decision after considering others-subjective orientation.</li> <li>• Status conscious and materialism reflects the impact on other persons.</li> <li>• Short-term consideration in decision-making.</li> </ul>	<ul style="list-style-type: none"> <li>• Takes a broader perspective of the situation and world</li> <li>• Thinks, uses logic and imagination in taking decisions</li> <li>• Considers many options while taking decisions-speculative</li> <li>• Takes long term view while taking decisions</li> <li>• Takes a broader perspective of the situation or world.</li> <li>• Considers various options for decision-making.</li> <li>• People oriented and subjective oriented in decision-making.</li> <li>• Least price conscious, are venturesome and novelty seeking.</li> <li>• The time period is indefinite while taking decisions.</li> </ul>

#### 4.5 Definitions and Nature of Attitudes:

Gordon Allport has defined, *Attitudes as learned predispositions to respond to an object or class of objects in a consistently favourable or unfavourable way.*

This definition has got three implications. Namely :

*Attitudes are formed* on the basis of some experience or information about the object.

*Attitudes are predispositions* which reside in the mind.

Attitudes precede and produce behaviour, *i.e., they cause consistent response.*

Thus, understanding of attitudes can be used to predict *behaviour and also infer the underlying attitudes.* For instance, customers of all age groups (children as well as adults) have a favourable attitudes and irresistible taste towards biscuits. *Sunfeast* has gone on to build up on this attitude in its advertisement, when the dad's success in delivering a Sunfeast-biscuit packet to his son and the latter's victory in the race seems to have left the target audience on an upbeat note. Alternatively, if one (or you) were to buy a premium ticket for viewing a cricket match, then the marketers of sports equipments could send you a letter indicating various promotional schemes for sports items being offered by them. This letter is sent in the hope that you have a favourable attitude towards sports (or cricket) and hence will appreciate such gestures. Thus, your purchase of the ticket has been used to infer your underlying attitude towards 'sports' in general.

#### 4.6 Components of Attitudes:

The three components of attitudes — Brand beliefs, brand evaluation and intention to buy are linked and help to understand customer behaviour.

### (1) Brand beliefs : The Cognitive Component

Brand beliefs are the cognitive (or thinking) component of attitudes. More specifically, beliefs are expectations as to what something is or is not or what something will or will not do. Similarly, a brand belief is a thought about a specific characteristic feature or quality of the brand. There are three types of beliefs :

*Descriptive beliefs* — These belief connects an object or person to a quality or outcome. For example, "Air Deccan' is often late".

*Evaluative beliefs* — These beliefs connect an object to personal likes or dislikes, preferences and perceptions. For example "The inflight service of 'Jet Airways' is very friendly" or the service at "Pizza Hut' is excellent."

*Normative beliefs* — These beliefs invoke moral or ethical judgements in relation to some ads or acts. For example, "Hard drinks and cigarettes selling companies should not advertise in a way to appeal to the youth or younger generation." or say "It is wrong on the part of businesses to take value advantage of innocent customers during 'sales' and sell cheap products."

### (2) Overall Brand Evaluation : The Affective Component

The affective or feeling component represents consumers overall evaluation of the brand. The affective component is one dimensional and it summarises consumers' predisposition to be favourable or unfavourable to the brand. Thus, brand beliefs are relevant only to the extent that they influence brand evaluations and conforms to the definition of brand attitudes as a "tendency to evaluate brands in a favourable or unfavourable way." Hence brand evaluation is central to the study of attitudes as it summarises consumers' predisposition to be favourable or unfavourable to the brand.

### (3) Intention to Buy : The Behavioural Component

The intention to buy is a *conation*, i.e., the action a person wants to take towards the object or person. This third attitude component with conative dimension is the consumers' tendency to act towards the object and is generally measured in terms of intention to buy.

Marketers are interested in 'measuring the buying latent' which will help to develop marketing strategies. They are constantly involved in testing the various elements of the marketing mix — alternative product concepts, ads, packages, etc. — to determine what is most likely to influence consumers purchase decisions. An example, when marketers offer a sharp reduction in price say "Sansui 21 Colour T.V." or DVD player etc. or a special (say festival) coupon offer etc. which they hope will induce customers to try a new product or a less favoured brand. These are all attempts at influencing the behavioural component.

## 4.7 Role of Attitudes In Developing Marketing Strategy:

An understanding of consumer attitudes will help marketers to identify benefit segments, develop new products and form and evaluate promotional strategies.

### Define Benefit segments

Marketers segment markets on the basis of benefits desired by consumers. Knowing these benefits will help them to identify the key product attributes that influence consumers and how they are evaluated.

For instance, mothers buying cereal look for benefits such as nutrition content in the brands falling in this product category. In the powerful car segments marketers try to influence consumer attitudes by citing key features, superior technology engine, acceleration, horsepower and fuel efficiency.

### **Develop new products**

Attitudes can help to evaluate alternative positioning for new products. Marketers try to identify opportunities for a new product by conducting consumer surveys to understand the primary benefits being sought by each segment. Availability of such a perceptual map based on consumers perceptual ratings of how various brands are related to each other and benefits will help marketers to develop new products. For example; FORD INDIA after studying the passenger car market in India understood that an estimated 18-20 per cent of the 1.2 million passenger car sold in India are fitted with diesel engines. This figure is expected to move up to 45-50 per cent over the next 5-7 years. That is why when its brand **Fiesta** was launched in November 2005, Ford had fine tuned its diesel engine product portfolio by withdrawing the 1-8 litre **Ford Ikon** from the market. Further **Ford India** is also planning to set up its own diesel engine making facility in India, for, they feel this will provide a great potential for cost saving and therefore reduction in price.

### **Develop and Evaluate Promotional Strategies**

Attitudes help in the development of promotional strategies. For instance if shampoo users are seeking natural ingredients as desired benefits, these are the appeals marketers must emphasise on in their advertisements and promotional literature to create a positive and favourable attitude among the target audience. Communication of these benefits as well as the subsequent fulfilment after consumption of the brand (endorsed by the user) will help to create positive attitude towards the particular brand.

Marketers use attitudes to evaluate the effectiveness of advertising messages. Television commercials and print ads are judged on the basis of how large and favourable an attitude shift they create. In case of brands also, brand attitudes are measured before and after exposure to a commercial in a controlled environment. Marketers use any changes in brand attitudes to evaluate the commercials effectiveness. Marketers use the TRP ratings as a tool to measure the popularity of the television programmes.

## **4.8 Factors involved in Attitude Formation:**

Attitudes are learned. Though there are different approaches on how learning works and is acquired by individuals, generally it is viewed that people learn things from the environment in which they interact. Thus for attitude formation, we have to consider all those factors from which people learn. Broadly, these factors could be analysed in the form of group (factors) and personality (factors), personal experience, direct marketing and mass media.

### **(1) Group factors**

The influence of groups on the attitudes of individuals is inversely proportional to the closeness of the group with the individual. From this point of view, there are three types of groups who can affect the attitude of the individual differently.

**(1) Family :** The term family can include the immediate family members and also the extended family which means along with immediate family (father, mother, sisters and brothers) the extended family will comprise of relatives and close friends). Thus the family plays a very important role and

is an extremely important source of influence on the formation of attitude. In fact it is the family which provides the individuals many of the basic values and a wide range of central beliefs. And the family mediates the influence of larger social systems on the individual's attitudes, values and personality characteristics. Thus as an individual interacts with other family members, he simultaneously both influences the personality characteristics and attitudes of others and in turn is influenced by others.

**(2) Reference groups :** Reference group also plays a role in influencing consumer's attitudes or behaviour. The reference groups serve important inputs to a consumer's learning of his attitudes and awareness of alternative behaviours and life styles. In this process of socialisation, the consumer will learn the value system, norms, the desired behaviour patterns of the society etc.

**(3) Social factors :** The social classes also influence a consumer's attitudes. The social classes perform the important task of transmitting cultural behavioural pattern to specific groups and families. They define the expectations of society from groups of consumers as well as from individual consumers. So consumers within a particular social class will be influenced by the value pattern and attitude formation of members in the same social class.

## **(2) Personality factors**

Personality factors are important in attitude formation. However, many personality factors/ characteristics are themselves determined by group and social factors. Many research studies show positive relationship between a consumer's personality variables and particular attitudes. But since a consumer's personality is influenced by various groups and social factors as well as heredity factors, in understanding attitude formation, these factors particularly the former ones have to be analysed.

## **(3) Direct experience**

Very often attitudes towards goods and services are formed through the consumers direct experience with the product or service. Realising this marketers have frequently attempted to stimulate trial of new products by offering samples, discounts and other sales promotion offers. For instance, the various shampoo's like, *Pantene*, *Heads & Shoulder*, *Sunsilk*, etc. are available in sachets form in the market. The marketer's objective is to induce consumers to try the product and evaluate its performance. If the product proves to be satisfactory, then more likely that consumers will form a positive attitude and go for repurchase.

## **(4) Direct marketing**

Marketers are increasingly using highly, focused direct marketing programmes to target 'consumers' with products and services that fit into their interests and life styles. Marketers very carefully build up customer information through the, creation of a huge data base (as done by organisations like *Readers digest*, *Citibank* and the *LIC*) on the basis of the customer's demographic, psychographic or geodemographic profiles, they are approached with personalised product offerings (vacuum cleaners, Amway India's home care products, etc), which convey the message that the company understand's their special needs and comforts. Thus such direct marketing efforts help in creating a positive attitude in the minds of the consumers.

## **(5) Exposure to mass media**

Marketers also use mass media to communicate and provide information to the consumers at large, about their various product offerings. Thus consumers are constantly exposed to newspapers,

other print media and television, through which they get introduced to new ideas, products, opinions and advertisements.

Such mass media communications apart from proving to be important sources of information, can also influence the formation of attitudes.

#### 4.9 Relationship between Beliefs and Attitudes:

Marketers are keen to understand the relationship between beliefs, attitudes and behaviours. If advertising succeeds in establishing positive beliefs about a brand, consumers are likely to evaluate the brand positively and purchase it. If satisfied with the brand, it leads to positive attitude and also increases the probability that consumers will repurchase it.

We will now discuss the relationship between beliefs and attitudes by looking into the following two theories :

**(A) Balance Theory:** This theory has been developed by F. Heider. It is mainly concerned with the transfer of information between people. That is, it is concerned with consistency in the judgement of people and issues that are linked by some form of relationship. There are three elements in the attitude formation : The person, other person and the 'object' or impersonal entity. It is said that there are two generic types of relationship which exist between the elements (a) linking or sentiment relations, and (b) unit relations.

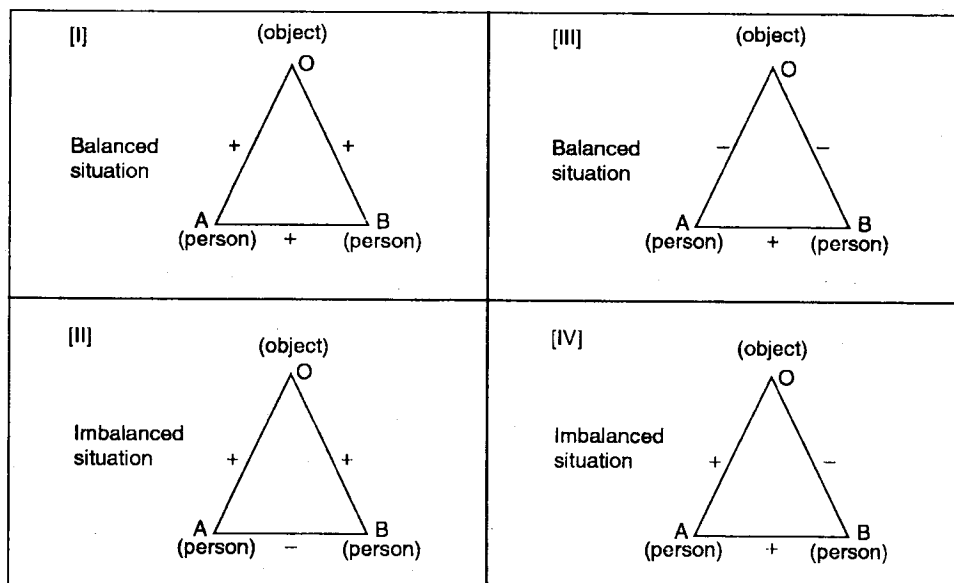
- Linking relations - includes all forms of sentiment or effect.
- Unit relationships - it perceives that two elements belong together.

Both the unit and linking relations can be positive and negative also. In a three element system, balance will exist if all three relations are positive or if two relations are negative and one is positive. Conversely imbalance exists if all three relations are negative or if two relations are positive and one is negative. People have a tendency to perceive others and objects linked to them such that the system is balanced. This means that if a person likes a source (another person) who supports a certain position on an issue, the balancing process will induce the former to favour that position too. But the problem arises when there are imbalanced states, which may result in the rise of the psychological tension, which in turn will motivate the individual to restore balance cognitively by changing the relations. So we can say that a person's attitude towards an object will depend on his attitude towards the source, which is linked to the object.

This theory will be useful to marketers investigating ways in which to communicate recommendations as well as negative information.

Suppose a person 'A' receives information from another person 'B' concerning an attitude object 'O'. Depending on whether the information is positive or negative, there are four possibilities. The interactions are given in the form of triangles, the nature of the communications are positive [favourable or (+)] or negative [unfavourable or (-)]





**Figure 4.3 Interactions and attitude formation.**

The triangle [I] is balanced. Both the persons A & B have a positive attitude, towards each other as well as the object. There is no inconsistency.

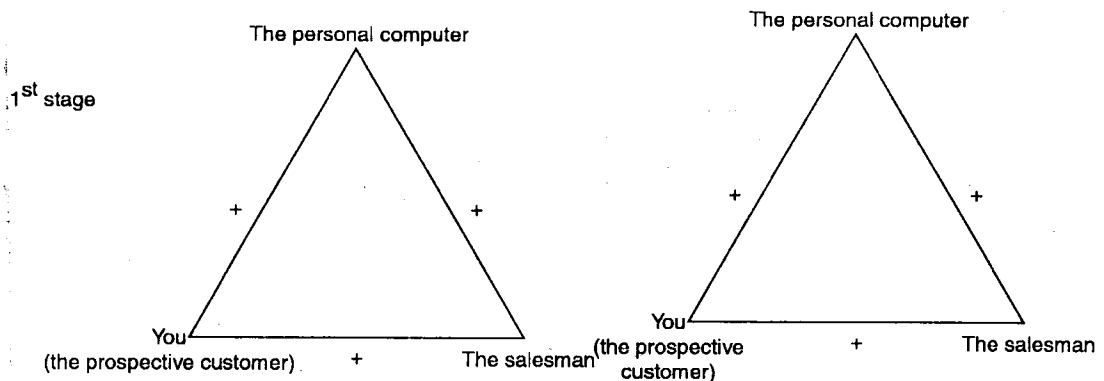
Triangle [II] is unbalanced. This is because although their views of the object are consistent (both positive) their views of each other are negative. This is inconsistent.

Triangle [III] is balanced because both the persons A and B have a positive attitude towards each other and also share the same (negative) attitude towards the object thus there is no inconsistency.

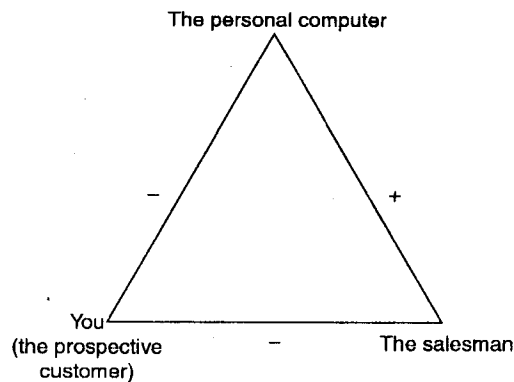
Triangle [IV] is unbalanced because both the persons have a positive attitude towards each other but their attitudes towards the object are different, resulting in inconsistency.

According to the Balance theory, (as mentioned above) whenever there is inconsistency as in situations [II] and [IV], this must be resolved either by changing the attitude to a person or the object. We can illustrate this with a hypothetical example. Suppose a sales person from a company ABC Ltd., approaches you and tries to sell you a 'Personal computer'. Initially, the salesman will try to sell to you the benefits of the personal computer (his view) by showing you the brochures. So to start with, you (the prospective customer) will go by the trust you place in the salesman.

During the sales talk of the salesman, you will undoubtedly develop either a favourable attitude towards the salesman (as shown in Fig. 4.3), or if you do not feel favourably disposed towards him, the most likely situation is shown in Fig. 4.4.



**Figure 4.4 Favourable towards the salesman, so to be consistent, you are most likely to feel favourable towards personal computer.**



**Figure 4.5 Unfavourable towards the salesman, so to be consistent, you are more likely to feel unfavourable towards the personal computer.**

Similar marketing situations could occur, whenever the customers do not have direct contact with the product and are dependent on indirect information through the intermediaries.

The basic model of F. Heider has been criticised on some grounds. For instance, the theory does not consider the extent or degree of linking or unit relationship. It also does not consider the relevance of the elements and relations to the person (or perceiver). As a result, there is no mention of the degree of balance or imbalance. Thus, it is not possible to make quantitative predictions about the degrees of attitude change.

As an extension to the balance theory, R.P. Abelson has suggested four methods by which a person can resolve imbalance in cognitive structures : denial, bolstering, differentiation and transcendence.

- *Denial*: when imbalance occurs, to deny the relationship.
- *Bolstering*: add another element or issue to the main structure.
- *Differentiation*: Breaking up or splitting one of the elements into two elements such that they are related in opposite ways to other elements in the system but negatively related to each other.

- *Transcendence* : Combining elements into larger, more superordinate units from a balanced structure.

These processes will occur in a hierarchy, wherein the person will try to resolve the imbalance by attempting the least effortful resolution first. Through this theory marketers are able to understand how to use persuasive communication and interpersonal relation to change the attitude of consumers.

**(B) Multi Components Model of Attitude: This model helps to predict attitudes from the evaluation of their component parts. This model was developed by Martin Fishbein.** Fishbein says that an attitude towards an object is dependent upon many variables :

- Strength of the belief that object has certain attributes.
- The desirability of these attributes.
- The number of attributes.

(Attributes are those elements of an object which define it). For instance, few of the attributes of a vacuum cleaner may be :

- compact
- easy to handle
- has main cable storage
- can remove all dust from even odd, unreachable (by hand) places
- can clean up liquids and so on.

Fishbein model

According to this model if a consumer believes strongly that an object has many positive, desirable attributes, then it will be rated favourably. This model can be explained with the help of a formula :

$$\text{AttitudetowardsanObject} = \sum_{i=1}^n (b_i e_i)$$

Where

$n$  = number of attributes

$b_i$  = strength of the belief that object contains 'i' attributes.

$e_i$  = evaluation of the desirability of attribute 'i'

Thus attitude towards an object can be described as the sum of the multiplication of the belief and evaluation for all attributes.

Usually 'b' is rated on a scale of 1 to 3, that is from (1) strong belief of presence of attribute to (3) uncertainty of the presence. And evaluation of desirability of the attitude on a 1-7 point of scale, that is from (1) highly desirable to (7) undesirable.

For instance, suppose we are asked to assess attitude towards a particular brand of 'camera'. These may have among others, the following attributes :

- Quality of picture
- Auto focus, easy to handle
- Reasonably priced

Based on the above attributes, the marketer can ask a sample of potential purchasers on their opinion of these attributes. If they strongly believed that the quality of pictures was good, they may give it a rating of 1 (strong belief of presence of attribute). If they find the quality of the picture as moderate, they might rate the desirability of it as '4'. We shall consider a hypothetical data build up for each attribute obtained from a single individual.

Attribute	Belief (b)	Evaluations (e)	b × e
Quality of picture	1	4	4
Auto focus, easy to handle	3	2	6
Reasonably priced	3	3	9
Total			<u>19</u>

The attitude score for the particular brand of camera is 19. The higher the figure, the less favourable the attitude towards the product or object. The worst possible score can be calculated by multiplying the number of attributes by 21 *i.e.*,  $3 \times 21 = 63$ .

This method will help marketers to make brand comparisons.

### Extended Fishbein Model

As discussed earlier, attitudes do not necessarily lead to corresponding behaviour so in an attempt to improve the accuracy of Fishbein's original model, Williams in 1981 modified the model so that the ratings would refer to the behavioural outcomes of taking a particular action, unlike the above model where the ratings were given with reference to the object. Statistically, the formula will be the same as above, though the meaning will be different.

$$\text{Attitude towards the behavioural action} = \sum_{i=1}^n (b_i e_i)$$

Where

$n$  = number of outcomes

$b_i$  = strength of the belief that action will lead to a particular outcome;

$e_i$  = evaluation or desirability of outcome;

So, if a consumer believes that purchasing a product will lead to a large number of desirable outcomes, then she or he is more likely to purchase it.

For instance, an individual may buy 'A' brand of scooter not only because of its speed but because of the outcomes of the speed. That is, due to the speed, he will be able to reach the ultimate destinations faster, easy to overcome other vehicles on the highway, to impress friends and so on.

According to the extended model, we can predict the behaviour of the consumers accurately only if we rate these outcomes, rather than rating the attributes of the vehicle. Thus if marketers are interested in knowing the link between behaviour and attitudes, this model is likely to give more reliable results.

interested in knowing the link between behaviour and attitudes, this model is likely to give more reliable results.

#### 4.10 Relationship between Attitude and Behaviour:

Marketers are interested in predicting and then being able to alter behaviourable components of attitudes. Marketers want customers to like their products, purchase it, remain loyal and even recommend its usage to others.

Figure 4.6 represents a simple model of the relationship between attitudes and behaviour.



Fig. 4.6 A simple model of the relationship between attitudes and behaviour.

As seen from the above figure of a simple model, positive cognitive and affective perception of an object leads to positive behaviour and vice versa.. But, unfortunately various psychological researches have proved that there is no clear relationship between measured attitudes and behaviour. This may be true because, very often our behaviour could be the outcome of many external factors, which are beyond our own control. For instance, an individual would like to purchase the newly launched car '**Verna**'. The individual maybe favourably inclined towards the idea, but there may be a number of reasons which may be coming in the way of his actually buying the car. Few of these external influences might be:

- Lack of sufficient money or finance to book the car.
- Want of time, to get time to enquire about the various available 'finance' schemes.
- The initial bookings confirmed by the company is already over and no more fresh bookings were being undertaken.
- A family member is ill and urgently needs financial help.

Another problem can be related to measurement. For instance, merely by observing a person buying a product, we cannot infer that he or she is buying the product because they are favourably inclined towards that product. It may be that, the particular outlet was close to their residence or the non availability of any other brand, may have prompted the consumer to buy a particular product (brand).

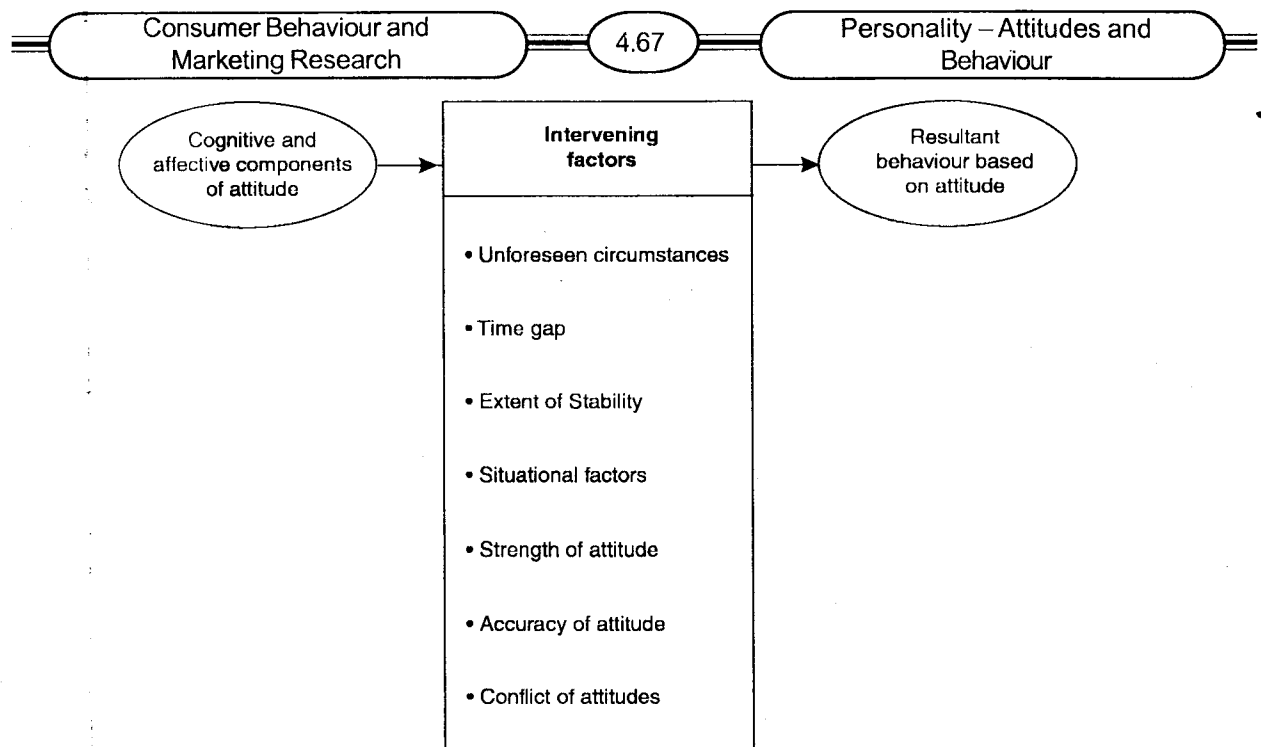


Fig. 4.7. The likely relationship between attitudes and behaviour.

As mentioned earlier, attitudes are a predisposing factor and there can be many intervening factors which are said to affect the attitude to a certain extent which can lead to the consumer behaving in a particular manner :

The intervening factors which could affect the attitude and thus resultant behaviour are :

**Unforeseen circumstances or events** : These unforeseen events can also lead to a change in behaviour. For instance, a young teenager may be thinking of purchasing a TVS Scooty, when his father may lose his job. Then the teenager will either drop the idea of purchasing the Scooty or may postpone purchasing it.

**Time Gap** : Since attitudes are dynamic, bigger the time gap *i.e.*, longer the elapsed time between measurement of the attitude and the behaviour one is trying to predict, the less likely there is to be a link between the two.

**Extent of stability** : Since attitudes are dynamic and may change, it is possible that a particular attitude may be unstable in nature, that you keep on changing your mind often. For instance, in case of fashion, the youth may keep on changing their tastes and preferences. One day they may feel like wearing casual dresses, while the next day the liking may be for a formal wear.

**Situational factors** : It may be the situation one finds himself or herself just before his purchase action. For instance, a customer may wish to eat at a particular restaurant but when he finds the restaurant has temporarily closed down, he may decide against eating out.

**Strength of attitudes** : The strength with which an attitude is held can also determine the behaviour of the individual. For example, if you are accompanying a group of friends for a picnic, since you are a firm believer of not consuming alcoholic drinks, you will not consume the drinks, even though you are a part of the group.

**Accuracy of attitude** : Here the reference is to the extent or accuracy with which the attitude is measurable. This in turn will affect the degree to which they are able to predict behaviour.

**Conflict of attitudes :** At times, in a particular situation, when there may be more than one attitude involved, the resultant behaviour may not be the actual one but rather a compromised behavior will be visible. For example, we assume that a couple go to the ice-cream parlour to buy a family pack of ice-cream. Both of them have preference for different flavours. The man may face a situation where he wants to please his wife as well as have his choice of ice cream. The behaviour finally displayed will be a compromise between the two contradictory attitudes.

This an individual's behaviour is not a simple stimulus response relationship. It (response or behaviour) is influenced to a great extent by the individuals attitudes and on how he interprets the situation.

### 4.11 Attitude Re-enforcement and Change:

Marketers have found that reinforcing existing attitudes is much easier compared to changing them. Makers of *Colgate* have found that consistently communicating about health attributes known to be important to consumer's and the dental profession has enabled it to reinforce the brand positive attitude more effectively than competitors.

Since it is more difficult to change consumer attitudes than it is to re-inforce them, marketers must know when attitude change is possible. Although it is difficult to change brand attitudes, a significant amount in advertising is spent towards making such changes by providing additional information and persuasive appeals. There are certain conditions under which change in attitudes can be attempted.

- Marketers could try to bring about a change in beliefs about a brand or change the benefits consumer desire by changing the value they place on brand attributes.
- The traditional hierarchy of effects theory suggests that a change in beliefs precedes a change in brand attitudes especially when consumers are involved.
- When consumers purchase products for pleasure, attitudes are a more relevant vehicle for change than beliefs.
- In case of low involvement products, it is easier, to change attitudes because consumers are not committed to the brand.
- When consumer brand attitudes are not strong, it is more easy for marketers to establish new association with the brand than changing when strong attitudes exist.
- When consumers are not sure of the evaluation of their brand, they will be more receptive to the informational content of advertising and also subjective to change in attitudes.
- When faced with ambiguous claims of competing brands or brands with a lot of technical information on which they cannot seek clarifying information, consumers can be induced to an attitude change.

### 4.12 Attitude Change Before and During Purchase:

Marketers try to bring about a change in consumer attitudes before they make a purchase in order to influence them in their buying decision. There are two types of theories which influence attitude change. These are :

- Fishbein's multiattribute models.
- Katz's functional theory of attitudes.

- Sherif's social judgement theory.
- Heider's balance theory.

### Fishbein's multi attribute model

Under this model, consumer beliefs about brands (component) and the value placed on these beliefs (i.e. component) can influence the overall evaluation of the brand (Ho) which in turn influences the behavioural intent (BI) and finally behaviour (B).

On the basis of this, marketers try to :

#### Alter Components of the Multi Attribute Model by:

- (a) Changing relative evaluation of attributes.
  - (b) Changing brand beliefs through advertisements.
  - (c) Adding an attribute.
  - (d) Changing the overall brand rating.
- (a) **Changing relative evaluation of attributes** : Consumer markets can be segmented in the same product category according to brands that offer different features or beliefs.

For Example : 'Moov' - a balm to relief pain in the back (spinal cord area) and 'Iodex' to relieve pain due to any inflammation or swelling like sprain etc.

Another example is when marketers persuade consumers who prefer one version of the product say a professional 35 mm camera "Yashika" to shift their attitudes to another version of the product say 'an automatic ready to point and shoot camera - "Konica".

- (b) **Changing brand belief** : This calls for changing attitudes of consumers by changing beliefs or perceptions about the brand itself. For example P & G's 'Ariel microshine' detergent- claims this detergent is a tough cleaner, powerful stain remover, easy to use, unlike the other detergents which only whiten the clothes.
- (c) **Adding an Attribute** : This means either adding an attribute that previously has been ignored or one that represents an improvement or technological innovation.  
For example. Initially *Bournvita* was positioned as a superior product to milk, a health builder Now Bournvita's advertisement claims it as a necessary product (health builder) containing vital calcium, vitamins and carbohydrates- a must for growing children.
- (d) **Change the overall brand rating** : Altering the consumers overall assessment of the brand directly without attempting to improve or change their evaluation of a single brand attribute. Usually this strategy is used by making some form of global statement like "this is the largest selling brand". For example, *Wester* advertisement says "the world on your wrist".

### Katz's Functional Theory of Attitude

This strategy calls for changing consumer attitudes towards a product or brand by making a new need prominent. One such method of changing motivation is called the functional approach. As per this approach, attitudes can be classified in terms of four functions namely:

- (1) The utilitarian function
- (2) The ego defensive function



(4) The knowledge function.

**(1) The utilitarian function :** A consumer develops a brand attitude because of its utility. In other words, we develop a favourable attitude towards a product because of its utility function. So marketers try to change consumer attitudes in favour of their product or brand by highlighting its utilitarian purpose which they (the competitors' consumers) may not have considered. For instance, Jyothi Laboratories have positioned '*Ujala*' as "Neel jo Neela nahi" (Neel which is not blue) and also the cost benefit (only Rs. 7) is given as the utilitarian benefit.

**(2) Ego defensive function :** Most individuals want to protect their self image. They want re-assurance about their self image from inner feelings or doubts. Firms, marketing personal care and cosmetics try to appeal to this need and develop a favourable attitude change towards their products or brands by communicating a re-assurance to the consumers self concept. For instance, '*Dove*' soap speaks about the skin's dryness which is taken care by the moisturing content in the Soap or '*Lifebuoy Gold*' soap talks of the teenager's concern about pimples, and the mother states "there is nothing you can do about it" and reassures by stating "you can take care by using Life buoy Gold soap". Such advertisements communicate understanding and a re-assurance to the potential customers.

**(3) The value expressive function :** A consumer develops an attitude based on his general value, life style and outlook. If the target consumers hold a positive attitude towards being fashionable, then they will have a positive attitude towards high fashion clothes e.g. *Van Hussen*, *Louis Phillip* etc., The advertisement for '*Yamaha RXG*' motor cycle is targeted at young people who are outgoing and prefer a powerful bike. The ad claims "Man machine and nature in perfect harmony. Breathtaking power, unbeatable performance."

**(4) The knowledge function :** Human nature is such that individuals prefer to know and understand the people and things with whom they are in contact. While product positioning, marketers try to do this and improve the consumers attitude towards their product or brand by highlighting its benefits over competing brands. For instance, in a highly competitive market, *Oral-B* tooth brush emphasizes on its 'indicator' which will indicate to the users, the time when they are required to change the toothbrush.

### Social Judgement Theory and Attitude change

Sherif's theory of social judgement predicts that if the change suggested in the advertisement is too extreme, consumers will reject the message because it will fall into their latitude of rejection. However, if the model suggests moderate changes, it may be accepted by the consumers as it falls in their latitude of acceptance. So marketers must attempt small changes in beliefs over a longer period of time.

Further, when consumers are more involved, they are less likely to accept messages suggesting a change in beliefs or values. But when consumers are not highly involved with product categories they are more likely to accept advertising messages suggesting moderate changes in beliefs or values.

For instance, *Raj Travels* had a humble beginning when it had established it self as a small excursion tour operator. Then it started advertising about being a tour operator who organises family holiday tour's to certain international destinations in a more comfortable, more exciting and enjoyable manner. The target group accepted these service offerings, enabling *Raj Travels* to enjoy

enjoyable manner. The target group accepted these service offerings, enabling Raj Travels to enjoy the first position in the outbound tours industry.

Now Raj Travels has also ventured into road travel with *Raj National Express*. This concept has also gained acceptance with around 97 per cent bookings during peak season and around 84 per cent during off season. So the change of image from a quality tour operator for certain outbound destinations to road travel within India has been accepted by customers because both the changes in the service offering fall within the target customers' preview of acceptance.

### Heider's Balance Theory

This theory has already been discussed earlier in the chapter. This theory says that attitudes will change to avoid conflict between beliefs and evaluations. The implication of the balance theory is that when attitudes conflict, it is easier to change them because of the consumer's desire for balance.

### 4.13 Attitude Change After Purchase:

A different objective is followed by marketers when they seek to change consumer attitude after a purchase. The strategy will try to counter competitive advertising which has created doubts in consumer's mind about the purchase or it may try to counter the dissatisfaction or negative experiences with the product. There are three theories which speak on changing consumer attitude.

- (a) Dissonance Theory
- (b) Attribution Theory
- (c) Theory of Passive Learning.

#### Dissonance Theory

Dissonance theory suggests that marketers could try to reduce dissonance by providing consumers with positive information on the brand, after the purchase. Kenneth Rynyon (Consumer Behaviour and the Practice of Marketing, 1977) has suggested five strategies to provide information supporting the purchase decision.

- (1) Provide more information and suggestions for product care and maintenance through brochures.
- (2) Provide warranties and guarantees to reduce any postpurchase doubt about the product.
- (3) Provide post purchase support by ensuring good service and immediate followup on complaints.
- (4) Advertise on reliable product quality and performance to reassure purchase on product satisfaction.
- (5) Do follow up post purchase, to ensure the customer understands how to use the product and ensure satisfaction. The above strategies are designed to change consumer attitudes towards products and reduce post-purchase doubts if any.

Attribution Theory suggests that consumers seek to attribute causes for events often after the purchase. That is, a consumer may attribute the purchase of instant coffee on 'sale' to because it was (economical or lesser priced).

Such an attribution may not help to win any long term commitment to the brand. In the above example, if the advertiser could convince the consumer that the particular coffee brand has very good aroma and taste, the consumer is likely to buy it again.

In case of low involvement products, the marketing strategy based on attribution theory would be to provide significant product differences that consumers can use as a postpurchase rationale for having purchased it. Such strategic moves will motivate consumers to buy it again.

### **Krugman's Passive Learning Theory**

This theory suggests that consumers learn about brands with little involvement and purchase with little evaluation of the other brands. This theory will be useful in developing strategies for increasing the level of consumer involvement after the purchase. When consumer involvement is sure it can result in a higher level of commitment probably releading to higher brand loyalty. The customer involvement can be done by :

- Linking the product to an involving cause
- Linking the product to a particular involving personal situation
- Link the product to an involving advertisement
- Modify the importance of product benefits.
- Introduce an important characteristic in the product.

It is presumed that in all the three theories a favourable shift in attitude could lead to change in consumer behaviour favourites.

### **4.14 Activities:**

1. Make a list of five luxury product items such as car/motor bike/designer wear/camera/cosmetics. Make another list of necessity items such as stationary items (pen/not book stapler/ note books etc.) and laundry detergents. Select five well known brand names for both the above mentioned product categories

Now meet 10 individuals (five of each sex) and ask them to describe in words, according to them what is the personality of the particular brand for both luxuries and necessities.

What is your analysis? Do you find any difference in the personality description of the various brands between both the sexes?

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2. Can you describe an instance when you had acquired an attitude towards a new product through exposure of an advertisement of the product. After development of the attitude and purchase did you try to use personal influence to change the attitude of your friend? Did you succeed or fail in your attempt? If so, why?

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#### 4.15 Summary:

- Personality is an individual psychogenic trait which influences consumer behaviour. It is defined as patterns of individual behaviour that are consistent and enduring. Marketers feel that studying of personality characteristics can help them to analyse consumer behaviour. This aspect is used especially, when they are required to communicate about the goodness of the product or services being offered.
- There are four theories of personality relevant to consumer behaviour. These are *Trait Theory* (Which advocates that individual personality differences are due to the presence of specific traits), *Psychoanalytic Theory* (works on the premise that unconscious (biological) needs or drives are the root forces determining the personality and motivation of individuals).
- Attitudes are learned predispositions to respond to an object or class of objects in a consistently favorable or unfavorable way. The nature of consumer attitudes can be understood by discussing the three components of attitudes. The three components of attitude are: Brand beliefs the cognitive or thinking component of attitudes, Overall Brand evaluation (the effective or feeling component which broadly summarises consumer's predisposition to be favorable or unfavorable to the brand) and the intention to buy or behavioural component (which is a conation i.e. the action the person wants to take towards the object or person).
- An understanding of consumer attitudes will help marketers to identify benefit segments, develop new products and evaluate promotional strategies: Attitudes are learned and acquired by individuals from the environment in which they interact. Thus for knowing about attitude formation, we have consider and analyse the factors such as group (family, reference group, social factors) personality factors, direct experience with product or

reference group, social factors) personality factors, direct experience with product or service, direct marketing programmes and exposure to mass media.

- Marketers are keen to understand the relationship between beliefs, attitudes and behaviours. For, if advertising succeeds in establishing positive beliefs about a brand, consumers are like to evaluate it positively and purchase, to further, when satisfied with the brand it can lead to formation of positive attitude with increasing probability of repurchase. There are two theories which help to establish the relationship between beliefs and attitudes. They are the Balance theory (by F. Heider) and the Multi Components Model of Attitude (by Martin Fishbein).
- Marketers have found that it is easier to re-in force existing attitudes when compared to changing them. Inspite of this, companies spend a significant amount in advertising towards making such brand attitude changes, by providing additional information and persuasive appeals. Marketers try to bring about a change in consumer attitudes before they make a purchase so as to influence their buying decision process. While, they seek to change consumer attitudes after a purchase so as to counter competitors moves which could have created doubts about the purchase in consumer's mind or counter dissatisfaction resulting from negative experience with the product.

#### 4.16 Self Assessment Questions:

- (1) Define Personality. "Although no two individuals have identical personalities, marketers, make of use personality in consumer research to identify distinct and suitable market segments" – Comment with suitable examples.
- (2) Compare and contrast the major characteristics of the following personality theories:
  - Trait Theory
  - Psychoanalytic Theory
  - Neo Freudian Personality Theory
  - Jung's Personality Types Theory.
- (3) Define 'Attitudes. Briefly explain the nature, components of attitude, and its role in developing marketing strategy (with examples)
- (4) Explain how the marketing manager of Kellog's can bring about a change in its consumer attitudes by: (a) Changing beliefs about the brand (b) Changing beliefs about competing brands (c) Changing the relative evaluation of attributes.
- (5) Discuss the relationship between beliefs and attitudes by considering the Balance theory and Multi Components Model of Attitude.
- (6) Suppose, that seeing the success of Volvo buses for mass transit in the city of Bangalore, the department of Transportation, in Andhra Pradesh is working on an advertising campaign to encourage public to switch over from own cars to mass transit. Give examples of how the department can use the following strategies to change the public's attitudes.
  - Changing the basic motivational function.
  - Changing beliefs and attitudes towards public transportation.

#### 4.17 Additional Reading:

- (1) Suja Nair, *Consumer Behaviour in Indian Perspective*, Himalaya Publishing House, Mumbai, 2005, pp. 93-142.
- (2) Leon. G. Schiffman. L. I. Kanuk, *Consumer Behavior*, Prentice Hall of India Pvt. Ltd., New Delhi, 1997.
- (3) Henry-Assael, *Consumer Behaviour*, 6<sup>th</sup> edn., Thomson Learning, Singapore, 2001, pp. 281-338.
- (4) Jagdish N. Sheth and Banwari Mittal, *Customer Behavior A managerial Perspective*, South Western Learning, Singapore, 2003, pp. 198-226.



## Lesson - 5

# Motivation

## Objectives

After going through the chapter you will be able to understand:

- What is the meaning of 'Motivation'?
- The link between needs, and drives with goals through Hull's Drive Reduction Theory.
- The distinction between Emotional and Rational Motives, and Positive versus Negative Motivation.
- The various theories which help to understand the human needs or Motives which can influence individual behaviour.

## Structure:

- 5.1 Introduction
- 5.2 What is Motivation?
- 5.3 View of the Hull's Drive Reduction Theory and a Simple Model of Motivation Process.
- 5.4 Emotional versus Rational Motives
- 5.5 Positive or Negative Motivation
- 5.6 Theories of Motivation
  - Maslow's Hierarchy of Needs
  - McClelland's Theory of Need Achievement
  - Alderfer's ERG hier Archy of Needs
  - Vroom's Expectancy Needs
- 5.7 Activity
- 5.8 Summary
- 5.9 Self Assessment Questions
- 5.10 Additional Reading

## 5.1 Introduction:

The complex human behaviour can never be clearly stated in term of specific responses to stimuli Motivation is a prominent factor which indicates the individuals response to stimulus. It is also affected by various psychological factors such as perception, learning and personality.

Consumer researches have analysed that there is a diversity in consumer behaviour with many individuals experiencing the same kind of needs and motives although it may vary in terms of how they express them. The market is flooded with various product and service offerings. But only those markets have succeeded which have understood consumer needs and motives.

In this chapter, the discussions have evolved around the role of needs and motives in influencing consumer behaviour. Various theories of motivation have also been viewed to understand their impact on consumer behaviour.

## 5.2 What is Motivation?:

A psychologist has described the study of motivation as covering all those things which are biological, social and psychological and they defeat our laziness and move us, either eagerly or reluctantly, to action. So simply stated we can say that the study of motivation is concerned with why people choose to behave in a certain way.

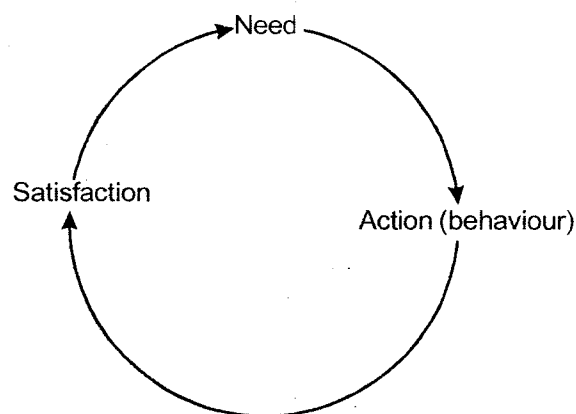
It can be said that all the activities of human being are caused and behind every action there is a particular need or motive. Needs can be a feeling or desire for something which is lacking and through performing various activities, to get the feeling of lacking removed and thus become satisfied. Thus human behaviour is caused by motives or needs and motivation is the process of including persons to experience needs for a certain goal or behaviour. So we can say motivation is concerned with:

Need - the most basic human requirements.

Drives - tells how these needs translate into behaviour

Goals - what these behaviour aim to achieve.

*Motivation can be described as the driving force within individuals that impels them into action.* For example, at the basic level our body may have a need (hunger, say), which will translate into a drive (here – the drive will be to obtain food) and the goal will be to satisfy the need (in this example, to feel full in the 'stomach'). This can be diagrammatically shown as under:



**Figure 5.1 The vicious circle between, need, action and satisfaction**

Although achievement of the goal satisfies the initial need of hunger and thus completing the circle, next time that need surfaces (say hungry during lunch time) then the whole process will start once again.



### 5.3 Hull's Drive Reduction Theory

One popular theory which links needs and drives with goals is that of Hull. Hull's drive reduction theory attempts to explain both motivation and learning. This theory is based on principles which may be of general interest, though Hull was mostly concerned with the operation of primary needs. Hull's theory is illustrated in the figure 5.2 given below.

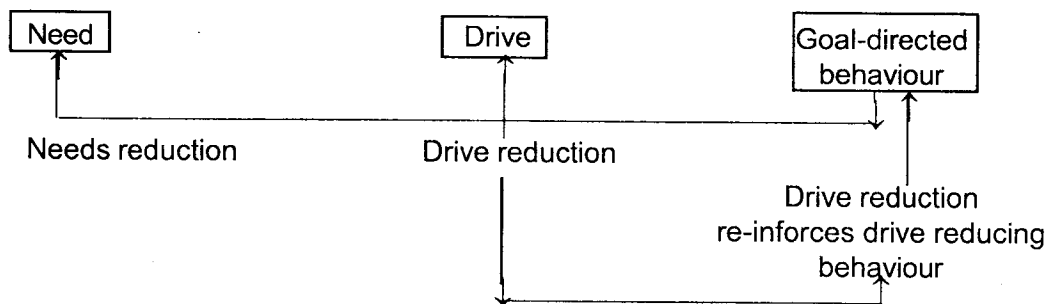


Figure 5.2 A simple view of Hull's Drive Reduction Theory.

As mentioned above a need will give rise to a drive and the resulting behaviour will be aimed at reducing the drive and thereby the need. According to Hull, the drive reduction act (or act of reducing the drive) re-inforces the drive reducing behaviour whereby it is likely the behaviour be repeated again in case of recurrence of the need in future.

Suppose, a salesman during the course of performing his work feels thirsty. His behaviour will be to seek and find out the nearest source of refreshment, a small restaurant perhaps. Going by Hull's theory it is most likely that the individual will prefer to drink a cool drink which has satisfied his thirst in the past, 'Pepsi' for instance. If this was not available, he may go for something similar (Coca-cola) or try something new. If this new option is found to be satisfactory, then it is likely to be selected next time the salesman is thirsty.

In the above example, we have discussed about positive motivation, similarly people can also experience negative motivations or avoidance of certain items or situations. Since the above salesman is thirsty he is likely to avoid salty things, which can make him even more thirsty. Say if we are feeling cold, we will avoid going for a trip to 'Simla' (avoidance of cold) and seek out situation that makes as warmer (approach warmth).

Based on the above, we can classify objects or products as either approach objects (contact with whom will satisfy our need) and avoidance objects (contact with whom or those which will take us further away from our need).

Thus, (motivation) the driving force is the outcome of a state of tension, which arises because of unfulfilled needs and desires. Individuals are consciously and subconsciously engaged in a tension reduction behaviour, which they presume will help in fulfilling their needs and thus reduce the tension or stress felt by them. Of course the selection of the specific goal and the action undertaken to meet the goal will be based on the individual's thinking and learning process. This can be illustrated with the help of a model of motivation process given in fig. 5.3 From the diagram we can see that motivation is seen as a state of need induced tension that will exert pressure on the individual to be engaged in a behaviour which will satisfy the need and thus reduce the tension.

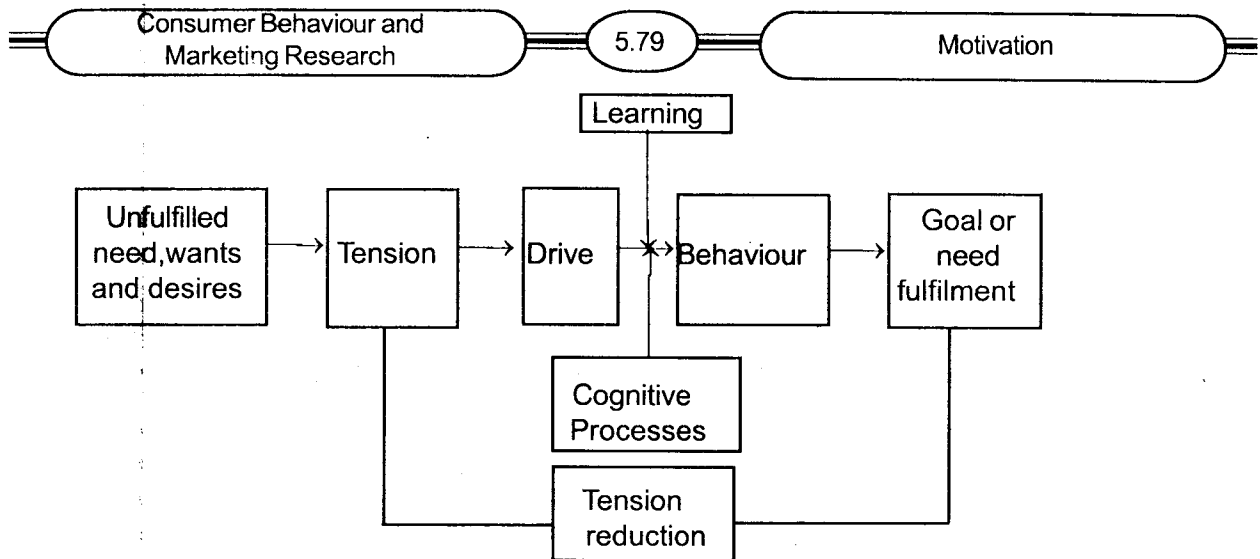


Figure 5.3 A simple model of motivation process.

We can see that both the 'Hull's Drive Reduction theory and the 'model of motivation process' are similar. In both the cases it is discussed that individuals are engaged in a behaviour so as to reduce the drive (or tension). In the above model it is emphasised upon that the specific behaviour adopted by the individuals and his or her specific goals selected will be influenced by their thinking process (cognitive process) and previous learning. This only goes to show that only those marketers who understand motivational theory can attempt at influencing the consumer cognitive processes.

Before going for an in-depth discussion on needs and goals, we will understand the distinct connotation between the three interrelated terms, motive, motivation, motivating. All the three terms have been derived from the latin word 'moyere' meaning to move.

Motives - give directions to human behaviour. A motive is an inner state that energizes activates, or moves and directs or channels behaviour towards goal.

Motivating- implies an activity engaged into by an individual, by which he or she will channelise the strong motives in a direction that is satisfactory.

## 5.4 Emotional Versus Rational Motives:

Consumer behaviourists have also made a distinction between '*rational motives*' and '*emotional (or non- rational) motives*'. Traditionally the term rationality is associated with persons who carefully weigh the pros& cons of all the alternatives and then choose the one that gives them the greatest utility. In the marketing context we can say that consumers who are '*rational*' will select the goals after ascertaining various objective criteria such as size, weight price etc. As against this *emotional motives* are those goals which are selected on the basis of emotion's involvement. Usually such goals are selected purely on personal or subjective criteria such as desire for recognition of status, fear, pride, esteem, love etc.

Though it may be argued that those who take purchase decisions based on emotional motive do not maximise utility or satisfaction need not always hold true. For it may be counter argued that they (such consumers who are influenced by emotional motives) also make selection with a view to maximise satisfaction. Moreover, 'satisfaction' is a personal process and will vary from person to person based on his or her need structure, past experience and learning. Therefore it is improper to distinguish between rational and emotional motives.

## 5.5 Positive or Negative Motivation:

Motivation can be positive or negative. If an individual experiences a driving force towards an object or person or situation, it is called positive or person motivation. Whereas a driving force compelling the person to move away from someone or something will be known as 'negative motivation' (this is already touched upon in the beginning of this chapter).

Though there is a difference between positive and negative motivational forces, in terms of both the physical as well as emotional activity, both are similar i.e., *both initiate and sustain human behaviour*. This is why researchers refer to motives (or drives) as needs wants and desires.

We can understand better the difference between positive and negative goal with an example. Say, a young executive male gets promoted and transferred to a new place. This man (executive) will join the 'local club' (*a positive goal*) so as to gain social recognition and make new friends. The executive's wife may join the kitty parties held by the other executives wives to avoid a *negative goal*- ridiculed by others as an unsociable person. In the above example we have seen that both positive and negative goals can motivate an individual's behaviour.

There is another motivational state referred to as *psychological reactance*. This motivational behaviour is seen when people get aroused by a felt threat of or fear of elimination of behavioural freedom. The concept of super market is gaining popularity in the major cities, one of the reasons for this is "the freedom to make a product choice without undue influence from the retailer".

A very popular definition of motivation is given hereunder:

*Motivation - is a process that starts with a physiological or psychological deficiency or need that activates behaviour or a drive that is aimed at a goal or incentive. (Fred Luthans)*

## 5.6 Theories of Motivation:

Psychologists have been interested in the study of human behaviour so as to understand the human needs or motives which influence their behaviour. Professor Daniel Starch (1923) had presented a list of forty four human motives and psychologist Henry Murray (1938) had prepared basic set of needs but they have different ways of ranking these needs on priority basis.

Marketers have always been interested in knowing about human motives which influence consumer behaviour. There are certain theories of motivation usually referred to in a marketing context. These are:-

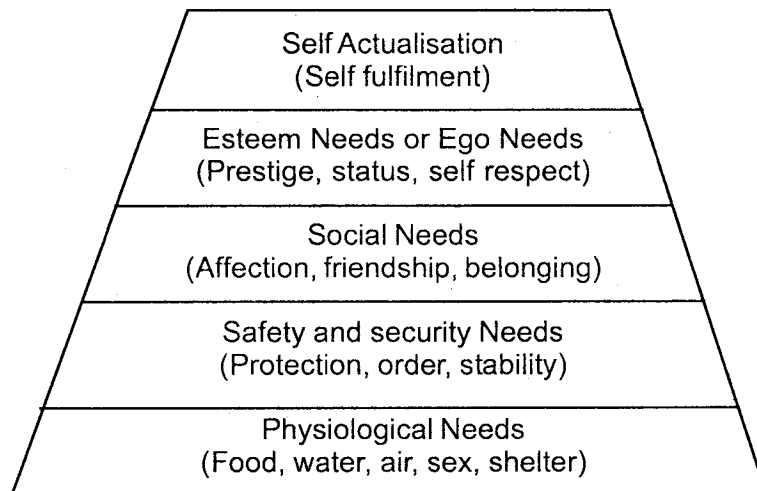
- Maslow's hierarchy of needs.
- McClelland's theory of need achievement.
- Alderfer's ERG hierarchy of needs.
- Vroom's Expectancy needs.

### (1) Maslow's Hierarchy of Needs

Dr. Abraham H. Maslow, a famous social scientist had developed a framework of needs and formulated a widely accepted theory of human motivation based on the notion that there is a hierarchy of needs which influences the person's motivation level. Maslow's theory goes by the notion that there are basically five levels of human needs arranged in their order of importance. It starts from the lower level basic (biogenic) needs and goes to higher level (psychogenic) needs. He suggested that needs have a certain priority and individuals try to satisfy the lower level needs and then only go

to satisfy his or her higher level needs. The lowest level of chronically unsatisfied needs will tend to motivate the individual's behaviour. Once that need is fairly satisfied a new and higher level of need emerges which the individual is motivated to fulfil. When this new level of need is satisfied another higher level of need emerges and thus it goes on. However if a particular lower level need is not fully satisfied it may become temporarily dominant again.

Given below is Maslow's hierarchy of needs in a diagrammatic form.



**Physiological needs:** In the hierarchy-of-needs theory the first and most basic level of needs are the physiological needs. These primary level of needs include all those needs required to sustain biological life - such as hunger, thirst, air, shelter, sex and clothing.

According to Maslow the physiological needs will have highest strength and will be dominant until they are reasonably satisfied. Especially in a developing economy like India this physiological need will be dominant among all those people lying below the poverty line focusing entirely on trying to satisfy their biogenic needs.

**Safety needs:** Once the first level of needs are satisfied, safety and security needs will become the driving force behind an individual's behaviour. These needs are more concerned with personal needs and security. Health and wealth are of primary concern. People are concerned about the need for being free from physical danger or self preservation. They are more comfortable with the knowledge of having control over one's life and environment and certainty about the future (up to some extent).

This level of need is satisfied by opening savings account, take insurance policies, through education and sufficient vocational training etc. This safety and security needs will make them feel free from theft, health and also security order and stability.

**Social needs:** The third level of needs is related to needs such as love, affection, belonging and acceptance. Being a social being man feels the need to belong to and be accepted by various groups. When this need becomes dominant, a person will strive for satisfying relations with others and are motivated by love for their families. People are now looking for relationship, affection and sense of belonging (or identification).

**Esteem needs:** When the social needs are more or less satisfied, the esteem needs gain importance. The esteem needs are concerned with ego. They reflect an individual's need for self respect, self confidence, a feeling of personal worth, prestige, success, power and control.

The satisfaction of esteem needs is not always obtained through mature or adaptive ways. Sometimes individuals (some teenagers or youth) while trying to achieve the ego needs may adopt disruptive and irresponsible actions and inability to satisfy esteem needs can also lead to frustration. The society thus can play a bigger role in trying to change the image of esteem needs especially in the eyes of such misguided youth (of our society).

**Self actualisation needs:** This refers to the need to maximise one's potential (personal potential) - i.e., he or she will desire to become everything he or she is capable of becoming. As Maslow says 'what a man can be he must be'. Though Maslow also said that most people are not able to satisfy their esteem needs sufficiently to move up to the fifth level of needs - self actualisation. This is because self actualisation needs imply control over environmental factors both physical and social and achievement.

Maslow also introduced two more categories of 'enabling' needs which can provide the channels through which the five categories of needs can be achieved.

*Freedom of enquiry and expression needs:* This means the social conditions must exist to provide free speech and encouragement of justice, fairness and honesty.

*Knowledge and understanding needs :* These needs will provide and help in gaining knowledge of the environment so as to be able to explore, learn and experiment.

Thus Maslow's theory or hierarchy of needs theory postulates the hierarchy of prepotent needs. This theory also emphasises that only once the lower level needs are sufficiently satisfied, will a higher level of need act as the motivating or driving force.

**Marketing applications of Maslow's hierarchy of needs:** This hierarchy of needs has proved to be useful to marketers enabling them to devise suitable advertising appeals depending on the need level for a particular product. This theory has been useful in applying a more behaviour oriented structure to the market. And marketers have used it for market segmentation and brand (product) positioning.

Each product or service always addresses a natural needs hierarchy. Some of the products like food stuffs address the very basic and physiological needs for sustenance. At times the advertising appeals can address one or more level of needs. For instance soft drink ads such as 'Fanta' 'Mirinda' etc., stress or satisfy two level of needs simultaneously. They help to satisfy the thirst (physiological need) of the individual as well as sharing good times with friends (social needs). Thus if marketers are able to position products to appeal to just any category of needs then this can also be broadened and used to build a brand image.

In the following table few examples of products appealing to various levels of needs are given:

Table 5.1 Few examples of products corresponding to the particular level of need

level of Needs	—	Products appealing to this category
Physiological Needs	—	'Kellogs' Cereal rich breakfast provides you with a cereal rich food.
Safety and security Needs	—	'GIC provides you with Housing loan at reasonable rates. LIC - offers various schemes to provide insurance against various types of risks.
Social Needs	—	BPL mobile or Motorola advertises the mobile phone helps you keep in touch with family and friends across various cities.
Esteem Needs	—	'Omega' watches advertisements suggest that ownership of omega is a sign of excellence.
Self-actualization	—	IGNOU's distance education programmes encourages one to further one's knowledge.

**Product positioning:** Marketers have been using the hierarchy of needs for positioning their products that is deciding how they should be viewed or perceived by the target audience. They try to position their products so as to differentiate the brand from competitors. To quote a few examples of product positioning Nestle's 'Milkmaid' (has been positioned as a base for desert recipes (physiological as well as social needs are taken care of). When Maruti 1000 was launched as the country's first modern luxury saloon it was positioned as 'Ultimate' in luxury. Later on with the entry of more luxurious competitors cars such's as Daewoo's 'Cielo' the Ford Escorts, Esteem etc., the Muruti 1000 was re-positioned as "An affordable luxury" (Esteem & Ego needs) 'Dettol antiseptic liquid' having dominated the cuts and wounds usage of the household market, went on to position itself for usage during shaving and for washing babies nappies also (physiological and safety needs are taken care of here).

Thus needs can also be translated into benefits which may form the basis of benefits segmentation. Marketers have also being using this hierarchy needs theory for psychographic segmentation.

### Evaluation of Maslow's Hierarchy of Needs

Maslow's theory has got a lot of intuitive appeal. If one is desperately looking for food it is unlikely that he will concerned about socialising or improving self potential. And it is very useful in that Maslow has evolved all his suggestions and ideas around what 'drives' individuals. However, the theory does not fully explain certain things such as :

- There is lack of evidence to support it. It is not necessary that physiological and safety needs will be the predominant factors in determining behaviour.
- Some people have been unhappy due to the absence of money from the list of needs.
- Self actualisation and esteem needs will be dependent on each individual's self perception.

Inspite of the above objections or problems, Maslow's work has provided a framework which is easy and useful for marketers.

## (2) McClelland's Theory of Need Achievement

Shortly after world war II, a group of psychologists. McClelland and his colleagues began to experiment with TAT (Thematic Apperception Test) in order to determine if it was sensitive enough to detect changes in motivation that were caused by simple attempts to change the individual's attitude. Unlike Maslow, these psychologists believed in the presence of three types of basic motivating needs:

- *Needs for power* : This relates to have control over other people and objects in the environment (Similar to Maslow's Ego needs).
- *Need for affiliation*: This relates to desire to belong to, be a part of a group and to have friends. (Similar to Maslow's social needs).
- *Need for achievement*: This relates to the need to achieve something (Close to ego & self actualisation needs level in Maslow's hierarchy).

Achievement - needs persons will strive hard to achieve their goal. Today's competitive environment makes people to develop an ever increasing need for achievement- all to become something in life. Advertisers of various 'Milk supplement' or nourishing food drinks either malted or chocolate flavour etc. stress on the intake of food rich in vital vitamins, carbohydrates & minerals Which is necessary to be able to satisfy the achievement needs. Examples may be *Horlicks, Comp/an, Viva, etc.*,

The achievement need is closely related to both esteem needs and self actualization needs. Persons with high need for achievement are found to be self confident, look out for various ways to do self evaluation, enjoy being speculative or taking calculated risks, are constantly doing research of their environment. For such persons, advertising appeals must emphasize on new innovative or speculative shares stock. They would also be interested in 'career progress oriented courses' .

In case of power needs - the individual desire to have control over other persons and various objects. Such persons will be interested in products like vehicles which highlight-powerful owners' on the road (mobikes Jeep/Car).

Affiliation need relates to man's social concern for socialising to gain friends, desire for being accepted and for belonging. Such persons opt for purchase of products which will have social acceptance. They prefer to make purchase decisions which meet the approval of friends teenagers or college goers who hang around with friends at the college canteen, go for movies, various music shows etc. in the company of friends.

In the above theory we have seen that individuals with 'specific needs; tend to be receptive to certain types of products. Thus awareness of such needs will provide marketers information on what bases to concentrate while segmenting their markets.

## Other Theories of Motivation

There are two more theories of motivation which are occasionally referred to in a marketing context. Thus a brief explanation of these theories is given here under.

### (3) Alderfer's ERG Hierarchy of Needs

This theory proposes a hierarchy of three needs - existence, relatedness and growth (hence it is called ERG theory). Though it is similar to Maslow's theory in many ways Alderfer has introduced another useful notion of frustration. He says in the event of a need not being satisfied it can result in frustration which in turn may lead to other behaviours.

In the marketing context it can be said that when consumers are not satisfied with a particular purchase they may either opt for an alternative competitors brand or may resort to complaining about what (product) they have purchased. Thus accepting that frustration is a defence mechanism adopted by consumers, marketers must plan how to handle their consumer frustration (if any).

#### (4) Vroom's Expectancy Theory

This theory is very strongly related to the extended Fishbein model of attitudes. Here it is believed that an individuals motivation will be based on the expectation from a particular behaviour. It is based on the premise that a behaviour will lead to a certain outcome and the preference (or valence) for that outcome.

For instance if an individual is planning to go for a holiday to a certain place say 'Kanyakumari' then he or she will first work out on the outcome expected from the holiday (feels relaxed, gets to visit and see the meeting point of the oceans and so on). Then the individual will work out a value (or valance or V) for each outcome (+ 1 if likes them, 0 neutral and, -1 if dislikes them). Then they will estimate the probability of attaining each outcome (this value will be E - the expectancy). In the last step the individual will calculate  $E \times V$  for each outcome. The final score 'F' is obtained by adding up all the values of  $E \times V$ . This 'F' will be the motivational value of the holiday.

From a marketing view point, it can be said marketers must work at increasing the perceived value of the product/services in the eyes of the consumer. This will increase the motivation of the consumer to buy and also raise the expectancy of satisfaction which will result from the purchase of the product or service.

### 5.7 Activities:

(1) Select one level from Marlow's Hierarchy of human needs, for the following products, and use it to segment the market and position the product.

- Air freshener in cars
- Remote for opening garage doors.
- A gym to help in weight reduction and diet plan.
- A high powered motor cycle.

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(2) You have been asked by a advertising agency for running a promotional campaign to increase the consumers awareness towards the goodness of eating from a newly opened fast food outlet. Develop slogans for this campaign based on Vrooms Expectancy theory.



## 5.8 Summary:

- Motivation is a very basic and driving force which impels individuals into action. It is a basic psychological concept related to human behaviour and plays a very important role in influencing an individual's consumption related behaviour. All individual's behaviour or action will be to satisfy their needs. It is these human needs which is the essence of all marketing programmes. The success or failure of the product or service offerings will be dependent upon whether it has sufficiently been able to motivate consumer's purchase behaviour.
- The Hull's Drive Reduction theory links needs and drives with goals. It says a need will give rise to a drive and the resulting behaviour will be aimed at reducing the drive and there by the need. This could also reinforce the drive reducing behaviour where by it is likely the behaviour be repeated again in case of recurrence of the need in future.
- The emotional motives can be said to be those goals which are selected merely on the basis of one's emotional involvement: Where as, rational motives involve good selection made by individuals after carefully weighing the pros & cors of all the alternatives and then finally selecting the one which gives them the greatest utility.
- When a person experiences a driving force towards an object or person or situation, it is called positive motivation. On the other hand when a driving force compels the person to move away from someone or something, it is called negative motivation.
- There are certain theories of motivation which are typically referred to in a marketing context. These include:
- **Maslow's Hierarchy of Needs:** (Based on the Nation that there is a hierarchy of needs which influences the person's motivational level.)
- **McClelland is theory of Needs Achievement:** (Based on an experiment with thematic Apperception Test (TAT) to detect changes in motivation caused by simple attempts to change the individual's attitude. There types of basic motivating needs - Needs for power, Need for affiliation, Need for achievement.)
- **Alderfer's ERG Hierarchy of Needs:** (Similar to Maslows Theory, Proposes a hierachy of three needs: existence, relatedness and growth.)
- **Vroom's Expectancy Theory:** (Based on the premise that an individual's motivation will be based on the expectation from a particular behaviour and the preference or valence for the outcome.)

### 5.9 Self Assessment Questions:

- (1) 'Marketers don't create needs, need pre exist and marketers have to make efforts to change consumers needs'. Discuss this statement.
- (2) Explain with examples the differences between Emotional versus rational motives and positive versus negative motivation.
- (3) Compare and contrast between Maslow's Hierarchy needs theory and Alderfer's ERG Hierarchy of needs theory.
- (4) How would you explain the relevance of the 'McClelland's theory of Need Achievement' and Vroom's Expectancy Theory to Marketing?

### 5.10 Additional Reading:

- (1) Suja Nair, *Consumer Behaviour in Indian Perspective*, Himalaya Publishing House, Mumbai, 2005, pp. 143-166.
- (2) Rosemary Philips and Craig Simmons, *'Understanding Customers 1996-97'*, Butterworth Heinemann, Oxford, 1996.
- (3) Leon. G. Schiffman and Leslie Lazar Kaavk, *Consumer Behavior*, Prentice Hall of India, New Delhi, 2005.
- (4) Fred Luthans; *Organisational Behaviour*, McGraw-Hill, New York, 1989.



## Lesson - 6

# Influence of Social Class, Reference Groups And Family Influence

## Objectives

After going through the chapter you should be able to understand:

- What does one understand by the term 'social class or social stratification'? What are the social class differences among Indian consumers?
- What is the meaning of 'group' and 'reference group'?
- Which are the factors affecting reference group influence? And which types of reference groups can influence an individual's purchase behaviour?
- How do you define 'Family' and how can the family influence consumer behaviour?

## Structure:

- 6.1 Introduction
- 6.2 Meaning of Social Class or Social Stratification
- 6.3 Group Dynamics
- 6.4 Factors Affecting Reference Group Influence
- 6.5 Types of Reference Groups Influencing Consumer Behaviour
- 6.6 Meaning of the Term 'Family'
- 6.7 Types of Family
- 6.8 Benefits of Family
- 6.9 Nature of Purchases
- 6.10 Family Decision-Making
- 6.11 Activity
- 6.12 Summary
- 6.13 Self Assessment Questions
- 6.14 Additional Reading

### 6.1 Introduction:

Man is basically a social human being. Most of the individuals interact with others - their family members, friends, colleagues, neighbours etc. for various reasons. For example, a person may join the local pub to meet compatible people and satisfy his social needs. Another person may accompany his friends for an excursion to satisfy his need of visiting new places and have an

enjoyable experience. In the course of interacting with others. Human beings behaviour also gets influenced through such interactions.

In this chapter we start with an examination of the social classes in our society resulting in variations in values, attitudes and behaviour among members of different social classes which can all affect consumers consumption behaviour. We have also discussed on the basic concept of reference group dynamics and how this can directly or indirectly influence consumer behaviour. Even the role of the family in the consumption related decision of the family have been examined.

## 6.2 Meaning of Social Class or Social Stratification:

**Social class or social stratification :** Social class refers to the ranking of people in a society into a hierarchy of upper, middle and lower classes based on their power and prestige. Some form of social class structure or social stratification has always existed in all societies throughout the world. Researchers have preferred to consider social class as a continuum and divide it into a small number of specific social classes or strata. In this context, social class can also be referred to as social stratification. Based on this, social stratification or social class is defined as *the division of members of a society into a distinct status classes, so that members of each class have relatively the same status and members of all other classes have either more or less status.*

This definition implies that consumer or people are ranked by other members into higher and lower positions so as to produce a hierarchy of respect or prestige. Generally, the consumers are classified as belonging to upper or middle or lower social classes. The various parameters used to define social hierarchy (with differences in power and prestige) include tangible income, education, and occupation as well as intangible factors, such as lifestyles, ties and connections, political power and public (or society) service.

Social stratification depends upon the ideals and values of each society. Since the bases for defining power and prestige will vary from one society to another, the composition of upper, middle and lower classes is also likely to be different. For instance, in India, engineers, doctors, Lawyers, chartered accountants are rated higher when compared to nurses, clerks and supervisors. In Europe, college professors and lawyers are likely to be rated lower and artists and writers higher than in the United States.

It was only in the early 1990s that economists, planners and marketers across the world started viewing India as a county with a lot of market potential. Now, along with economic development the country is getting richer and the people's purchasing power also seems to be growing.

### The Affluent Class's Luxury Brand Preferences:

It is said that at present, only a million affluent Indians are buying luxury goods although it is estimated that 8-9 million affluent customers can be easily tapped because of their purchasing power. Marketers are adopting various ways to motivate and help these affluent customers take purchase decisions. For luxury brands trying to make their presence felt, marketers are trying to organise socialite parties, fashion shows or simply select a socially active brand ambassador.

Luxury brand *Chanel* has one brand ambassador globally in Nicole Kidman, Louis Vuitton and Christian Dior from the euro 14 billion LVMH stable have Tikka Shatruijit Singh, the scion of Kapurthala royal family as an advisor and the Indian face of *LVMH brand*, and Kalyani Chawla as the brand ambassador for *Dior* in India. As brand ambassadors, Singh and Chawla have to wear the label, decide on the brand's media calender in India, travel to Paris to buy products for Indian stores and most importantly network with customers. In this category, marketing is restricted to advertising in

glossy magazines and consumer behaviour can be influenced positively through word-of-mouth. So holding parties, to inform customers of new launches is the ideal way to pamper the existing customer base. 'Pricing' is another factor which can influence this class's consumption pattern. For the well heeled globe trotting customers to be attracted to a luxury brand in India, the product has to be priced keeping city of reference like Dubai, New York and London and the city of origin of the brand (Paris for *LVMH* and for *Chanel*) in mind.

Presently all Luxury brands are housed in five star hotels, all shop windows (world over) looks the same — Chanel has an architect who creates the same window in Tokyo, Paris, New York and India. Although, worldwide there is a simultaneous introduction of the luxury products, a bit of customisation is done. For instance, *Chanel* plays up its range of delicate hand bags for the Indian women in a saree, while *Bulgari* does the same with its gold and diamond line instead of its coloured gemstones.

### Indian Middle Class and Consumption Behaviour:

Since the early 1990s, both the Indian and foreign markets have woken up to the purchasing power of the "Great Indian Middle Class", which was often estimated to be around 200-250 million. But in reality this figure is not correct for, the Indian middle class has been growing for several decades though for a variety of reasons, this rise has not been noticed. These include :

- (a) Non availability of the 'real' ground level numbers because households tend to understate income, even there is no income tax on agricultural income and very often traders, businessmen and professionals are able to avoid much of their tax burdens.
- (b) Also the growth of the Indian middle class was not noticed earlier because its purchasing power was kept on a leash by decades because of the so called socialistic planning and strict government control over the amount of goods to be produced in any category and the level of competition.

Recently NCAER (National Council of Applied Economic Research) took the initiative and through its MISH Studies has been instrumental in recognising the phenomenon of the Indian middle class and estimated its numbers.

The middle class has been defined as households earning Rs. 2-10 lakhs annually with over 15% annual growth. Between 1995-96 and 2001-02, the total middle class homes grew twice in size from 4.5 million households to 10.7 million and by 2009-10, they are expected to rise to 28.4 million. In 2001-02, about two-third of the Indian middle class was to be found in urban India, up from under 58% in 1995-96.

At the *bottom* of the middle class tier is the category defined as '*Seekers*' who have just moved into the middle class bracket earning Rs. 2-5 lakhs and form the bulk of this level with close to 9 million households and have grown by a little over 15% annually between 1995-96 and 2001-2002. This segment should be of interest to marketers. These households, though can afford an entry level car, less than one in three such households own one. Only 70% of them have basic durable goods like Colour Televisions and Refrigerators, but AC penetration is a low 13%.

The *upper tier of the middle class*, numbering over 1.7 million households with an annual income of between Rs. 5-10 lakhs are called the '*Strivers*'. They are growing at a faster pace at 18% annually. A large majority of them own cars (one in two households) and other luxury goods. With more purchasing power, the marketer could target these households and see them as 'upgrade market' to sell them 29" CTVs, more loaded cars, larger apartments and higher volume refrigerators

and washing machines.

The study also indicates that the rise in the middle income class households was visible in big metros like Delhi and Mumbai as well as 'B' tier cities like Ahmedabad, Nagpur, Vadodara, Surat and Vijayawada. Thus marketers will have to work out marketing strategies to woo the potential buyers into buying more consumer durables and thus move up to the higher income class.

### 6.3 Group Dynamics:

#### Meaning of Group, and Reference Group:

**A Group:** can be defined as *two or more persons who are interacting with one another in such a manner that each person influences and is influenced by each other.* (Marvin E. Shaw, 1971). This means that when two or more people interact to accomplish either individual or actual goals—they are referred to as a group.

**Group Dynamics** will throw light on the dynamics of members of various groups with whom the individual is interacting and how this can affect his buyer decision-making process. *Reference groups* are important because they comprise of friends and family to whom consumers constantly refer for information and opinions. A very important environmental influence on consumer behaviour is the face-to-face group (or reference group) — a group which serves as a reference point for the individual in forming his or her beliefs, attitudes and behaviour.

Marketers tend to advertise their products in a group setting — family eating food (*Maggie Noodles or Red Label Tea or Kellogs*), friends having a soft drink (*Pepsi*) after their game of cricket, neighbours admiring the new television (*Philips*) and so on. The purpose is to indicate the influence of friends and relatives in consumer's decision-making process.

Another marketing strategy is to use 'typical consumers' in testimonials for the product. This typical consumer acts as a representative of the consumers' reference group. For instance, the mother who cites the benefits seen after her child started drinking *Bournvita* or Model Simone Singh reveals to her mother the benefits of using *Garnier Hairdye*. Marketers also use celebrities as spokesperson since this celebrity represents a member of a group the consumer admires. *Kiah* and *Nakshatra Diamonds* are endorsed by ex-beauty queens and filmstars *Sushmita Sen* and *Aishwarya Rai* respectively. The basic assumption is that consumers are likely to be influenced by these individuals since they want to identify with the celebrity.

### 6.4 Factors Affecting Reference Group Influence:

There are three factors which can exert influence on an individual's purchasing behaviour : (a) the individual's attitude towards the group (b) the nature of the group and (c) the nature of the product.

#### Attitude toward the Group:

Studies (Bearden & Rose, 1990) have indicated that an individual is susceptible to group influence. It is said that an individual's purchasing behaviour is more likely to be influenced by the group when he or she — views the group as a credible source of information, values the views and reactions of group members and accepts the rewards and sanctions meted out by the group as an approval for appropriate behaviour or inappropriate behaviour.

**Nature of the Group:**

The reference group's influence is likely to affect an individual's behaviour if the members are cohesive, interact frequently and the membership to the group is viewed as 'exclusive and distinctive'.

**Nature of the Product:**

To a certain extent, the influence the reference group has on an individual behaviour will also depend upon the nature of the product. Group influence will work more with visible personal care products such as clothing and cosmetics and furniture as well as exclusive products that connote status such as cars, motorbikes etc.

For example, *Lotto Sports Italia*, a leading *Italian sports wear brand* introduced the *Sania signature collection*, a bleed of Capri, tennis T-shirt and skirts. The price of the product ranges from Rs. 599 to Rs. 2,699 and is targeted at those aspiring to be sportspersons, youth who can get inspired by Sana is agility, athletics style, taste and attitude.

**Types of Reference Groups:**

Reference groups provide the necessary points of comparison by which to evaluate attitudes and behaviour.

**Membership Groups** : A consumer can be a member of reference groups such as a family, friends and business associates. Here the individual is a part of the **membership group**. This positive membership group is a *primary group* because the interaction between members is more frequent and also their influence can be visible in the development of product beliefs, tastes and preferences — *i.e.*, a more direct influence on purchasing power.

Shopping friends, work groups and social club members constitute an individual's *secondary groups* because there is less frequency of interactions between them.

Groups can also be divided on the basis of *formal or informal structure*, where the former has to retain specific roles to be performed by its members.

**Primary, Formal and Informal Groups:**

Marketers are interested in the primary informal groups represented by the consumer's family and peer groups. Advertisers try to communicate about the consumption of their product or service among family and friends. For example, brands such as *Pears*, *Haman* use this method.

*Mirinda*, *Munch*, *Fanta* are used to associate the product with friends or family usage. All the Primary informal peer groups may vary in their particular norms and values but are highly important to the group's members.

Primary formal groups have a more formal structure than do family friends and peer groups. These are groups with which the consumer comes into regular contact but not as frequently as primary informal groups — say students or business associates working together for a project. Advertisers use such an informal membership group as a means for winning product approval — *Rajanigandha Pan Masala* associates its products with positive movements or wins.

**Secondary Informal and Formal Groups:**

*Secondary informal groups* have no formal structure but meet infrequently and can directly influence purchase decisions. Examples could be shopping groups or friends who get together once in a while to go for a movie, have food at a restaurant etc. Studies have indicated that when an

individual shops in the company of two or more people, it is very likely that he or she will purchase more than what was originally planned. Thus, the secondary informal groups influence is strong on a consumer's purchase behaviour.

*Secondary formal groups* meet infrequently, are structured and not closely knit like alumni groups, business clubs etc. Such groups cannot influence consumers and so are not of much interest to the marketer.

### **Aspiration Groups:**

There are two types of aspiration groups : *Anticipatory aspiration group* and *Symbolic aspiration group*.

*Anticipatory aspiration groups* are those an individual anticipates and aspires to be a part of in the future. The desire is based on the rewards that are considered to be important — power, status, prestige and money. Advertisers appeal to the desire to enhance one's position by moving on to a higher aspiration group. Advertisements of *Alto & Santro Xing* is a message to consumers who are using two wheelers to upgrade to a higher level status and purchase a car. Marketers of *Kingfisher Airlines* are trying to tap those customers aspiring to be a part of the super rich club by availing of their premium air services. The purchase of the product or service represents an acceptance of the group's beliefs and attitudes.

**Symbolic Aspiration Groups** are those whom the consumer may admire but to which he or she is not likely to belong, despite acceptance of the group's beliefs and attitudes. Marketers try to appeal to symbolic aspirations by using celebrities to advertise certain products. Say Sunil Shetty advertising for *Rayban Glasses* or Lara Datta promoting the *D'damas Gold*.

## **6.5 Types of Reference Groups Influencing Consumer Behaviour:**

Experts suggest that reference group influences can work in three ways: (a) as an informational influence (b) Comparative influence and (c) normative influence.

**(a) Informational Influence:** A consumer will accept information from a group which is considered to be reliable and a credible source and also if the information will enhance his or her knowledge about product choice. This is the reason why many marketers prefer to use the testimonial of an expert in the advertisement or communicate about the experiences of a knowledgeable friend as informational source, while endorsing their product.

Consumers will prefer to seek the advice from personal sources such a family members, friends and neighbours rather than the commercial sources used by the marketer. There are two situations under which information influence will affect the purchase decision :

- When the consumer feels that there is social, financial or performance risk in buying the product. Say, the consumer is planning to purchase a car or home theatre, then he (or she) will seek information from his knowledgeable friends, colleagues, relatives and the sales person in order to gain more information about the car, the financial transactions (the loan factor) and possible mechanical failures.

OR

- The consumer has limited knowledge or experience with products such as laptop computers or cellular phones. Such a consumer may have only a little knowledge of such technical products and hence is likely to seek expert advice.



**(b) Comparative Influence:** Consumers have the tendency to compare their attitudes to the members of important groups. Through this behaviour, they are trying to seek support for their own attitudes and behaviour by associating themselves with groups with whom they agree and dissociating themselves from groups with whom they disagree. Thus, comparative influence is the process of comparing oneself to other members of the group and making a judgement as to whether the association would be supportive.

For instance, if a pre university student takes admission in another college, he or she will try to identify friends who have similar tastes or attitudes, and preference for brands used by him or her. The student's aim is to enhance his or her self-concept by associating with groups which provide positive reinforcement and ego gratification.

This is the reason why advertisers try to use as spokespersons persons whom they feel consumers will perceive to be similar to themselves. For instance, the mother's confidence in the ability of her child to perform well after consuming *Calcium Sandoz* or the dentist endorsing the benefits to the teeth after using *Colgate Toothpaste* are examples of comparative influence.

**(c) Normative Influence:** Normative influence is with reference to the ability of a group to exert influence on its members by conforming to the group's norms and expectations.

There are certain conditions for conformity to group norms, *i.e.*, a consumer will be motivated to conform to group norms and behaviour of the group provided :

- (a) The individual is committed to the group and values membership to it.
- (b) The group rewards the members for compliance and punishes for lack of compliance.
- (c) The individual's behaviour in conforming is visible to the other members of the group.

Marketers are interested in the 'imitative behaviour,' *i.e.*, consumers will buy the brand and product categories the group approves of. Because the most influential members of a group accepts them. Related to conformity in consumer behaviour is the *social multiplier effect i.e.*, An individual buys the same brand or product in multiples due to social pressure or group influence and product visibility. We can take the example of the entertainment industry. Star T.V's Star Plus channel has shaken brand loyal consumers and aggressively increased its market share. This is because the Indian viewer has taken to associating 'perceived value' with certain soap serials like - 'Kyunki Saas Bhi Kabhi Bahu thi' and 'Kahani Ghar Ghar Ki.' Moreover with their neighbours and friends viewing these serials regularly, viewers are motivated to watch these serials on a daily basis.

**Rejection of Conformity :** There could also be instances when individuals may react to group pressures for conformity by rejecting them. Rejection of group pressures to conform can have major societal implications. For instance, society could motivate youngsters to abstain from smoking, or taking to drugs. Here also, the likelihood of rejecting pressures to conform will depend on the individual's value system, intensity of group pressures to conform, commitment of the individual to the group and the value placed on individuality. Lets take the case of a marketing campaign which failed.

The *Maruti Versa* Campaign had Amitabh Bachhan endorsing the brand. Although the presence of Big B worked to a certain extent, *i.e.*, it brought prospective consumers to the showroom, but the brand did not click in the market. This is because with Amitabh Bachhan's presence, they expected a larger-than-life kind of product. But when they saw a small wagon type family car, they wanted to disassociate from the product because of a mismatch between product expectation and delivery.

Finally, the brand had to be relaunched showcasing it as a family car.

## 6.6 Meaning of the Term 'Family':

The term **family** is a basic concept and is one of the most important primary groups to influence consumers buying behaviour. Incidentally, it is with the family that most persons will have maximum interactions over a lifetime. **A family can be defined as two or more persons living together who are related by blood or marriage**

## 6.7 Types of Family:

Family can come into existence **on account of orientation**, *i.e.*, it is the family a person is born into, consisting of parents, brothers and sisters and other relations such as grandparents, uncles etc. or the extended family. Such a family grouping has an established purchasing pattern which an individual is exposed to since childhood. So the person learns of the family's purchasing pattern right from his or her childhood. This gets imprinted in his or her mind and can lead to entrenched attitudes towards certain brands and suppliers. In fact, even selection of diverse products and services such as washing powders, instant or filter coffee/tea, banking services, health clinics, holidays etc. seem to be greatly influenced by family norms. In order to generate new customers, marketers have to design marketing programme aimed at overcoming the reluctance of consumers to break these norms.

A family can also be referred to as a **family of procreation** which consists of a buyer's partner (or spouse) and children. This family has a more direct influence on everyday purchase decisions. All the members tend to influence different buying decisions.

There can also be **single parents with children below 18 years**. There could be such single parent households because of marriages ending in divorce or an unmarried parent with an adopted child under 18 years of age. In such a family, alongwith financial burden, the single parent will also have limited time to spend with his or her child. So such parents are likely to spend more on their children, partly out of guilt. The outcome is that children in single parent households are likely to have more purchasing power and influence over a wide range of purchases.

In the recent past, there is visible, especially in metro cities, the emergence of households with live-in couples. Some heterosexual couples are choosing not to follow convention and remain unmarried though living together. Such live-in-couples are dual earning households and tend to have higher disposable income. Such households can easily become good target for luxury goods, travel and entertainment. This calls for marketers to work out suitable marketing programmes to tap this market.

## 6.8 Benefits of Family:

**There are a few Benefits which are Applicable to a Family Member :**

- **Financial and economic support** : A big family function is that it provides the necessary economic and financial support to its family members. In urban India, nuclear family set up is quite common, whereas in rural India, we can still come across joint families or extended families. In the cities, with most of the homes becoming dual income households (with more and more women taking to work) we can see the existence of extended family where a parent (or grandparent) is needed to do baby sitting and some minor household chores. In such dual income households both the husband and wife shoulder the economic and financial support wellbeing of the family together.

• **Socialisation** : From a consumer's behaviour point of view, family facilitates the process of socialisation. As a part of the socialisation process, right from one's childhood, each individual is taught the basic values and code of conduct expected from the society. All these are imparted so that one becomes a responsible citizen. Socialisation can take the form of direct interactions received from our parents and indirectly what we learn by observing the behaviour of others (parents, teachers, elders etc.) around us.

Marketers are interested in the consumer socialisation process. During childhood, parents are the role models for their children, so during this period, their consumption pattern (dressing, eating habits etc.) will be greatly influenced by the parents. During teens (or as college goers) it will be the peers and friends opinion and attitudes which will affect their purchasing decisions. Later on, after completion of studies when one starts working, our consumer behaviour can be influenced by our colleagues and working friends. After marriage, while setting up a new household one's consumption pattern and purchasing decisions will be greatly influenced by one's spouse. In this way, while moving along the family life cycle, the process of extended socialisation continuous, with the changes occurring in one's life.

Socialisation is of interest to marketers because it is a two way process — a person gets influenced by his or her family, friends, neighbours and others and in turn he or she also influences those who are socialising with him or her. Thus, the challenge before the marketer is to identify all those involved in the socialisation process and target them with suitable advertisements to influence their purchase decisions. For instance, these aspects are portrayed in the ads for different product categories such as : *Kellogs* (children and parents enjoy it together).

*Liquid Surf Excel* (Bond between the newly married daughter and mother), *Vicks* suckable tablets (grandmother to grand children),

*Allahabad Bank* (Son and Farther have preference of the same bank),

*ICICI Bank* (*Husband and Wife*), *Whisper choice* (mother and daughter),

*HDFC Standard Insurance* (Parents, son and his child) and so on.

• **Household Life Cycle**: The purchasing pattern or consumption behaviour will vary depending upon the age of household members, their marital status and whether or not there are children in the house. This is because of the changes occurring in the spending pattern of the family life cycle (FLC). Family life cycle refers to the several phases people go through in their lives, *i.e.*, the process of family formation and dissolution. Each life cycle will differ from the earlier stage in terms of (a) family set up or structure (b) the financial status and requirement (c) products or services need and preferences, and (d) consumption pattern and buying behaviours.

Patrick E. Murphy and William S. Staples (1979) had suggested modern family life cycle categories such as, younger or middle age divorced couples and other married couples without children. An understanding of the FLC will help marketers to gauge the changes occurring in the individual's consumption pattern over their life time.

Classification of families on the basis of stage in the family life cycle (FLC) will give valuable insights into the family consumption related behaviour. However, with the many changes occurring in the contemporary family set up and life style with the inset of the modern society, the traditional FLC stages has given way to the non traditional FLC stages. When households undergo status changes such as divorce, temporarily out of job, death of the spouse etc., the family as a consumption unit may undergo spontaneous changes in brand preferences. For instance, divorce may result in

either or both the spouses trying to set up new residence, obtain new landline phone connection, get membership to a good club etc. If divorced couples have children, then the concerned spouse will have to plan for additional entertainment expenses.

If the family unit comprises of young couple (dual income family) with growing children, they will have another life-style and with more purchasing power are likely to spend more on durable consumables and entertainment. Thus marketers will have to pack their products and services relevant to the varying family life styles and FLC of the consumers. Recognising this need, *Club Mahindra* advertises about its family holiday offerings. It describes its family holidays as "A heady mix of family holiday experiences where every moment is special".

## 6.9 Nature of Purchases:

Purchase decisions are very often influenced by the family responsibilities and income constraints. For example, singles (who are young, unmarried drawing reasonable income) tend to spend more on clothes, personal care products, entertainment and vacations. Whereas, newly married couples (dual income) with significant discretionary income may spend more on setting up a new house, furniture, interiors etc. This consumption pattern and purchasing power will change once they have children, then later on when the children grow up and so on.

Thus, there are could be ramifications which arise from the changes occurring in the living status—with a different set of needs relating to the household appliances, shopping expenses, and entertainment expenditures

## 6.10 Family Decision-Making:

Although marketers have recognised the 'family' as the basic decision-making unit, in order to get a complete picture of the consumption process, they like to examine the attitudes and behaviour of the *user* of the product or consumer and the major decision-makers in the family. For this firstly they need to identify roles of the family members in their decision-making process. Generally Eight distinct family consumption roles have been identified in the family decision-making process.

The number and the person who may perform these roles may differ from family to family and from product to product also. At times, a single member will independently assume a number of roles. Say, the mother while passing the *Pizza Hut* on her way home, may pick up the attractive offer (multiple food items) for Rs. 75 only. Her decision does not directly involve the influence of other family members. She is the initiator, decider and buyer, she may or may not be the sole user (or consumer). Products may be consumed by a single family member (face pack, cosmetics, deodorant etc.) or consumed directly by many family members [*Dabur Real Juice, Fanta, Pepsi* — (1-2 litre packs)] or indirectly by the entire family (T.V, Fans, DVD player etc.) . Thus, depending upon the product, or service and its utility value, the single role can be performed by two or more members. Or in Certain cases one or more of these basic roles may not be required.

Another aspect of family consumption decisions of interest to marketers is whether the decisions are husband dominated, wife dominated, jointly taken or in solitary (or unilateral). Traditionally, husbands had dominated in decisions related to cars and insurance and wives for food and toiletries. However, with all social and cultural changes occurring (women actively taking to work and gaining financial confidence), wives are also actively involved in the decision-making process related to the consumption (or use) of products and services such as automobiles, financial services, vacations, entertainment etc. Thus more knowledge of the family roles and influences on the decision-making process will help marketers to work out suitable marketing strategies.

**Role of Culture:**

**Influence of Culture on Consumer Decision-Making :** *Culture can be defined as the prevailing beliefs, values, perceptions and behavioural norms that underpin a society.* An examination of the cultural background will give a strong indication of the likely preferences for products and services. This is because, culture consists of traditional ideas, a set of learned beliefs, values, attitudes, habits and accepted forms of behaviour shared by our society and transmitted from generation to generation within the society.

The uniqueness of our Indian culture is the prevalence of the joint family system (in many of the states), the caste system, living style, customs followed by various religions (visible in marriages, birth of a child, or death of a family member) festivals, rituals etc. These practices have been in vogue for a long period of time and very often are taken for granted. Core beliefs and norms (be honest, respect for age or elders, patriotism, spiritual/benefits of meditation and yoga etc.) are passed on from parents to children and gets further reinforced by our educational, legal and social institutions. Some of our beliefs (like respect for elders) are enduring and may not change much from generation to generation. Similarly, moral values such as the importance of honesty and value of human life is still accepted and practised. Although, there are other norms such as the acceptance of woman moving out of the four walls of the house, divorce, re-marriages and living together without marriage (live-in couples). These are some of the cultural norms which have changed dramatically over the past few years.

Some of the cultural changes have had an impact on the consumption behaviour. For example, with women taking to work and a rise in the disposable income, there is seen an increase in the purchase of consumer durables such as washing machines, vaccum cleaner, microwave oven and deepfreeze refrigerators. This not only enables them to escape from the miseries of dealing with the domestic help but also permits them to indulge in spending more money and time with their family or simple shopping and entertainment. Unlike in the past when individuals preferred to eat freshly cooked food at home, today, with the easy availability of fast food outlets, restaurant, and ready-to-eat packed food, many households (single family, dual income families etc.) prefer to consume outside (or branded) food. With malls, supermarkets etc. having great acceptance among consumers, they are willing to travel even long distances in the comfort of their car to do shopping or watch movies (in multiplexes) and eat at restaurants. Marketers have understood that cultural changes and marketing opportunities go hand in hand and devise marketing programmes accordingly.

**6.11 Activity:**

(1) Select two households, one subscribing to the local channel network and the other having purchased the 'Tata Sky dish Antenna'. Classify each of the household on the basis of the social class and analyse it each household's life style and consumption behaviour.

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## 6.12 Summary:

- Man being a social human being needs to interact with other people in satisfying his various needs like purchasing clothes, going for a movie etc.
- Social class refers to the rating of people in a society into a hierarchy of upper, middle and lower class based on their power, occupation, prestige, education and income. A recent study by NCAER has indicated specific numbers of the growing middle income class households. This can help marketers to work out strategies to woo customers to increase purchase of various products and services.
- A group can be defined as two or more persons who are interacting with one another in such a manner that each person influences and is influenced by each other. The reference groups which can influence consumers' purchase behaviour are primary (family, friends) and secondary (work groups, social club members, shopping friends). Reference group can also work as informational or normative or comparative influence.
- A family can be defined as two or more persons related by blood or marriage, who reside together and provide the basic function of financial and emotional support and helps in socialisation. 'Family's influence on the consumption behaviour of its members will depend upon the household life cycle, nature of purchases and family decision making process.'

## 6.13 Self Assessment Questions:

- (1) What is 'Social class'? Can you discuss the relevance of classical class influence in the purchase of:
  - Credit Card Purchase
  - Home exercise equipment
  - DVD home Theatre
- (2) Define a group. Explain the role of reference group in the purchase of a Luxury car by a senior executive of a company.
- (3) How will you define a family? Explain the role of family in consumer's decision making process.

## 6.14 Additional Readings:

- (1) Leon G. Schiffman and Leslie Lazar Kanuk, '*Consumer Behavior*' 16th ed, Prentice Hall of India, New Delhi, 1997.
- (2) Henry Assael, '*Consumer Behavior*', Thomson Asian Pvt. Ltd, Singapore, 2001.
- (3) S.A. Chunawalla, '*Commentary on Consumer Behaviour*', Himalaya Publishing House, Mumbai, 2001.
- (4) Liz. Hill, & Terry. O'Sullivan, '*Foundation Marketing*', Prentice Hall (Pearson Education Limited) England, 2004, pp. 89-118.
- (5) Suja Nair, '*Consumer Behaviour*', Himalaya Publishing House, Mumbai, 2003.

- (6) Vinod, Mahanta and Shailesh Dobhal, "Via Com Via Tom", *Brand Equity, The Economic Times*, 5 April, 2006.
- (7) Aman Preet Singh, Talking it at face value, *The Economic Times*, 8 April, 2006.
- (8) Nandini, Vaish, Vanita. Kohli. Khandekar and Pallavi Roy, Return to the fast lane, *Business World.*, 6 March, 2006, pp. 34-42.
- (9) William O. Bearden and Randell L. Rose, "Attention to Social Comparison Information : An individual Difference factor Affecting Consumer Conformity," *Journal of Consumer Research*, 16, March 1990, pp. 461-471.
- (10) *Strategic Marketing*, January-February, 2005.
- (11) Rajesh Shukla, "The Growing Indian Middle Class, *The Economic Times*, Bangalore, 1 April, 2006.
- (12) Shailesh Dobhal, and Vinod Mahanta, Touch of Class, *The Economic Times*, Bangalore, 8 April, 2006.



## Lesson - 7

# Consumer Decision–Making Process

## Objectives

After going through the chapter you should be able to understand:

- What is the meaning of 'Decision-Making' and 'Buying Motives'?
- Which are the different views and types of 'Decision-Making'?
- What is the 'Schiffman and Kanuk's Model of consumer Decision-Making' all about?

## Structure:

- 7.1 Introduction
- 7.2 Meaning of Decision-Making
- 7.3 Different Views of Consumer Decision-Making
- 7.4 Buying Motives
- 7.5 Types of Decision-Making
- 7.6 Schiffman and Kanuk's Model of Consumer Decision-Making
- 7.7 Activity
- 7.8 Summary
- 7.9 Self Assessment Questions
- 7.10 Additional Reading

## 7.1 Introduction:

While being involved in the decision-making process, the consumer may get influenced by other people's comments and advice. There could be various types of decisions where the consumer's decision-making process could get affected by comments or opinion or suggestion from others. These decisions could vary from decisions on which dress will be suitable for a social function, choice of holiday resort during holidays to decisions on the selection of the sports gear and equipment to be purchased for the kind of the house.

In this chapter we have tried to understand various consumer decision making concerns. These include buying motives, types of decision making and the Schiffman & Kanuk's model of consumer decision-making.



## 7.2 Meaning of Decision-Making:

Almost daily all of us are involved in taking decisions related to the various aspects of our lives. Usually such decisions are taken automatically without the involvement of any particular decision making process. For instance say a housewife goes to purchase a mid priced range of tea, her decision making merely involves making a selection from the various brands of tea like *Taj Mahal*, *Tata Tea*, *Red label*, *Yellow Label* and so on. *The process by which a person is required to make a choice from various alternative options is referred to as decision making.*

The marketing environment has also witnessed many changes and has become more competitive with more and more of these becoming buyers' markets. It is on account of these changes that buyers have got the freedom to make a selection or an option from two or more alternative choices. For the firms, providing consumers with other alternatives it is a good business strategy and can also result in substantial increase in sales. While for the consumer, he or she will be pleased when able to choose and decide on the best from the alternatives available.

## 7.3 Different Views of Consumer Decision-Making:

The changing market environment provides the impetus for a careful study of consumer decision-making or buyer behaviour. The term 'model' generally refers to a general 'view' or perspective as to when and why individuals behave as they do. In buying and consuming a variety of goods and services, consumers are pursuing a sets of motives. Though need satisfaction is the underlying motive source of all consumption activity, an understanding of needs and processes that influence the formation and satisfaction of such needs will help the marketer to devise suitable marketing programmes. Here we will examine the various models of consumers in terms of the following four views:

### An Economical view or Model

Traditionally, economics has been considered to be the mother discipline of marketing. Economists believe that consumers derive some utility (a feeling of satisfaction) from consuming a particular product and so their consumption activity will be directed towards pursuing maximisation of utility. This is the reason why if given a certain amount of purchasing power, and a set of needs and tastes, a consumer will allocate his expenditure over different products at given prices rationally so as to maximise utility. Economists also postulate that the utility from the consumption of a certain product diminishes as the quantity of the product consumed increases' (based on the principle of diminishing marginal utility). According to this model it is also possible to make a number of predictions about the behaviour of buyers in terms of the price effect, Income effect and substitution effect. While these predictions are useful, questions are being raised on the assumption of rationality in the behaviour of buyers. The criticism by consumer researchers is based on a number of reasons. They argue that in reality, the consumer may not be (a) aware of the various product alternatives or (b) in a position to evaluate all the advantages and disadvantages related to the various product alternatives so as to rank them accordingly. Thus in the absence of all the possible sufficient, and accurate information, it will not be possible for the consumer to make the so called *rational or perfect decision*.

It has been criticised that the economic view is too idealistic and simplistic. It is being argued that consumers in reality behave very differently and do not maximise their decisions in terms of

economic considerations such as price-quantity relationships, marginal utility or indifference curves. Very often the consumer will settle down for a 'satisfactory' decision and may not be the best one though it will be a 'good enough' decision.

### A Cognitive View or Model

As a consumer, man is usually involved in thinking and problem solving. He is constantly involved in an active search for goods and services that will satisfy his needs and at the same time enrich his life also. As per the cognitive view consumers are involved in an information seeking and processing method. They try to gather all the necessary information from various sources. For this they may seek information from reliable sources like a trusted friend, or an expert and so on. Once he feels that he has sufficient information, so as to make a 'satisfactory choice decision', he will cease to gather more information and will ultimately decide on his purchase intention.

This model of man as a thinker, views consumer as an information processor. And all the focus is on the processes by which consumers seek and evaluate information about the concerned brands and the respective retail outlets.

The advertisement of *Global Telecom services Ltd.* is basically a cognitive appeal to companies using fax to consider the advantages of the Enhanced Fax services from Global Telecom services Ltd. The ad has, in depth explained the ways of reducing the existing fax bills by 48% by availing of Global Telecom systems.

Thus according to the cognitive model of consumer, the above mentioned ad will make him think on the benefits of Global Enhanced fax services. The consumer will finally take the purchase decision based on his satisfaction of the information received. In other words the problem solving view or model of consumer talks of a person who in the absence of the total information or knowledge of all the available product alternatives, would actively seek '*satisfactory information*' and thereby attempt to make '*satisfactory decisions*' accordingly.

### An Impulsive or Economic View of Consumer

Another aspect of consumer decision making is that they can be emotional or impulsive while taking purchase decisions. Very often, we as consumers are involved in purchases by impulse or on a whim. For such emotional buying, the consumer may not undergo the usual process of carefully searching, evaluating and then deciding on the brand or outlet to purchase from. Rather he is more likely to purchase the product (brand) based on a whim or an impulse. Such consumer decisions are said to be '*emotionally driven*'.

For emotional or impulse purchases, in the absence of a search for pre-purchase information, it is the mood and feelings of the consumer which will decide on the emotional purchase decision. Emotional decisions could be rational to some extent also. That is, the consumer may take an emotional decision to purchase a product but he will be rational while deciding or choosing one brand over another.

Even when consumers are purchasing various types of products, they may not be rational in their decision making. For instance, very often when purchasing apparel or dresses, more than rationality it is the feeling (emotion) which will make the consumer purchase a particular brand of designer clothing. Here the consumer will make a choice based on name of the particular brand - will add to his (feeling of) status. Realising that emotion also plays a role in consumer decision

making, advertisers are designing their products' advertising so as to appeal to the emotional feeling existing within each individual. This emotional appeal or message can be seen in the advertisements of 'Opel Astra' and 'Wipro corporation'. The advertisement of Opel Astra is trying to attract the attention of the consumers by conveying the feeling of pleasure, comfort and peace of mind which would be derived while driving the car. Similarly in the advertisement of Wipro Corporation, the photograph of a baby with the statement "we" have been thinking of you" also is an emotional message or a feeling oriented advertising.

Related to consumers emotions and feeling is the 'mood' of the person. Mood may be defined as a feeling state or state of mind. The basic difference between an emotion and a mood is that the former is a response to a particular environment, while mood is an unfocused, pre-existing state-already present, when the consumer gets motivated or experiences a positive feeling about an advertisement, or the retail outlet or brand or a product.

Moods play an important role in consumer decision-making. Very often it is the mood of the consumer which influences the consumers decisions related to when to shop, where to shop and in whose company to shop etc. It has been observed that even within the shopping environment, the interior decor, the attitude of the sales persons, the type of services provided etc. could affect the shoppers mood and will influence the consumers decision on how long to shop and on how often to go to that shop. Realising this now retailers and dealers are creating a positive store image. This will definitely to have a positive impact and influence on the consumers decision to purchase.

## 7.4 Buying Motives:

Earlier in the book we have seen that consumers buy goods/services, because of certain motives.

*'Motive' can be a strong desire, feeling, an urge from within, a drive, stimulus or emotion which plays a role in the consumer's decision to purchase a product/service.*

A consumer purchases a particular product or service because of a strong inner feeling or force which instils in him a strong desire to have possession of the same. A buying motive, can thus be said to be all the desires, considerations and impulses, which induces a buyer to purchase a given product. Prof. D. J. Duncan has defined 'buying motives' as *"those influences or considerations which provide the impulse to buy, induce action or determine choice in the purchase of goods or services"*. Thus an understanding of buying motives will help the firm to know what are the consumers attitudes, which make them act in a particular way while buying certain goods or services.

Basically, buying motives are of two kinds:

- (1) Product motives.
- (2) Patronage motives.

Product is said to be a bundle of satisfactions to take care of consumer needs and desires. Then the questions before the marketing decision maker are - why does a person buy a product, a specific brand? And why does he not have brand loyalty or why does he change his brand from one to another? These questions can be explained by understanding his buying motive.

## Product Motives

We have already understood the meaning of buying motive. The impulses, considerations and desires that induces a person to be positively inclined to purchase a particular product is called product motives. The product is inclusive of the attributes colour, size, attractive design; package, price etc. which may be the reason behind a person having product motive.

### Emotional and Rational Product Motives

Product motives can be classified on the basis of the nature of satisfaction sought by the buyer. Based on this classification, we can have two categories of product motives.

- (i) Emotional product motives.
- (ii) Rational product motives.

*Emotional product motives* are those impulses which persuade a consumer to purchase a product spontaneously and without fore thinking on the consequences of the action or decision. Evaluation of the pros and cons of the decision or logical reasoning analysis is not found behind such purchase decisions. Here the buyer lets the heart rule over the mind. That is, emotional product motives usually appeal to the buyers sense of ego, to display his social status, tendency to imitate others or convey the feeling of love and affection to close friends and family members. For instance, a father may on impulse buy a saree for his wife and frock for his little daughter.

*Rational product motive*, on the other hand, involves careful reasoning and logical analysis of the intended purchase. The buyer will work-out whether it is worthwhile to purchase the product. He will think on the lines - the purpose to be served by the intended product purchase, the various alternatives available to the buyer and so on-. The buyer will think and work-out the valid and relevant reasons to justify the proposed purchase of the product. For instance, if a person is planning to purchase furniture for his house, he/she will work on various aspects like suitability to the home environment, durability, economy, etc. before purchasing the same. He or she will lookout, enquire about the furniture available at various outlets before taking the final decision on whether or not to buy the furniture.

However, sometimes it has been observed that some product motives may be a mixture of emotion and rationality. That is, a buyer may react quickly to a situation and make an impulsive buying decision but there could be some conscious reasoning behind such purchase. So a more logical way of classifying product motives is by adding two dimensions to the product motives -utility and prestige. In most purchase decisions, these two motives are combined to a certain extent. It is believed that a buyer gains satisfaction from the purchase of a product partly because of its utility to him/her and partly because of the social recognition he or she gets from the purchase of the product.

### Patronage Buying Motives

, Why do buyers purchase from certain *specific shops*? What are the considerations or factors which persuade the buyer to display such store patronage? These questions can be answered by understanding patronage buying motives.

Patronage buying motives can also be categorised into two namely, emotional patronage motives and rational patronage motives.

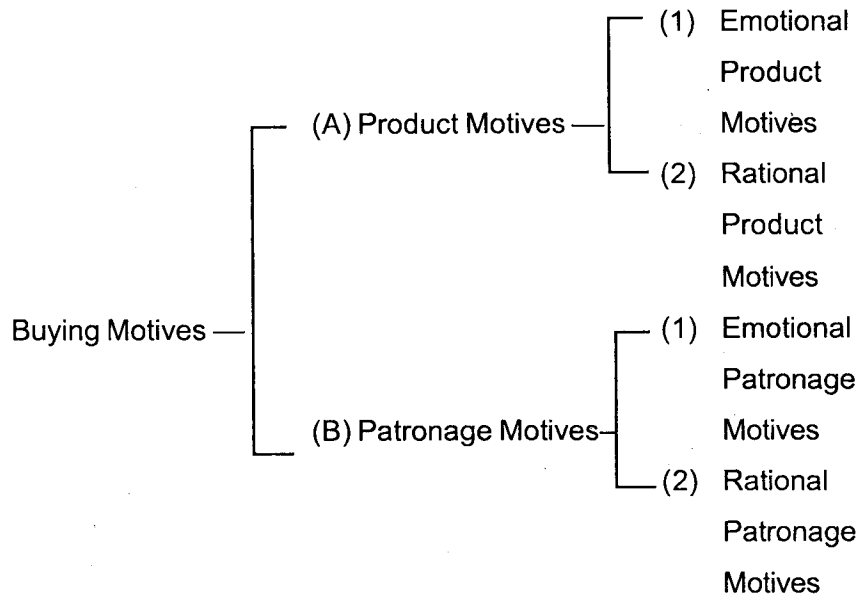


Figure 7.1 The types of buying motives

*Emotional patronage motives are those impulses which motivate and persuade a buyer to purchase from specific shops. There may be no logical reasoning behind his decision to purchase from a particular shop. He may simply decide to buy from his "most preferred" or "favourite" shop, merely based on subjective reasons. This is referred to as emotional patronage motives. Here also it may be the urge to gain social recognition or urge to imitate others etc. which may be responsible for the buyer developing patronage to a specific shop (s).*

On the other hand, *if a buyer solicits a particular shop after following a logical reasoning of the mind, this is called rational patronage motives. He/she may select a shop because it offers a variety of products, or stocks the latest designs and models believes in prompt delivery or assures good after sales service. Then we can say that the buyer is influenced by rational patronage motives. But, as mentioned earlier here also every patronage will be inclusive of a combination of rational and emotional motives. Knowledge of the product motives and patronage motives will help the marketers to devise or formulate sales promotion programmes so that the same product appeals to the different motives of the buyers and also work-out strategies to attract and retain patronage from many buyers to their shops.*

### (A) BUYING ROLES

A big task before the marketer is to identify the target buyers of the particular new product. The marketer has to know who makes the buying decision for the particular product category. Very often, most of the purchase decisions involve a decision making unit (DMU) comprising of more than one person. So he has to understand the role of the various people involved in the decision making process. The person/s involved can play either of these roles.

- (a) *Initiator:* The person who is the first to suggest or think of the idea of purchasing a product or service.

- (b) *Influencer*: A person who has influence, whose views or advice is given weightage while taking the final decision.
- (c) *Decider*: The person who finally takes the decision of whether to buy, what to buy, how to buy, or from where to buy.
- (d) *Buyer*: The person who actually buys the product.
- (e) *User*: The person or persons who make use or consumes the product or service.

It will be very useful for the company, if it is able to identify the roles of the persons involved in the decision making process because this information will help them in designing the product, do allocation for the promotional budget and work out the communication media and decide on whom to direct the message also.

For example, we will examine the decision making unit for the selection of a family car. The idea of buying a new car might come from the eldest teenage child (son). A family friend may express views or advises on the kind of car to buy. The son may have definite opinion on the specific features of the car, the wife might voice opinion on the car's style while the husband will choose the make and model of the car. The husband might make the final decision after taking the approval of his wife and eldest son. The husband will buy the car. The husband might end up using the car more than the wife or son. Here the marketer will direct most of the advertising giving information about the car's special make, to reach the husband. The company will include certain car features to please the wife and also use a suitable media to communicate with them. Thus knowing the main participants and their roles in the decision making process will help the marketer to design a marketing program accordingly.

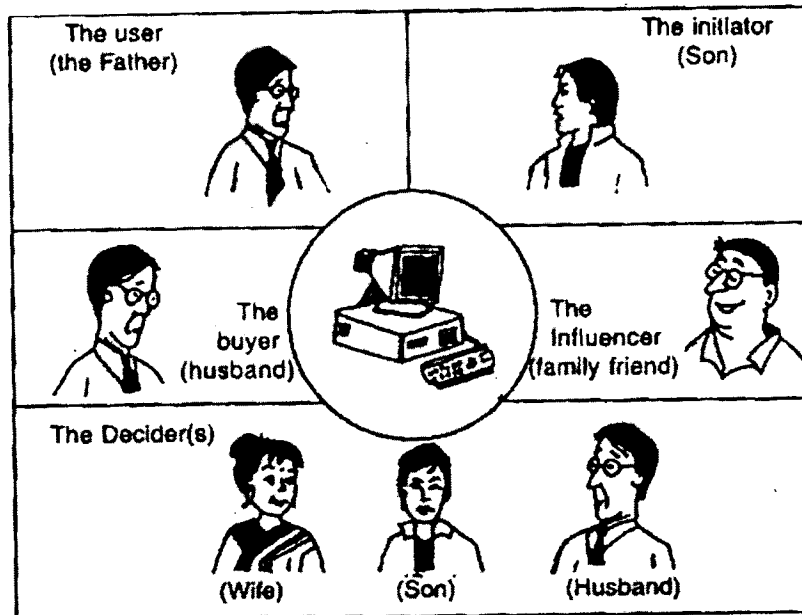


Figure 7.2

## 7.5 Types of Decision-Making:

The decision-making process varies with the type of product involved. There will be a lot of difference in the decision-making process involved for purchasing a bathing soap, a sports kit, an expensive camera, a new television, a new family car, and a personal computer. This will depend on how complex the decision is likely to be and degree of involvement required from the participants. In other words, more complex the decisions, more the involvement of buying participants and more the buyer deliberation.

### (1) Routinised response behaviour/Habitual buying behaviour

This is the most simple type of buying behaviour. This behaviour is adopted for the purchase of low cost, frequently purchased items. Here the buyers do not give much thought, or search or take a lot of time to make the purchase. The products in this class are generally classified as low involvement goods. The buyers are very well aware of the product class, know the brands and also have a clear preference among the brands. So the buyers have to take very few decisions for the purchase of such type of goods.

The marketer has to ensure two tasks. (1) The marketer must continue to provide satisfaction to the existing customers by maintaining quality, service and value. (2) He must try to attract new customers by making use of sales promotion techniques like point of purchase displays, off-price offers, etc., and also introduce new features to the products.

### (2) Limited problem solving/Dissonance reducing buying behaviour

Here the buying behaviour is more complex as compared to routine buying behaviour because the consumer is confronted with an unfamiliar brand in a familiar product class. For instance, a housewife is thinking of buying a new pressure cooker and may be shown the '*United Pressure Cooker*' by the retailer. The housewife will ask questions, watch advertisements and gather more information to learn more about the '*United Pressure Cooker*'. This buying behaviour is described as limited problem solving because the buyers are in a situation where they are fully aware of the product class but not familiar with all the brands and their features.

Here the marketer's job is to design a communication programme which will help the buyer to gather more information, increase his brand comprehension and gain confidence in the brand.

### (3) Extensive problem solving/Complex buying behaviour

This buying is referred to as a complex buying behaviour because the consumer is in an unfamiliar product class and is not clear about what criteria to consider for buying. For example, a person may become interested in purchasing a music system, for the first time. He has heard of the various brand names as *BPL*, *Videocon*, *Philips*, *National* and *Panasonic* but lacks clear brand concepts. He does not know what product attributes or features to consider while choosing a good music system. So he is in a extensive problem solving situation.

The marketers must understand the information gathering and evaluation activities of the prospective consumers. They have to educate the prospective buyers to learn about the attributes of the product class, their relative importance and the high standing of the marketer's brand on the more important brand attributes. In other words, the marketing communications should aim at supplying information and help the consumer to evaluate and feel good about his/her brand choice.

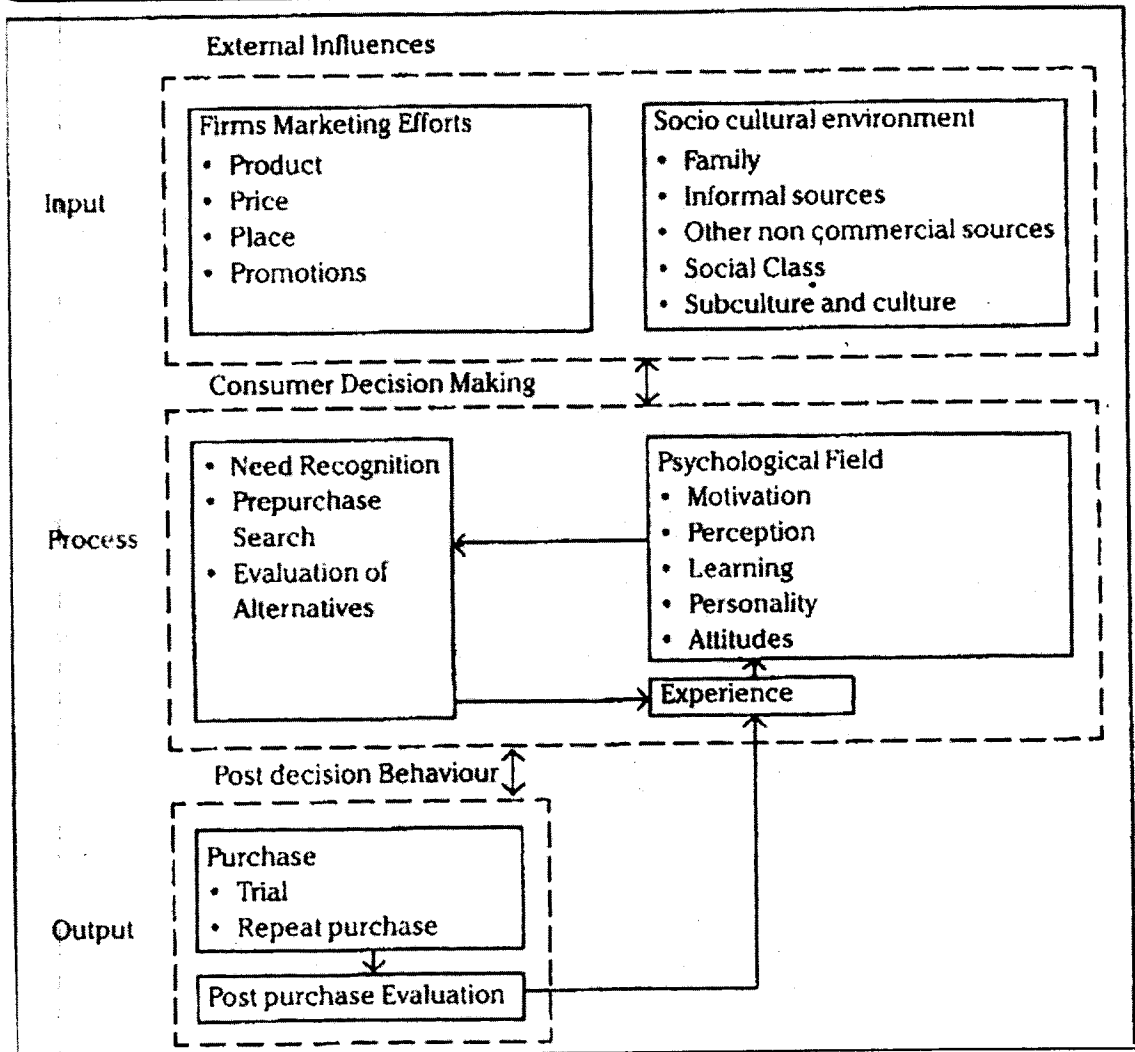


Figure 7.3 L.G. Schiffman & L.L. Kanuk's model of Consumer Decision-Making

(Source: Consumer Behaviour; Leon.G. Schiffman Leslie Lazar Kanuk, Prentice Hall of India Private Limited, New Delhi, 1997)



## 7.6 Schiffman and Kanuk's Model of Consumer Decision-Making:

This model of consumer decision-making developed by Schiffman and Kanuk is related to the problem solving consumer and to some extent the emotional consumer model. It provides an overview of the consumer decision-making process. The model is made up of three major components: input, process and output.

### Input

The input component comprises of the external influences, which are the sources of information used to make a positive influence on the consumer's product related values, attitudes and behaviour. The input component includes the *marketing mix elements* i.e., the various marketing stimuli used by the organisations and the *sociocultural environmental factors*, which will also act as a stimuli and influence the consumer's purchase decision.

**Firm's Marketing-mix efforts or marketing stimuli:** The firms marketing stimuli will consist of the four P's Product, Price, Place and Promotion. The marketers are interested in knowing how consumers will respond to the various marketing stimuli. These are marketing activities or efforts to communicate the benefits of their products and services to potential consumers. In the absence of direct contact between the consumers and the firm, marketers make use of various marketing strategies and programmes to communicate with the prospective customers. These may be in the form of attractive product features site, packages, suitable prices; mass media advertising, personal selling, direct marketing, other sales promotion measures and the selection of suitable distribution channels to ensure the availability of the product at the market place.

In spite of all these efforts, marketers are interested in knowing and understanding how these marketing efforts have had an impact on the consumers mind. To understand this better and gauge the consumers' behaviour, many marketers are turning to consumer researches.

**Socio-cultural environment:** The socio cultural inputs also play a major role in influencing the consumer's decision making process. These social cultural environmental factors include the family, social class, culture and sub culture, informal sources and all the other non-commercial sources. Generally stated the socio cultural inputs will consist of a wide range of non-commercial influences.

The family members can exercise a strong influence on the buyer's behaviour. The family can also include a friend. Informal sources will include public communication (comments expressed) via print media, comments of a friend etc. all could be the specific non commercial sources of information.

Social classes show distinct product and brand preferences in areas such as clothing, home furnishings, leisure activity and automobiles. Social class influences can be seen in their choice of the retail outlets, exposure to media etc.,

By and large culture has the broadest and deepest influence on consumer behaviour. There are certain unwritten codes of conduct communicated and to be followed by each culture. These cultural norms will put restrictions or the 'do's and don't's' on the buying behaviour of individuals. Thus culture also influences the buying behaviour of consumers.

Though it should be remembered that unlike the firm's marketing inputs, socio-cultural environment will only influence consumers to avoid a product; whereas, the marketing efforts will induce and motivate consumers to purchase the specific product.

It is the cumulative impact of the firm's marketing efforts and the socio-cultural environmental factors which will influence a consumer's decision making process. This is linked by a two handed arrow connecting the input and the process components of the model.

**Process :** The process component of the model is indicative of the consumer decision making. This starts with the psychological field. This refers to the psychological factors such as motivation, perception, learning, personality and attitudes which will determine the consumer's needs or wants, their knowledge about the various product choices, how they gather more information and then their evaluation of alternatives. From the Fig. 7.3, we can see that the consumer decision-making process consists of three stages:

- (1) Need Recognition stage.
- (2) Pre purchase search stage.
- (3) Evaluation of Alternatives stage.

**Need recognition:** The consumer is likely to 'recognise a need' when he is faced with a 'problem'. The need or problem recognition, among consumers can be of varied types. Some consumers may experience the *'actual state type of problem'*. This may occur when they recognise a problem in the form of a product not performing satisfactorily. For instance, the housewife may realise that the mixer she was using doesn't grind properly. Another type of need or problem recognition could be the *desired state consumer*. Here the consumer may experience the desire for something new, which again may trigger the decision-making process. For instance, a newly married man may desire to possess a 'motor-cycle'. The desired state of consumer will be the starting point for the consumer to become involved in the decision making process.

The need or problem recognition can be either simple or complex. Simple problem recognition refers to needs that occur frequently and can be dealt with almost automatically, such as feeling thirsty and not having a "Pepsi". Complex problem recognition is characterised as a state, when a problem occurs over a period of time and the actual state and desired state gradually moves apart. For example a man who has been driving a scooter for many years may consider selling it and going for a brand new scooter so as to reduce the heavy maintenance charges.

**Pre-purchase search:** During this stage the consumer recognising a need that requires to be satisfied, now is engaged in an information seeking process. In case of having been satisfied with the product in the past, the consumer will make a choice without going for an extensive search for information. On the other hand, in case of no prior experience, the consumer will go on an elaborate information seeking process before making a particular choice.

The consumer will be influenced by his or her internal psychological field before being engaged in an external search for information. Very often, the past experience plays a relevant role in deciding the extent of information that will be sought by the consumer. If the past experience is good, less will be the external information sought by the consumer to reach a decision. Many consumer decisions will be based on a combination of past experience (internal sources) and marketing and non commercial information (external sources). Perceived risk could be another factor to influence

at this stage of decision process. If the perceived risk is high, the consumers are likely to be engaged in a complex information search and evaluation. Whereas, when the perceived risk is low, the consumers are likely to use very simple search and evaluation techniques.

As explained earlier, while discussing about the various types of decisions, consumers get engaged in an external search effort when they have the least amount of product category knowledge. This goes to show that when consumers have less information about the product category and it is very important to purchase the product also, they will get engaged in an extensive pre purchase search activity.

The amount of information a consumer will gather also depends on various situational factors. The situational factors can be broadly classified into three:

- (1) Experience.
- (2) Social acceptability of the product.
- (3) Value related considerations.

**Experience:** will be in relation to whether it is a new experience or whether the past experience with the product has been satisfactory or not. **Social acceptability** will consider whether the product is socially visible and acceptable to the society. In case of **value related considerations**, the consumer will evaluate and consider whether the purchase is discretionary rather than necessary, all the possible alternatives, family members assessment of product requirements, reference group influences and all the possible sources of information.

While being involved in a pre purchase search, the consumer will try to search and gather information from all the possible known sources.

### **Evaluation of Alternatives**

The usual human tendency is to select a brand from a sample of all possible brands. The evaluation of alternatives is carried out by using two types of information:

- (a) The Evoked set: A list of brands from which they plan to make their selection.
- (b) The criteria used to evaluate each brand.

The evoked set refers to the specific brands a consumer considers while making a purchase within a product category. Usually a consumers evoked set will comprise of only few brands. Since the evoked set will vary from consumer to consumer, the marketers must use promotional techniques designed to impart a more favourable and more relevant product image to the target consumer. At times this may also include a change in product features or attributes.

### **BRAND ASSOCIATION**

The criteria used by consumers to evaluate the brands that constitute their evoked set are usually expressed in terms of the product attributes. According to D.A. Aaker, "brand association" is anything that is 'linked' in memory to a brand. He has also listed eleven types of associations that can be linked with a brand name:

- Product attributes
- Intangibles
- Customer benefits
- Relative price
- Use/application
- Use/customer
- Celebrity/person
- Life style/personality
- Product class
- Competitors
- Country/geographic area

A study 'was conducted by Shobha Ganapathy and Deepak Kumar Sharma (doctoral students at the Indian Institute of Management, Ahmedabad) to understand the 'brand associations in various product categories and the relative strength of these associations. Given below is a Table 7.1. Showing the strength of associations as perceived by the consumers in various product categories.

On the basis of the strength of association with the brand/product category, 'N is a brand of brown beverage which has a strong association with health /strength/energy drink. Thus the brand identifies very strongly, with the product category and also differentiates from the other brands. In the category 'B' is brand of a dental care product which has a very strong association with a specific ingredient in the product.

No.	Category	Association	Strength of Association *
1.	Coffee	(1) Refreshing	0.57
		(2) Habit	0.28
		(3) Taste	0.14
2.	Hair Oil	(1) Hair nutrition	0.64
		(2) Stickiness	0.14
		(3) Shining hair	0.14
3.	Milk beverages	(1) Health/Energy	0.43
		(2) Taste	0.14
4.	Soap	(1) Cleanliness	0.40
		(2) Fragrance	0.27
		(3) Freshness	0.20
		(4) Complexion	0.13
		(5) Packaging	0.13
5.	Refined edible oil	(1) Healthy heart	0.77
		(2) Tasty	0.23
6.	Washing powder/soap cake	(1) Cleaning ability	0.55

		(2) Whitening ability	0.45
		(3) Price	0.18
		(4) Good for hands	0.18
7.	Toothpaste	(1) Fresh breath	0.62
		(2) Clean teeth/gums	0.38
		(3) Taste	0.23
		(4) Health	0.15

**Table 7.1: What words come to your mind when you think of these categories?**

\* The range of these figures lie between 0 and 1 as is evident from the methodology. Higher values specify stronger associations.

(Source: Shobha Ganapathy & Deepak Kumar Sharma, "Managing the Consumer's Mind", *Strategic Marketing*, March 1997)

This association is weak /practically non existent with the product category, which is strong on freshness. This brand is popular among those who look for clove oil in the tooth paste. The strength of this brand will depend on the size of the relevant niche.

"C" is a brand of hair oil which has a weak association with hair nutrition. So a lot of efforts will have to be put if the strength of this brand association has to be increased to quadrant 1.

		Association with the Category	
		Strong	Weak
Association with brand	Strong	Brand A (0.63) Quadrant I	Brand B (0.64) Quadrant II
	weak	Brand A (0.63) Quadrant III	Brand B (0.64) Quadrant IV

**Figure 7.4 Association with category and brand**

"D" is a brand of soap, which has a weak association with purity/sincerity and this association in turn is weak in the soap category, which is strongly associated with cleanliness. Thus all efforts have to be put so that the brand is able to move to the other quadrants II, III or I.

It has to be noted that marketers have to plan their strategies so as to build a proper brand image and thus win over the consumers mind. At lot of consumers' decision making will be based on the positioning and promotion of the brand.

### Compensatory and non-compensatory Rules:

When firms know that consumers are evaluating alternatives, they make use of advertisements, which may suggest the criteria to be used by consumers in assessing product or service options. This will enable the consumer to go through the experience of comparing or evaluating different brands or models of a product and finding the one that just feels, looks and or performs "right". In this connection, the model speaks of certain decision rules which provide guidelines or routines that make the process less taxing. These decision rules can be broadly classified into two categories: *Compensatory and non compensatory decision rules.*

According to the compensatory decision rule, the consumer evaluates brand options in terms of each relevant attribute and computes a weighted or summated score for each brand. The

computed score will indicate the brand's merit as a potential purchase choice. It is assumed that the consumer will select the brand that scores highest among the alternatives evaluated. Another unique feature related to the compensatory decision rule is that it allows a positive evaluation of a brand on one attribute to balance out a negative evaluation on some other attribute.

Whereas the non-compensatory decision rules do not allow consumers to balance positive evaluations of a brand on one attribute against a negative evaluation on some other attribute.

At times, an individual's or family's decisions may be based on a particular life style followed by them. A consumer's decision-making process can also be influenced—when faced with incomplete information, no equally comparable alternatives or when the situation demands making a choice which involves multiple decisions.

Thus understanding the decision rules used by the consumers in selecting a particular product or service will help the marketers to formulate a promotional programme.

### Output

The output component of the consumer decision-making is closely related to two kinds of past decision activity.

- Purchase behaviour
- Post-purchase evaluation.

### Purchase Behaviour

The consumer may make three types of purchases, namely: *first time or trial purchases*, *repeat purchases* and *long term commitment purchases*. When the consumer is purchasing the product for the first time, he or she may buy lesser quantity than usual. This will be a trial purchase because the consumer would purchase the product to try it out on an experimental basis. The consumer would prefer to evaluate the product through direct use in a smaller quantity, especially when purchasing a new brand.

If the consumer finds the new brand, after the trial to be more satisfactory, he/she is likely to repeat the purchase. When a consumer goes for repeat purchase, it is an indication that the product meets the consumer's approval and that he or she is willing to purchase it again in larger quantities. Then the firm can look forward to a long-term commitment from the purchaser. Of course, in case of certain type of durable goods like refrigerators, washing machines, ovens etc., a consumer will directly move to a "long-term commitment (through purchase) without being involved in a trial purchase.

### Post Purchase Evaluation

There is a general tendency among consumers to judge their experience against their expectations when being involved in a post purchase evaluation process. There are three possible outcomes of the consumer's evaluation of the product's performance in light of their own (consumer's) expectations: These outcomes are:

- (1) Actual performance matches expectations, leads to a *neutral feeling*.
- (2) Performance of product surpasses or exceeds expectations, which results in positive *disconfirmation of expectations* and this leads to satisfaction.

- (3) Performance of the product falls below expectations, causing *negative disconfirmation of expectations* leading to dissatisfaction.

A very important component of post purchase evaluation is the reduction of uncertainty or doubt that the consumer might have regarding their selection. Generally consumers, as a part of their post purchase evaluation will try to reassure themselves that their decision was the right one. That is they try to reduce their post cognitive dissonance by adopting one of the following strategies:

- They may rationalise that the decision is a wise one.
- They will look out for advertisements to support their choice and avoid those of competitive brands.
- They may attempt to persuade friends or neighbours to buy the same brand and thus confirm their own choice.
- They may turn to other satisfied owners for their reassurance.

The degree of post purchase analysis that consumers undertake will depend on the importance of the product decision and the experience in using the product. The consumer's post purchase evaluation 'feedback' is an indication of the consumers, likely purchase behaviour in the future. If the product performs as per consumer expectation, it is likely that the consumer will buy it again. However, if the product's performance is disappointing or falls below expectations, they will look out for alternative products or brands in the future.

### 7.7 Activity:

- (1) Search for two print advertisements, one which signifies the economic model of decision making and the other one signifies, the impulsive model. Explain the reason behind selecting the particular advertisement. Do you agree with the marketer's approach? Why?

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### 7.8 Summary:

- Decision typically involves being involved in a situation when a person is required to make a selection from the available alternative choices. All the decisions taken on a daily basis, are done automatically without involvement of any particular decision-making processes. The process by which a person is required to make a choice from various alternative

options is referred to as decision-making. For studying the changing market environment, marketers have worked out four different views of consumer decision making. The Economical view, a cognitive view and an impulsive view - of the consumer.

- Motive can be a strong desire, feeling, an urge from within, a drive stimulus or emotion which plays a role in the consumer's decision to purchase a product or service. Buying motives are those influences or considerations which provide the impulse to buy, induce action or determine choice in the purchase of goods or services. Basically buying motives are of two kinds. Product motives and patronage motives.
- The decision-making process varies with the type of product involved. This will depend up on how complex the decision is likely to be, the degree of involvement and the existence of buyer deliberation. The types of decision-making may vary from routinised response behavior to limited problem solving to extensive problem solving.
- The Schiffman and Kanuk's's model of consumer decision making is related to the problem solving consumer and to some extent the emotional consumer model. This model is made up of three major components; input, process and output and provides, an overview of the consumer decision making process.

### 7.9 Self Assessment Questions:

- (1) Compare and contrast the economic, cognitive and emotional models of consumer decision-making
- (2) What is a motive and a buying motive? Briefly explain the various types of buying motives.
- (3) Define and explain the differences between the three decision-making approaches. According to you what type of decision process would consumers follow while purchasing for the first time: (a) Bubble gum (b) Rice (c) Deodorant (d) i Pod (e) a cellular telephone  
  - (f) a Luxury wrist watch. Explain your answers.
- (4) How do consumers try to reduce post purchase dissonance? What steps should marketers take to provide positive re-informant to consumers, post their purchase, to reduce negative disconformities of expectations?

### 7.10 Additional Reading:

- (1) Suja Nair, '*Consumer Behaviour in Indian Perspective*', Himalaya Publishing House, Mumbai, 2005.
- (2) Leon G. Schiffman & Leslie Lazar Kan. UK, '*Consumer Behavior*', 8th edn, 2005, pp. 547-582.
- (3) Jim-Blithe., '*The Essence of Consumer Behaviour*', Prentice Hall, Europe Heart ford Shire, 1997.





## Lesson - 8

# Consumer - Satisfaction

## Objectives

After going through the chapter you should be able to understand:

- How customer satisfaction can be achieved through customerisation?
- Which are the ways through which marketers are working towards enhancing customer satisfaction?
- How to deal with customer complaints and enhance customer satisfaction?

## Structure:

- 8.1 Introduction
- 8.2 Customerisation for Customer Satisfaction
- 8.3 Working Towards Enhancing Customer Satisfaction
- 8.4 Sources of Customer Dissatisfaction
- 8.5 Dealing with Customer Complaints and Enhance Customer Satisfaction
- 8.6 Activity
- 8.7 Summary
- 8.8 Self Assessment Questions
- 8.9 Additional Reading

## 8.1 Introduction:

*Adam Smith* in *Wealth of Nation* has said "Consumption is the sole end and purpose of all production and the interests of the product ought to be attended to, only so far as it may be necessary for promoting those of the consumers". This quotation only reiterates that the purpose of production is consumption and one's own purpose will be served only if the consumer interests are attended to. Infact even the marketing concept goes by the philosophy of providing services for mutual gain. If this concept is followed, organisations will be able to satisfy the diverse and continuous needs of its growing number of consumers. Ultimately, the organisation as well as the marketer must make all efforts to ensure that their product and service offerings will match the consumer expectations which in turn will lead to consumer satisfaction."

## 8.2 Customerisation for Customer Satisfaction:

Organisation's which are customer centric will be able to work towards customer satisfaction. This is because customer satisfaction is not just an end project but a process in itself.

**Customerisation:**

The customer of today is looking out for *value for money*. Marketers are trying to enhance the concept of value through using unique product service characteristics, to match customer's aspirations and preceptions and thereby focus on rebuilding itself around its (firm's) customer.

*Customerisation refers* to the process wherein all the employees of the firm are required to interact directly with the customer and end user. They can have access to every person and function within the organisation, be involved in designing and fine tuning key products and processes and turn every interaction with the customer into a platform of interactive communication, so as to add value and increase customer satisfaction.

**Customerisation will Help a Firm in :**

- Providing the quality of service to match customer requirement.
- Focussing on consumer needs so as to add value and offer benefits to consumer.
- To identify new customers, new market segments and new applications of existing products.
- Working towards total customer satisfaction and maximum customer delight.

Figure 8.1 will show how a customerised chain formed by the firm can lead to increasing its operational efficiency and also add to customer delight.

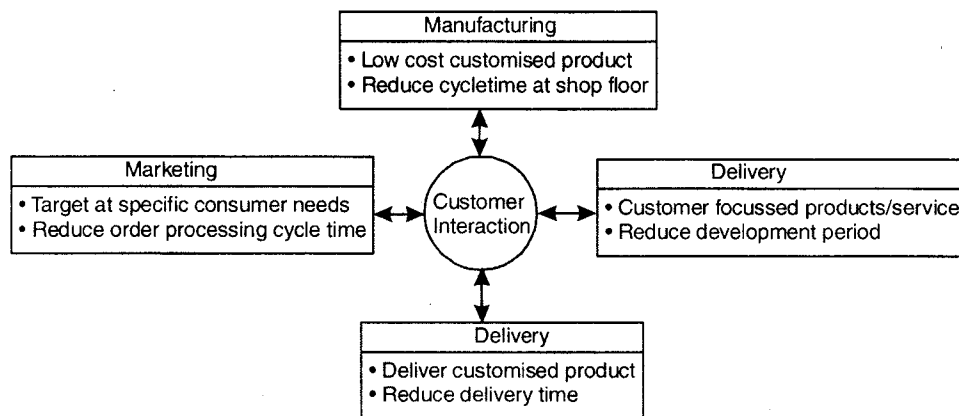


Figure 8.1 The customerised chain add to customer satisfaction and delight.

### 8.3 Working Towards Enhancing Customer Satisfaction:

In the existing business environment—markets are turbulent and customer needs fast changing, organisations should opt for ways to add value to their customer by offering products or services just the way they want it. When the customer has to choose from a large and bewildering number of options, features, pricing structures and delivering methods, offering a unique product to every individual customer will go a long way in adding value to the consumer decision-making process.

Customer satisfaction is a continuous process which does not begin or end with a purchase. It covers the entire '*ownership experience*' from selecting a product, to purchase, through aftercare to repeat purchase. Clearly there are three phases in the customer satisfaction process, namely :

1. **Pre Sales** : During this stage the customer's expectations are developed through the various information sources like advertising, word of mouth and so on.
2. **During Sales** : When the customer is engaged in experiencing the sales process i.e. how the sales person deals with enquiries and sell products.
3. **The After Sales Period** : This refers to the period after the customer has started using the product.

Thus, customers expectations and their experience will together to determine the level of satisfaction. These expectations are inclusive of:

**Pre-Sales Period:**

Availability of clear and useful information of on :

- The product or service.
- Its quality aspect.
- Its core benefits or advantages.
- Its price.
- Its availability at sales outlets.
- The procedure of obtaining it.

**During Sales Period:**

- Opportunity to inspect the products.
- Provision of an attractive sales environment.
- Courteous and attentive service.
- Reasonable and reliable delivery.
- Enhancing quality of goods or services.
- Prompt redressal in case of complaint received.
- Freedom to choose without undue sales pressure.

**The After Sales Period:**

- If required necessary support or advice be provided.
- Prompt replacement or refund if necessary.
- A smooth and straight forward complaint redressal procedure.
- Efficient repair and maintenance service.
- Efficient and effective consumer follow-up process.

From the above discussion it is seen that consumer satisfaction goes beyond the core product or service offering. Marketing decision makers have to start by trying to understand the elements which together will determine the satisfaction levels. Then list the elements in a proper sequence to identify what is to be done so as to increase the customers satisfaction level. This can be done only if the marketers involve a system which facilitates interaction with their customers. These interactions

will prove to be equally important as the quality of the core product or service offered by the company, in the long-run.

### Importance of Regular Research

Regular research is necessary to keep a track of the changing levels of customer satisfaction. Market research will give excellent clues to the firm about what their existing or prospective customers think. At the same time they will also provide information on how they rate one's competitor. This will indirectly indicate where the firm stands. In short, marketing research will help the firm to enter into a dialogue with their customers and thereby avoid losing sight of them. Very often companies have found themselves to be in deep trouble by neglecting the very reason for their business—customers.

There are many cases where brands and companies which have been witness to a downward swing in their business only on account of forgetting their customers and not doing anything to enhance their customer satisfaction. A classic case referred the world over is that of the automobile giant—*The Ford Motor* company, which got into deep trouble twice for not listening to their customer: By providing the no frill, low priced Model T, Ford had revolutionised the American markets and the top automobile makes for 17 years. However, after 17 years the same customers rejected 'Ford' in favour of options available from *General Motors*. This was because Ford failed to recognise the new value providers or the change in customers choices.

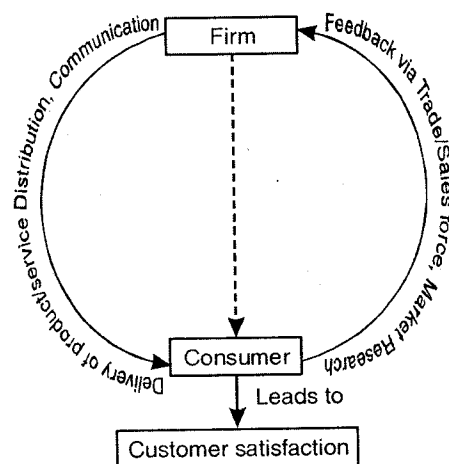


Figure 8.2 The inter-relationship between 'firm' and the 'customer' so as to enhance customer satisfaction.

Adman, Alyque Padamsee, had opined that companies are not making products today; they are making customers. A brand's success can no longer be evaluated on the basis of its market share but has to be measured by the share of the customers. Firms which fail to do market research and try to understand the consumers choices or consumer wants and what is the value for money that buyers look out for, will ultimately have to be satisfied with second best. With the constantly changing consumer choices, the firm must understand the real customer satisfaction indicator—value. Value can be said to be what the buyer is willing to pay for. The concept of value though universal, its delivery has to be unique. In today's competitive scenario, with plenty of modern and economical alternatives available, the marketer should provide value and add to customer

satisfaction. They can do this by offering superior value products at lesser price than their competitors or by providing benefits that more than offset a higher price.

Regular researches can enable marketers to become aware of the changing consumer satisfaction levels. For instance, the car manufacturer could mail customer satisfaction survey forms to their new car buyers twice—the first time a month after they have bought the car and then after around eighteen months after the purchase. Such a research or exercise will help the firm to assess whether satisfaction levels have changed as the customer '*lives with the product*'. Added to this the manufacturer can also keep their dealers informed about the customer satisfaction levels with periodic reports so that they can respond immediately to any changes in the levels.

### Feedback

Many of the companies are encouraging their customers to give a feedback and use this as a means of maintaining regular contact and dialogue. Having realised the importance of obtaining feedback from their customers, rather than avoiding comment, companies are encouraging their customers to talk. As mentioned above, feedback helps the marketer and firm to get an idea about the customers viewpoint on their products or services. Moreover, this information will help them to take actions and deal with any problems immediately.

Various methods can be used to obtain information on the customer satisfaction levels of the product purchased or service provided.

In case of organizations providing *services*, the feedback form related to questions on the standard of services provided may include :

- Did you feel we responded to your request quickly?
- Did the service engineer arrive on the time communicated to you by us?
- How long did the engineer take to complete the job?
- Did the engineer have the necessary input parts?
- How was the engineer's attitude? Was he courteous and helpful?
- Are you fully satisfied with the type of job done by our service engineer?

When companies are trying to get the consumers view point on their opinions regarding the treatment provided at the *retail outlets*, their questionnaire may include questions such as:

- From where did you buy the product?
- How did you find the sales staff—friendly, helpful and courteous?
- Were all your queries answered to by the sales staff?
- Did the retail outlet provide you all the necessary information and product literature?
- Was the product displayed well?
- Was a demonstration for the product provided at the retail outlet?
- Did the retailer have stock of the product desired by you or did you have to wait for delivery?
- In the absence of the necessary stock or otherwise were you offered our competitors products?

- Were you fed with information regarding the guarantee or warranty period and after sales service?

Companies who are interested in *assessing consumer satisfaction* from persons who have purchased the product, may ask for a feedback after a time interval, *i.e.*, after they have experience with the product purchased. In this case the questions may include:

- From where (which source) did you come to know about our product?
- Did you find the product to be in good condition when you bought it?
- Did you find the instructions to be clear?
- Do you feel that the product matches your expectations?
- Would you like to suggest any changes or improvements in the product?
- Are you satisfied with the product bought by you?

Of course, there is no guarantee that there will be full response to such a questionnaire from the customer. Very often the level of the feedback will be dependent on a combination of various factors such as:

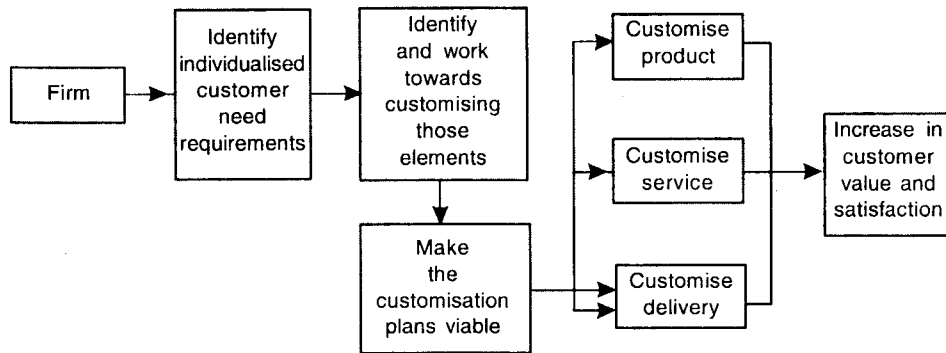
- The value of the product and its importance to the consumer.
- On the type of questionnaire (the structure of the questionnaire and whether the questions have been framed so as to elicit proper response).
- Any incentive offered to consumer say, entry in a prize draw etc.

The marketer could be in a position to understand the general levels of customer satisfaction by analysing the customer responses received, with the help of various statistical methods. More specifically put, these will indicate

- General levels of customer satisfaction.
- The level of consumer satisfaction keeping in mind certain aspects of a product or service.
- Differences if any, in the levels of customer satisfaction in a particular region or from a branch.
- Variations in departmental performance in customer satisfaction.
- If any changes are observed in the levels of customer satisfaction over a period of time.
- Improvements (changes) in the customer satisfaction level on account of implementing certain specific improvement programmes.

Based on the response from the customers feedback questionnaire, it will go a long way if the marketing manager will work towards enhancing the consumer satisfaction level to a higher level.

It has been rightly said 'Design delivers value'. Good marketers have always worked towards channelising their customers feedback into their product development, in order to establish a link between product features and customer requirements. In the words of *N. Jayaraman*, the then Executive Vice President (Sales & Marketing) *Colgate Palmolive*, "when you look at the development of a product design, you have to first identify the consumer need that has to be fulfilled. It can be a latent need, but you can also create a need. That's where an understanding of the consumer is critical. We conduct studies constantly in every category of consumer usage and attitude".



**Figure 8.3** How firms can work towards adding value and increase in the level of consumer satisfaction.

When *Samsung India* was seeking customer feedback before designing its TV set, it used questionnaires to probe deep into its target customers wish fulfilment notions. They discovered that he/she would love to watch a video film that doesn't have creepy-crawly advertisements running across the bottom. So *Samsung India* added a facility to its TV set that allowed viewers to Zoom the picture, cutting the commercials out of frame.

### Add Value through Effective Pricing

Pricing is another sensitive issue. Marketers should use the entire pricing issue to have a long term relationship with the customer. In the competitive pricing scenario, the manner in which the product or service can add perceived value will determine what the consumer is willing to pay and whether this will add to customer satisfaction.

At times supple pricing can generate considerable value for the customer when the firm is offering a range of products or services in a mix-and-match formulation. This is what the ITC group of Hotels which runs the *Welcome group chain of hotels* did to add value to customer satisfaction by adopting a suitable flexible pricing policy. For instance, its basic occupancy rates in the *Maurya Sheraton* in Delhi at Rs. 12,600 was in the same bracket as its competitors like the *Asian Hotels*, *Hyatt Regency* (Rs. 11,400) or *The Bharat Hotels*, New Delhi Hilton, (Rs. 10,200)/-. Since its economics prevented it from lowering the rates across the board in order to create a price differential, what the company did was to create a flexible rate by charging different prices for the rooms in different cities, so long as customers patronise the ITC chain of Hotels in all cities.

In other words, while the total price remains unchanged for the customer, he or she can cash in on the lower tariff of rooms in one city to use the hotel in that city more, thereby generating savings and greater value for themselves. Thus, say, ITC would offer lower rates in Delhi to a big customer provided he offers more business from the firm's Bangalore Hotel, at a higher rate. This will also provide the customer an opportunity to use the Delhi service more frequently.

By allowing the consumer to choose the price to be ultimately paid, the company is contributing towards enhancing the value they would derive from the price. Other companies which followed this flexible pricing strategy were Delhi's two cellular phone services, *Airtel* and *Essar Cellphone*. While their basic charges — in terms of both the cost of the handset and airtime tariffs were undifferentiated from each other, they were offering several combinations of price packages for the phone and airtime. Similarly *Standard Chartered Bank* had also offered a different menu of features to go with its credit cards for the customers who were looking to match their budget to particular combinations.

### Create Distribution Equity

Marketers have realised that with greater availability of goods that are close substitutes to competing brands, having good distribution channels can actually prove to be the differentiating factor in determining customer value, satisfaction and hence their loyalty also.

Also, while it will be easy for companies to match product technologies and prices, it will not be easy to duplicate an effective distribution system offering a value chain of quality of services. *Wipro Infotech* had built a network of 15 C & F agents and 400 dealers to enable it to keep its inventories low as well as mark a high turnaround time for products and the dealers investments. Added to this, having a wide network of distributors also kept the company close to the customers. In other words of *Sri. K. Purushotham*, the then business manager (channels) *Wipro Infotech* “what the customer orders is critical to us, and given the complications of assembling a customer-specific configuration, our objective is that we should be able to service an order between six days to 48 hours”.

Today, firms are going all out to enhance customer satisfaction and value and also increase their distribution equity by monitoring and sustaining the quality of their product till it reaches the customer's door-step. Such firms try to do this by getting closer to the physical activity of distributing their products. To quote a few examples:

- ***Videocon International*** had built its own fleet of trucks to distribute its high value CTV's and white goods even though this pushed up the company's costs. But such sealed trucks ensured that there is no dust or damage to the delicate goods.
- ***At Maruti Udyog Ltd.***, the four key elements that are constantly measured are transit time, damage to product, turnaround time and transporter rating. In the words of the Ex. CEO of Maruti Udyog, R.C. Bhargava, “If a transporter has a regular record of delivering damaged vehicles, we (at MUL) get rid of him.”
- ***At Hindustan Lever Ltd., now Hindustan Unilever Ltd.***, at least two in-transit test-runs of products are undertaken to make sure that the product that reaches the outlet is intact and stored safely at the warehouse.

As the market place gets tougher by the brand, it is only the presence of a strong distribution unity which will eventually determine whether the firm is able to stand the test of consumer satisfaction and earn brand equity.

### Planning Promotions to Benefit the Consumer

Promotions which deliver value will go a long way in building customer franchise. Marketers must work out different promotions to attract various kinds of customers. These could take the form of:

- Make use of 'more for less' to attract the promiscuous buyer who switch brands frequently. Here the opportunity of getting a bargain will prove to be a source of value for the customer.
- Reward the regular buyers with a lower price during certain months of the year. Here the marketer must make efforts to convey that these few promotional offers are exclusively meant for their regular buyers only.
- Offer lesser prices and communicate a feeling of protecting them against inflation. This gesture will ensure that the consumer will remember the value of getting the same for a lower price especially when the value of money is eroded by rising prices.



- When prospective consumers are postponing their purchase decisions especially seen in the case of consumer durables (promotions) in the form of discounts, freebies etc. could motivate them to take the decisions more quickly.
- Capitalise on the need for promoting one brand by adding samples of another brand, may be a new one. This not only ensures sampling but will also give the customer a feeling of satisfaction and a sense of value for having had the opportunity to test a new product free of cost.

No doubt that the ultimate impact of the consumer promotion depends on the appeal and not just the rupee value of the offer. Promotions should represent a source of value that reinforces the customer's buying behaviour, reassuring them that they are on the right track.

Some of the promotions used by well known firms are:

*Cadbury's* "30 per cent more for the same price in a 5 Star bar".

*Benckiser's* "20 per cent more lotion in 100 ml *Coty Vita Care*". In both the above instances, once the consumer is convinced that her investment is less, she will be more open to be converted to the value proposition of product.

At times a two-for-the-price-of one offer can work as an incentive to motivate and get the consumers to advance their purchase decision – in favour of the particular brand. For instance, *Baran International* had this intention when it launched its scheme of an offering – a 14" TV with its 21" *Akai T. V.* Besides seeing the immediate value of lower prices, customers viewed this offer with a greater value in helping them to overcome a difficult purchase decision.

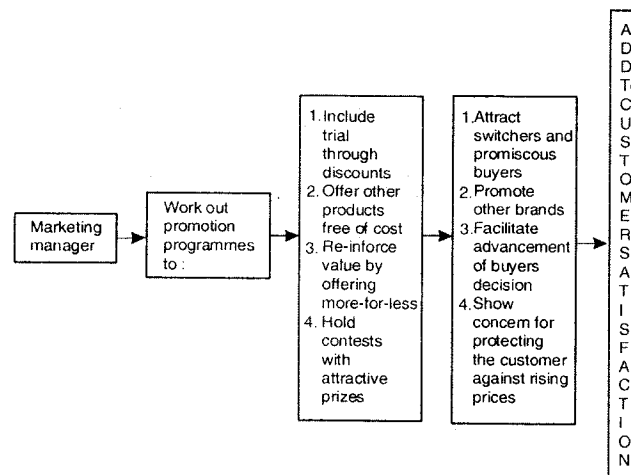


Figure 8.4 Promotions to benefit customers.

## 8.4 Sources of Customer Dissatisfaction:

Very often customer dissatisfaction may occur on account of discrepant expectations and realisations. At times the nature of expectations may be ambiguous. Such situations of ambiguity may occur in various ways:

- Lack of experience with an existing product. For instance, a customer when buying a CD-ROM package may not know what to expect, since it may be his first experience at buying a CD-ROM.
- The product under consideration may be a new product or an innovation.
- While making the purchase decision, the service may not be physically present. For instance, the customer may be placing order for products online, without actually seeing the same.
- The quality of service varies spontaneously. For instance, not all tailors cut and stitch in the same style or way. Moreover, neither does the same tailor perform the same way at different times.

Sometimes expectations are built up due to comparisons which may lead to dissatisfaction. Very often a product is compared on the basis of some standard or criterion, say the description given on a leaflet or use of a similar product by one's friend/neighbours or one's own experience with a similar product. In all the above instances causes for dissatisfaction will be less if the product meets one's expectations and visa-versa if not.

### Perception of the Quality

Quality is a term frequently used in relation to a product or service. Though every one has an idea of what quality is, it is very hard to define the same. According to D.A. Garvin, The term 'quality' may be approached from various perspectives:

- **Transcendental quality:** This is a kind of innate excellence which is generally recognised. Skill and love for one's profession, works as indicator of the quality of service provided.
- **Production design quality:** Here the product or service has to conform to its design specifications as an assurance of quality.
- **Product character quality:** This is an accurately measurable product characteristic. For example, the proportion of fruit pulps and other ingredients in the Kissan Jam, the Cocoa content of chocolate etc.
- **Value directed quality:** Value directed quality is defined in terms of price or cost. A product has a high quality if it functions well at a reasonable price. This is in relation to the equity of the price-value ratio of the product. For instance: *TVSE's MSP series of Printers* could outscore over its competitor *EPSON Printers* based on the customer's perception of better quality and reasonable price.
- **Perceived quality:** This aspect is associated with consumer's perception. Products and services have high quality if they meet the desires and expectations of consumers. For instance *British Airways* had made history when it came to be known as a '*World Favourite*' Airways on account of its exclusive customised qualitative services.

It can be seen that the definitions of perceived quality fits best with the consumer perspective. High perceived quality will include its utility or usefulness, durability, safety, comfort, reliability, low frequency of failure and good performance. For example, the quality of fruit Juice will be judged on the basis of its freshness and fruit content. Whereas, the quality of a car will be determined by its failure frequency, its features and driving characteristics. If a product performs as expected, we

consider it to have adequate quality. If the product performs beyond expectations we speak of high quality. Because people adopt to quality level, increasing quality levels can lead to demand for higher quality products. Moreover, people vary in their knowledge and expectations regarding products. This results in people/customers perceiving different qualities in the same products. Similarly, in case of services also measurable quality indicators will include, warmth, care, time and accuracy and efficiency with which the service is offered.

### Levels of Consumer Dissatisfaction

Discrepancies, consumer satisfaction and dissatisfaction can be measured at general, category and micro levels. Here we will discuss about four levels of dissatisfaction with increasing specificity.

- **Dissatisfaction at the general level:** This type of dissatisfaction can be associated with the consumption system itself. For instance: dissatisfaction may be with the demand and supply or use of goods and services (consumption system), dissatisfaction may occur due to the non-availability of the goods and services at all places (shopping system) or say dissatisfaction with the choice possibilities (purchase system).
- **Dissatisfaction may occur at the category levels:** Here certain product classes itself may be the causes of dissatisfaction for the customer. For example, say washing machines, package tours etc.
- **Dissatisfaction at the brand level:** Here dissatisfaction can be directed towards certain specific brands, retailers or the organisation itself.
- **Dissatisfaction may occur at the specific level:** This is with reference to certain services and offers affecting the consumers satisfaction level. For example, the repair services or maintenance done on the scooter, faulty service performed on the refrigerator and so on.

### Inhibiting and Facilitating Factors

It is also important to make a note of the dimension of satisfaction and dissatisfaction. Sometimes when satisfaction may have more than one dimension, a distinction between facilitation and inhibition is necessary. Too high a price may deter consumers (inhibition) whereas, a reasonable price may not stimulate them enough to purchase or accept the product. At times it may be an unfriendly salesman who may put off a prospective buyer, at the same time a friendly sales person may not act as a sufficient reason for buying. But manufacturers or producers have to remember to dispose off inhibition factors and create facilitating factors.

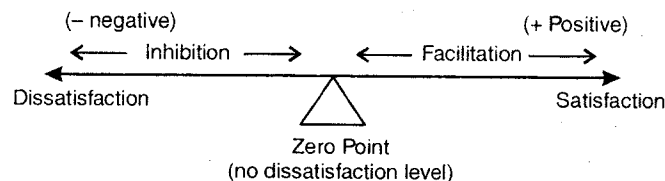


Figure 8.5 Role of inhibition and facilitation.

Likewise presence of inhibiting and facilitating factors can influence consumer satisfaction. Here also inhibiting factors cause dissatisfaction and removal of these though may prevent dissatisfaction may not actually create satisfaction. Facilitating factors cause satisfaction provided inhibition is absent.

In the words of Nelson Foote (The then manager of General Electric, 1961) *"In case of durable goods we observe more and more that consumers find certain product characteristic obvious especially for functional performance and values, such as safety. However, if it is lacking, it is an inhibiting factor, but if it is present, the producer is not given credit for it."*

A good example of dissatisfaction caused by inhibition can be illustrated with the public transport system at Bangalore. All the daily commuters or travellers are dissatisfied if the bus is late or if no seats are available, but this is taken for granted if the bus arrives on time (or schedule) and if they are able to procure seats. So the priority of a public transport management is to avoid or remove inhibition and not the creation of facilitation. Another example is the inconvenience caused to air travellers when the staff of *Indian Airlines* resort to flash strikes or adopt a 'go-slow' agitation. These inhibition factors are causes of dissatisfaction for the customers. Here a facilitating factor such as providing snacks or lunch at the airport cannot compensate the inhibition caused by the delay in departure of the flights. So the management in the above two instances should make all attempts to remove inhibiting factors, then only will facilitating factors have a positive effect.

### Attribution

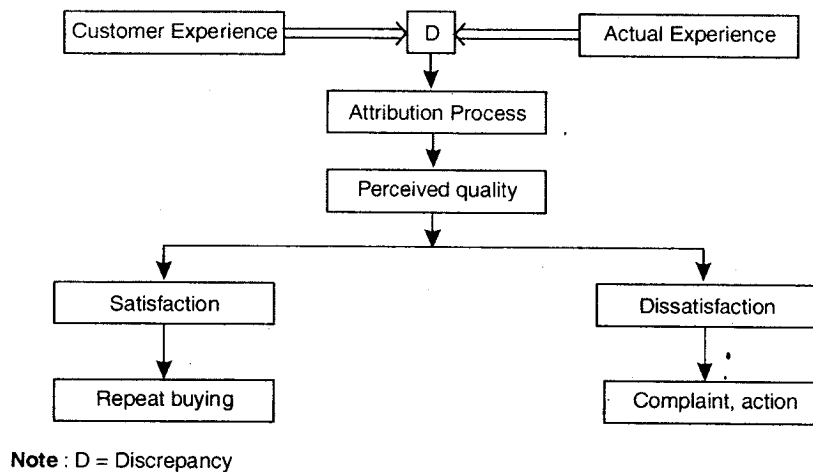
Dissatisfaction with a product or service offered will occur if in reality there is a mismatch between the consumers expectations regarding the same and also on the basis of the availability of alternatives in the particular product/service category. Whenever dissatisfaction occurs, the consumers try to attribute the cause of dissatisfaction.

According to V.S. Folkes, Attribution theory is concerned with the causes to which individuals attribute certain events. Consumers behave as lay-scientists and try to work out or detect the cause of events. During this process, three causal dimensions have been identified namely: locus of control, stability and controllability.

**Locus of Control:** will indicate which party is considered to be the cause of the event: the consumer or the supplier, that is indicating internal or external attribution respectively. For example, the scooter repair service may have not been up to the mark or say not carried out in the desired manner. Probably because the rider had not explained the exact problem to the mechanic (internal attributions) or may be the mechanic had knowingly not carried out the repair work correctly inspite of knowing what the problem was (external attribution).

**Stability:** refers to the duration of the cause. The scooter repair had been carried out incorrectly because the mechanic had a bad day (temporary cause or phase) or the mechanic was not good at the job (permanent cause).

**Controllability:** It refers to the extent or degrees to which somebody has control over the cause. For instance, if the mechanic consciously and knowingly carries out a repair badly, hoping that the customer will not detect it, it is said to be controlling or the controller of the cause in a negative manner. Whereas, if the mechanic unknowingly uses incorrectly adjusted measuring equipment, and as a result is responsible for the bad repair service provided, he does not control the cause. Here the mechanic will be less responsible for the outcome result of his work.



**Figure 8.6 The subsequent behaviour on account of discrepancy between Customer expectations and Actual experience, the subsequent behaviour**

According to Folkes, the greatest dissatisfaction and most complaints occur in the case of *external attribution* and a stable controllable cause. When *dissatisfaction* is associated with an *external attribution* most consumers will demand a supplier's apology and compensation for the damage sustained.

If the cause of dissatisfaction is identified as stability, consumer will prefer repayment of the money as against a replacement product or another repair. This is because when stability acts as the cause of dissatisfaction, the consumer will presume the other products or services of the supplier to be equally bad. Probably the customer may never return to this supplier. Further, if the consumer becomes aware that the supplier has intentionally deceived him or her then they may become angry and can even take action against the supplier.

As seen in Figure 8.6 the result of the attribution process influences the perception of quality and the degree of satisfaction. When customers are satisfied they are likely to make more purchases and be loyal to the brand. While in case of dissatisfaction, it is more probable that they may lodge complaints or take action against the supplier.

Sometimes the consumer may undergo stress—feel anger, tension and frustration, when he realises that the cause of dissatisfaction is attributed to the supplier and that it is perceived to be under his or her control. In such cases, the tension will reduce only if he or she resorts to taking private or public actions.

### Consumer Actions

Studies have revealed that dissatisfaction may activate consumers differently. They may either take no action or take private action, or take public action. Very often, the consumer action is influenced by certain factors such as — time availability and other resources, experience with complaints, expected benefits from complaining and the attitude towards complaining behaviour.

**Table 8.1 Possible Actions From Dis-satisfied Consumers**

<i>Type of Action</i>	<i>Method/Reasons</i>
1. Private Action	— Boycott of the retailer or manufacturer. — Negative word-of-mouth.
2. Public Action	— Lodge a complaint with the seller. — Approach consumer courts. — Take legal action.
3. No Action	— Forget about the problem. — Refrain from reacting because of the high cost involved. — Unable to communicate properly. — Entry barriers like unwilling retailers, or overloaded consumers forums etc. — Lack of confidence or assertiveness. — Lack of opportunities.

**Private Action:** Private actions may take the form of low communication, actions and entry thresholds. Such actions will include a boycott of the retail outlet/brand or voicing negative opinions of friends, relatives and neighbours. Such moves by the customer may affect the reputation of the retailer in the long run.

**Public Action:** The dissatisfied customer is free to adopt a public action in the form of lodging complaint with the seller or approach the Consumers Forum or file a legal suit against the seller.

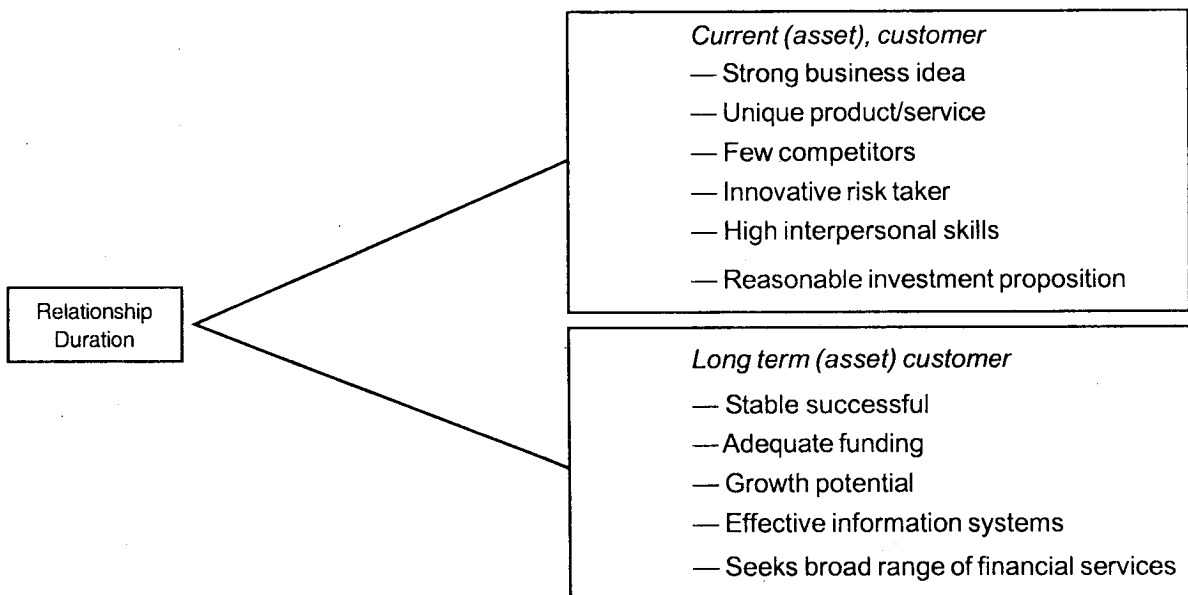
**No Action:** There are many possible causes for dissatisfied consumers not taking any action over a complaint. These may include :

- Consumers may forget or refrain from taking action because of lack of time, and they do not foresee a balance between benefits and success especially if the problem is very small while the damage is minor in nature. Sometimes, disability to communicate properly may come in the way of consumer lodging the complaint. If consumers are not confident about themselves, not assertive enough, they may not take any action. At times the Consumers Forum may be overloaded with complaints or there is a long procedure to seek redressal. At times social and personal norms may stop a consumer from taking the trouble of complaining.
- The process of complaining may ultimately end with either satisfaction or with further dissatisfaction and then lodging complaint, depending on how the complaint was handled. But unless the firm listens to their customers complaints and suggestions, it runs the risk of losing its image in the market.
- If one can trace the case history of *British Airways*, it will be an indicator of how the airways could beat the commodity trap and come to be known as "*Worlds Favourite Airline*". This stemmed from the fact that they listened to customer complaints and suggestions and started offering passengers facilities and advantages ahead of other airlines—and also earning a name of being the first to offer some new tangible value assets. These valuable facilities took the form of:

- Worked with government authorities to instal fast-track channels at Heathrow to speed up immigration and customs clearance.
- Making airport lounges part of their products with free access to all first and business class I passengers, and with everything inside —from a shower, drinks and telephone services offered.
- Making available interactive video services on the new Boeing 777, so that passengers could use this to complain to the customer relations department in-flight, order duty-free goods, get the latest news on business, fashion and so on.

So, firms which use their ingenuity, resources and customer insights to offer a new functional value and differentiate itself from its competitors will go a long way in ensuring consumer satisfaction and hence loyalty.

Length of the relationship between the customer and firm will be determined by opportunities for mutual gain. It is the responsibility of the business firm to do research of its customer on an ongoing basis and process this information and use it to build up a reputation as the “service provider model” for its competitors. This requires significant investments in data base management and also along with it demographic data, segment wise profiles and needs, satisfaction survey details, forward positioning surveys and front-line employee feedback.



**Figure 8.7 Customer Satisfaction Relationship Portfolio**

From the figure 8.7, we can see the characteristics exhibited by a new client (current asset) and existing (long-term asset) customers. The characteristics exhibited by the long term customers are such that they and the firm providing the product or services enjoy a long-term relationship. Eventually some of the small business customers may go on the decline. So the firm is now required to add continuously to its pool of current asset customers. For it will be they who will help the firm to grow and become successful and also form the next generation of long term customers.

Firms marketing products or services have to figure out ways to ensure *Zero error delivery*. Organisations offering financial services have understood that the customer of today is looking out

for convenience to choose the time, place and method of interface unlike the the customer of yesterday who wouldn't have minded transacting business on the financial institution's premises. Similarly, private airlines are also showing total commitment to customer satisfaction by offering services in the form of maintaining punctuality, in-flight excellence, on routes convenient to the customer(s) etc.

## 8.5 Dealing with Customer Complaints and Enhance Customer Satisfaction:

A marketer who has understood the specific service requirements of an individual customer will be in a position to make and offer a matching product. However, given the nature of services, it may be, at times, difficult to ensure a zero-defect operation in implementing a service. This may result in customer dissatisfaction and probably him or her lodging a complaint. However, the firm and marketers must realise that customer complaints must be considered as eye openers providing opportunities for improving the relationship between the customer and the firm. This is possible if the complaint is handled well. More specifically put, complaint handling helps the firm by:

- Providing information on the product or company's performance.
- If handled properly, it can help to reduce the amount of brand switching among dissatisfied customers as against silent (non-complaining) dissatisfied customers.
- Dissatisfaction usually reveals a high sense of brand loyalty and arresting consumer's flight to competitors is worth the effort.
- The cost of retaining a customer (via proper complaint handling) will always be less as compared to acquiring or attracting a new customer.

When a customer complains, this behaviour can be used as a predictor to inform about what has gone wrong. Earlier, when the customer who had boarded the *British Airways* lost his or her baggage, the customer had to lodge a complaint and undergo the formalities in the form of the whole bureaucratic shuffle of signatures and counter signatures, before coming to the corporate office at the centre of the city for recompensation. However, this has since changed with the staff at the airport instructed to dispense cash as soon as they receive a customer complaint.

When consumers complain expressing their dissatisfaction, this could be used as a feedback for better or newer product. Most businesses loose around 25 per cent of their customers annually. If this could be reduced by at least five per cent, the profit impact of this saving can work out to be very high even on a per customer basis. Studies have revealed that approximately 70% of customers switch brands because they don't like the human side of service or product provider. When customers switch over to competitors brands the firm must try to understand the reasons for the defection.

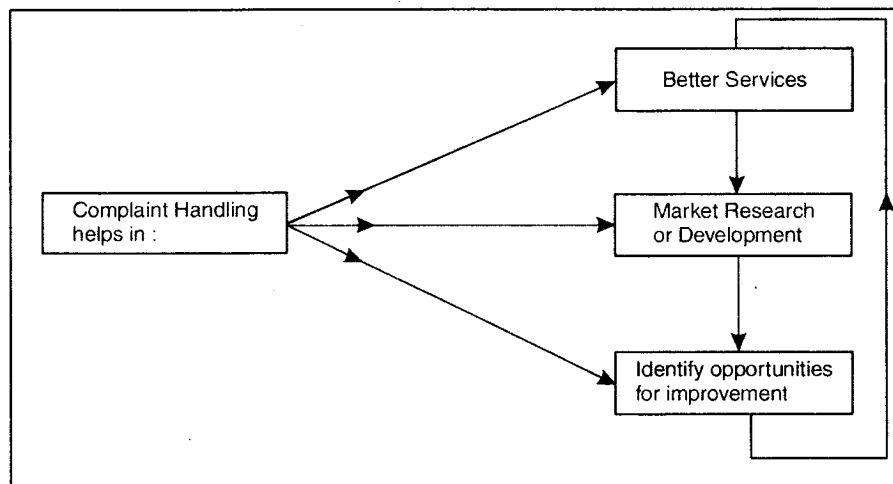
### Proactive Model of Complaint Handling

The traditional view of the organisation had no place for complaints in the loop. However, now firms have realised that to keep pace with the changes taking place in the market place, listening to customers needs, views, suggestions, handling their complaints etc. will go a long way in communicating that they 'care' for their customers. This has given rise to the pro-active model where conscious effort is made to handle customer complaints at every stage.

The way in which the organisation handles complaints will reflect its commitment to the services it is offering. Problems identified by an analysis of complaints will prove to be a valuable element of



market research. Addressing such problems before they begin to have a measurable impact on the firm's market share is a key goal of the development process. Moreover, analysis of complaints can also be identified by the firm as positive opportunities for service improvement.



**Figure 8.8** The role of complaint handling in a proactive organisation.

If the complaint handling function is to be a real influence at each stage, it is necessary that it be integrated into the decision-making level at the board. This is because if a company wants to show genuine concern and respond effectively to grievances then it will be sometimes necessary to probe and take decisions to effect changes which may be addressing the root causes of complaints. If the board and top level management are not involved, ego may come in the way with the Sales Director unhappy to hear his staff being criticised or the Director operations saying it will be difficult to change things. If such instances were to arise, the very purpose of having a complaint handling redressal and the reforms to follow would not take place.

The complaint function is necessary for the development of new services. So this has to be properly represented especially when decisions about these services are being made. Ofcourse, today since the customer cannot be taken for granted organisations with a genuine commitment to their customers, are involving their senior managers to directly deal with customer complaints. The Indian subsidiary of the telecom equipment manufacturer '*Motorola*' has linked every manufacturing process by developing network of teams that assemble themselves as a cross functional team called The *Total Customer Satisfaction* teams (*TCS*). All the members of the team together interact and listen to customers. This team identifies the problem area for a particular process based on the feedback and prioritises its tasks.

Similarly '*Siemens*' communication systems division had also set up a customer informations centre (*CIC*). This centre apart from serving as a showroom for its products, holds demonstrations for its hi-technology products and systems also has an operator sitting at the *CIC* to jog into the machine installed at the clients site and carry out maintenance work and repairs. In short the *CIS* could also attend to nearly 40% of its customers problems.

It will do to remember that even if a marketer fails on the first occasion to offer the required service, he has an opportunity to recover dramatically, the second time to control the damage. If he

falters again then he is actually working away from providing a basis for a happy, long-term customer relationship.

Given below is an example of how ANZ Grindlays Bank did not handle the customer complaint smoothly.

### WHEN THE BANK FORGOT THAT IT WAS A FREEBIE

**The Case:** ANZ Grindlays Bank introduced a Valentine's Day scheme in February 1998. A member of a card holder's family could avail of a free add-on card. So Rajesh Chakrabarti, a silver Mastercard holder, applied for this offer. He got this card. He also soon got a billing statement that levied a fee of Rs. 300 on the add-on card. Chakrabarti telephoned the bank, requesting it to deduct the amount from his next bill. This went on, with the officers promising to do the needful, but the charge still appeared in the following billing statement. He then informed the bank that if it failed to oblige, he would stop making his payments. ANZ promptly promised to rectify the anomaly within four days. It didn't. That's when Chakrabarti felt he'd had enough and refused to pay up. He still gets his reminders, with a warning that the card will be considered defunct if he doesn't fall in line.

**The Explanation:** When we got in touch with ANZ, an officer noted the relevant details (name card number) and even asked in which statement the amount was billed. She duly apologised, stating it was the bank's mistake. The charges were reversed on 1 July.

End of problem? Not really. Although Chakrabarti's last billing statement did state that the amount had been included all along in the revolving credit facility. Hence the card holder had, in effect, been paying interest on the Rs. 300, till the amount got reversed. When the bank reversed that charge, it did not take into account the interest accumulated on the amount, which the card holder had paid.

**Source:** By Larissa Fernand, *Business World*, 22 August-6 September, 1998

The image of organisation will be reflected in the way customer complaints are handled and the necessary redressal is effected. Professional organisations could go for a complaint form, which will help the aggrieved party to register the complaint formally. Such a form will also facilitate the firm to put into practice on how to handle complaints.

### 8.6 Activity:

(1) Visit a well known supermarket in your area and conduct a survey of 25 customers to understand whether they use the nutritional information on labels when purchasing food products. Identify the demographics, life-style characteristics and media habits differences between those customers who are health conscious and those who are not. What is the level of satisfaction (on a scale of 0-10) of both the categories of customers? How did you arrive at the conclusion?

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## 8.7 Summary:

- Customerisation refers to the process where in all the employees of the firm are required to interact directly with the customer and end user such that they are involved in designing, fine tuning key products and processes and turn every interaction with the customer into a platform of interactive communication so as to add value and increase customer satisfaction.
- Customer Satisfaction is a continuous process and covers the entire ownership experience from selecting a product to purchase through after care to repeat purchase and firms have to work to enhance this experience by undertaking regular researches, obtaining timely feedback, add value through effective pricing, create distribution equity and with promotions to benefit the consumer.
- Firms have to identify the sources of dissatisfaction which may occur due to discrepant expectations and realisations and handle such customer complaints most efficiently so as to remove any had feeling experienced by the customer.

## 8.8 Self Assessment Questions:

- (1) 'A satisfied customer will act as the informal word of mouth communicator for the brand' - In light of this statement, give a brief note on the importance of customer satisfaction.
- (2) What are the sources of customer dissatisfaction?
- (3) Suppose a customer approaches a organisation complaining that the washing machine purchased by her is not functioning properly and thus want's her many back. How should the organisation handle this complaint so as to reduce the customer dissatisfactions?

## 8.9 Additional Reading:

- (1) P. Kotler and G. Armstrong, '*Principles of Marketing*', Prentice Hall, Englewood Cliffs, New Jersey, 1991.
- (2) Suja R. Nair, '*Consumer Behaviour in Indian Prespective*', Hima:aya Publishing House, Mumbai, 2005.



## Lesson - 9

# Basics of Marketing Research

## Objectives

After going through the chapter you should be able to understand:

- What is the definition, nature and scope of Marketing Research?
- What are the uses and limitations of Marketing Research?
- What is the relevance of the research process and scientific method?
- Which are the various types of research design?

## Structure:

- 9.1 Introduction
- 9.2 Definition, Nature and Scope of Marketing Research
- 9.3 Decision-Making and Marketing Information
- 9.4 Emphasis on Changing the Old Marketing Framework
- 9.5 Decision-Making and Management
- 9.6 Tracking Problems and Taking Decisions
- 9.7 Basic Concepts of Marketing Research (Uses and Limitations of Marketing Research)
- 9.8 Type of Research Designs
- 9.9 Activity
- 9.10 Summary
- 9.11 Self Assessment Questions
- 9.12 Additional Reading

## 9.1 Introduction:

The success of well-known companies such as *Hindustan Lever, Proctor and Gamble, Reliance Technologies, Wipro, Bharti Enterprises* etc. is because all of them have a good marketing team which has been able to understand the marketing requirement and make product offerings suitable to customer needs and communicate about it successfully. Today with competition having become more intense, organisations are making more use of marketing research in order to obtain specific & accurate information on the changing consumer tastes and needs and work out marketing strategies accordingly.

Marketing research is a very significant part of the organisation's marketing intelligence system and helps to take marketing decisions more effectively by providing relevant, accurate and desired information. In this chapter, we have attempted to discuss the basics of Marketing Research - Its

definition, nature, scope, the basic concepts (its uses and limitations) and the types of research design.

## 9.2 Definition, Nature and Scope of Marketing Research:

*Definition. Marketing Research is the systematic and objective search for and analysis of information relevant to the identification and solution of any problem in the field of marketing (Paul, Tull, Albaum, Gerald, 2000). Marketing research 'is a systematic and objective search because careful planning - starting with a clear and concise statement of the problem to be researched to the scientific method (of marketing), collecting and analysing of information is to be carefully planned and worked out. The term 'Problem' is used in a broad context, as an eye opener and an integral part of this information boom. After collecting the information, its analysis will help the marketers to keep tab on all sorts of data and figure out how consumers think and behave.*

### Nature and Scope of Marketing Research

For many years, the Indian industry had always relied on entry barriers to protect it from competitors. During this period, the success of the firm depended upon political patronage rather than operational efficiency and performance. From the customers side there was a forced loyalty and grudging acceptance of high tariff. However, now with the integration of the Indian industry with the global economy, the customers are also becoming more aware, demanding and sophisticated. With the advent of e-commerce and the disappearance of trade barriers, marketing firms need to stretch themselves in order to reach out to customers. Some of the significant influences of globalisation seen by the marketers are:

- Post-liberalisation and e-commerce has reduced economic boundaries and increased the level of competition.
- Basic research to understand the expanding urban and rural middle class with a greater propensity to consume.

Exposure to global competition has ensured that the Indian consumer now has developed a greater awareness to global news and views resulting in a clash between Indian and foreign brands. Very often it is seen that with the disappearance of trade barriers, the customers no longer prefer local brands. She has learned to appreciate the 'quality aspect' of the brand more than the cost. This means firms will have to vigorously invest in Marketing Research and build brands that are acceptable to the Indian consumer. Thus, it can be seen that Marketing Research is significantly playing an important role in the decision-making process of a marketing manager.

## 9.3 Decision-making with Marketing Information:

According to the concise Oxford Dictionary the definition of information includes

- Informing
- Knowledge
- News

If the depth of the research is appreciated, research encompasses all the above factors. In order to take good marketing decisions, the marketing manager is dependent on the above three factors. "*Information*" relates to all the relevant facts about a product or market, which the manager

mayor may not have. Through research the marketer is able to become more 'Knowledgeable' about the latent needs and tastes of the consumers. Thus, a well designed research project will provide 'News' or facts or facets of situations to the decision-makers, which may have been unknown to them before. It has been rightly said that marketing decision-makers will be able to make effective decisions only on the basis of a continuous flow of Marketing Information and Research.

The importance of Marketing Information seems more prominent if one were to have a view of the Indian consumer in the new emerging market. Most of the fast moving consumer goods (FMCG) marketers and analysts had been confident of atleast 15% annual growth rate till 1998.

Although in the decade after liberalisation marketers were still undecided on the long term product strategy to be followed. It was presumed that the consumer would get transformed into a huge-homogenous, predictable western (influence) market. That is, she was expected to move up the ladder to become more particular about benefit and quality and less price conscious and slowly shift from popular brands to the elite premium brands.

The Table 9.1 given below will help in providing the changing view of the marketing scenario which has evolved in the pre- and post-liberalisation phases in India. As mentioned earlier during the period immediately preceding the liberalisation, marketers had focused on the 'psycho-graphic' aspects especially on consumer life styles and their needs. In this new computer age, research techniques are 'savvy' and marketers have become totally information oriented.

**Table 9.1 "View of India during the transition period"**

<i>Periods Certain Parameters</i>	<i>Pre Liberalisation period</i>	<i>Post liberalisation (1991 - 2000)</i>	<i>From 2001 onwards</i>
Growth of the economy	Runaway Growth	Growly slowly	Improving but not like it used to be earlier
Consumers Response	Spurting though not continous demand	Slowly settling down	Smooth, through with fewer ups and downs
Business/Firms response	Maintain sufficient supply for all	Intially able to woo customers, subsequently finding it difficult to maintain this trend	Some firms emerge as leaders while some loose out in the race
Firm's Long Term Strategy	Try to co-exis in the market.	Try to improve upon the market position.	Try to be different and exclusive

From Table 9.1 it is seen that there are some changes occurring in the consumers and firm's behaviour during the pre- and post-liberalisation periods. Usually consumer behaviour is shaped by the various programmes and policies worked out by the marketers. As seen from Table 9.1, the consumers response or demand is not homogenous but rather unpredictable, irratic and shifting

rapidly. For the firm also the post liberalisation has set in a new era of competition. This further gives rise to another set of questions - how to stay fit in the fray of competition all the time and the type of programmes to be worked out to cajole the consumer into spending? It is essential that marketers take the help of marketing information and focus their attention on how to survive in the new consumer India.

## 9.4 Emphasis on Changing The Old Marketing Framework:

The rapid changes occurring in the industry have compelled firms to take a new look at re-engineering most of the management functions like manufacturing, accounts, logistics and after sales issues. The sole function not to have changed much is the field of marketing. This is because traditionally marketing decisions were based on past data or the "sixth sense of the decision-maker". But with the passage of time, the profile of the consumer is constantly changing and the marketing decision makers are vying each other to come out with break through ideas and insights to provide opportunities with value added services and build a strong base of loyal customers. Through involvement in rigorous Marketing Research, marketers have been able to track down customers and their preferences precisely. Media research have enabled them to reach customers with greater precision and accuracy. This can be seen in the case of *Levi's* and *Colorsoft*. For decades the brand name *Levi's* was associated with the younger and unconventional generation. But after some time research revealed that in order to popularise the brand, a brand image shift was required. The company found it more appealing to promote the brand as 'meant for a casual person' rather than 'its former image as a self-proclaiming rebel. This was done with the help of a newsound track for its advertisements, new advertising themes and exercises in media selection.

Another example is of *Colorsoft*. Initially *Colorsoft* was only distributing one product - contact lenses. Later on, surveys conducted by the company revealed that there were few big brands in the market and also that the reach of the unorganised sector was low, since they lacked big distribution chains. Thus, *Colorsoft* shelved the contact lens deal and became exclusive distributors for "Bennetton's range of optical products, which included sunglasses, frames and kids glasses among other things.

The above two instances communicate about the role of surveys (a part of MR) which help firms to take strategic decisions and programmes.

The scope of Marketing Research can be extended to study, in particular consumer or buyer behaviour, the effect of advertising on consumer life styles and resultant changes in the consumption pattern, explore the possible market moves and shifts, measure consumer satisfaction or dissatisfaction, brand equity etc. In short, research can be viewed as an aid for decision-making.

## 9.5 Decision-making and Management:

Market Research Information injects a flow of continuous data and information into a company. Using this research information is a management art, which has to be learnt, developed and integrated into a manager's decision-making ability to manage effectively. A very essential feature of management is decision-making because decisions and decision-making/taking is a part and parcel of the management process. The effectiveness of the decision-making process will be analysed on the type of decisions taken. The key to getting "the information sought by the manager, i.e., input and extracting the essential data will be dependent on the development of" a good Marketing Information System.

Getting the information one really needs is exclusively dependent on the firm analysing its market and target customers. Marketing managers have realised that towards the end of the last century and in the first few years of this millennium with increased knowledge, information and buying power are inspiring people to dream for better life styles. Gone are the days of long product or technology life cycles. With the boundaries between the firm and consumers widening, it is all the more essential to identify the target audiences clearly. In this age of discontinuities and seismic shifts in consumer loyalty, tastes and expectations, the marketing decision maker through the development of a good MIS can gain the opportunity to understand better the way consumers behave.

*Management Guru C.K. Prahalad's view on managing customers in the Trimillennium is, "Consider the global market as a pyramid of consumers based on economic strength. The new and emerging opportunity in countries such as China, India and Brazil is in the lower - income segments; Tier 2, 3 and 4. Serving these markets will dramatically influence the management process in Transnationals. This market demands fundamentally different type of capability. Firms ought to be able to. rethink the price-performance relationship".*

## 9.6 Tracking Problems and Taking Decisions:

Long ago, a marketing director had said of research: *"A blind man uses a white stick to avoid walking into large obstacles in his path and to define his passage around the world. Market research is the businessman's white stick. It prevents him from blundering sightlessly into large objects designed to do his company significant financial damage"*

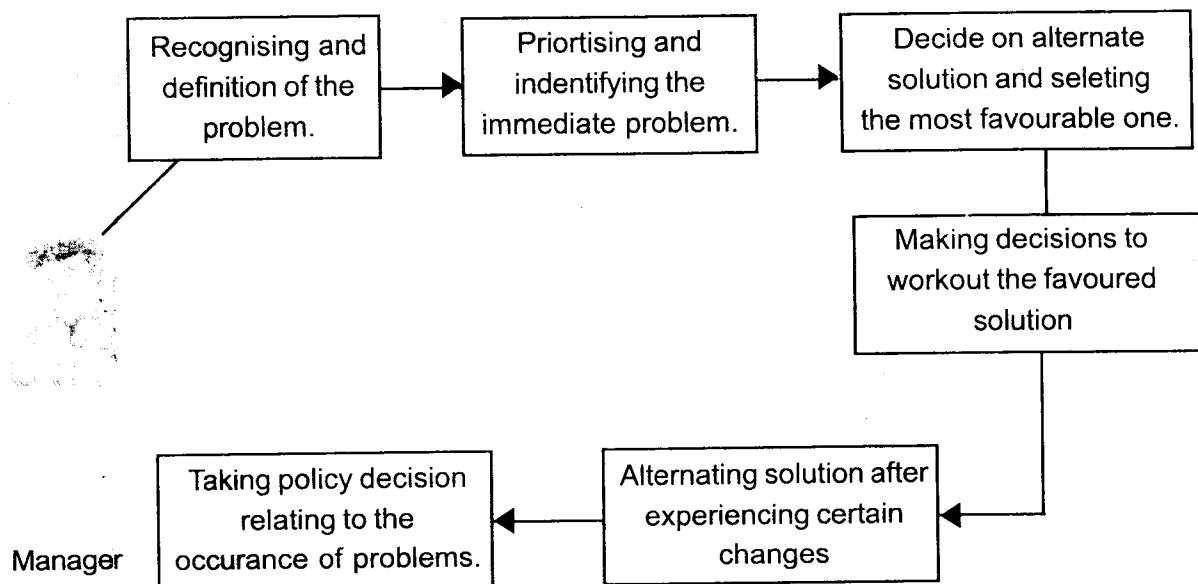


Figure 9.1 Usual management decisions

## 9.7 Basic Concepts of Marketing Research:

For understanding the basic concepts of marketing research we will have to know about the uses and Limitations of Marketing Research. The primary objective of research is to help to reduce risk by understanding what a market wants and how prospective customers are likely to respond to the organisation's product or service offerings. Then the marketing manager will use the information



obtained from research findings to work out the sales, marketing and communication strategies. Some of the prominent features of Marketing Research are illustrated in Figure 9.2.

### Uses of Marketing Research

#### M.R. provides information needs in case of business to business marketing

Business to business marketing is very different from the marketing of consumer goods. Such "industrial" goods and services involved in business to business marketing are much more expensive and complex than consumer goods. Such goods are very often intended to serve different needs and purposes within the organisation. For instance, in the production department, when plants and machinery are purchased, the vendor will be required to tailor the product to the specific needs of the 'business client' and also provide a maintenance service contract over a long term.

Usually teams of people are involve putting input into the 'buying centre' and decision-making will be a long procedure because it involves the interests of all those concerned in the 'buying centre'. Further, utilisation of organisational expertise will/also help to avoid needless mistakes or omissions. Now with many industrial marketers venturing into global markets they are required to gather information on a larger scale in order to analyse and identify consumer needs more precisely. They are also moving away from an almost exclusively personal contact with the customer towards using other media including telecommunication and computer networks.

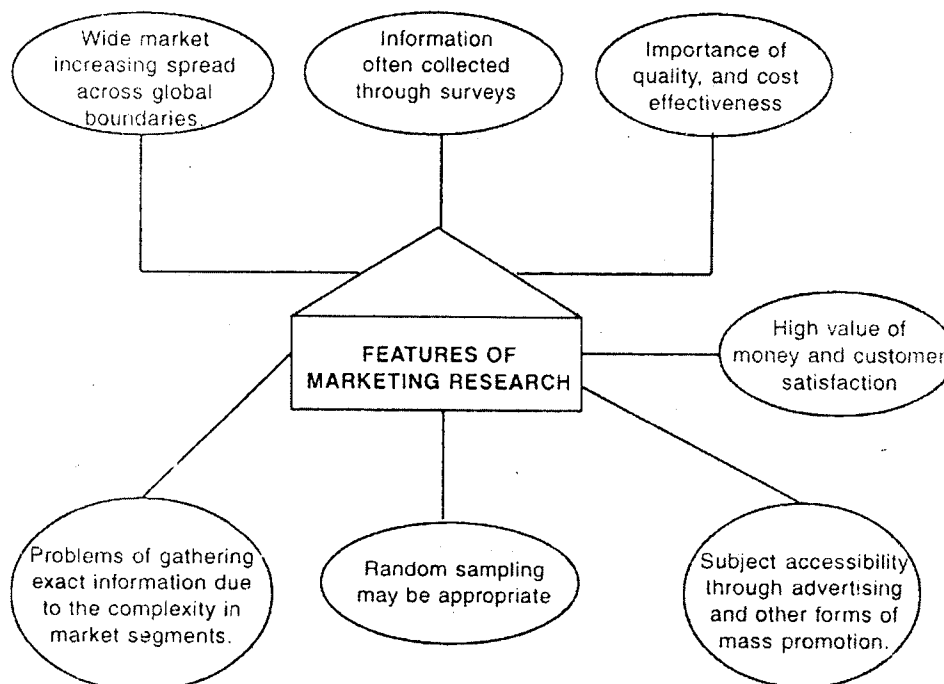


Figure 9.2 Some features of Marketing Research

Figure 9.2 speaks of some of the features involved in Industrial Marketing Research. A comparison between figures 9.2 and 9.3 will clearly indicate the demarcation between different individuals involved in the buying process, complexity of the various issues, risk etc., in industrial marketing and consumer marketing. There are also various factors influencing industrial buying decisions which differs strongly from those influencing the individual consumers decisions. However, information needs and research are still very crucial and thus the need to carry out research systematically.

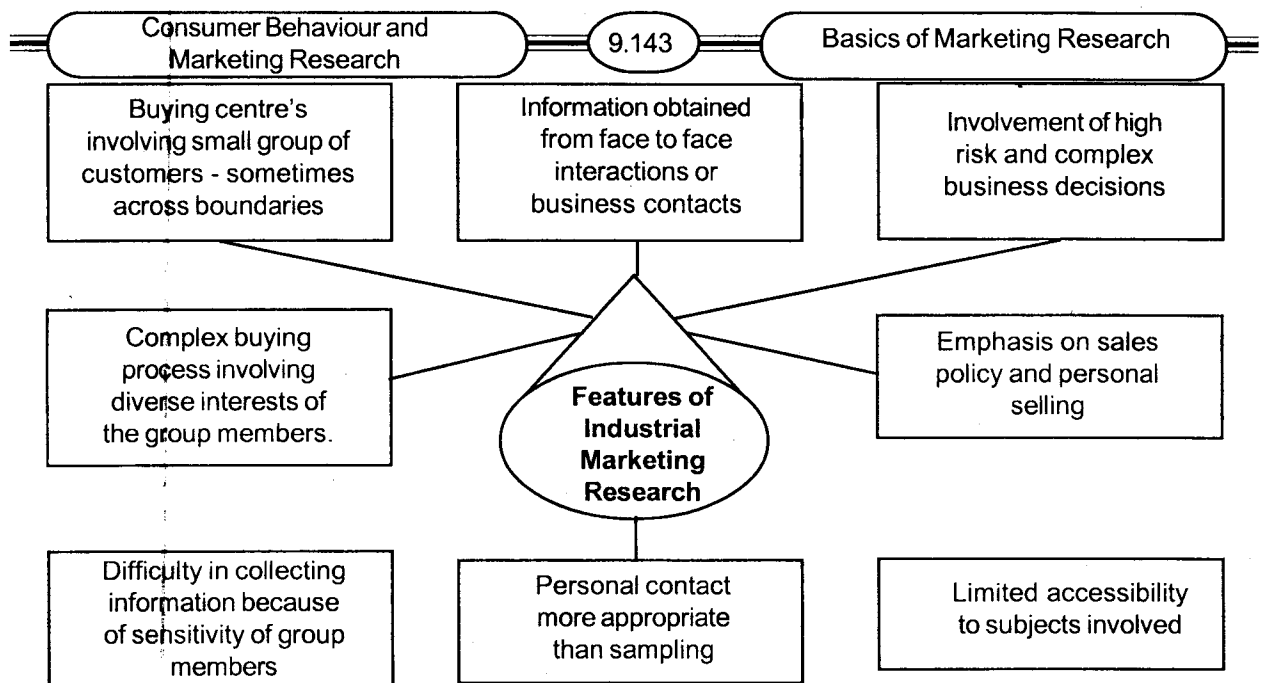


Figure 9.3 Some features of Marketing Research

### Research as a Preliminary to Marketing

Marketing Research makes a vital contribution at the market entry level. This is typically the time when available information is at its lowest point and the requirement of appropriate information to minimise the risk of making costly and damaging mistakes in decision-making. The usual research tools comprise of desk research, mail surveys or personal contact with key decision makers of the company. The above methods may be deployed in different ways and which of them are used will be dependent on the nature of the marketing problem - What is the PLC of the product? How to compete, against the competitors? What is to be done to analyse and identify consumer needs more precisely? What type of strategies are to be adopted for the future? and so on. In general the following reasons act as a precursor for adopting research methods:

- For testing the market size.
- For monitoring the firm's marketing effectiveness.
- To identify customer satisfaction or dissatisfaction.
- To identify competitors movements/strategies.
- To probe and identify emerging or changing trends or new unmet wants of the customers.
- Identify which market segments and product sectors are performing well.
- Seek information on domestic versus global business segments.

Thus research plays an important role in imparting knowledge about what a firm's 'customer wants(?) and this forms an important dimension of their marketing activity. Since the type of data desired by the marketing decision maker will vary from situation to situation, they usually create, design and initiate their own tailormade surveys so as to help them approach their sales, marketing and communication decisions with information based confidence. Thus, the need for consumer research involves the development of customer data. To develop customer data that become effective

information for increasing sales means the customer base has to be classified by using definitions that clearly characterize the customer at the market place. Depending on which consumer classification system is used, market segmentation usually involve classification based on the consumers age, sex, social class, income and other geodemographic analysis.

In case of industrial markets, classification is based on the type of organisation in the context of its international industrial classification, the size of the company in terms of its turnover, number of employees and whether it is a new or growing or well established company in its particular segment. In case of business to business marketing, using consumer research to know what is their customer's wants is also an important consideration. Selling goods to the end user or a part of the service being provided to them, requires detailed and up-to-date knowledge of what 'end consumers' want and making such products to satisfy them. Hence business or industrial marketing involves incorporating information gathered about these objectives to keep up along with the information available from secondary sources (such as databases through data warehousing and trade journals officially publishing reports and statistics). Given the way in which customers perceptive about the 'image' or 'symbolic' value of the product in case of industrial marketing, involves many practical considerations and very often these products have to meet rigorous and highly specific criteria, if they are to be made acceptable to the client. This clearly indicates that many types of business to business marketing will need to employ highly specialised research to identify and meet these latent needs. And research information is likely to be highly specific to the situation and the user. Thus, communication and constant touch with the key research personnel is essential.

### **New Approach of Marketing Research on Media:**

In the recent past, there is something happening in the industry at large - the gloom or doom is still all pervasive. Consumer buying is flagging, industries are shedding flab and the entertainment industry is getting concerned and talking about how their clients are becoming more discerning about media usage. In this' techno savvy age, consumers are also becoming choosy and demanding freedom to make a choice between products from a multiplicity of product. This again demands that the marketer has to be alert and hooked on Marketing Research to track down consumer desires and constantly researching on their likes and dislikes in order to match their tastes to their products.

Most of the Market Research companies have communicated about the increased interest in formal research from the entertainment industry. The Indian entertainment industry is now looking at the science behind gut feel. This is felt because with the television channel marketing coming of age, there is always the need for the channels to be in constant touch with the target customers (audiences) evaluating reach, measuring equity, exploring brand extensions. In shorfby using a combination of research as well as more direct interactive methods they try to get in touch with their consumer.

<i>Traditional</i>	<i>New</i>
<ul style="list-style-type: none"> <li>• Long-term</li> <li>• Emphasis on demographics</li> <li>• Media-oriented</li> <li>• Macro</li> <li>• Buying-led</li> <li>• Media - un accountable</li> </ul>	<ul style="list-style-type: none"> <li>• Tactical-led</li> <li>• Emphasis on psychographics</li> <li>• Consumer oriented</li> <li>• Micro</li> <li>• Brand strategy led</li> <li>• Media-accountable</li> </ul>

Figure 9.4 'Traditional' versus 'New' approach on media

Media is concentrating and focussing more on the consumer's decision-making process and on how to influence this. Today's consumers are also wanting to know more. There are no clear answers to some questions like - Has the target audience actually seen the campaign? Were they at home when the commercial went on air? Since no specific answers to these questions can be obtained, the media is going all out to capture all the opportunities at all the consumer contact points. Till a few years ago, media planning was totally concentrated on media buying. But now (refer to Figure 9.4) media planning is focussing more on the consumer's decision-making process and the relevant importance of media in that process. For example, *Wills Sport* the brand from *ITC Life Style* is heard to be spending almost 50 per-cent of its advertising money on city specific kiosks, which also act as navigational tools for its retail shops.

It was reported in 'Business Today' (January 2000), that media planners are focussing more on researching how involved their target groups are. As seen in the Figure 9.5 the usage of internet though still not mass, is slowly spreading to non-metro cities. Almost 80% was still male dominated and around 81% domination was in the age group of 15-34 years of ages. The survey was conducted in the metro cities and Sec. A and B. The study also revealed that the top metro dominance in the spread of internet usage was reducing significantly. Ofcourse this study is not exhaustive enough because many other factors such as the number of homes or persons having access to a P.C, the frequency of usage, timing of the research etc. are not been referred to.

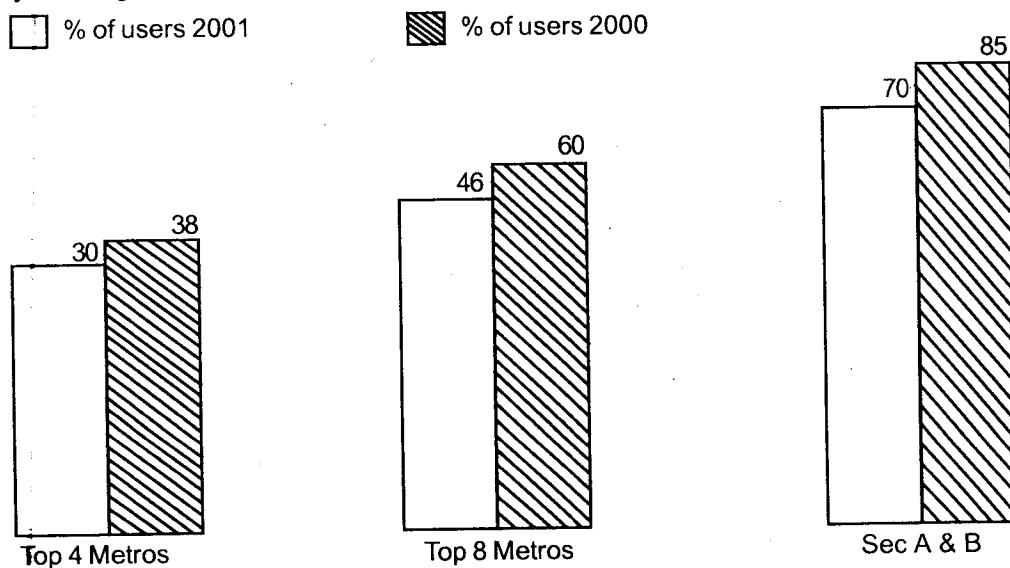


Figure 9.5 Top metro dominance reduces significantly

### Limitations of M.R.:

For any type of research to be effective it is imperative that there exists a smooth understanding between the managers and the researchers. In case of marketing, -the management has firstly to roll out a complete programme and strategy related to all the phases of the marketing process. Then specific measurable objectives (may be related to the product, price, promotion etc.) have to be worked out. Such specific details will be useful to the marketing researcher to undertake focussed studies relevant to the particular marketing situation. Since Marketing Research is not an answer to all the managerial problems, it will be better if the manager studies the situation with reference to few of the factors mentioned below.

- **Importance of the relevant information:**

The marketer has to understand the importance of the particular information being sought. They have to seek the link between the focussed study and its impact on the various strategic or tactical marketing moves. Since research is to be done with a view of the future utility, the information to be obtained should be such as to fit into the existing information system.

- **Type and nature of the particular problem (situation):**

The type of problems or situations will vary with the organisation. A firm which is already existing in the market may already have a wealth of information through experienced hands on the job. This wisdom can be used and only if additional information is sought does research have to be undertaken. But sometimes an existing firm may take a strategic decision to enter a new market, for which initial research may have to be undertaken. For instance *Sriram Srinivasan* the CEO of *Indus League* tried out something different by organising a *Scullers Womenswear Designer Search Contest* in Bangalore. The contest began in Bangalore on the first of June and continued for days. This marked the beginning of the first national womenswear brand store - *Scullers Womenswear Store* in the country. The contest gave the women of Bangalore a chance to design garments of their choice - tops, trousers, capris, skirts and shirts - and have it hit the *Scullers Womenswear Shelves*. In the words of Srinivasan, "We found in informal studies that women who shop at sculleers are extremely happy with the brand. Once they get hooked they stay loyal. There seemed to be a latent demand for branded western womenswear segment. So the Challenge faced by *Indus League* was -creating a market that practically did not exist.

- **Scheduling the time when research is to be done and availability of resources:**

Decision-making is the marketing manager's responsibility. Very often the research decisions have a binding on the 'time schedule' when it is to be undertaken. In the planning stage of the marketing programme itself, the detailed schedule related to the requirement of information is worked out. Ofcourse sometimes due to unforeseen circumstances or situations, the schedule may get affected. The popular saying goes '*Better late than never*'. In the existing marketing scenario almost all marketers guide 'at the market place is through the world of data. With all the firms vying for consumer attention marketers are bent on seeking information more closely to determine markets. and competition.

For instance the FMCG gaint *Procter & Gamble* decided to re-think its Indian Mass Market Strategy - it wanted to discontinue with the *Janta* brands with premium positioning and pricing. Research findings indicated that the company should focus on 7-11 million consumers. It was found that a re-understanding of the price-value equation was necessary, in India. This was because even high-income *Ariel* was found to be used by consumers in small amounts. So by cutting the

price of most of its laundry and hair-wash brands could motivate marginal users to become heavy users. As a result of this decision in May alone, P&G's *Pantene* and *Heads and Shoulders* grew at 32.8% as against the *HLL*'s brands which grew at only 3%.

Similarly, studies indicated that a big volume driven market - the rural opportunity have to be met differently and it may not work out profitably in the long-run to sell products meant for the urban consumer to the rural rich. To grow in these markets will require deeper and different consumer insights. This has resulted in *L.G.* and *Samsung* targeting simpler products like single-speaker 14" or 20" colour T.Vs at the entry level buyer in small town India.

Every firm has to weigh the availability of both financial and human resources with it before making ways to conduct researches. Because, paucity of funds may lead to an inappropriate research findings. Moreover, also the lack of proper qualified researchers may result in improper research results.

Lastly, the management must also work out the cost benefit analysis in terms of time, money and value of the research to the organisation. An analysis on the value of the information being sought is to be undertaken and only if the benefit out does the cost, will it be worthwhile to go for the research.

## 9.8 Types of Research Design:

A research design serves as a bridge to reduce the gap between the research objective, which has been established and what is to be done, as a part of the study in order to realise those objectives. Broadly all research approaches can be put into three categories. The variation is in respect of the research purpose, questions, the exactness of the hypothesis formed and the type of data collection methods used.

- Descriptive Design
- Experimental Design
- Quasi-experimental Designs

### Descriptive Design:

These designs are used to establish accurate descriptions of variables relevant to the decision being taken without/demonstrating the existence of the relationship between variables. The purpose of this design is to give an accurate picture of some aspect of the marketing environment. In other words, descriptive designs describe phenomena without establishing the association between factors. For instance,

- Say *Titan* may want to measure the reaction of young women between 15-25 years of age, to their '*Fast track*' brand of watches.
- Or say, *Raymond* is interested in knowing the socio-economic and demographic characteristics of Indian men towards branded ready-to-wear market.

Though it is frequently used for conclusive, preliminary and exploratory studies, hypothesis will be tentative and speculative. The descriptive designs can be *Cross-sectional* type or *Focus group*.

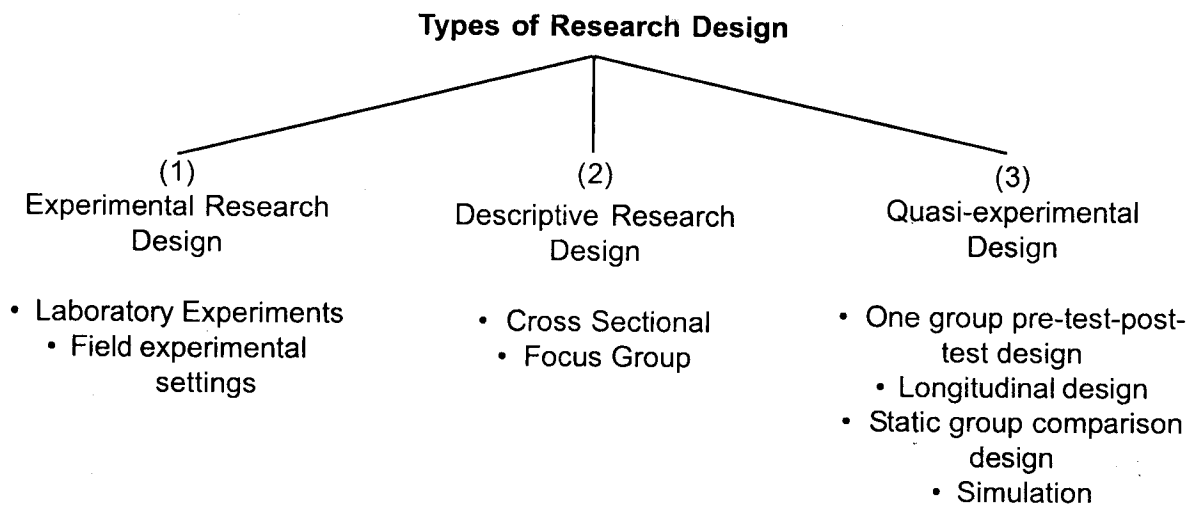
*Cross-sectional* designs create a picture of the phenomenon as desired by the marketer. The data would contain responses or observations of a cross-section of the sample, pertaining to the situation. Two such instances are mentioned below.

- The original commercial on 'Liril' soap was developed based on a research conducted across a cross-section of women, both in rural and urban areas. The key responses of the women was that the time to bathe for them represented a moment of freedom -of the spirit and from daily chores. Especially for rural women bathing was a special and not something they could take for granted.
- Firms offering services like the travel, airline or banking services, - e.g., *Citibank*, *American Express* etc. are planning to interact with a cross-section of their target segment in order to identify and provide exclusive services to them.

Designs of *cross-sectional studies* are informal and when explicitly described need to include only the nature and source of data, the nature of the expected results and the analytical method.

*Focus group* approach as the term indicates essentially brings together a group of people (usually the target segment), who communicate about their experiences and opinions. For instance,

- *Pepsodent* commercial had featured a child who gives a winner the pooh-esque explanation of his choice of the toothpaste in the face of product explanations and statistics in a very convincing manner.
- The commercial on 'Tide' washing powder shows women (the target segment) informing the campaigner of the product (TV. Star Shekar Suman) about how the problems (unremoved stains from the clothes) faced by them were solved after using *Tide*. Same is the case with *Harpic*.



**Figure 9.6 The various types of Research Design**

Such focus group designs are very useful in preliminary studies, as they tend to, inform the marketer of their problems and needs which can very easily be converted to marketing opportunities. This could lead to the establishment of marketing campaigns, or product improvements and other marketing actions.

### **Experimental Designs:**

These research designs are used to demonstrate cause effect relationships. This means that when it is necessary to show that one variable determines the values of other variables, a experimental approach is used. Students will undoubtedly be familiar with the concept of

experimentation in biological and physical sciences. Usually, experiments are carried out whenever it is feasible and cost justifiable.

There are two types of Experimental Designs -

- Laboratory experiments.
- Field experimental settings.

### Laboratory Experiments:

While conducting Laboratory experiments, the researcher will subject the variables (being tested) to an artificial environment. Such a setting will enable the researcher to minimise unwanted effects of extraneous variables by controlling or manipulating certain variables. (Refer Exhibit 1 for extraneous variables)

However, under controlled, artificial environment since the subjects are aware that they are being studied, they may not display their 'naturalness' as they would in a real situation. There are two important concepts related to laboratory setting:

- *Internal validity* (that there could be no other plausible cause of the observed results other than those tested).
- *External validity* (It is difficult to conclude the experiment properly and extend it to an external real world problem because the experiment was performed in artificial laboratory settings).

### Field Experiments:

Another alternative design, useful to marketers, provided it is used with caution are Field experiments. Field experiments are carried out in '*real-world environment*' settings. The subjects under study will be exposed to real variables such as products, price structure, advertisement etc. as they will appear during normal purchasing situations. It is presumed that the respondents will react in the way they actually do during normal circumstances.

#### EXHIBIT 1. Extraneous Factors Affecting Experiments Validity

An experiment's validity is dependent on the possible influence of the following extraneous factors:

**(a) History :** This refers to non-recurring events which occur when the experiment is being done but are not generated by the experiment.

**(b) Maturation:** This refers to the gradual change in the respondents with passage of time and this will be visible in the change of the respondents purchase behaviour.

**(c) Mortality:** At times test units (respondents) may drop out of the experiment midway. There is no way to ascertain if the lost test unit would have produced the same as others who had continued with the test.

**(d) Testing effect:** When respondents are aware about the test situation, it may affect their attitudes or preferences. Such an occurrence may result in bias responses and may not represent an actual (real) situation.



**(e) Instrumentation:** This term is with reference to the effect caused by changes, during the experiment, in the use of different measurement instruments like different interviewers or different conditions.

**(f) Selection bias:** At times respondents are selected in a way of biases, hence may not be representative of the entire population. Say, if individuals were asked to volunteer for the test at different time periods and different categories of test units respond, the result (outcome) of the experiment may not be actual but a distorted one.

A very popular field experiment is *test marketing*. Most of the firms have been using the test marketing method when (a) Working out marketing plans for a particular product/ service, (b) Trying to evaluate the different marketing mixes suitable to the firm. (c) Trying to ascertain the likely response to a new product offering from the target customers. Needless to mention that the researcher must gauge the likely gain from the product offering as against the costs and risks involved in obtaining them.

### Quasi-Experimental Designs:

There are five Research Designs which can be termed under the quasi experimental category:

**(1) One shot case study:** This is the simplest design and shows effects of some causal variable. In this design, the subjects under study may not be selected randomly but on some other basis like self-selection. The subjects will be first exposed to the causal variable say 'x', and measurement taken afterwards. For instance, say, the manager of *Food World* will ask sales persons to volunteer participation in a new sales training programme (to measure its effectiveness). After, self-selected volunteers have completed the training programme, their sales performance is recorded and compared with the sales of those who did not undergo the programme. Of course the drawbacks of such a study are:

- No control over sample selection.
- Inability to work out what happened with the training programme over prior performance.

**(2) One-group pre-test-post-test design:** This design is better than the one shot study because of the inclusion of a pre-test measurement. This means, measurement is taken of what existed before the 'subjects under study' are introduced to the causal variables, thus effects can be measured. For instance, as in the above illustration the sales performance of the sales persons are measured before they undergo the training programme. In spite of this, there are certain drawbacks related to this design:

- Here also the sample units have volunteered to undergo training.
- It is possible that the sales persons performance may have improved as they become more experienced during training period or there have occurred changes in the socio-economic or other aspects during that period.
- There is no control group to compare with (those persons who did not undergo the training).

**(3) Time-Series designs (Also known as Longitudinal Designs):** These type of designs go for repetitive measurements of the same kind of events at various points of time. Changes that occur during these intervals are recorded. Since this design considers changes that occur over a period of time it will be useful in monitoring studies being carried out by researchers, where the performance feedback will indicate problems.

This design is an important tool in longitudinal studies, enabling interpretations because it provides the *before and after* comparisons. Since observations are carried out in a series, it is possible to identify some of the time-oriented errors, which may influence the results. Further, more information can be obtained as a result of multiple measurement periods. Such multiple measurements also help to avoid the extraneous factors such as maturation, testing and partial instrumentation. Though it is possible that there could be effects of history on this design.

**(4) Static group comparison design:** Under this design two groups of persons are selected. The members of the Group 'A' are exposed to the treatment which is being tested. The second Group 'B' members are not exposed to it. The 'B' Group serves as the base for comparison with Group 'A', and is also the control group as they have not been exposed to the treatment. At times this design is also referred to as '*ex-post-facto*' because the control groups and treatment (being tested) are identified after the fact. For instance:

Say the marketing manager is interested in knowing and measuring consumers (target audience) retention of the brand name of their product (*Close-up*) associated with the game/competition (say Antakshari). Group 'A' members will be exposed to the competition, Group 'B' members may not have seen it. After measurement, one subtracts 'B' groups results from that of Group 'A'. This will indicate if at all, how much Group 'A' has superior retention of '*Close-up*' toothpaste.

The drawback in this design is related to the selection of individuals for the two groups. The members have to be randomly selected, otherwise they may differ on the dependent variable prior to the administration of the treatment.

**(5) Simulation:** Simulation is an imitation of a real-world situation. It is a family of various designs that may have a common attributes. Simulation designs are very often used for conclusive studies in marketing. Simulations involve calculating inter effects and relationships of various data through the use of computers.

This is a very powerful tool and used as a decision-making tool by marketers. Very often Marketing Research firms while seeking to find solutions to a given marketing problem, build simulations of the interrelated variables and use the simulation to solve other clients problems.'

But it must be noted that not all simulations actually measure the variables in the real-world. If it is not possible to measure all variables, some may be assumed based on experience. But the use of simulated variables may reduce the validity of the model.

Apart from considering the internal validity and external validity related to the Research Design, usually the *time factor*, *cost* and *the need for secrecy* are other variables to be kept in mind while selecting a particular Research Design.

## 9.9 Activity:

(1) Identify the major marketing research organisations carrying out researches for, *Hindustan United Lever, Bata and Procter & Gamble* in Hyderabad.

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### 9.10 Summary:

- Marketing research is the systematic and objective search for and analysis of information relevant to the identification and solution of any problem in the field of marketing. In the past, customers would interact with sales personnel who would pass on information about the requirement to the organisation. However, today apart from intense competition at the marketing place, the customers have become more exacting, sophisticated, brand and quality conscious. That is why marketers prefer to use marketing research findings to help them to draft suitable sales and marketing strategies.
- The scope of marketing research can be extend to the decision making process with marketing information, changing the old marketing framework, and tracking problems and taking decisions.
- The research design can be categorised into descriptive design, experimental design, and quasi-experimental design-with the variations among them being in relation to the purpose of research, exactness of hypothesis formed and the type of data collection method used.

### 9.11 Self Assessment Questions:

- (1) What is 'Marketing Research'? Discuss its nature and scope in today's context.
- (2) 'Marketing Research helps marketers to analyse and solve marketing Problems'. Comment in terms of the uses and limitations of Marketing research by quoting an example.
- (3) Briefly examine the types of research designs used for marketing research.

### 9.12 Additional Reading:

- (1) Suja R. Nair, *Marketing Research*, Himalaya Publishing House, Mumbai, 2003.
- (2) Venkat Phaneendra M., Beliefs and Expectations - "You also pay for them," *Strategic Marketing*, April-May, 1999, Vol. 1, Issue 1.
- (3) Greach P. E., Tull. S. D. and Albavm G., *Research for Marketing Decisions*, Prentice Hall of India Pvt. Ltd., New Delhi, Delhi, 2000, p. 37.



## Lesson - 10

# Methods of Collecting Data

## Objectives

After going through the chapter you should be able to understand:

- What is the meaning of the terms 'Secondary Research and Secondary data'?
- What are the advantages and limitations of Secondary data?
- Which are the internal and external sources of Secondary data collection?
- Which are the methods of collecting primary data?

## Structure:

- 10.1 Introduction
- 10.2 Meaning of Secondary Research
- 10.3 Using Secondary Data
- 10.4 Advantages of Secondary Data
- 10.5 Limitations of Secondary Data
- 10.6 Internal Sources of Secondary Data
- 10.7 External Sources of Secondary Data
- 10.8 Method of Collecting Primary Data
- 10.9 Activity
- 10.10 Summary
- 10.11 Self Assessment Questions
- 10.12 Additional Reading

### 10.1 Introduction:

So far in the book we have been discussing about the relevance of marketing research and the importance of assessing the informational requirements before deciding to go for marketing research. But to obtain information, the marketer will have to look into the variability of the sources of data and its availability, the cost involved, availability of time etc. In this chapter, we will discuss about the sources and methods of collecting primary and secondary data.

### 10.2 Meaning of Secondary Research:

Secondary research or Desk research (as mentioned above) is so called because it is usually concerned with the use of secondary data or information that is already available. This means such data (or information) have already been collected and analysed by someone else. Such information has not been gathered afresh specifically for any research project. This information is inclusive of

a wide range of material- company reports, government statistics, newspapers and journal articles to reports worked out by commercial market research agencies.

### Sequencing the Secondary Data Search:

Secondary data is collected usually at the beginning of the exploratory stage of the research and very often involve two main sources - internal and external. *Internal data* sources refer to those which are available within the organisation. *External* sources are those information published by other researchers, institutions or agencies, accessible in a range of forms.

*Dr. A.L. Bowley* had commented that it is never safe to take published statistics at their face value without knowing their meaning and limitations and it is always necessary to criticise arguments that can be based on them. This clearly indicates that the researcher must be very careful while using secondary data. Prior to using secondary data the researcher must ascertain whether it possesses the underlying features:

- Reliability of data (in terms of who collected it and how accurate it was).
- Suitability of data (in terms of the project under study).
- Adequacy of data (whether it is accurate and sufficient for the present course of study).

Since a mass of information is available in a good library, the above framework in the form of a sequence of steps in a secondary data search is worked out. The above framework can help the researcher to approach the secondary data search systematically.

The first step involves in knowing what one needs and then specifying the data requirements. Usually a lot of the information can be obtained from within the organisation - sales records, delivery and stock records, internal MIS etc. Thereafter the researcher may seek data information from external store houses or research agencies, consultants etc. The type of data being sought will depend upon the objectives of the research study, methods employed, the time and money spent (or fees towards using data service organisations).

[A] Specifying the data requirements.
[B] Ascertain how much information can be obtained from internal sources.
[C] Try to obtain secondary data from: <ul style="list-style-type: none"> <li>• Libraries.</li> <li>• Trade Journals/Associations.</li> <li>• Data service directories.</li> </ul>
[D] Collect secondary data.
[E] Workout the data's validity by : <ul style="list-style-type: none"> <li>• Evaluating the researcher/organisation.</li> <li>• Study the objectives of the original work done.</li> <li>• Do an appraisal of the methods employed and money spent.</li> </ul>

Figure 10.1 Sequencing the steps involved in Secondary Data Search

Another word of caution is that proper scrutiny is to be done to determine whether the data can be relied upon and whether they are correct enough to be a representative for the study being undertaken.

### 10.3 Using Secondary Data:

It has been rightly said that the primary information or data collected by one person may prove to be the secondary data for someone else.

The census data collected by the Government of India can be used by organisations as secondary information. Similarly, the database information collected by some of the Market Research firms is used by marketers for planning various marketing decisions. Some of ways in which researchers use secondary data is briefly mentioned hereunder:

- Very often secondary data will provide sufficient information to resolve the problem under study. By looking into secondary data (statistics) available with the Registrar General of India, the Marketing Researcher will have information on the demographic profile of the targeted individual (or customer) market.
- By looking at the secondary data available, it can work as a base or source of new ideas or projects that could be undertaken in the future.
- At times, understanding of the methods and techniques used in the secondary data collected, can help the researcher in planning the primary data research study. It will help to define the population, select the sample size and also decide on the various parameters required for primary data collection.
- A very important useful aspect of secondary data is that it can be used as a referral base against which to measure the accuracy or validity of the primary data collected.

### 10.4 Advantages of Secondary Data:

Secondary data is more economical to the researcher in terms of savings in cost and time when compared to primary data collection. As against primary data, secondary data research will involve spending some time in the library, extracting and then reporting the data. While in case of primary research - a significant time and money is involved in designing and printing data collection forms, appointing field staff to carry out the research, their travelling and other expenses, finally tabulating and analysing the data collected. All these involve a lot of time and money.

- Availability of secondary data will help the researcher to familiarise himself with the drawbacks or limitations of the study and thus plan his primary data collection in a more specific manner.
- By examining the secondary data relevant to his project/study, the researcher may develop a better understanding of the problem and may at times be required to do a redo (or rethinking) on his earlier developed ideas.
- Sometimes it may not be feasible for the firm to carry-out certain research projects, then the only alternative is to go for secondary data. For instance, in case of historical data, the researcher will be dependent on secondary data.
- In certain cases, secondary data will be more accurate and reliable than primary data. For instance, if a firm is wanting information on the sales (total and product-wise or industry-

wise) of competing firms, it will have to obtain such information from the statistical data published by MARG-ORG or other research organisations rather than from the companies themselves.

## 10.5 Limitations of Secondary Data:

In spite of the potential advantages of secondary data, it also has certain limitations.

- Secondary data are collected in the past and for reasons / purposes other than the research under study. Thus with the time gap - problems with regard to the unit of measurement could occur.
- There is no way for the researcher to understand how the data were collected nor has he any control over the data collected in terms of how accurate it was or else it is bound to error.
- At times the secondary data may be outdated and may not be useful for the current research.

This is because they had been compiled for other purposes. Especially in case of marketing, statistics or data beyond one year may not be appropriate. For instance, the census may contain some of the indispensable marketing data, yet four to five years after the census is taken, much of that information will have lost its value.

- It is very important to ascertain and identify that secondary data's source. But very often, it may not be possible for the researcher to identify the primary or original source or party who originally collected the data. Under such circumstances the researcher may miss out on the explanations of how the data were collected and cannot be sure of its reliability. A related problem is while using secondary sources, there could occur errors in copying data. Still another failing of secondary sources is their frequent tendency to make an abbreviation of the information given in the original sources. That is, they may omit explanatory or cautionary footnotes given in the original sources.
- Secondary sources may not be updated if they do not frequently incorporate revised data from time to time as soon as it becomes available. Thus, researchers have to use secondary sources with caution if they are to find and use data of known accuracy.

**TABLE 10.1**

<b><i>Advantages and Limitations of Secondary data</i></b>
<p><b>Advantages:</b></p> <ol style="list-style-type: none"> <li>1. It involves low cost (time and money).</li> <li>2. Compared to primary data, less effort is required.</li> <li>3. Earlier studies can familiarise researcher to avoid similar deficiencies and problems.</li> <li>4. It can be used for comparative base with primary data and better understanding of current study.</li> <li>5. At times certain information can only be obtained from secondary sources.</li> </ol>

**Limitations:**

1. Originally collected for some other purposes.
2. May be difficult to find data to suit the project under study.
3. Difficult to ascertain the accuracy/reliability of secondary sources.
4. It may be outdated.
5. It may be difficult to find the accurate unit of measurement due to the time gap.
6. May not meet the current research requirements and a number of assumptions may have to be made.

**10.6 Internal Sources of Secondary Data:**

A company can obtain secondary data from internal sources, i.e., from within the company. This refers to a firm's internal financial records or accounts. These include the firm's internal accounting and control systems. Such data have to be re-classified into a suitable marketing information data. The marketing *input data* would include budgets, expenditure per sales person, their problems and outcome of the visit. Secondary *output data* information can be obtained from the billing records, on the various shipments as recorded by the accounting department. Of course with the increased use of Information Technology (IT), an updated computerised sales information can also be obtained by the marketing department.

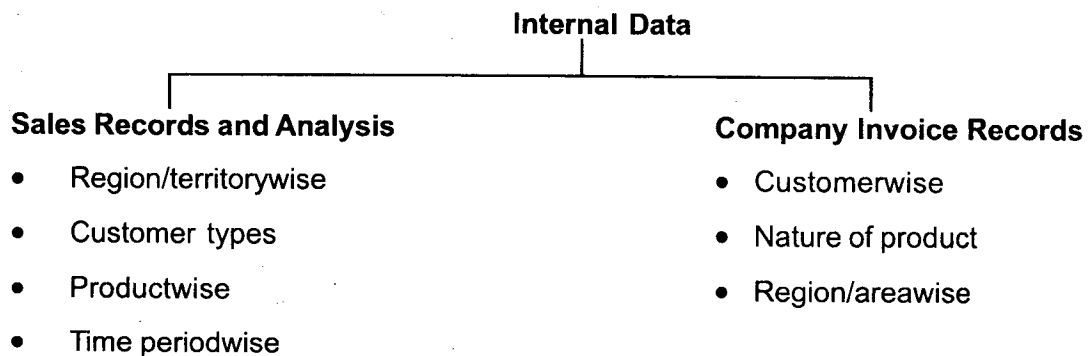
**Advantages of Internal Data are:**

- Readily available.
- Accessible on a continuous basis.
- Relevant to the company's requirement.

**Limitations/Problems of Internal Data:**

- The company's accounting systems are designed to fulfill different information needs of the firm. This means specific efforts are required to breakdown accounting data into the different units like customer types, regionwise, productwise etc., depending on the research study objective.
- Care is to be exercised to ensure that no variance occurs when measuring production, sales volume and profit figures and comparing with bimonthly store audit data.
- The quality of input data may get affected if, in general, there exists a long distribution network, resulting in several outlets where inventories can be accumulated and the invoices billed may not match the actual sales activity.





**Figure 10.2 Sources of Internal Data.**

In order to take care of some of the above limitations firms like *Citibank*, *Standard Chartered Bank* etc., have started to build *Customer Databases*. Records are maintained of frequent/loyal customers and their transactions. Such information will help the firm to understand the customer product/brand preferences, mode of payment (cash/credit card) and so on.

## 10.7 External Sources of Secondary Data:

Secondary data can be obtained from outside the firm also. A basic difference between internal data and external data is given here under:

Data that originate from within the firm and is collected for some other purposes, are *internal secondary data*. Whereas, *external secondary data* refer to data which are collected by the researchers outside the company for which the research is being undertaken.

While seeking external sources of secondary data, the firm would prefer the original source of external secondary data. When the market researcher is able to contact the original source of external data they are able to understand the original objective and method of data collection. The original source may have access to all the data information and errors can be avoided with the increasing possibility of more accurate data.

But very often, with most of the data being available on the computer, the researcher may prefer the secondary sources of secondary data.

Since this refers to information collected earlier by someone else, it may be in the form of printed or published reports, news articles, trade journals etc. Given below are some of the sources of external secondary data.

### [A] Public Libraries:

Most of the public libraries, have specialised collections of various research findings and published articles business magazines etc., which contain a large amount of business information. Such information can help the researcher to prepare and identify the base of collecting primary data or further information search.

### [BI] Census Data:

The Government of India periodically (beginning of the decade) conducts census of the population, agriculture, trade and industry, financial institutions and so on. The statistics and data provided in the census constitute a very important source of data for researchers. Usually, market

researchers make use of census data to help firms in sales forecasting, in developing potential markets, working out sales territories, in identifying distribution or store outlets etc.

### [C] Registration Data:

While issuing licences and other legal documents, firms are required to submit a statement of final accounts, other reports and register with the Registrar of Companies and the concerned ministry. Moreover, there are also other official and non-official agencies involved in registering data pertaining to business, economic status and other demographic details of persons living in a particular area. Public are required to file Income Tax returns. Thus market researchers have to identify the various relevant sources of information, obtain it and process these data.

### [D] Private Institutions/Organisations:

There are certain organisations like the All India Management Association, The Indian Marketing Association, The Economic Times and Financial Express (publishers) etc., which are engaged in compiling several important data and information pertaining to the financial and marketing aspects of various business/ organisations. At times they conduct researches which are suitably priced and sold. Such information and data are also available to the public via journals, books and newspapers. Even magazines like Business India, Business World, Business Today, Advertising and Marketing (A & M) and other financial newspapers cover articles on firms, products, industry, markets etc.

### [E] Market Agencies Engaged in Syndicated Research:

Syndicated services are provided by certain types of organisations, which gather only certain types of data that it sells or *syndicates* to clients who in turn will use it for their studies. Reports based on the Marketing Information collected by such organisations are published periodically, *i.e.*, weekly, monthly or quarterly and sent to their clients.

Since syndicated information is made available to a large number of individuals / firms, the unit cost to the client works out to be very less. When syndicated data is obtained, over a period of time, from the same 'sample' of individuals or households or establishments, they come to be referred as a 'Panel type'. Such panel type of syndicated information will enable the client to measure changes periodically/from time to time.

Give below in brief are information on some of major research agencies engaged in syndicated research in India.

### ORG (Operations Research Group):

ORG was established in 1960 and was the first to introduce the concept of syndicated research in India. ORG evaluates, monitors and analyses consumer, trade, community and organisational level behaviour and practices. The syndicated services offered by ORG include:

- *Retail Audits:* To monitor the market on a regular basis for various product categories, through a panel of retail outlets.
- *Consumer Products Audit:* This audit provides data pertaining to over 50 categories of branded packaged consumer goods, ranging from personal care products, food and medicines (including OTC drugs).

- **Pharmaceutical Audit:** National estimates of retail purchases of pharmaceutical formulations obtained from All-India representative sample of retail chemist outlets.
- **Prescription Audit:** Quarterly data obtained from a representative sample of various categories of doctors regarding the cases attended by them in a specified period.
- **Advertising Audits:** Monitoring of advertisements released through the print and TV media, on an ongoing basis to provide information on competitive advertising.

### **NCAER (National Council of Applied Economic Research):**

This is a non-profit, non-funded premier research institute specialising in the field of applied economics. It conducts a comprehensive survey - the annual Market Information Survey of Households (MISH) on the market, for a number of durables and consumer goods. Since the information provided in the survey are inclusive of the income level of the households, size of households, occupation - age and education level of the head of the household etc., such demographic information will be useful for marketers to plan and execute various marketing strategies for consumer goods.

### **Path Finders India:**

This is a research agency set up by leading ad agency *Lintas*. A noted syndicated research survey on Indian housewife, termed as National Market Monitor had been undertaken by the Path finders. The specific services include:

- **Study on Nation's Attitude and Psychographics (P: SNAP);**

This study was conducted in 1987 to measure the lifestyles, attitudes and psychographics of the Indian housewives. The sample included 10,300 housewives across 36 urban centres in India.

- **Study on Nation's Attitudes and Psychographics on Children (CHILD SNAP):**

This study covered a sample of 4,463 children in eight metros and mini metros, in the 6-9, 10-14 and 15-19 years of age. The study was to understand children as key influencers in decision-making, their media habits, role models, pocket money usage, brand awareness and advertising recall.

The other studies include PULSE (Monthly Advertising Impact Monitor), TCR (Television Commercial Recall System), Youth Trends (consumer markets of today and in future).

### **IMRB (Indian Market Research Bureau):**

IMRB has carried out many media studies and market measurement as a part of the syndicated research services. They include:

- **National Readership Survey:**

The main objective of the National Readership Survey is to provide advertisers, advertising agencies and publishers with information on their efficient use of the press and also to assess

other media such as cinema, radio and TV. NRS is conducted once in four or five years. NRS-I was conducted by ORG in 1970, NRS-II was jointly conducted by ORG and IMRB, NRS-III was conducted by IMRB (1983-84). And NRS-IV was jointly conducted by IMRB and Media Research (Media research division of MARG). The NRS-IV covered a sample of 73,695 households in 590 towns all over India, thereby making it one of the biggest exercises of this kind in the world.

- **Businessmen Readership Survey (BRS):**

It is a specialist readership survey carried out by IMRB and provides facts and figures on the readership habits of over 1.3 million Indian business men, company executives, professionals and government officials. BRS was conducted with a sample of around 8,800 detailed interviews spread over 12 metro cities in the country, The BRS provides readership and profile data for 130 publications.

- **Television Rating Points System (TRP):**

TRP is a continuous television measurement system, to estimate the audience size for the T.V. medium as a whole as well as for specific programmes and time slots. More specifically it is a panel based system and covers around 3,124 households, in nine cities spread across the country. It gives information on viewership figures, duplication between programmes, frequency of watching individual programmes and cumulative reach over successive telecast of the same programme.

- **Market Pulse-household Purchase Survey:**

This is a panel survey continuously monitoring service on 22 household products. It monitors the purchases made by 1,000 households in Mumbai, Delhi, Kolkata, Chennai, Bangalore and Hyderabad through housewives who maintain purchase diaries. IMRB uses these findings to monitor the performance of a new brand, predict brand share, measure magnitude of brand shifts and to assess the impact of promotional efforts.

- **Personal Product Purchase Panels:**

These panels comprise of men and the study is to collect information regarding buying habits for products such as tobacco products, blades, etc., Monthly reports are published.

- **The Cold Beverage Barometer (CBB):**

This study is carried out in peak summer is about seven cities, covering a sample of over 7,000 to enable strategic and tactical market planning about beverages (aerated and non aerated), squashes, soft drink concentrates, soda and home made cold beverages.

- **Thompson Indices:**

Hindustan Thompson Associates, the parent company of IMRB has got (a) Thompson Urban Market Index (b) Thompson Rural Market Index, which provide a compendium of data on urban and rural India respectively.

## 10.8 Methods of Collecting Primary DATA:

Generally if one wants to collect first hand information (primary data) on any event or happening, we either ask someone about it or observe it ourselves or do both. These are the two broad ways of collecting primary data, i.e., the observation method and the communication method.

**Observation Method:**

Observation is one method of collecting data. The researchers will observe a respondent's overt behaviour and record the action or event for subsequent analysis. In order to take a consistent measurement of different respondents, the researcher may use a standard form for recording the information.

Simply stated 'Observation' process is involved in recognising and noting people, objects and occurrences rather than asking for information. In case of marketing, instead of asking consumers what brands they buy or which television channel and which T.V. programmes are viewed by them, the researcher arranges to observe what products are purchased and which programmes are watched. In India, ORG - MARG and IMRB are Market Research agencies involved in trying to keep a track of the TRP (Television Rating Points).

**Advantages of Observation Method:**

- The observation method enables the researcher to record behaviour as it occurs.
- The observation method can be used by the researcher irrespective of whether the respondent is willing to respond or not.
- Observation method can be used in all situations, say when the respondents (like babies etc.) who are not able to respond.

**Limitations of Observation Method:**

- There could be difficulties which may arise due to our sense organs which operate in a highly variable and selective manner, i.e., our observation could be influenced by one's perception, attitude motivation etc. and may not be an exact or correct observation.
- There could be difficulties which arise on account of the interdependence of observation and inference. For instance, our observation could be influenced by our perception about certain things and personal experience. Thus the inference drawn could also be interdependent on these aspects and may not be always be exact in order to be generalised.
- There could be difficulties which could occur if the person being observed become selfconscious and even the observation may get distorted especially if people (being observed) are conscious of the presence of the observers.

Thus, however there are two issues to be borne in mind when opting for an observational method of research:

(a) The observational form should be a consistent measuring instrument.

(b) Certain essential components must go to the observational form in order to be clear about what is being observed.

- Who exactly are to be observed? (Customers/persons)
- What exactly is to be observed? (brands / information being sought by customer etc.)
- What is the schedule of the observation? (Which day of the week?/what time?)
- Where is the observation to take place? (Location)

**Communication Method:**

The communication method involves different types of survey methods and the usage of questionnaire for collecting primary data. These could take the form of personal interviews, telephone interviews and mail surveys. Personal interviews take place when the interviewer and the interviewee simultaneously interact in an interview environment made by the researcher depending upon the type of data to be collected.

The personal interview method could take the form of :

- *Door-to-Door interview*, where consumers are interviewed in person at their homes.
- *Executive interviews*, where executives are interviewed at their offices regarding various industrial products or services.
- *Shopping mall intercept surveys*, where interviewers stationed at selected locations in a mall randomly approach respondents and interview them.
- *Self administered interviews* are used in certain central stores or malls where audiences (or customers) are provided with brief questionnaires in order to obtain information about the various aspects of their services provided.
- The purchase intercept technique (PIT), where the researcher unobtrusively observes the customer make a purchase in a particular product category and then intercepts the customer for an interview immediately after the purchase is made.
- *Omnibus surveys*; where regularly scheduled (weekly, monthly, or quarterly) personal interview surveys are carried out involving questionnaires containing sequences of questions on different topics by a number of separate clients.

Another way of collecting information is through *telephonic interviews*, which helps when large sample size is involved and is also cost effective when compared to personal interviews. Only care is to be exercised while selecting the telephone numbers, difficulties associated with the call outcomes, timing of calls and preparation of call reports. The third major method of collecting primary data is the *mail survey*, where questionnaires are mailed to potential study participants who are requested to complete and return the same by mail. However, the effectiveness of this method will be related to certain decisions influencing the response rate and response quality. These include:

- Type of return envelope
- Postage (Self-addressed with postage envelope)
- Method of addressing the respondent
- Covering letter
- The length content, layout, colour and format of the questionnaire . The follow up method after reading the questionnaires
- Incentive to be provided to the respondent.

**CONSTRUCTION OF QUESTIONNAIRE AND INTERVIEW SCHEDULE****Questionnaire Method**

Questionnaire method of collecting data is useful because of its *versatility* (almost all marketing problems can be approached from the questionnaire point of view) and its *speed* (is faster than the observing method) and *less costly* (more economical when compared to the observation method). In spite of its many benefits, care needs to be exercised while designing or constructing a questionnaire. Before constructing the questionnaires, the researcher has to :

- (a) Decide on the *specific type of information* to be collected. He has to be clear about the nature of the information to be collected. This requisite information will enable him to phrase the questions in the right manner.
- (b) Decide on the *type of questions* to be used, *i.e.*, whether to ask open-ended questions or dichotomous questions (answers with in the form of 'yes' or 'no' / true or false) or go for multiple choice questions.
- (c) Decide on the *phrasing or wording of the questions*, *i.e.*, avoid difficult words, vague words, lengthy questions, combing two questions into one or questions lacking specificity.
- (d) Work out the *sequence or order of questions* to be put into the questionnaire: For example, general questions be asked first, while those securing specific information be put towards the end.
- (e) Decide on *how many questions are to be asked*, *i.e.*, the researcher should decide on the length of the questionnaire such that it will sustain the interest of the respondent.
- (f) Decide on the *layout of the questionnaire*, *i.e.*, the questionnaire need to be framed so as to create a favourable impression on the minds of the respondents. A sample of a questionnaire is given in Box 10.1 below.

**BOX 10.1****A SAMPLE QUESTIONNAIRE**

Date of Interview: \_\_\_\_\_ Time Interview started at: \_\_\_\_\_ Ended at: \_\_\_\_\_

Interviewer Name: \_\_\_\_\_

Respondent Name: \_\_\_\_\_ Respondent No. \_\_\_\_\_

Address: \_\_\_\_\_

Pin: \_\_\_\_\_ State: \_\_\_\_\_

City: \_\_\_\_\_

Telephone No : (R) \_\_\_\_\_

Hello, I'm \_\_\_\_\_ of ABC company, Bangalore. We are conducting a survey to obtain a feedback from our valued customers on our 'X' brand of washing machine.

1. Do you own any of our ABC company's products?

Yes

No

2. If yes, could you specify which product type and model No:
3. What are the other brands of washing machines considered by you, before selecting our 'X' brand?
 

Brand Name	Type of Washing Machine (fully automatic or semi automatic)
1.	
2.	
3.	
4.	
5.	
4. Please specify the retail outlet from where you purchased 'X' brand of washing machine and model name.
 

Retail Outlet Name: \_\_\_\_\_

Model Name: \_\_\_\_\_
5. Since how long have you been using a washing machine?
 

Last 6 months: \_\_\_\_\_

Last 6 months to 1 year: \_\_\_\_\_

From 1 to 3 years: \_\_\_\_\_

For more than 3 years: \_\_\_\_\_
6. Is 'X' brand of washing machine:
 

(a) First time purchase: \_\_\_\_\_ (b) A replacement : \_\_\_\_\_
7. If it's a replacement purchase. please specify the previous brand of washing machine used by you:
 

\_\_\_\_\_
8. What were the reasons for your shifting to our 'X' brand of washing machine? (please specify in your order of preference).
 

(a) Price/Value: \_\_\_\_\_

(b) Brand Name/Company reputation: \_\_\_\_\_

(c) Style Appearance: \_\_\_\_\_

(d) Sales Promotion: \_\_\_\_\_

(e) Information and attractive package: \_\_\_\_\_

(f) Warranty: \_\_\_\_\_

(g) If any other, specify: \_\_\_\_\_

From which source(s) did you hear about our 'X' brand of washing machine?

(a) T.V.: \_\_\_\_\_, which channel: \_\_\_\_\_

(b) Neighbour: \_\_\_\_\_



(c) Friends (or present users): \_\_\_\_\_

(d) Displays at retail shop(s): \_\_\_\_\_

(e) If any other (please specify): \_\_\_\_\_

10. Having started using our 'X' brand of washing machine, do you feel that the following attributes or aspects are present in your choice, [please specify by marking (✓) (for Yes) and (X) (for No)]

Value for money: \_\_\_\_\_

Good after sales service: \_\_\_\_\_

Prompt Delivery: \_\_\_\_\_

Sufficient information on package: \_\_\_\_\_

Any other: \_\_\_\_\_

11. Is there anything you dislike about 'X' brand of washing machine, then please specify:

(a) Poor after sales service \_\_\_\_\_

(b) Absence of Prompt Delivery \_\_\_\_\_

(c) Any other (please specify) \_\_\_\_\_

12. Your Date of Birth (Month \_\_\_\_\_, Day \_\_\_\_\_, Year \_\_\_\_\_)

13. Apart from you, what are the ages of the other people in your household?

(a) You live alone: \_\_\_\_\_

(b) Adults: Male: \_\_\_\_\_, Age: \_\_\_\_\_ Male: \_\_\_\_\_, Age: \_\_\_\_\_

Female: \_\_\_\_\_, Age: \_\_\_\_\_, Female: \_\_\_\_\_, Age: \_\_\_\_\_

(c) Children Boy: \_\_\_\_\_, Age: \_\_\_\_\_, Boy: \_\_\_\_\_, Age: \_\_\_\_\_

Girl: \_\_\_\_\_, Age: \_\_\_\_\_, Girl: \_\_\_\_\_, Age: \_\_\_\_\_

14. Which of the following best describes your annual family income?

(a) Below 1 lakh: \_\_\_\_\_

(b) 1 to 2 lakhs: \_\_\_\_\_

(c) 2 to 4 lakhs: \_\_\_\_\_

(d) Above 4 lakhs: \_\_\_\_\_

15. Please indicate your educational qualification:

S.S.C: \_\_\_\_\_ Graduate: \_\_\_\_\_ Professional (pl. specify): \_\_\_\_\_

H.S.C: \_\_\_\_\_ Post Graduate: \_\_\_\_\_

16. Which are the magazines preferred to be read by you?

Filmfare/Star Dust: \_\_\_\_\_

Business Today: \_\_\_\_\_

Cosmopolitan/Women's Era: \_\_\_\_\_

Business India: \_\_\_\_\_

India Today: \_\_\_\_\_

Any other (pl. specify): (1) \_\_\_\_\_

Business World: \_\_\_\_\_

(2) \_\_\_\_\_

**NOTE: Certain Typical Aspects Which Go in to Questionnaire**

- [A] Always begin the questionnaire with broad, general questions to establish rapport with the respondent.
- [B] The next few questions have to be straight and simple questions to reassure the simplicity of the survey to the respondent.
- [C] Ask more focussed questions relating to the research objectives (could be a mixture of simple and difficult questions) and try to obtain maximum information.
- [D] The last few questions could be personal in order to classify the demographic profile of the respondent.

**Telephone Interview:**

A large class of marketing problems can be attempted to be solved by adopting the telephone interview method of collecting information. This is also being accepted as a popular method especially with the cost and non-response problems of personal interview becoming more acute.

The telephone interviewing process goes through a process quite similar to personal interview involving certain steps in the form of:

- (a) Selecting of study participants' telephone numbers.
- (b) Making the telephonic call.
- (c) Introduce and gain rapport with the target study participants.
- (d) Work out and clarify the convenient time of the respondent for interview.
- (e) Schedule a call report.

**[A] Selecting of study participants telephone numbers:** The interviewer can either use a pre specified list, the telephone directory or a random dialing procedure to select potential study participants for telephone interview.

**[B] Making the telephone call:** Once the telephone numbers have been selected, the call is made. There could be various outcomes of the calls made - the telephone line was out of service, the line is continuously busy, an answering machine is fixed to the phone, no one answers the call, it could be a wrong number (or person) and if lucky, the call is answered by the desired respondent. The interviewer must be mentally prepared to react to the various call outcomes mentioned above.

**[C] Introduce and gain rapport with the target study participant:** A very significant aspect of interaction and especially telephonic interviewing, is the introduction. As the adage goes 'A good beginning is a job half done'. In order to successfully complete the interview, the interviewer must through a pleasant introduction try to build up rapport with the potential study participants. Of course the interviewer must take care to ensure that the introduction to the study is made brief and to the point.

**[D] Work out and clarify the convenient time of the potential study participants for interview:** In order to draw the study participants in the interview, it is always preferable to attempt the call when the prospective respondents are most likely to be available. Depending on the category. (working individuals, housemakers etc.), the telephonic interviews must be attempted at the time, when chances of reaching them are more likely.

**[EI Schedule a call report:** This report is in the form of a document with the interviewer, to sequence their telephone attempts namely - when was the call made (day and time)? the result or outcome of the call, duration of the call and so on. Such records will act as a record of their "calling experiences" and is also useful for the management of data collection.

**TABLE 10.2 Advantages and limitations of Telephonic Interviews**

<i>Advantages</i>	<i>Limitation</i>
(a) Since most interviews are conducted within a given time period, no time is lost in travelling or locating respondents.	(a) In the absence of usage of visualisior mechanical aids, this approach may not be suitable for complex marketing problems.
(b) Daytime can be made more productive by scheduling the call times according to the convenience of respondents.	(b) In the absence of a face to face interaction, the interviewer has to be alert to verbal cues to judge the reaction and understanding of the respondents.
(c) It is possible to make, if required, more call backs at a very less cost by making use of the wide area telephone services, which allows unlimited calls in a given area.	(c) Since telephonic interviews have to be kept as brief as possible, the interview talk may have to be hurried and more or additional information may be difficult to be obtained.
(d) This approach enables the inter-viewer to reach long distance respondents at their convenience.	(d) There are chances of sample bias because some people (potential respondents) may not have access to telephone and cannot be contacted.
(e) Since telephonic interviews provide anonymity (in the absence of face to face interaction) it permits permitting the respondent to reply with greater ease to personal queries.	

### 10.9 Activity:

(1) Construct a questionnaire and interview around 20 of your colleagues to understand their attitude and view on the benefits of 'Vehicle' (or car) pooling instead of using individual vehicles to work (or study).

.....

.....

.....

.....

### 10.10 Summary:

- Secondary Research is called so because it refers to the use of secondary data or information that is already available as it has already been collected and analysed by someone before hand. Such secondary data information includes a wide range of materials - Company reports, Government statistics, newspapers, magazines journal articles etc. It is said that information collected by one person may prove to be the secondary data source for some one else later on.
- Few of the advantages of using secondary data are it involves low cost in terms of time and money, less effort involved when compared to primary data, it can be used for comparing with primary data and better understanding of the project under study. Where as, its limitations could include difficulty in obtaining data suitable for the project under study, difficulty in ascertaining the accuracy and reliability of the secondary sources, the data could be outdated, due to time gap it may be difficult to find the accurate unit of measurement.
- There are broadly two ways of collecting primary data-The observation method and communication method (questionnaire and Interview schedule.)

### 10.11 Self Assessment Questions:

- (1) Explain the difference between sources of primary and secondary data collection methods.
- (2) Suppose automanufacture is thinking of launching a SUV (Sports Utility vehicle) model in the rural market. Can you suggest how the automanufacture can go about collecting secondary and primary (data) information?

### 10.12 Additional Reading”

- (1) Suja R. Nair, *Marketing Research*, Himalaya Publishing House, Mumbai - 2003.
- (2) Aaker David A., Kumar V and Day George S. *“Marketing Research”* 6<sup>th</sup> edn, John Wiley & Sons, Singapore, 2001.
- (3) Venkat Phareendru M., *Strategic Marketing*, April-May 1999, Vol. 1, Issue 1.
- (4) Boyd W. Flarper (Jr.), West Fall Ralph., Stasch F. Stanley, *‘Marketing Research - Text and Cases’*, AITBS Publishers & Distributors, Delhi, 2000.
- (5) Beri G. C, *Marketing Research*, 2nd Edn, Tata McGraw-Hill Publishing Company Ltd., New Delhi, 1998.

## Lesson - 11

# Research Process

## Objectives

After going through the chapter you should be able to understand:

- How to define a research problem?
- What are the major steps involved in the research process?

## Structure:

- 11.1 Introduction
- 11.2 Defining a Research Problem
- 11.3 Major Steps in Designing a Research Project
  - Specify the Research Objectives
  - Specify What Information is Being Sought
  - Designing the Data Collection Techniques
  - Deciding on the Sample Type
  - Actual Data Collection
  - Analyse, Interpret Data and Report Findings
- 11.4 Activity
- 11.5 Summary
- 11.6 Self Assessment Questions
- 11.7 Additional Reading

## 11.1 Introduction:

A look at the market will reveal that newer and newer products are making their presence felt almost on a daily basis accompanied by growing competition. This can probably be attributed to the pace of the technological changes affecting the field of production and products. To match this fast pace, firms are becoming market driven in their strategic decision making, especially since their future will be dependent on making sound marketing decisions. This is where marketing Research process can provide all the help. As already discussed in the book, Marketing Research involves a formal way and means of acquiring information to assist market decision makers in taking proper decisions.

In this chapter, we will discuss about the Marketing research process. This process in the form of steps or stages, starting with the conception of the current problem through till the final stage when the report findings are prepared and presented.

## 11.2 Defining A Research Problem:

As discussed earlier in the book, the *research process provides a systematic, planned approach to the research project and ensures that all the aspects of the research project are consistent with each other*. While referring to research studies, it involves a series of questions, to which answers are being sought:

- *What is the purpose of the research?* This is with reference to the research purpose and requires a keen understanding of the decisions to be taken and the problems/opportunities that have to be identified.
- *What are the research objectives?* Under this step the management purpose is translated into research objectives, thereby informing the researcher which questions are to be probed and answers sought by the research project undertaken.
- *What is the worthiness of the research?* This step involves working out the value of the information being sought as against the cost of collecting it.
- *What should be the Research Design?* This step refers to the type of Research Design - How much to rely on secondary data and when to conduct a survey and the related issues of data collection?
- *What is to be done with research findings?* After data is collected, how it is to be analysed, interpreted and recommended for further actions?

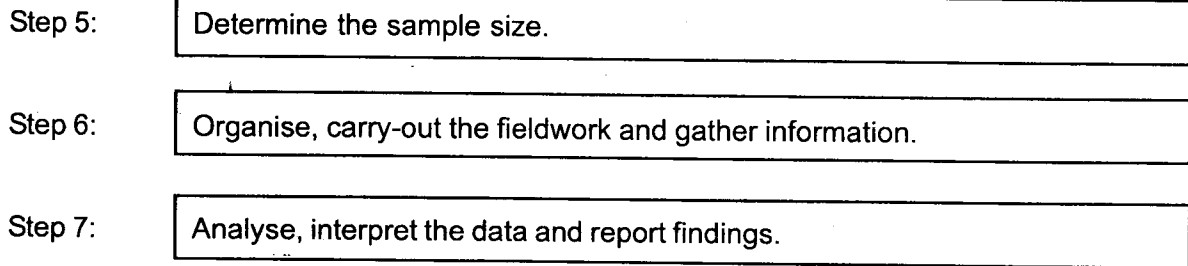
Although the above steps are in a series or sequence, it may be modified, if need be, in the event of new insights or possibilities occurring in the future. All the steps are embedded in the planning process of the business, ably supported by the information system which keeps a track of the type of information being sought by the decision-makers along with organising the data already available with them.

A lot of emphasis is given to the development of research purpose. This means that the research objectives are formulated correctly, the proper link between the research purpose and the decision makers (management) is formed. This can ultimately lead to the research being termed as appropriate with very high utility value.

## 11.3 Major Steps in Designing a Research Project:

When carrying out a research project, researchers are engaged in acquiring valid and reliable information, usually expressed in a series of steps and collectively referred to as the *Marketing Research Process*.

- |         |  |
|---------|--|
| Step 1: | Define the current problem or opportunity faced (specify research objectives). |
| Step 2: | Specify what information is being sought.                                      |
| Step 3: | Designing the data collection techniques.                                      |
| Step 4: | Deciding on the sample type.   |



**Figure 11.1** The seven major steps in a research study.

While working on a research project, it is necessary to anticipate all the steps that have to be undertaken to be successful in collecting valid and reliable information. For this purpose all the major activities have been put in the form of seven steps as shown in Figure. 11.1.

The sequence of steps consist of a number of interrelated activities. All the steps are dependent to some extent on the steps to be followed. To start with one is to have a good understanding of the research objectives in order to be able to specify what information is being sought. The design of the data collection techniques will be based on the form and content of the information being sought, which in turn will affect the data analysis and so on.

A more detailed discussion of the Seven steps is given below.

### **Step 1: Specify the Research Objectives (Define the Problem or Opportunity Faced):**

While specifying the research, the researcher will first try to obtain answers to the questions, "What is the purpose of this study?" and "What are the objectives of the research?" The researcher must clearly define these questions. Otherwise, the end result could be that the collected data is invalid or not reliable.

As mentioned in table 11.1, a source of research error could be a poorly conceived research study. This can be minimised if both the manager and researcher could together identify specific research objectives. It must be remembered that more precisely the research objectives are defined, more will it enhance the utility of the research.

### **Step 2: Specify What Information is Being Sought:**

Once a satisfactory statement of the research study's purpose and objectives has been established, it becomes necessary to be specific about the information needed to attain the objectives. The information will be determined by the research objectives and the utility of the research findings.

The manager along with the researcher should identify the specific information being sought and also attempt to evaluate its usefulness. This can be done by anticipating the possible findings of the research study.

### **Step 3: Designing the Data Collection Techniques:**

After specifying the research objectives and identifying the amount of information needed, the researcher has to ascertain how much information is already available (either from company records or other outside sources). They should try to review the existing information. If the desired information is not available from secondary sources, then the researcher may be required to design a data

collection research study such that - data may be obtained from a primary survey. While designing a data collection survey project, the researcher will have to take care of certain possible errors like - using an inappropriate design, wrong selection of respondents, asking ambiguous or unclear questions, wrong sample size and so on. Some of such errors can be avoided if sufficient attention is paid to the following issues:

<b>Steps</b>	<b>Possible Sources of Error</b>
(1) Specify research objectives.	Improper definition of problem or opportunity or purpose of study.
(2) Specify information being sought.	Improper- identification of specific information required for the research objectives.
(3) Designing the data collection techniques.	Poorly designed questionnaire or ambiguous questions resulting in improper responses.
(4) Deciding on the sample type.	Selection of a biased sample resulting in imprecise measurement of universe.
(5) Determine the sample size.	Errors arising from the usual random fluctuations associated with sampling.
(6) Organise, carryout fieldwork and gather information.(Actual data collection).	Improper selection of respondents or inexperienced interviewers not following instructions resulting in incorrect information being obtained.
(7) Analyse, interpret data and report findings? Processing, analysing reporting).	Errors while transforming raw data from questionnaires into 'research findings'.

**Table 11.1 Steps in research process and possible sources of error**

- Proper identification of the research objectives, clearly specifying whether the research is to be exploratory or conclusive.
- Identify the right respondents and decide on the method of interacting with them.
- Study a few similar cases before going for a large scale statistical study.
- Be clear about experiment measurement variables and their measurement.
- Design an appropriate data collection form.

Briefly put the important issues to be addressed when designing the data collection form: will comprise of type of questionnaire/content, type and wording of individual questions / sequencing of the questions.

#### **Step 4: Deciding on the Sample Type:**

It may be practically difficult to interact with all the sample members. So, usually a representative of the sample is selected for collecting data. While deciding on the sample type, the researcher will have to work out whether a *probability* or *non probability* type of sample is appropriate.



*Probability sampling* method refers to a procedure which ensures that each member in the group from which the sample is drawn has a known probability of being selected.

*Non probability samples* can be worked out in many ways but none will ensure that each member of the population has a known probability of being selected in the sample. This means that while adopting non probability sampling method, there are more chances of 'bias' as compared to probability sampling techniques.

#### **Step 5: Determine the Sample Size:**

The researcher must consider the problem at hand, the level of accuracy desired and budget constraints while working out on the question of sample size.

While using a probability sample, the researcher could use the theory of sampling statistics. This theory can help the researcher to work out what sample size is needed for a given degree of accuracy. The cost of using various sample sizes, the level of accuracy being sought will be seen in the reliability of the results.

Designing of the sample involves determination of sampling units, (planning) selection of sample items and estimating universe characteristics from sample data. The two basic methods of sampling include - *Probability* and *Non-probability* sampling methods. *Probability sampling method* enables the researcher to measure objectively the precision of sample estimates which is essentially unbiased estimates. Another advantage of probability sampling is that it permits the researcher to evaluate in quantitative terms the relative efficiency of alternative sampling techniques in a given situation. For selecting the universe the total number of universe elements and a little knowledge of identifying each universe element uniquely is desirable.

In *Non-probability sampling*, it will be difficult to evaluate the relative efficiency of alternative sampling techniques. Moreover, to use non-probability sampling method, it will be necessary to obtain substantial information.

The *main Limitations* of probability sampling include its relative complexity, time and budget constraints. In reality, except in very simple situations, more resources are required to design a probability design than a non probability design.

*Non probability sampling* can range from simple convenience sampling to elaborate variations quota sampling. Some widely used marketing applications are group interview samples, shopping mall intercept samples and controlled panel samples.

Though there are many factors involved in the sample design choice, ultimately, it is the experience and judgement of the researcher which will actually count.

#### **Step 6: Organise, Carry-cut Fieldwork and Gather Information or Actual Data Collection:**

This step involving the actual data collection will include selecting, training, controlling and evaluating the performance of the members of the field force. Data can be collected either by conducting interview (telephone or personal) or by observation. A major source of error in most surveys is associated with the interview method. These errors could take form of :

- Respondent selection errors.
- Nonresponse errors.
- Errors due to stimulating responses.

- Errors while interpreting and recording answers.
- Cheating by the interviewer (fills up questionnaire without making interviews).

Proper management can to a great extent reduce the error element. The field force can be controlled by adopting personal field supervision along with maintaining a schedule to ensure that interviews are being satisfactorily conducted according to schedule.

### **Step 7: Analyse, Interpret Data and Report Findings:**

After the actual data collection is carried out, the results have to be processed in a way to yield the information, for the project or study which was carried out. This starts with editing the forms to ensure all the questions were asked or observations made and the final data is logical, consistent and reliable. This is followed by tabulating and analysing the data. Needless to mention that raw data obtained have to be transformed into a set of information so as to match with the list of information needed by the marketer. In other words, the end result of the data collection should culminate into a set of information that matches with the category of specific information being sought-mentioned as the second step of Marketing Research Process.

Presentation of the report findings represents the end of the particular research process. Preparation of the type of report will greatly depend on the nature of the project (study) carried out and the purpose [or person(s)] for which it is prepared. The type of report could vary from a detailed description of the research methodology used for data collection to presentation of the inferences drawn (or conclusions reached).

#### **Exhibit 11.1**

#### **Parle's New Foray: From Mineral Water to Hotels**

In a Major diversification move, the Rs. 600 crore Parle Agro is considering a foray into the hospitality sector. The maker of Bailley water, Frooti and N-joi, is now keen to tap opportunities in the hotel and service apartments industry.

The diversification is among the FMCG company's new initiatives, spearheaded by Prakash Chauhan's daughter, Schauna Chauhan, who has just taken over the company's operations.

Speaking to ET, Ms. Chauhan said the company's plans to diversify into hotels and service apartments is aimed at utilizing the vast property that Parle Agro owned at prime locations in Mumbai. Service apartments are seen having a good demand in Mumbai, the financial capital of the country.

"The move into hotels could be taken up as a joint venture with a partner having expertise and presence in the hospitality industry. The company is open to tying up with both international or domestic hotel chains. A consultant has been hired to do a feasibility study and scout for possible joint venture partners," she added.

On the export front, Ms. Chauhan said Parle Agro was in talks with companies in Sri Lanka, Bangladesh, Dubai and Russia for selling its beverages - Frooti and N-Joi, Parle is in the process of setting up manufacturing bases in Sri Lanka, Bangladesh and Dubai for beverages.

Mr. Chauhan also has plans at the drawing board stage for expanding the Frooti franchise with in the agro-based category. The company intends to agro-based category. The company intends

to strengthen the brand and extend the mango equity with a view to grow the market for products with a milk-and-fruit mix. Among the new products that are being test-researched for launch in the forthcoming festive season, are fruit jams, bread-spreads, energy bars and yoghurt. The slew of new launches slated for the Diwali season would most likely be under the existing brand names of Frooti and N-Joi.

(Source: *The Economic Times*, September 26, 2002.)

To ensure that errors do not come in the way of reporting the research findings, the researcher has to exercise great care in the editing and coding activities during the tabulation, analysis and preparation of report findings.

1. Define the target population.
2. Develop a frame (list of elements in population).
3. Select the sample design.
4. Determine the appropriate sample size.
5. Select the specific sample members.
6. Modify projections so as to match actual sample results.

**Table 11.2: Steps involved in developing a sample.**

- Initial information
  - Title page
  - Letter of transmittal (formal authorisation letter)
  - Table of contents
- Synopsis
- Introduction
- Objectives - Hypothesis
- Methodology
- Presentation of findings
- Conclusions / Recommendations
- Appendices

**Table 11.3: Major components of written reports.**

## 11.4 Activity:

A medium sized entrepreneur is interested in selling the concept of 'Using solar energy for cooking purposes' to the rural customers. Can you help him to work out the steps involved in carrying out the research process?

### 11.5 Summary:

- In order to know how the research project or process is conceived, planned and executed one should have an overview of the Marketing Research process. This process is carried out in the form of seven steps or stages which are:
  - (1) Specify research objectives
  - (2) Be specific about information being sought
  - (3) Design data collection techniques
  - (4) Decide on sample type
  - (5) Determine sample size
  - (6) Organise, Carry out field work and gather information
  - (7) Analyse, interpret and present report findings.

### 11.6 Self Assessment Questions:

- (1) Briefly explain the steps involved in the Marketing Research Process.
- (2) Say, a well-known company is planning to collect information to open a network of supermarkets in Hyderabad. This information to be compiled is related to traffic patterns in the city, per capita food expenditure, population density in the major locations, store size, sales volume and the space to be allocated for various category of products. How will you define an appropriate set of research purposes and objectives?

### 11.7 Additional Reading:

- (1) Suja R. Nair, *Consumer Behaviour and Marketing Research*, Himalaya Publishing House, Mumbai - 2003.
- (2) Aaker David A., Kumar V and Day George S. "*Marketing Research*" John Wiley & Sons, Singapore, 2001.
- (3) Kress-George., *Marketing Research*, 3<sup>rd</sup> Edn, Prentice Hall Englewood Cliffs, New Jersey, 1988.

## Lesson - 12

# Analysis of Data (1)

## Objectives

After going through the chapter you should be able to understand:

- What is the inter relationship between analysis and interpretation activities?
- Which are the techniques for analysing data at the lower level and higher level?
- For analysing data how does one develop hypothesis and test them using the various 'tests'?
- Which tests are used for measuring differences among data and taking care of sampling errors?
- What is Chi-square analysis and which are the tests for nonmetric data?

## Structure:

- 12.1 Introduction
- 12.2 Inter Relationship Between Analysis and Interpretation Activities
- 12.3 Techniques for Analysing Data
- 12.4 Simple Statistical Summarising Techniques
- 12.5 Hypothesis Development and Testing
- 12.6 'Z' and 't' Tests
- 12.7 Situations Involving 'T' Tests
- 12.8 One and Two Tailed Test and Level of Significance
- 12.9 Tests for Nonmetric Data
- 12.10 Chi-Square Analysis
- 12.11 Chi-Square Contingency Table
- 12.12 Mc Nemar Test
- 12.13 Analysis of Variance
- 12.14 Activity
- 12.15 Summary
- 12.16 Self Assessment Questions
- 12.17 Additional Reading

## 12.1 Introduction:

In an earlier chapter we have discussed about the various sources and methods of collecting data. However, all the efforts made at collecting reliable data would go in vain if attempts are not made at analysing the data collected. In this chapter the discussions are evolved around analysing data using statistical techniques, testing of hypothesis and tests of significance.

## 12.2 Inter-Relationship Between Analysis and Interpretation Activities:

### Analysis:

Simply stated *analysis* refers to computation of certain indices or measures along with searching for patterns of relationship that exist among the data groups. *Analysis*, especially in case of survey or experimental data involves converting raw data into *information* which is meaningful. This usually takes the pattern of estimating the values of unknown parameters of the population and testing of hypothesis for drawing inferences.

### Interpretation:

Once the data have been analysed, the researcher has to work out how the *new information* are related to one another or the existing information and draw conclusions from the gathered data. This brings in the *interpretation* part, i.e., interpretation has to convert new information emerging from the analysis into information that is pertinent or relevant to the study.

After describing the meaning of analysis and interpretation, it is necessary to emphasise that these two activities are no doubt closely related, but if either is not carried out properly, the success of the research study is jeopardized. The very purpose of data analysis and interpretation is to answer a vital question: "Do the findings from the (or this) data relate to the objectives and hypotheses of the study?"

### To quote a hypothetical case of improper interpretation:

ABC Ltd., was a Company established in 2000, a detergent-manufacturing company. From the beginning it had been selling *Blue Bleach* detergent powder. In the year 2004 it launched another detergent *Blue White*, with extra whiteners. The marketing manager of the company while going through the sales figures obtained from its retail outlets noted that the sales of *Blue Bleach* was declining accompanied with the increasing sales of *Blue White*. (Analysis) This led him to conclude that Bleach sales were dropping because of consumer switching their loyalty to detergents with extra whiteners. He then suggests dropping *Blue Bleach* from its product offerings. (Interpretation).

In reality, at the market place there were two other bleach manufacturing firms trying to offset the introduction of new detergents with extra whiteners by going for aggressive promotion schemes. Thus, no doubt the total industry sales of bleach was falling with the introduction of new extra whitener detergents. The sales of *Blue Bleach* was primarily due to the increased promotional efforts of the other competing bleach companies.

In the above case, though the analysis from the data collected of declining *Blue Bleach* sales and increasing *Blue white* sales was correct, the interpretation was incorrect. This was because the marketing manager of ABC Ltd., had failed to relate the data obtained to the other information.

Thus, it is to be re-emphasised that even the most sophisticated analytical techniques will be wasted, if proper care is not given to the interpretation of the resulting data.

### **Data Analysis Plan:**

The researcher must select the primary analytical techniques as soon as the decision is taken on the type of data to be gathered. For instance, a researcher may decide to use a simple co-relation analysis from the data collected, to determine the degree of association between two variables, but now he realises that the data had not been collected in a form to facilitate the usage of this technique. Such a situation will result in all the efforts (in terms of time, money and manpower) used for data collection being wasted. Hence, the need for the researcher to decide early in the research project - which analytical techniques are going to be used.

The formal *Data Analysis Plan(s)* to be developed in the early stages of the research study, should ideally include:

- The major variables to be studied.
- Methods used to measure these variables.
- Specific procedures to be used to analyse the results.

A big mistake made by many researchers is that they feel their plans cannot be termed as *precise*, especially when carrying out surveys which may “end up with too little of the right data, too much of the wrong and no good way of distilling truth”.

### **12.3 Techniques for Analysing Data:**

Data analysing techniques can be categorised into two broad levels.

*Lower level:* Techniques needed to accomplish research objectives including:

- (a) Techniques used to summarize.
- (b) To measure dispersion of data.
- (c) Cross tabulate the data.

- *Higher level:* Analysis, since hypotheses are to be tested or draw inferences from sample data.

### **Cross Tabulation for Data Analysis:**

Usually, whenever the term “*analytical procedures*” is used, it is presumed that one is referring to the statistical techniques involving complex formulas. For all practical purposes, most of the research studies rely on a simple process of *cross-tabulation* for data analysis.

Cross-tabulation usually starts with the development of a simple one-dimensional data, then depending on the objectives of the study, these data are separated into two or more categories. Of course, at times some other categories may also be developed later on, from the intuitive probing by researchers for other possible relationships.

**TABLE 12.1. Some important terms used while analysing data**

**Metric data** - are derived from scales that possess a metric with which it is possible to specify scale values in numerical (quantities) terms.

**Non-metric data** - data which have to be displayed in the form of tables or charts, and are scales which do not possess a metric with which to measure distances between scale values. This data may be binary, nominal, ordinal or ranked.

**Scale** - is a set of values which represent a continuum on which the cases to be measured can be located and is so constructed that all that is observed and of interest to the researcher can be assigned unambiguously to a particular scale value.

**Univariate analysis** - are called 'one way' or 'single variable' frequency tables. Univariate analysis considers each variable on its own and displays, reduces or infers from the results independently of other variables in the data set.

**Bivariate analysis** - studies the pattern of relationship between two variables.

**Multivariate analysis** - studies the pattern of relationships between three or more variables at the same time for analysis.

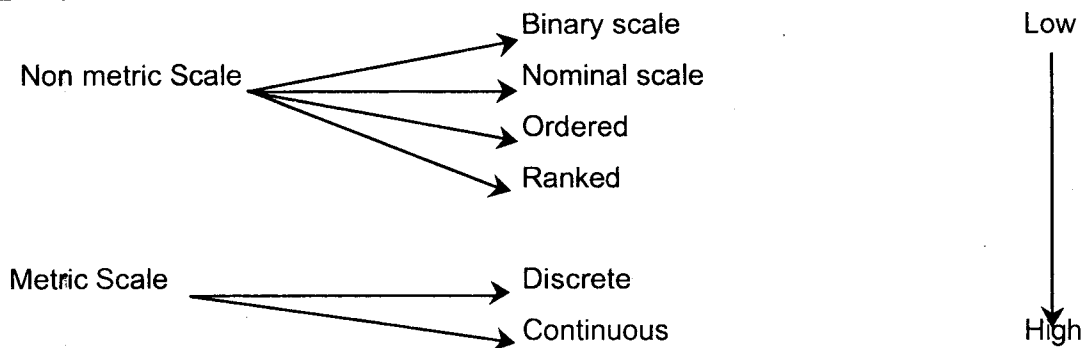
**Figure 12.1 Different types of scales used for measurement.**

Figure 12.1 gives a summary of the different types of scales. It is seen from the figure that these scales constitute different levels of measurement starting from the lowest level of binary scale, through increasing levels of sophistication till it reaches the continuous metric. Needless to mention that as one moves up the levels of measurement, the kinds of statistical operations will also become more sophisticated.

#### **Identify Factors to be Cross-tabulated:**

The cross-tabulation can be successful only if the researcher is able to identify those factors crucial to relationships and then work out the cross-tabulation along those lines. The type and nature of factors used will vary according to the nature of the study, such as:

- In a *simple fact gathering research*, the factors to be considered are usually spelled out and the researcher has to merely put the data in the desired form.
- In case of *applied research*, the researcher will select the factors. For instance, the HRM department is interested in identifying those key factors resulting in variation in the performance appraisal of its first level executives. The company suggests factors to consider like age, experience and the package of in-house aptitude tests. The intuitive



probing also makes the researcher include certain other factors such as - institute of graduation, curriculum exposed to in the college, nature of summer training/project undertaken by the executive while in college.

- In a *basic research*, the researcher will select all the factors to be cross-tabulated. For instance, in a customer purchase behaviour analysis, the researcher may select certain factors such as - age, sex, FLC (family life cycle), net income, education, occupation, benefit-usage etc., as those possibly influencing the purchase habits of customers.

While cross-tabulating data, the analysis could take the form of *sequential analysis* - one explanatory factor at a time or sequential analysis - viewing two or more factors at a time. The researcher has to discover key linkages between sets of data otherwise faulty relationships may emerge, leading to faulty decision-making.

#### **Limitations of Cross-tabulation:**

There are two major limitations associated with cross-tabulations:

- (a) The sample must be large enough to enable simultaneous analysis be carried out. This means that sufficient units have to be considered so as to give a proper representation to each cell in the data matrix.
- (b) In spite of preliminary investigations and familiarity with the situation (to facilitate intuitive feeling of the key factors), it is difficult to be sure whether all the pertinent tabulations have been considered.

## **12.4 Simple Statistical Summarising Techniques:**

In the beginning of the chapter it was mentioned that data can be analysed at a lower level and a higher (more complicated) level. Simple cross tabulation is one such lower level analysis. Another lower level method used to summarise data is through a univariate analysis.

We can summarise data with the help of simple statistical techniques categorised as :

- (a) Measures of central tendency.
- (b) Measures of dispersion.

#### **Measures of Central Tendency:**

The most common measures of central tendency include *Mean*, *Mode* and *Medium*.

- **Mean:** The mean value can be computed when interval or ratio data are involved. Here all the values are added together and this sum is divided by the number of observations. Suppose, the college canteen is trying to find out how many of the 150 college students, came to the canteen in the previous month. Say the total number of times they visited the canteen in the previous month was 300. Then the mean measure works out to be 2 (300/150).

But this figure may be misleading because many of the students may have gone to the canteen more than once.

- **Mode:** Mode is used when nominal data is involved. It usually identifies the variable or a class of variables. In the above case of students going to the canteen, if survey indicated that most of the students went to the canteen on Mondays. Days of the week are nominal

data and are represented as (with a number) Monday-1, Tuesday-2 and so on, apart from facilitating identification, these numbers have no real value.

- **Median:** This can be used to summarise ordered data, by identifying the value below which 50 percent of the total value lie. It does not get affected by extreme values in the data and so provides a fairly good measure of asymmetrical (skewed) data.

### Measures of Dispersion:

The most commonly used methods to describe the dispersion of data are the *Range*, *Standard deviation* and *Variance*. Moreover, if these values are small, it indicates that the data are fairly compact.

- **Range:** This consists of an interval from the lowest to the highest value in the data array.
- **Variance,  $S^2$ :** This index reveals the degree to which the values are dispersed. If every observation in the set of data were of the same value, the variance would be equal to zero. And as the values differ increasingly from the mean, the variance becomes larger.

$$\text{Variance, } S^2 = \frac{\sum (X - \bar{X})^2}{n - 1}$$

$$S^2 = \text{Variance.}$$

$X$  = Value of the observation.

$\bar{x}$  = Arithmetic mean.

$n$  = Total number of observations.

- **Standard Deviation,  $S$ :** This is the square root of the variance. The dispersion is expressed in original units rather than squared units.

$$S = \sqrt{S^2} = \sqrt{\frac{\sum (x_i - \bar{x})^2}{n - 1}}$$

- **Co-efficient of Variation:** More information about the size of the dispersion can be obtained by calculating a coefficient of variation or *cV*. This is obtained in the form of standard deviation as a percentage of the mean. For instance, if the standard deviation for a set of data is Rs. 55 and the mean value of that set of data is Rs. 755 then the co-efficient of variation will be 7.2 per cent, indicating a fairly small dispersion.

$$CV = \frac{S}{\bar{X}} = \frac{55}{755} = 7.2\%$$

- **Percentile:** A percentile is a value indicating the proportion of numbers below it. For instance, the 20th percentage is a value that has 20 per cent of all the other numbers below it.

It may be noted that the best dispersion measure will depend on the type of data involved.

### Criteria for Selecting the Appropriate Analytic Method

Since many different analytic methods are available, the researcher may find it difficult to select one which is appropriate for his or her data. In order to help the researcher in the selection of an analytic method, we have used the following criteria, which are in the form of questions.

#### 1. What is the purpose of analysis?

If the analysis is meant for summarising the collected data, then the lower level techniques such as measures of central tendency or measures of dispersion are appropriate. Whereas if the analysis is to identify whether a significant difference exists between groups of data or if some type of association exists between two or more variables, then higher level methods are needed.

#### 2. The type of measurement scales to be involved?

The scale represented by the number usually determines the analytic methods that are to be used. As seen in the chapter, there are metric (interval, ratio) non-metric (nominal, ordinal) data.

#### 3. The number of samples to be involved?

The study may be pertaining to using a single sample and comparisons be made among units within that sample. Or the study could involve more than one separate sample. A vital question to be answered by the researcher would be - Does the analysis involve a sample and a population of two or more samples?

A related question would be - Are the samples being studied independent of one another? If yes, the selection of the members for one sample will not limit the selection of members for the second sample. Otherwise, the sample members could be same and used twice or so as the study demands.

#### 4. The number of variables to be analysed?

This is one of the most important aspects which will help the researcher to select the appropriate statistical method. The number of variables could either involve a univariate situation, bivariate situation or a multivariate analysis. So, accordingly there will be differences in the type of statistical methods involved.

**TABLE 12.2: Methods used for measuring Central Tendency and Dispersion in different types of data.**

<i>Types of Data</i>	<i>Measures of Central Tendency</i>	<i>Measures of Dispersion</i>
Nominal	Mode	Frequency Distribution
Ordinal	Median	Percentile
Interval ratio	Mean	Variance, Standard Deviation, Co-efficient of Variation

### 12.5 Hypothesis Development and Testing:

Since analysing data also involves testing of hypotheses, we will briefly discuss how to develop hypothesis and the procedures required for testing them.

*Hypotheses can be defined as statements the researcher sets out to accept or reject based on the data collected.*

### **(a) Null and Alternative Basic Concepts Concerning Testing Hypothesis**

The hypotheses will depend on the study's objectives. And these hypotheses acceptance or rejection enables these objectives to be met. It is necessary that the researcher state the *null hypothesis* (the hypotheses to be tested) such that its rejection could lead to the acceptance of an *alternative hypothesis*.

The *null hypothesis* and the *alternative hypothesis* are chosen before the sample is drawn. While selecting the null hypotheses, the following aspects are considered :

- Alternative hypothesis is usually the one, which one wants to prove, while null hypothesis is that which one wishes to disprove.
- Since the rejection of a certain hypothesis even when it is actually true involves great risk, this is considered to be null hypothesis because then the probability of rejecting it even when it is true is 'The level of significance'.
- Null hypothesis should not involve approximation of a certain value, it should be specific hypothesis.

### **(b) The level of significance or ( $\alpha$ )**

This is a very important concept involved in the context of hypotheses testing. Usually, it is some percentage (generally 5%) and is chosen with great care, thought and reason. This ' $\alpha$ ' value will depend on how much risk is involved in rejecting a true hypothesis.

### **(c) Type I and Type II errors**

As stated above, the null hypothesis may be rejected or may not be rejected depending on the data collected. While taking such decisions, an error could occur because whenever samples are involved, it may not be possible to ascertain whether the variations or differences between sets of data are real or due to the sampling process.

It is possible however, to state the probability of rejecting a null hypotheses which is actually true and when such a situation arises, it is called a *Type I error*. The probability of such a mistake is called ' $\alpha$ ' or *the level of significance*, depending upon how much risk the researcher wants to take in rejecting a true hypothesis. The most common levels are .05 and .01, corresponding to confidence co-efficients of 95 per cent and 99 per cent. The more confidence the researcher has on the tests, smaller the ' $\alpha$ ' level, they will use.

A *Type II error* occurs when a false hypothesis is accepted. The probability of making such an error is called  $\beta$ (Beta). These two errors are not complementary.

It is possible to control Type I error by just fixing it at a lower level. But in case of a fixed sample size 'n', when trying to reduce type I error, the probability of committing Type II error increases. Also both types of errors cannot be reduced simultaneously. So researchers try to opt for a trade off between these two errors. That is, they try to reduce one type of error provided, they are willing to increase the probability of making the other type of error.

### Make Hypothesis Simple, Precise Statements

It is always preferable to make hypothesis - simple precise statements. Should they contain multiple possibilities, it makes the task of accepting or rejecting them more difficult. For instance, consider the following hypothesis:

*H<sub>0</sub>* : Less than 45 per cent of male students and 55 percent of female students went to the college canteen more than three times in a month.

Here, since a multiple condition (proportion of both male and female students going to the college canteen) is put one part of the statement may be accepted and the other part may be rejected. The hypothesis should be based on a statement that can be quantified and one should be able to accept or reject it entirely.

We will consider an imprecise hypothesis.

*H<sub>0</sub>* : The use of Rs. 10/- off coupons will increase the sales of 'Annapoorna Atta'.

Here because of its imprecise statement, the hypothesis would have to be accepted, even if the data collected shows that *Annapoorna Atta* sales have increased just by one unit. But the hypothesis can be put in more specific or precise form such as :

*H<sub>0</sub>* : Rs. 10/- off coupons will increase June sales of *Annapoorna Atta* by at least 5000 units.

This is a precise statement, that can be accepted or rejected based on actual population or the information obtained from samples.

### Hypothesis Testing:

Testing of the hypothesis involves the following steps:

- Work out the null and alternative hypothesis.
- Decide on the appropriate statistical test.
- Be specific about the level of significance.
- Compute the value of the statistical test which is appropriate, for the sampling distributions.
- Use the statistical test to determine the probability of the occurrence of the test statistic.
- Draw a statistical conclusion on the null hypothesis. Should it be accepted or rejected.

### Attitudes-Measurement and Scaling:

Some measurement approaches were touched upon in the earlier chapters. But since attitude measurement is a very important aspect in marketing, in this chapter we will describe the various qualitative aspects, which form an integral part of measurement.

**Attitudes** are defined as mental states used by individuals to structure the way they perceive their environment and guide the way they respond to it.

**Measurement** of marketing phenomenon is fundamental so as to facilitate provision of meaningful information for effective marketing decision-making.

In Marketing Research, the measurement process requires using quantified data along with quality to represent the marketing phenomena under consideration (or investigation).

## The Levels of Measurement

For the purpose of measuring it is necessary to assign numbers to the object under observation. This means there has to be some form of measurement scale and then convert the characteristics of the observed object onto the measurement scale.

A measurement scale can be defined as a plan that is used to assign numbers to characteristics of objects.

There are many types of measurement scales available in Marketing Research, with each one having its own underlying assumptions about its relevance to the real world observations. How appropriate the measurement scale is will depend upon the researcher's assumptions about how the numerals resemble the real-world observations.

According to *Stevens*, the scales of measurement can be classified into four characteristics of the number system. The levels of measurement are Nominal, Ordinal, Interval and Ratio. Since these scales have already been discussed they are not dealt with here.

### 12.6 'Z' and 't' Tests:

Whenever sample data are involved, the researcher will have to take care of sampling error. 'Z' and 't' tests are two such techniques used for measuring differences among data. They also consider and recognise the possible influence sampling error may have on these values.

These techniques can be used when:

- Measurement scales are at least interval.
- Observations are made from a normally distributed population.
- Observations are independent of each other.
- There is involvement of two or less groups.
- There is involvement of differences between two groups.

If the above conditions are met, the researcher has to decide whether a 'Z' or 't' test will be more suitable.

'Z' test is used for judging the significance of several statistical measures particularly the mean. A most frequently used test in research studies involves 'Z', which is calculated and compared with its probable value at a specified level of significance for making a judgement on the significance of the measure concerned. (Luck, Ronald, 2001)

The following two *conditions* should exist if 'Z' test is to be used:

- (a) Information exists on the population's mean and standard deviation. The population can be an actual one or an assumed one where a particular parameter value is identified and selected. For instance, it is assumed that a new product will be accepted by 20 per cent of the population.
- (b) The sample under consideration has to be larger than 30.

't' test is based on 't' distribution and is considered as an appropriate test for judging the significance of a sample mean. Or the 't' test can be used for judging the Significance of difference

between the means of two samples, in case of small sample when population variance is not known. For such cases, the researcher generally uses variance of the sample as an estimate of the population.

Simply stated, a 't' test is used when,

- The population's standard deviation cannot be obtained.
- The sample size is less than 30.
- Only sample data exist on both groups.

It may be noted that since the above conditions tend to prevail, usually in Marketing Research the 't' test is used more often than the 'Z' test.

A 't' distribution is a continuous probability distribution and although symmetrical, is more widely dispersed than the normal distribution. This means that a 't' distribution has a larger portion of its total area in its tail than the normal distribution. In reality the 't' distribution is a series of normal curves with each curve based on the size of the sample. Moreover, as the sample tends to get larger, the 't' values will become quite similar to 'Z' or normal distribution values. In fact, it is observed that when the sample size nears 120, the 't' distribution is quite similar to the 'Z' distribution.

### Steps Involved in Using Z or t Tests

The following criteria are used to determine whether it is appropriate to use 'Z' or 't' tests.

- The data has to be interval-scaled.
- The observations must be independent.
- The involvement of two or fewer groups.
- The observations must come from a normally distributed population.

If the above criteria are met, then the employment of a 'Z' or t test will include the following steps:

1. Development of the null hypotheses.  
Ho :  $m_1 = m_2$  (The phrasing determines whether a one - or two- tailed test is involved).
2. Choosing the level of significance 'a', usually 0.05 or 0.01/5 per cent or 1 per cent.
3. Depending on the nature of the collected data, the proper formula for deriving a computed 'Z' or 't' value is selected (means or proportions).
4. The computed 'Z' or 't' value is compared to the appropriate tabular 'Z' or 't' value.
5. The null hypotheses is accepted or rejected based on the outcome of these comparisons.

### 12.7 Situations Involving 't' Tests:

For all practical purposes, marketing researcher usually makes use of the 't' test This is because most often the situation involves the usage of fairly small samples for data collection. There are three different formulas of 't' tests, depending upon the situational requirement, as given below :

- [I] When the population data is available but the other group is represented by a fairly small sample, the following formula is to be used for 't' test:

where,  $\bar{x}$  = Mean of the sample.

$$t = \frac{x - \mu}{s\sqrt{n-1}}$$

$\mu$  = Mean of the population.  
 $s$  = Standard deviation of the sample.  
 $n$  = Sample size.

- [II] When the data on both the groups are obtained from samples the following t test formula is to be used:

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{(S\bar{x}_1)^2 + (S\bar{x}_2)^2}}$$

$\bar{x}$  = Mean of sample one

$\bar{x}_2$  = Mean of sample two

$S\bar{x}_1$  = Standard deviation of the mean for sample '1'

$S\bar{x}_2$  = Standard error of the mean for sample '2'

- [III] When all the data are obtained from samples and the differences to be tested are in terms of proportions, the following formula can be used:

$$t = \frac{p_1 - p_2}{\sqrt{\frac{p_1q_1}{n_1} + \frac{p_2q_2}{n_2}}}$$

$P_1$  = Proportion of sample 1 having a given characteristic

$P_2$  = Proportion of sample 2 having a given characteristic

**Notes:**

1. In all the three above situations, a 't' table is to be referred, to obtain the tabular value.
2. The value of 't' is based on the degrees of freedom (n - 1) involved.
3. When two samples are involved, the degrees of freedom become (n<sub>1</sub> + n<sub>2</sub> - 2) for consulting the 't' table.
4. As the sample size approaches 120, the tabular 't' value become comparable to normal distribution or 'Z' values.
5. A 't' table is provided for in the appendix.



**A (Hypothetical) Example Using 'Z' Test:**

Suppose a ABC Bank of XYZ city is conducting an in-depth study of its customers so as to improve upon its services and promotional efforts according to its customers requirements. One aspect of this study is concerned with a comparison between the average household income of the bank's customers with the average household income of all XYZ city households.

Suppose the census of XYZ city revealed that the average household income was Rs. 20,000 with a standard deviation of Rs. 3,000. The survey of 1020 ABC customers disclosed, their average household income was Rs. 22,000 with a standard deviation of Rs. 3,400.

Mean income of population ( $\mu$ ) = Rs. 20,000

Standard deviation of population ( $\sigma$ ) = Rs. 3,000

Mean income of bank customers ( $\bar{x}$ ) = Rs.22,000.

Standard deviation of bank customers (S) = Rs. 3,400.

Sample size used in the bank survey (n) = 1,020.

**Null Hypotheses:** The null hypothesis to be tested is that - the average income of ABC customer's household ( $\mu_a$ ) is equal to the average income of XYZ city households ( $\mu_x$ ). i.e.,

$$H_0 : \mu_a = \mu_x$$

$$H_a : \mu_a \neq \mu_x$$

In the above survey, sample data is being used to depict the bank's customers. But we are interested in comparing the mean values for both populations. Though for computations sample data is used, for hypotheses, comparison is to be made between population data. So, the formula used for testing hypotheses will be,

$$Z = \frac{\bar{x}_A - \mu_x}{\sigma_{\bar{x}}}$$

Here since variance of the population is known and a large sample is involved, 'Z' test is appropriate. And the difference between the two values is expressed in terms of standard errors of the mean ( $\sigma_{\bar{x}}$ ). Moreover, the variance of the sample mean is equal to the population mean divided by the sample size. Thus  $\sigma_{\bar{x}} = \frac{\sigma}{\sqrt{n}}$ , which indicates that the standard error of the mean  $\sigma_{\bar{x}} = \sigma / \sqrt{n}$ .

$$\sigma_{\bar{x}} = \frac{\sigma}{\sqrt{n}} = \frac{\text{Rs. } 3000}{\sqrt{1020}} = \text{Rs. } 93.93$$

$$Z = \frac{\text{Rs. } 22,000 - \text{Rs. } 20,000}{\text{Rs. } 93.93}$$

$$= \frac{\text{Rs. } 2000}{\text{Rs. } 93.93} = 21.29$$

In order to know whether a real difference exists between the standard error (S) and sampling error, a comparison can be made between the computed 'Z' value of 21.29 with the tabular 'Z' value associated with the 0.05 level of significance chosen for our study. See 'Z' table provided in the appendix. Could a difference of this large 21.29 standard error, be considered to be a sampling error? or Does a real difference exists between the two values? This can be answered from our following discussions.

## 12.8 One and Two Tailed Tests and Levels of Significance:

As stated earlier in the book, a one-tailed test is used when the null hypotheses involves a greater than (>) or a less than (<) situation. That is, such situations arise when the researcher is concerned with only determining whether one value is significantly larger or smaller than another value.

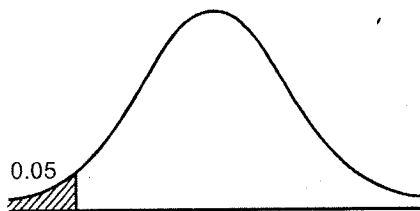
A two-tailed test is used when the null hypotheses is expressed as a statement pertaining to equality between two sets of data:

$$H_0 : \mu_1 = \mu_2$$

The tabular value of 'Z' at the 0.05 level of significance will depend on whether a one-tailed test or a two-tailed test is involved. When a one-tailed test is used, the tabular value of 'Z' will be restricted to just one-half of the normal curve and the entire level of significance will apply to that area.

- (1) One-tailed test involving a less than (<) hypothesis.
- (2) One-tailed test involving a greater than (>) hypothesis.

(1) One-tailed test involving a less than (<) hypothesis



(1) One-tailed test involving a greater than (>) hypothesis

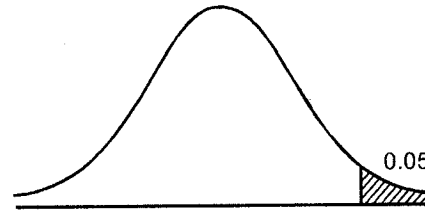


Figure 12.2 One-tailed test

In case of the involvement of a two-tailed test, half of the level of significance is applied to each end of the normal curve. (Fig. 12.3).

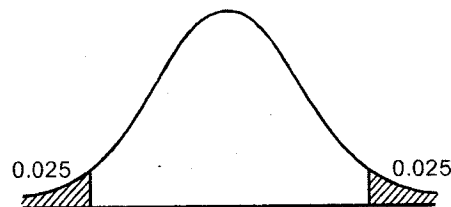


Figure 12.3 Two-tailed test involving an equal to (=) hypothesis

0.05 and 0.01 are the most commonly used levels of significance.

**TABLE 12.3. Tabular Value of 'z' at 0.05 and 0.01, Levels of Significance.**

<b>Level of Significance (a)</b>	<b>Value of 'Z' (Z)</b>
$\alpha = 0.05$ , one-tailed test.	1.64
$\alpha = 0.05$ , two-tailed test.	1.96
$\alpha = 0.01$ , one-tailed test.	2.33
$\alpha = 0.01$ two-tailed test.	2.58

Going back to the earlier example involving comparison of the average income of the ABC bank customer with the income of the XYZ city household, a two-tailed test is appropriate because the null hypotheses involves a statement of equality.

$$H_0 : \mu_A = \mu_x.$$

As seen from Table 12.3, the tabular value of 'Z' for a two-tailed test using a 0.05 level of significance is  $\pm 1.96$ . Whereas, the computed value of 'Z' in our example is 21.29, greatly exceeding the tabular 'Z' value. This indicates that the difference between the two mean values (22,000 - 20,000) is too big to be termed as a sampling error. Thus, the null hypotheses is to be rejected and the alternative hypotheses that the two means are not equal is accepted. Another interpretation could be that the average income of ABC's customers is significantly larger than the income of the typical XYZ city household.

#### **Value of 'Z' When Proportions are Involved:**

Suppose the data is in the form of proportions rather than discrete numbers, a different formula of 'Z' is involved. To illustrate this situation, we go back to our bank study. Another part of the study, included a comparison between the bank customers owning their own homes with the proportion of home ownership among all the XYZ city residents.

**Tile Null Hypotheses to be Tested:** The proportion of home ownership among ABC's customers is comparable to the proportion of ownership among all XYZ city households.

$$H_0 : P_A = P_x$$

$$H_a : P_A \neq P_x$$

where,  $P_x$  = Proportion of XYZ city households owning houses.

$P_A$  = Proportion of ABC bank's customer households owning homes.

Suppose, of the 1020 bank customers. 65 percent owned or were buying their own homes, the data obtained on the proportion of home ownership among all the city households revealed that 55 percent owned their own homes.

$$P_x = 55\%$$

$$P_B = 65\%$$

$$n_B = 1020.$$

Then the formula for obtaining Z value, when proportions are involved will be :

$$Z = \frac{P_B - P_X}{\sigma_P}$$

$$\sigma_P = \sqrt{\frac{PQ}{n}}$$

$$\sigma_P = \sqrt{\frac{55.45}{1020}} = \sqrt{0.0543} = 0.233$$

$$Z = \frac{65\% - 55\%}{0.233}$$

$$Z = \frac{10\%}{0.233}$$

$$Z = 42.92$$

Computed  $Z = 42.92$ , and tabular value of  $Z = 1.96$  (two-tailed test at 0.05 level of significance.)

Since the computed value of 'z' (42.92) greatly exceeds the tabular 'Z' (1.96), the null hypotheses is rejected. The alternative hypotheses, that there is a difference between the two groups in terms of ownership is accepted.

## 12.9 Tests for Nonmetric Data:

While using 'z' or 't' tests, it is necessary that the data being compared be metric data. However, there are instances when, even though the data pertaining to groups are non-metric (ordinal or nominal), a comparison between the groups is still needed.

### Mann-Whitney U Test:

A very simple method or a procedure is to test whether two independent groups differ on the basis of deviations from the median. The test is helpful to determine whether two samples have been drawn from populations with the same median (Null hypotheses). Moreover, if the underlying analysis is such that more meaning can be drawn provided the observations can be separated into either being above or below the grand median, the median test would be the choice. But if the data are truly ordinal and can be ranked, the *Mann-Whitney U test* will be a more powerful test than the median test. The Mann-Whitney test involves using actual ranks of observations for testing hypotheses about the identity of two population distributions.

### Example

We assume that the ABC bank survey will require each customer in the sample to give an overall rating of the bank's services. Say, the bank is interested in knowing whether its younger customers (40 years or less) differ from its older customers in terms of ratings. Table 12.4 shows the scores obtained from 20 customers (10 in group 1, 40 years or less; and 10 in group 2, more than 40 years old). Thus a small sample is used to obtain the results more easily. The third and

fourth columns rank each score in terms of its standing in the total group. Once the rankings are assigned, the following step involves in finding the sum of ranks associated with each group.

The Mann-Whitney U value can be obtained with the following two formulas when used together:

$$U = n_1 n_2 + \frac{n_1(n_1 + 1)}{2} - R_1$$

$$U = n_1 n_2 - U_1$$

Where  $n_1$  = Sample size, group 1.

$n_2$  = Sample size, group 2.

$R_1$  = Sum of ranks, group 1.

$R_2$  = Sum of ranks, group 2.

**TABLE 12.4. Customer evaluations of bank**

Attitude Scores		Ranking of Score	
40 years or younger	More than 40 years	40 years or younger	More than 40 years
96	76	1	12
84	71	9	14
70	82	16	8
92	86	4	4
62	81	18	10
77	76	11	14
90	78	2	12
87	94	6	1
74	66	14	17
83	60	8	20
		$R_1 = 89$	$R_2 = 112$

We can now apply the Mann-Whitney test formula:

$$n_1 = 10$$

$$R_1 = 89$$

$$n_2 = 10$$

$$R_2 = 112$$

$$U_1 = (10)(10) + \frac{10(11)}{2} - 89$$

$$= 66$$

$$U_2 = 10(10) - 66 = 34$$

The Mann-Whitney 'U' will be the smaller of the two U values obtained. In this case the Mann-Whitney V is 34. Thus from the above evaluations, it can be inferred that more smaller the two groups are in their evaluations, smaller will be the differences between the 'R' values and thus larger the value of U. Further, it can also be stated that we are testing the probability of obtaining a value, the size of the smaller of the two V values, provided the two groups are indeed similar in their attitudes.

$H_0$  : There is no significant difference in attitudes of the two groups towards the bank.

$H_a$  : There is significant difference in the attitudes of the two groups towards the bank.

At significant level  $\alpha$ , 0.05 (two-tailed test), if the computed value of 'U' is less than the tabular value of U, the null hypotheses will be rejected, otherwise not.

### Kruskal-Wallis Test:

This is an extension of Mann-Whitney U test. This test is used in situations where more than two independent samples are being compared and data are ordinal. For instance, this test could be used if the customers were to be divided into two or more groups based on some criteria. Like in our example of the ABC bank, the customers could be divided based on the accounts held by them such as savings account holders and current account holders.

### Signed Rank or Wilcoxon Test:

This test can be said to be complementary to the Mann-Whitney U test. It is used when ordinal data on two samples are involved and the samples are related. This test is most suited to pre-test, post-test situations.

We go back to our study involving the customers of the ABC bank to illustrate the use of this test.

ABC wanted to improve its service image among its older customers. So, it worked out a promotional campaign for a two months period with emphasis on a special set of services exclusively meant for its senior customers. Towards the end of the campaign, ABC met the same sample of ten members selected for the earlier conducted survey and once again measured their attitudes towards the bank's services. The details are given in the Table 12.4.

The null hypotheses is that the customer attitudes after the promotional campaign ( $A_B$ ) is equal (similar) to their attitudes prior to the campaign ( $A_A$ ).

$H_0$  :  $A_B = A_A$

$H_0$  :  $A_B \neq A_A$

The differences in the attitudes of all the customers (pre-test versus post-test) is recorded. Then ranking is done according to absolute magnitude (lowest ranking given to smallest absolute difference). All positive differences are summed and compared to the sum of all negative differences. The smaller value of these two sums become the computed 'T' value. In the above example it is 24.

TABLE 12.5

(A) Customer	(B) Attitude Before campaign	(C) Attitude After campaign	(D) Difference	(E)* Signed Rank of difference
1	76	81	5	7.5
2	73	74	1	1.5
3	81	80	-1	-1.5
4	85	80	-5	-7.5
5	80	83	3	4.0
6	77	81	4	5.5
7	78	72	-6	-9.5
8	90	86	-4	-5.5
9	65	71	6	9.5
10	58	60	2	3.0

$\Sigma$  of positive difference = 31,  $\Sigma$  of negative differences = 24.

For column (E) we have ranked the data jointly considering them as belonging to a single sample in either an increasing or decreasing order of magnitude. Usually, we give rank 1 to the item with lowest value, rank 2 to the next higher and so on. In case of ties, i.e., if say the 5th and 6th values are identical, we would assign the rank  $5 + 6/2 = 5.5$ .

The computed 'T' value (24) is compared to an expected 'T' value for a sample size of 10. (refer table for 'T' given in appendix). That value is 8 for a 0.05 level of significance.

If the null hypotheses is true, the sums of the positive and negative rankings should be equal. And bigger (or larger) 'the difference between these two sums, smaller the computed  $IT'$  will be. This indicates that if the computed 'T' is smaller than the expected 'T' a significant difference exists between the two sets of data.

Here, the computed 'T' (24) is larger than expected 'T' (8). Hence the null hypothesis is accepted.

### Friedman Two-Way Analysis of Variance:

This method is used when three or more related samples are involved and the data are ordinal. This method is described in length in most of the business statistics texts.

### 12.10 Chi-Square Analysis:

Chi-Square is an important test amongst the various tests of significance developed by statisticians. As a non-parametric test, it can be used to determine if categorical data shows dependency or whether two classifications are independent. It can also be used to make comparisons between theoretical populations and actual data when categories are used.

This analytical process can primarily be used as a test to :

- Test the goodness of fit.
- Test the significance of associations between two attributes.
- Test the homogeneity or the significance of population variance.

The symbol  $\chi^2$  is used to designate chi-square and the chi-square distribution is similar to 't' distribution. Its tabular values also depend on the degrees of freedom. As shown in figure 12.4 a chi-square distribution is more skewed when a small number of degrees of freedom are involved and the distribution becomes symmetrical as the degrees of freedom increase. As a matter of fact as the degrees of freedom become fairly large, the distribution begins to resemble the normal curve.

### Steps Involved in Chi-Square Tests:

The procedure for chi-square test involves a comparison of expected frequencies ( $f_e$ ) with observed frequencies in order to ascertain whether the difference between the two is greater than what might occur by chance.

The five steps involved in chi-square tests are:

- (a) Compute the difference between each observed frequency ( $f_o$ ) and expected frequency ( $f_e$ ).

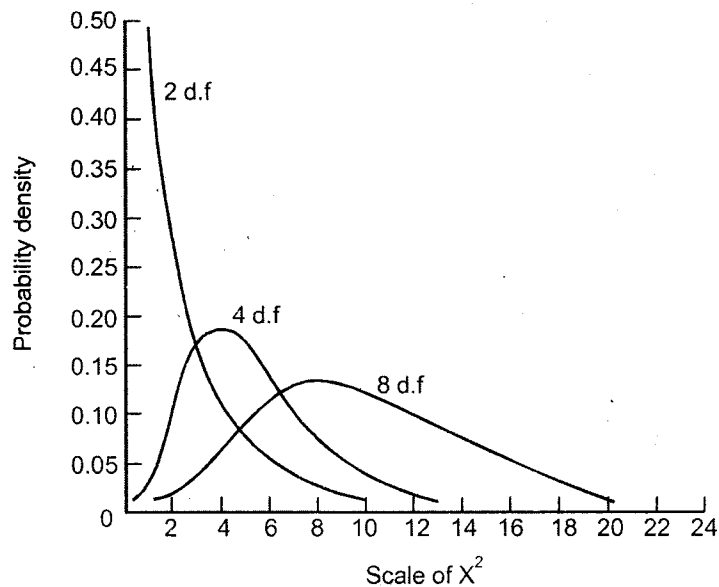


Figure 12.4 Chi-square distribution for various degrees of freedom

- (b) Squaring these differences.  
 (c) Dividing each squared difference by its respective expected frequency.  
 (d) Adding these quotients together to obtain the computed chi-square values.  
 (e) Compare the computed value to a tabular chi-square value.

The formula for chi-square test is :

$$\chi^2 = \frac{\sum(f_o - f_e)^2}{f_e}$$

where,  $f_o$  = The various observed frequencies.

$f_e$  = The various expected frequencies.



If the computed chi-square value is greater than the tabular chi-square value at a pre-determined level of significance, the hypotheses that there is not significant difference between the sets of data is rejected. Whereas, if the computed chi-square value is less than the tabular chi-square value, it means there is not enough evidence to state a significant difference exists between the sets of data.

### Goodness of Fit Approach and Contingency:

#### Table- Test of Independence:

There are two situations where the chi-square test can be applied. The first situation is (a) To test the goodness-of-fit of a set of data. (b) To test the independence of two sets of variables.

#### *The Test of Goodness-of-fit of a Set of Data:*

Under this approach, the expected frequency values are worked out from a previous pattern in the data, or an expected pattern. For instance, say, a well-known food company developed a new biscuit that it sold in test markets in four different package sizes. The marketing manager was assuming that the demand for the new biscuit in terms of package sizes will adopt the same purchasing pattern followed for the company's other food products.

The past data revealed, that the unit sales of the firm's other food products were of the pattern: 22 per cent of all units were sold in Rs. 5 packages, 39 per cent were sold in Rs. 6.50 packages, 28 per cent were sold in Rs. 8 packages and 11 per cent were sold in Rs. 10 packages.

The test period was scheduled as a four week test period. During this period 5000 of the new biscuits were sold. The sales distribution was as follows :

1200 — 5 rupees packages.

1880 — 6.50 rupees packages.

1320 — 8 rupees packages.

600 — 10 rupees packages.

The production department were interested in knowing whether the sales pattern by package size for the new product was to be similar to that of the company's other food products. Because if the pattern is to be changed, it will indicate that a new production schedule has to be developed.

In this example, the hypotheses being tested is whether there is a significant difference between the sales of the new biscuit and the sales pattern of the other (past) products.

$$H_0 : S_n = S_0$$

$$H_A : S_n \neq S_0$$

The expected frequency value in table 12.5 is worked out by multiplying the previous sales ratio for each package size with the total units sold during the test period. For instance,

for 5 rupees  $(0.22 \times 5000) = 1100$  units

for 6.5 rupees  $(0.39 \times 5000) = 1950$  units and so on.

TABLE 12.6 Chi-Square analysis for new biscuit.

Package Size	Observed Frequency ( $f_o$ )	Expected Frequency ( $f_e$ )	$f_o - f_e$	$(f_o - f_e)^2$	$f_o - f_e / f_e$
5 rupees	1200	1100	100	10,000	9.09
6.50 rupees	1880	1950	-70	4900	2.5
8 rupees	1320	1400	-80	6400	4.6
10 rupees	600	550	50	2500	4.5
					= 20.6

The computed chi-square value is 20.6. This enables one to measurement if there exists discrepancy between the observed frequencies and the expected frequencies. To see if there exists a discrepancy, the computed  $\chi^2$  value is compared to the tabular  $\chi^2$  value. To obtain this  $\chi^2$  value, we have to consider the degrees of freedom =  $r - 1$ , where  $r$  is equal to the rows involved. In the above example,  $r - 1 = 4 - 1 = 3$ , degrees of freedom are there. The level of significance is chosen as 0.05. On this basis the tabular  $\chi^2$  is 7.8.

As per the decision rule, if the computed test statistic value of chi-square is less than 7.8, the null hypothesis  $H_0$  will not be rejected. Whereas, if the test statistic value is greater than 7.8, the null hypothesis  $H_0$  should be rejected and the alternative hypotheses  $H_a$  be accepted.

In our above example, the computed value of  $\chi^2$  (20.6) exceeds the tabular  $\chi^2$  (7.8). This means there is significant difference in the sales pattern for the new product. So the null hypothesis  $S_n = S_o$  is rejected.

### 12.11 Chi-square Contingency Table:

In the above mentioned example, the chi-square analysis is pertaining to a situation involving testing of one variable (sales based on package size). But chi-square analysis can also be used to test the relationship between two variables. This is referred to as the application of chi-square as a "test of independence". Or to determine if there is a relationship between two variables or if they are independent. Such an application of chi-square analysis involves developing *contingency table*, and using data from the table to work out the expected frequency values. We will discuss this with a hypothetical example.

#### Example:

The students of AB college were planning a major fund raising campaign among its alumni to help in the rehabilitation of the Tsunami victims. Before actually developing the promotional materials for the campaign, the manager of the fund raising team was interested in analysing (or testing) whether there is a relationship between previous contributions and the type of a donor's degree.

A sample data consisting of 400 sample members obtained from the alumni files were drawn and an assessment is to be made between the type of a person's degree and the amount of his or her contribution. The alumni are categorised into four groups:

(UD<sub>n</sub>) — Undergraduate degree — Non-professional college.

(UD<sub>p</sub>) — Undergraduate degree — Professional college.

(G<sub>n</sub>) — Graduate — Non-professional college.

(G<sub>p</sub>) — Graduate — Professional college.

The donations are categorized into three sizes:

Rs. 0 - Rs. 500, Rs. 501-Rs. 2,500, and above Rs. 2,500/=.

**TABLE 12.7. The Contribution of Alumni Based on the Type of Degree.**

Contribution Size	Type of Degree				Total
	UD <sub>n</sub>	UD <sub>p</sub>	G <sub>n</sub>	G <sub>p</sub>	
Rs. 0 - As. 500/-	71 (59.3)	56 (69.8)	50 (40.2)	24 (31.7)	201.5025
Rs. 50 - As. 2500/-	35 (37.2)	47 (43.8)	16 (25.2)	28 (19.8)	126.315
Above As. 2500/-	12(21.5)	36 (25.4)	14 (14.6)	11 (11.5)	73.1825
	118	139	80	63	400

In the above Table 12.6 the data are non-metric (nominal and ordinal) and the hypothesis is to determine whether the two variables (type of degree and donations size) are independent.

H<sub>0</sub> : Size of alumni donations are not related to the nature of degree.

H<sub>a</sub> : Size of alumni donations are related to the nature of degree.

We start with working out the "expected frequency" values when two variables are involved, the expected frequency for each cell in the contingency table is determined by multiplying the sum in the column in which it is located with the sum of the row in which it is located and then dividing that amount by the overall total.

The chi-square statistic value is calculated as follows:

$$\begin{aligned} \chi^2 &= \frac{(\text{Observed frequency} - \text{Expected frequency})^2}{(\text{Expected frequency})} \\ &= \frac{(71-59.3)^2}{59.3} + \frac{(56-69.8)^2}{69.8} + \frac{(50-40.2)^2}{40.2} + \frac{(24-31.7)^2}{31.7} \\ &\quad + \frac{(35-37.2)^2}{37.2} + \frac{(47-43.8)^2}{43.8} + \frac{(16-25.2)^2}{25.2} + \frac{(28-19.8)^2}{19.8} \\ &\quad + \frac{(12-21.5)^2}{21.5} + \frac{(36-25.4)^2}{25.4} + \frac{(14-14.6)^2}{14.6} + \frac{(11-11.5)^2}{11.5} = 25.09 \end{aligned}$$

Now we will have to find the tabular value of chi-square with the relevant degrees of freedom and the selected level of significance in the above example. When two variables are involved, the degrees of freedom can be obtained by multiplying the number of rows minus 1, times the number of columns minus 1. In Table 12.6 there are three rows and four columns. Therefore, there are six degrees of freedom.

$$(r - 1)(c - 1) = (3 - 1)(4 - 1) = 6.$$

Now we have to refer to the chi-square table, and the value of chi-square (tabular) at 0.05 level of significance and six degrees of freedom is 12.7.

Since the computed value of chi-square (25.09) is bigger than the tabular value of chi-square (12.7), the two variables are not independent. In other words there is a relationship between an alumni's degree and their contribution. Thus, the null hypotheses is rejected and we accept the alternative hypotheses.

*Note:* Application of chi-square tests (do's and don'ts) :

- Chi-square analysis can be used with non-metric data.
- Tabular chi-square values (like t) are attached to the degrees of freedom.
- In case of proportions (92%, 82% etc.) have to be changed into discrete values.
- Since too many small values can distort the computed chi-square, take care and see that not more than 20 per cent of the expected frequencies have a value of 5 or less.
- A reasonably large sample may be required if the two variables are to be analysed on a number of categories, otherwise it may be necessary to combine some of the original categories such that only fewer total cells are there in the matrix (Kress George, Marketing Research, 1988).

### 12.12 Mc Nemar Test:

This test is a modification of the chi-square test. It can be used with either nominal or ordinal data and even when the samples are not independent. That is why it is said to be an ideal test for pre-test and post-test evaluations. Though its use is restricted to examples involving a 2 x 2 frequency tables.

For instance, if we slightly modify the earlier stated alumni donations to the AB college, we now presume that the alumni association have mailed out some promotional materials to its alumni's requesting them to contribute towards the Tsunami relief fund. We will now test the effectiveness of the mail campaign. It selects a sample of 260 of its alumni and assesses their donation patterns before and after receipt of the mails. *i.e.*, it is a pre-test-post-test situation.

*Null hypothesis  $H_0$*  : Mail campaign did not significantly alter donations from alumnis.

*Alternative hypothesis:* Mail campaign made significant alternations to the donations from alumnis.

The details are presented in Table 12.8 below.

**TABLE 12.8 Donations from Alumnis Before and After Mail Campaign.**

<i>Before Campaign</i>	<i>After the Mail Campaign</i>	
	<i>Donated less than Rs. 500</i>	<i>Donated more than Rs. 500</i>
Donated less than Rs. 500	70 (A)	180 (B)
Donated more than Rs. 500	80 (c)	30 (D)

The Mc Nemar test requires calculating the  $\chi^2$  value according to the formula

$$\chi^2 = \frac{(|A - D| - 1)^2}{A + D} = \frac{(|70 - 30| - 1)^2}{100}$$

$$= 15.21$$

$$\text{Computed } \chi^2 = 15.21$$

The tabular value of chi-square ( $\chi^2$ ) at 0.05 level of significance and one degree of freedom is 3.84. Since the computed  $\chi^2$  (15.21) far exceeds the tabular  $\chi^2$  (3.84), the null hypotheses is rejected. We accept the alternative hypotheses that the mail campaign was successful in significantly altering donations from alumni.

*Note:* If more than two independent samples are involved, it will be more apt to use the Cochran Q test.

### 12.13 Analysis of Variance (Anova):

The analysis of variance goes by the premise that the total variance that exists among the data can be apportioned to specific factors by using formal mathematical methods or techniques. The size of the variance with reference to each factor will indicate that factor's influence on the dependent variable. Simply stated the analysis of variance will help to answer questions such as "What was the effect of the treatment on the dependent variable?"

Analysis of variance involves measuring differences between means, which is described in terms of variance.

#### Example:

The R & D department of a company is interested in determining which of the three package designs will be the most effective for the new dishbar. For this purpose it tests all the three design packages in five different (test) cities. This test is to understand what would be the impact (or influence) of each of the different packages on the sales volume. Another factor could be that there are basic differences between the five test cities. This indicates that the two major sources of variation to be considered will be :

- (a) Impact of the packages.
- (b) Influence of the cities.

Such a situation demands that a randomised block design be used for the experiment.

**TABLE 12.9 Randomised Block Design showing Sales of Three different Packages in Five Test Cities**

<i>Test cities</i>	<i>1 st package</i>	<i>2nd package</i>	<i>3rd package</i>	<i>Mean value of rows</i>
A	40	41	60	47
B	38	29	20	29
C	60	54	78	64
D	28	33	41	34
E	34	33	41	36
Total no. of cases	200	190	240	

\* Figures are in terms of case sales

$$\text{Treatment means } \bar{X}_1 = 40$$

$$X_2 = 38$$

$$X_3 = 48$$

$$\text{Overall mean} = 42$$

At a glance of Table 12.9 it may seem that the 3rd package design was successful in terms of the total cases sold. But these give rise to certain questions.

- Can it be inferred that the difference in sales among the three packages shows a real preference among most buyers for the 3rd package?
- Or are these preferences only among the residents of these five cities under consideration?
- Or can the differences in sales among the three packages be the result of a random error and not actually revealing the preferences for the various packages?

These doubts can be cleared if one goes for hypotheses testing.

The following two null hypotheses will be tested:

$H_0$  : Each package is equally attractive to all customers.

$H_a$  : Each package has equal acceptance in all the five cities.

We will have to develop a format for a randomised block design and also derive the computed 'F' ratios.

We start with the computations used to derive the various sums of square values. Then these computed sums of square values will be displayed in an analysis of variance table. This will enable us to compute the 'F' values for each source of variation.

$SST_r$  = The sum of squares of treatments (Sum of squares of columns).

$$= 5[(40 - 40)^2 + (38 - 40)^2 + (48 - 40)^2]$$

(5 represents the number of rows).

$$= 5(0 + 4 + 64)$$

$$= 340$$

$SSC$  = Sum of squares of cities (sum of squares of rows)

$$= 3[(47 - 40)^2 + (29 - 40)^2 + (64 - 40)^2 + (34 - 40)^2 + (36 - 40)^2]$$

(3 represents the number of columns).

$$= 2394$$

$TSS$  = Total sum of squares

$$= (40 - 42)^2 + (41 - 42)^2 + (60 - 42)^2 + (38 - 42)^2 \dots + (41 - 42)^2$$

$$= 3186$$

$SSR$  = Residual sum of squares (Actually the not explained variation).

$$= TSS - (SSC_r + SST_r)$$

$$= 3186 - (2394 + 340)$$

$$= 452$$

Then the computed ratio's for treatments or packages and cities are to be compared to tabular 'F' values obtained from the F table. The value of the tabular F will be based on the degrees of

freedom in both the numerator and denominator of the 'F' ratio. In our above example, in the case of treatment there are two degrees of freedom in the numerator and eight degrees of freedom in the denominator. For this combination and at 0.05 level of significant, the tabular 'F' value is 4.46.

**TABLE 12.10 Analysis of variance using randomized block design.**

Degree of Variation	Sum of Squares	Degrees of Freedom	Mean Square (MS)	'F' Ratio
Between treatments (packages)	SST <sub>r</sub> = 340	t - 1 (Number of treatments minus 1) = 2	$\frac{SST}{t-1} = \frac{340}{2}$ = 170	$\frac{MS(SST)}{MS(SSR)} = \frac{170}{56.5}$ = 3
Between rows (cities)	SSC = 2394	n - 1 (Number of rows minus 1) = 4	$\frac{SSC}{n-1} = \frac{2394}{4}$ = 598.5	$\frac{MS(SSC)}{MS(SSR)} = \frac{598.5}{56.5}$ = 10.59
Residual error	SSR = 452	(n - 1)(t - 1) = 8	$\frac{SSR}{(n-1)(t-1)}$ = $\frac{452}{8} = 56.5$	
Total sum of squares	TTS = 3186	tn - 1 = 14		

From Table 12.10 it can be seen that the computed 'F' for the treatments (3) is smaller than the tabular value of 'F' (4.46). This analysis indicates that there was no significant difference between the packages in terms of overall consumer preference.

Thus, it can be said that the null hypotheses (each package is equally attractive to all customers) cannot be rejected since there is not enough evidence to show that the difference in sales among the three packages is not on account of say sampling error or some other variable.

The computed value of 'F' for the differences between cities (10.59) does exceed the tabular 'F' value of 3.84 for 4 and 8 degrees of freedom at 0.05 level of significance. This indicates that the second null hypothesis (each package has equal acceptance among all cities) is rejected. In other words, there are significant differences between the five cities in terms of their acceptance of the different packages.

This analysis has indicated that the difference in sales between packages was not because of a consistent preference shown by all consumers, but was rather due to differences in preferences among the five test cities.

- Notes:*
- Analysis of variance is a very flexible statistical technique and with slight modification can be used for a variety of experimental designs.
  - It can be used only to analyse data when the treatments have been randomly assigned.
  - The variance (being measured) must be in a metric format.

### 12.14 Activity:

1. Of a random sample of 261 people purchasing State lottery tickets 72 revealed that this was their maiden attempt at purchasing lottery tickets. You have to test the null hypothesis that at most 25 percent of respondents (or population) did not have prior experience with purchasing a lottery ticket. What is your analysis?

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### 12.15 Summary:

- Analysis generally refer to computation of certain indices or measures along with searching for pattern of relationship that exist among the data groups. Here analysis will involve converting raw data into information which is meaningful. This involves estimating the values of unknown parameters of the population and testing of hypothesis for drawing inferences.
- Analysis of data includes using simple statistical techniques such as measures of central tendency, mode, median, range, variance, standard deviation, coefficient of variation, percentile and testing hypothesis and the level of significance. The other analysis includes the 'z' and 't' tests, Mann Whitney U test, Kruskal Wallis test, Wilcoxon Test, Friedman Two-way Analysis, Chi-square analysis, Mc Nemar Test and analysis of Variance (ANOVA)

### 12.16 Self Assessment Questions:

- (1) What is the importance of 'Analysis of Data' in Marketing Research projects?
- (2) Explain the terms hypothesis, full hypothesis and alternative hypothesis.
- (3) State the conditions under which the following test can be used: Z test, t-test, chi-square, Mc Nemar test, one way ANOVA TEST.



- (4) A new product is tested in Vishakhapatnam with 10 rupees coupon and in Guntur with 5 rupees coupon. A sample of 100 individuals were contacted in each test city. In Vishakhapatnam, 40 percent of those contacted said they had tried the product, where as only 30 per cent of those contacted in Guntur had tried it, a 10 per cent difference. Before deciding on which coupon is to be used in the marketing programme, a hypothesis was suggested.
- What should the null hypothesis be?
  - What should the alternative hypothesis be?
  - Is the result significant at 10 level or at the .05 level? Would you reject the null hypothesis at the .10 level or at the .05 level? The data given in the example may be used.

### 12.17 Additional Reading:

- (1) Suja R. Nair, *Marketing Research*, Himalaya Publishing House, Mumbai, 2003.
- (2) Kothari C. R., *Research Methodology Method and Techniques*, Wiley Eastern Limited, New Delhi, 1986.
- (3) Luck J. David and Rubin S. Ronald, "*Marketing Research*" 7th edn, Prentice Hall of India Pvt. Ltd, New Delhi, 2001.12.16 Self Assessment Test:



## Lesson - 13

# Analysis of Data (2) and Attitude Measurement

## Objectives

After going through the chapter you will be able to understand:

- Which are the techniques to determine the existence of an association or relationship between sets of variables as sets of data?
- Which are the emerging statistical techniques being used to measure associations between variables of data?
- Which are the techniques used for designing and analysing marketing experiments?
- What is meant by attitude measurement and Scaling?
- Which are the specific attitude scales adopted to marketing studies?

## Structure:

### 13.1 Introduction

### 13.2 Measuring of Associations

- Regression Analysis
- Multiple Regression and Correlation
- Partial Coefficients
- Superman's Coefficient of Correlation

### 13.3 Other Emerging Statistical Techniques for Measuring Associations

- Discriminant
- Cluster Analysis
- Factor Analysis

### 13.4 Criteria for Selecting an Appropriate Statistical Test

### 13.5 Analysis of Experiments

- Random Design
- Factorial Design
- Latin Square
- Cross Over Design
- Randomised Block Design

- 13.6 Attitude Measurement and Scaling
- 13.7 The Concept of Measurement and Scaling
- 13.8 Criteria for Good Measurement
- 13.9 Types of Rating Scales (Basic)
- 13.10 Specific Attitude Scales Adapted to Marketing Studies
- 13.11 Criteria for Selecting Appropriate Scale
- 13.12 Activity
- 13.13 Summary
- 13.14 Self Assessment Questions
- 13.15 Additional Reading

### 13.1 Introduction:

Often, as a part of the research, the researcher may be required to determine whether there exists any relationship between two or more variables and if yes, what is the strength of the association and the nature of the relationship. In this chapter we will discuss about the more commonly used measures of association Co-relation analysis and regression analysis. Then we have discussed about the Discriminant analysis, cluster analysis and factor analysis. Marketing experiments include diverse activities like evaluating a new product, selecting the market locations etc. So we have discussed about experimental designs such as Random designs, Factorial Designs, Latin Square, Crossover design and Randomised Block Design. The Chapter concludes with looking into the measurement of attitudes on scales which can be adapted to marketing studies.

### 13.2 Measuring of Associations:

The techniques we have seen in the previous chapter will enable the researcher to determine if significant differences exists between groups of data. But the researcher may also encounter situations where he or she needs to determine whether there exists an association or relationship between variables or sets of data and if so, what is the strength of that association. This type of information can be provided by regression and correlation analysis models.

#### Regression Analysis:

Regression analysis is concerned with the identification of the relationship between variables in the form of an equation in which one can predict one variable (dependent) on the basis of another (independent) variable. In this statistical relationship, among the two variables, one variable (defined as independent) is the cause of the behaviour of another one (defined as dependent variable). The basic relationship between X and Y is given by :

$$\hat{Y} = a + b \hat{X}$$

where  $\hat{Y}$  refers to the estimated value of Y ... for a given value of X. This equation can be said to be the regression equation of Y on X, *i.e.*, each unit change in X produces a change of b in Y, which is positive for direct and negative for inverse relationships. This equation, can be used to work out other 'Y' values based on the past data about both the dependent (Y) variable and independent variable (X).

As mentioned above at times regression models are also referred to as a causal model, in that variable 'B' causes variable 'A'. But, this may not always hold true. For example, it may seem that there exists a close relationship between the quarterly sales of *GoodYear Tyres* and the money spent by the company during each quarter on advertising. But, there could be other factors, such as the nature of competitors activities, entry of new (brands) cars and their sales, pace of economic development, weather conditions etc., which may all affect the *GoodYear Tyres* sales. Thus it cannot be entirely true if it is stated that changes in Good Year's advertising expenditures "caused" the changes in the sales of tyres. Hence, advertising can only be referred to as a 'contributing' factor and not as the "sole" factor.

It is because of the inability of this model to identify all the possible variables and their impact that regression models should ideally not be used to "prove" cause and effect.

### An Example of the Application of the Model

Mr. Arun has been asked by the marketing manager of his company to provide an analysis of the factors affecting the sanitaryware sales in his region. He decides to use a simple regression model for this analysis and is of the opinion that the logical independent variable for the model is the new houses that get built in the region.

He decides to collect data on new houses, starting from various real estate agencies, business associations and then makes a comparison of these figures with the regional sales of sanitaryware over the past 13 years. (Table 13.1).

**TABLE 13.1. Variables for Simple Regression Model for Sanitaryware**

<i>Year</i>	<i>Y Regional sales of industry (in terms of lakhs of rupees)</i>	<i>X New housing construction starts in region unit value (in terms of 1000)</i>
1989	90	98
1990	97	110
1991	115	200
1992	147	205
1993	140	198
1994	120	216
1995	107	210
1996	100	176
1997	88	123
1998	86	88
1999	70	90
2000	72	79
2001	60	99

### Determine the Regression Line

The regression process starts with plotting both sets of data on a graph to ascertain the general type of association that exists between them. Once it has been established that a linear relationship exists, it will be necessary to derive values for the equation for fitting a straight line to two variables:

$$Y = a + b(X)$$

**TABLE 13.2 Computations of Data to Derive Values of 'a' and 'b'.**

(1) Year	(2) Regional Sales  Y	(3) New Housing starts  X	(4)  Y <sup>2</sup>	(5)  X <sup>2</sup>	(6)  XY	(7)  (Y - $\bar{Y}$ ) <sup>2</sup>	(8)  (X - $\bar{X}$ ) <sup>2</sup>	(9)  (X - $\bar{X}$ ) (Y - $\bar{Y}$ )
1989	90	98	8100	9604	8820	88	2260	445.9
1990	97	110	9409	12100	10670	6	1263	84.6
1991	115	200	13225	40000	23000	244	2966	850.7
1992	147	205	21609	42025	30135	2268	3536	2831.5
1993	140	198	19600	39204	27720	1650	2752	2131.0
1994	120	216	14400	46656	25920	425	4965	1452.9
1995	107	210	11449	44100	22470	58	4155	491.2
1996	100	176	10000	30976	17600	38	928	19.0
1997	88	123	7744	15129	10824	108	508	256.5
1998	86	88	7396	7744	7568	179	3311	769.9
1999	70	90	4900	8100	6300	863	3085	1631.8
2000	72	79	5184	6241	5688	750	4428	1821.9
2001	62	99	3600	9801	5940	1551	2166	1832.7
N = 13	$\Sigma Y =$	$\Sigma X =$	136616	311680	202655	8190.38	36323	14619.6
	1292	1892	( $\Sigma Y^2$ )	( $\Sigma X^2$ )	( $\Sigma XY$ )	( $\Sigma Y - \bar{Y}$ )	( $\Sigma X_2 - \bar{X}$ )	( $\Sigma X_2 - \bar{X}$ ) (Y - $\bar{Y}$ )

Regression line can be drawn through the data points mentioned in Table 13.3, those which minimize the sum of the squared deviations. (These are differences between the actual values and the values on the regression line). In order to affix that line, the values of 'a' and 'b' have to be determined.

a = The intercept, i.e., the value of Y when X = 0.

It is the point at which the regression line crosses the Y-axis.

$b$  = The regression co-efficient.

$b$  = is the slope, the amount of change that occurs in Y for each unit of change in X.

The computed values of 'a' and 'b' are:

$$b = \frac{\Sigma XY - \frac{(\Sigma X)(\Sigma Y)}{n}}{\Sigma X^2 - \frac{(\Sigma X)^2}{n}}$$

$$a = \hat{Y} - b(\hat{X})$$

The computed values of 'a' and 'b' are:

$$b = \frac{202655 - \frac{(1892)(1292)}{13}}{311680 - \frac{(1892)^2}{13}}$$

$$b = 0.403$$

$$a = 99.38 - (0.403)(145.54)$$

$$a = \text{Rs. } 40.73 \text{ lakhs.}$$

This means that the line derived from the formula will intersect the Y-axis at 40.73. It can also be interpreted as: even if there are zero new housing starts, the sanitaryware sales will still be Rs. 40.73 lakhs in that region.

The value of 'b' as 0.403 indicates that for every unit change in new housing starts (one unit equals 1,000 starts), the sanitary ware sales will change Rs. 4,03,000 (sanitary ware sales are in units of Rs. 1,00,000 each).

With the two components (a and b) of the regression equation it is possible to make an estimate of the dependent variable.

If we estimate that the new housing which was scheduled to start in 2002 would be 10,700 units, the sanitaryware sales should be:

$$Y = a + b(x)$$

$$Y = 99.38 + 0.403(107)$$

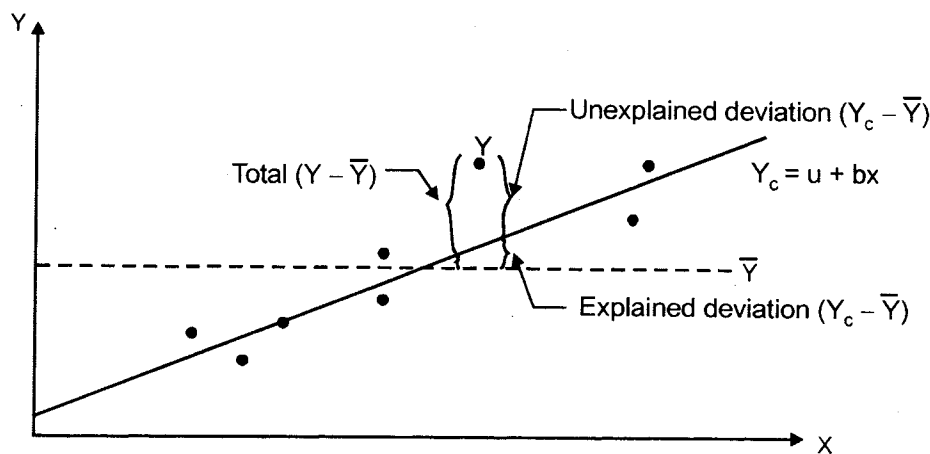
$$Y = \text{Rs. } 142.5 \text{ lakhs.}$$

*Note:* It should be remembered that irrespective of how strong the relationship between the dependent and independent variables, *only if the independent variables are accurate, will the estimated value for the dependent variable also be accurate.*

**Advantages:**

- Statistical techniques can be used to evaluate the findings in regression models. For instance, a test can be applied to the computed 'b' co-efficient to find whether it is significantly different from zero (i.e., the slope in the regression line).
- Tests can be used to work out confidence intervals for the 'b' co-efficients and the projected Y values.

The *regression analysis* is used to identify the relationship between variables whereas *co-relation analysis* explains the strength of that relationship. Co-relation analysis helps to understand the joint variation of two or more variables. Here the total variation in the dependent variable (Y values) is quantified and then separated into two portions, namely *explained* and *unexplained portions*. The explained portion is said to be the amount of variation which can be associated with the independent variables.



**Figure 13.1** A representation of total, explained and unexplained deviations from Y

Figure 13.1 has made an attempt to illustrate the concept of explained and unexplained variation and the role of regression equation in identifying these values. Figure 13.1 is in the form of a graph showing the sales for eight different periods.

- The various points (dots) indicate the observations made.
- The Y-axis shows the dependent variables,
- The horizontal dotted line is the mean of the dependent variables  $\bar{y}$ .
- $Y_c$  indicates the explained deviations from the mean  $\bar{y}$ .
- For any observation Y, the total deviation is given as  $(Y - \bar{y})$ , out of this  $Y_c$  is the explained deviation.

The total deviation from anyone value can be known from the following formula :

$$Y - \bar{y} = (Y_c - \bar{y}) + (Y - Y_c)$$

where  $Y - \bar{y}$  = Total deviation.

$Y_c - \bar{y}$  = explained deviation.

$Y - Y_c$  = unexplained deviation.

In case of the absence of the regression line, the mean  $\bar{y}$  would have to be used to forecast the Y values for different values of X. Thus, it can be said that the explained variation will merely be the improvement. The regression line works over the mean line ( $\bar{y}$ ) as an estimator of Y values.

In correlation analysis, the co-efficient of determination ( $r^2$ ) is used to measure how the variations (deviations squared) are determined and mathematically apportioned to each independent variable.

$$r^2 = \frac{\Sigma(Y_c - \bar{Y})^2}{\Sigma(y - \bar{y})^2} = \frac{\text{Explained Variation}}{\text{Total Variation}}$$

The value of  $r^2$  will always be between + 1 and -1. The more close the value of  $r^2$  is to + 1 or - 1, higher will be the correlation between the variables. This means greater the portion of total variation is explained by the regression line.

If  $r^2 = 0$ , it means there exists no correlation between the variables. The sign of the correlation value is (always) the same as the regression co-efficient (b). If a negative sign (-) is arrived at, it indicates that the correlation is of an inverse nature.

We will try to derive the value of  $r^2$  by considering the data provided in Table 13.11

$$r^2 = \frac{b[(X - \bar{X})(Y - \bar{Y})]}{(Y - \bar{Y})}$$

$$r^2 = \frac{(0.403)(14619.6)}{8190.38}$$

$$r^2 = 0.719$$

From the value of  $r^2$  it can be interpreted that 71.9 percent of the variation in the Y values is associated with the variations in the X values. In other words, 71.9 percent of the variation in the sales of the sanitaryware can be explained by variations in the number of new housing units.

### Test the Significance of $r^2$ :

At times it is mistakenly assumed that if a high value of  $r^2$  ( $r^2 > 0.80$ ) is obtained, it indicates that correlation exists between the two variables. But this need not be true, because if only a small size of data is made use of, a higher value of  $r^2$  may have occurred by chance. Thus, we have to test the significance of computed  $r^2$  value by using statistical test.

Such a statistical test will take into consideration the number of data points in case of simple correlation and in case of multiple correlation, the total number of variables involved. In the first case, the test involves making a comparison between explained variance and unexplained variance. This concept of variance will make allowances for the number of data points (n) and the number of



variables (K). This statistical test will help to determine the computed 'F' value which is then compared to the tabular value of F in order to see if the explained variance is slightly larger than the unexplained variance.

The explained variance can be determined by subtracting the unexplained variation from the total variation.

$$F = \frac{\text{Explained variance}}{\text{Unexplained variance}}$$

$$F = \frac{(Y_c - Y)^2 / K - 1}{(Y - Y_c)^2 / n - 1}$$

where K = Number of variables

n = Number of data points

The tabular value of 'F' can be obtained from the 'F' table (Given in the appendix), at 0.05 level of significance with 1 degree of freedom in the numerator and 11 degrees of freedom in the denominator. If the computed value of F is significantly larger than the tabular 'F' value (4.84) it can be assumed that a linear correlation exists between new housing starts and rupees sales of sanitaryware

#### Alternative Test for Determining Significance of r:

Another alternative method to test the significance of the correlation is to apply a 't' test to the computed r value. The null hypotheses in this case is; there is no correlation between new housing starts and sales of sanitaryware. If sales are not dependent on new housing starts, the correlation co-efficient would be zero. To accept or reject the null hypotheses, a 't' value is computed for the correlation co-efficient of 0.719. The formula for testing such a significance of the relationship for simple correlation is,

$$\begin{aligned} t &= \frac{r\sqrt{n-2}}{\sqrt{1-r^2}} \\ &= \frac{0.848\sqrt{13-2}}{1-0.719} \\ &= 10 \end{aligned}$$

We assume the 95 per cent confidence level is selected. Referring to a student's t table (refer Appendix) for n - 2 or 11 degrees of freedom, shows the critical value to be t = 2.2 for the 95 per cent confidence level. The computed level t value of 10 is greater than the critical value of 2.2. Therefore we can conclude that the alternative hypothesis is true and there exists a relationship between new housing starts and sanitaryware sales.

## Multiple Regression and Correlation

So far we have discussed about simple regression, which was used to work out the association between new housing starts and the sales of sanitaryware fixtures. The value of  $r^2$  of 0.719 indicates that most of the variation in sales of sanitaryware fixtures is on account of the changes in new housing starts.

It is not necessary that one independent variable could play such a major role in explaining the dependent variable. There could be the involvement of additional independent variables that may increase the variation explained by the regression model. If this is so, then a multiple regression model is needed. Although, the basic concepts used for simple regression also holds true for multiple regression, the computations to derive the regression co-efficients are much more cumbersome.

For simple linear regression, the following formula was used:

$$Y = a + b(X)$$

The basic model for multiple regression will be only an expanded version of this model, since it includes additional independent variables. The formula for multiple regression will be :

$$Y = a + b_1 X_1 + b_2 X_2 + \dots + b_n X_n$$

The number of independent variables will depend on the number of variables required to adequately estimate the value of 'Y'. Although in some rare cases some equations may include more than 50 independent variables, most of the regression equations will have less than 10 predictor variables.

The 'a' value in the above equation will be the value of dependent variable Y, when all the values of X (independent variable) have a value of zero. Each regression coefficient's value ( $b_1, b_2, \dots, b_n$ ) will measure the average change in, Y for every unit of change in that specific independent variable, when all the other independent variables are constant.

In our illustration, we have made an attempt to predict regional sanitaryware sales based on new housing starts. But intuitively there could be other factors influencing sanitaryware sales such as employment, marital status and type of building material used. Thus, by including additional variables in the analysis, it will be possible to develop an equation which will allow a more accurate estimate of the dependent variable. While using multiple correlation, two factors have to be borne in mind:

- Multiple correlation models assume that the independent variables (X) are not correlated among each other. In case such correlation exists then it is said that "multicollinearity" has taken place.
- The co-efficient of multiple determination is mentioned as  $R^2$ . The statistical significance of  $R^2$  can be evaluated by using a 'F' test.

$$F = \frac{R^2 / K - 1}{(1 - R^2) / n - K} \text{ where, } n = \text{The number of Observations.}$$

$k =$  The total number of Variables.

For instance suppose an  $R^2$  of 0.92 was derived using 3 independent variables, the computed value of 'F' will be,

$$F = \frac{0.92/3}{(1 - 0.92)/9} = 34.5$$

With  $(K - 1)$ , the degrees of freedom for the numerator and  $(n - K)$  degrees of freedom for the denominator. The 'F' table (Appendix) for three degrees of freedom for the numerator and nine degrees of freedom for the denominator, at the 0.05 level of significance is  $F = 8.8$ . Since the computed value of  $F = 34.5$ , is greater than the critical value of tabular value of  $F = 8.8$ , we reject the null hypotheses that there is no relationship between the variables. We accept that there is a significant relationship between the dependent and independent variables.

### Partial Co-efficients

Another bit of data that is to be considered when interpreting the results is the measure of co-efficient of partial correlation and its related measure, the *co-efficient of partial determination*. This co-efficient helps the researcher to understand the proportion of variation in one variable, which is explained by changes in another while holding all other variables constant. In other words, using the test on partial correlation will help the researcher to evaluate the influence of each independent variable. For instance, in the earlier mentioned study, say a partial correlation  $R^2$  may have a value of,

$$R_{1,2,3}^2 = 0.40$$

- 1 = Sani taryware sales.
- 2 = The buying power index.
- 3 = Number of plumb-ing stores.

This value of  $R_{1,2,3}^2 = 0.40$  can be interpreted as the variation in sanitaryware sales from city to city which may not be explained on the basis of the number of plumbing stores but on account of the buying power index.

### Spearman's Co-efficient of Correlation:

#### (OR RANK CORRELATION)

This technique is used to determine the degree of correlation between two variables in case of ordinal data where ranks are given to the various values of the variables. The main objective of this co-efficient of correlation is to determine the extent to which the two sets of ranking are similar or dissimilar. The formula for determining the spearman's co-efficient is :

$$r_s = \frac{6\sum D^2}{n(n^2 - 1)}$$

where,  $D$  = Absolute difference between ranks.

$n$  = Number of pairs of observations.

**TABLE 13.3 Customer's Rankings of ABC Bank Based on the Number of Years they have used Bank's Facilities.**

<i>Customer No.</i>	<i>Rating of bank</i>		<i>Number of months used the bank</i>		<i>D</i>	<i>D<sup>2</sup></i>
(a)	(b)	(c)	(d)	(e)	(f = c - e)	(g)
1	40	(4)	125	(1)	3	9
2	50	(1)	110	(2)	-1	1
3	35	(9)	36	(9)	0	0
4	45	(3)	45	(7)	-4	16
5	28	(10)	13	(10)	0	0
6	47	(2)	108	(3)	-1	1
7	38	(7)	91	(4)	3	9
8	40	(4)	45	(7)	-3	9
9	36	(8)	60	(6)	2	4
10	39	(6)	83	(5)	1	1
$\Sigma D^2 = 50$						

**Example:** For illustration purpose we go back to our earlier example on the ABC bank survey study.

It may be recalled that the bank was undertaking an in-depth analysis of its customers. It had interacted with some of the customers to obtain information on their opinions and attitudes towards the bank's services and overall operations. Now to determine the rank correlation we will restrict the survey results to only ten customers.

The bank is interested in knowing whether there is an association between the number of years people have been the bank's customers and their overall rating of the bank. Since the customer ratings are in the form of ordinal data, rank correlation is used. Customer ratings are treated as dependent variables.

The numbers mentioned in the columns c and e refer to the ranking of the number in relation to other numbers in the same column. For example, customer 4's rating of the bank is 45, which is the third highest rating among the ten customers sampled. The same customer had been associated with the bank for 45 months; the seventh longest period among the ten customers surveyed.

The 'D' values are the difference in the two rankings for each customer. For customer 4, it is -7 or -4. These differences are squared and summed. We will now determine the correlation between the individual customers' ratings and the number of years they have put in as the bank customers by using the formula mentioned above -

$$r_s = 1 - \frac{6\Sigma D^2}{n(n^2 - 1)} = 1 - \frac{6 \times 50}{10(100 - 1)} = 0.70$$

$$r_s^2 = 0.49$$

It may also be noted that the 't' test described earlier and used to test the significance of the  $r^2$  value can also be used as Spearman's  $r^2$  value.

### 13.3 Other Emerging Statistical Techniques for Measuring Associations:

With the advent of computers, market researchers are increasingly using statistical techniques that were in the past being viewed as too complex, to measure associations between variables. In this chapter we briefly touch upon three such methods: Discriminant analysis, Cluster analysis and Factor analysis.

#### Discriminant Analysis

Marketing researchers are often required to classify people or objects into one or more groups like buyers and non-buyers or to classify an individual's store preference such as *Weekender/ Shopper's Stop/Kempfort*. Under such circumstances it will be difficult for the researcher to work out a formula with which they can categorise the individuals. In other words the analyst will have to identify a method by which one could efficiently discriminate between the members of the various groups. Such a process can be termed as *Discriminant Analysis*. *Discriminant analysis is a procedure which examines the relationship between a nominally scaled (categorical) dependent variable and one or more independent variables.* (Churchill Gilbert, 1983).

Thus, discriminant analysis enables the researcher to "discriminate" between groups and make an assessment on those findings required for the study. Just like regression analysis, discriminant analysis also uses data on independent variables to make an estimate on the value of the dependent variable. Discriminant analysis requires the scale of the dependent variables to be non-metric and the independent variables to be metrically scaled.

A discriminant equation has to be developed and this can be used to predict which class or category a new observation is likely to belong to. Thus, the analysis includes a transformation of scores obtained from individuals from a set of independent variables. For every individual score,  $Y_i$  is the linear function of the predictor variables, where:

$$Z_i = W_1X_1 + \dots + W_nX_n$$

and  $Z_i$  = Discriminant score (or value) of the  $i$ th element of the population.

$X_i$  = Explanatory variable.

$W_i$  = A weighted parameter assigned to an explanatory variable specifying the relationship between  $X_i$  and  $Y_i$ .

Thus in a technical sense, this discriminant analysis is a measure of association because it is used to predict the categories into which items will fall. A critical value is worked out and this separates the groups identified in the dependent variable. And then based on the score derived from the discriminant equation for every observation made, it is placed into one of the identified groups.

For instance, say, a tea manufacturing company wants to understand what differentiates heavy tea consumers (or drinkers) from other tea consumers. The categorical (*dependent*) variable has three levels: heavy tea consumers (60 cups of tea in a week), moderate tea consumers (less than 60 cups of tea in a week) and non-tea consumers. The predictor (*independent*) variables considered are educational qualification, gender, marital status, size of family and the like.

Once the independent variables have been identified, a linear discriminant function is worked out to distinguish between levels of consumption. The weights which are assigned to variables are done in such a way to ensure that the variance between the groups is maximum, while the variance within groups is minimum. In this way a score is obtained for each observation in the sample. Thereafter a comparison is made between these scores and the overall 'critical score'. And then accordingly each individual is assigned to one of the categories in the dependent variable-heavy tea consumer, moderate tea consumer, non-tea consumer. The effectiveness of the discriminant equation can be judged by a classification matrix. That is, the percentage of observations that are properly classified will determine the equations accuracy. In order to obtain an unbiased estimate of accuracy, the model should be applied to data (or observations) that were not involved in developing the discriminant functions. The model should be applied to data (or observations) that were not involved in developing the discriminant functions.

Some of the studies involving discriminant analysis are:

- Determining characteristics of buyers for different models of automobiles.
- A comparison of early adopters with new adopters of new products.

### Cluster Analysis:

We have seen in discriminant analysis that the subjects were divided into group (heavy drinker, moderate drinker, non-drinker) and the purpose of the analysis was to identify similarities between the members of each group. In case of *Cluster Analysis*, it starts with all unorganised set of individual subjects who have to be placed in clusters (groups) based on some discovered similarities.

This technique can be ideally suited to situations where, it is necessary to segment the market but a basis for such segmentation does not exist. Cluster analysis enables the researcher to identify similarities among subjects which facilitates placing these subjects into clusters. Of course it is then left to the marketer to decide whether the clusters can be termed as 'useful categories' for segmenting a market.

There are many methods involved in deriving clusters. However, here we will discuss about a "quick clustering process". This method involves using only one criterion for clustering. For example, in a survey, motorists were asked to give their rating to each of the 11 brands of gasoline. A seven point rating scale from very favourable to very unfavourable was used. The researcher was keen to identify those brands which were most closely associated with each other. To put it specifically:

- How many clusters of "similar" brands are there?
- What could be the reasons (or explanations) for such clustering?

Table 13.4 is put in the form of a correlation matrix indicating the co-efficient of correlation ( $r$ ) value between each set of gasoline brands. Say for example, the highest overall correlation 0.640, was between the 2nd brand and the 8th brand. This indicates that the motorists used in the sample assigned more or less similar rating scores to both the brands.

The clustering of the brands provided in Table 13.3 can involve the following steps:

- (a) Highlight (or underline) the highest score in each column.

TABLE 13.4. Correlations among Gasoline Brands in Terms of General Attitude

Brands of Gasoline	1	2	3	4	5	6	7	8	9	10	11
1	-	0.006	.358	.382	.325	.289	.262	.108	.368	.178	<u>.404</u>
2	.0006	-	.157	.088	.134	.161	.130	<u>.640</u>	.184	<u>.360</u>	.200
3	0.358	0.157	-	.337	.375	.343	.340	.057	.322	.256	.336
4	0.382	0.088	.337	-	.430	.452	.326	.053	.357	.266	.337
5	0.325	0.134	<u>.375</u>	.430	-	.445	<u>.484</u>	.170	.432	.325	.281
6	0.289	0.161	.343	<u>.452</u>	.445	-	.358	.119	<u>.454</u>	.177	.322
7	0.262	0.130	.340	.326	<u>.484</u>	.358	-	.110	.393	.300	.230
8*	0.108	<u>.640</u>	.057	.053	.170	.119	.110	-	.349	.301	.180
9	0.368	0.184	.322	.357	.432	<u>.454</u>	.393	.349	-	.238	.307
10*	0.178	0.360	.256	.266	.325	.177	.300	.201	.238	-	.208
	<u>.404</u>	0.200	.336	.337	.281	.322	.230	.180	.307	.208	

(\* = Independent brands.)

(Source: Readapted from George Kress. 'Marketing Research' 3rd Edn. Prentice Hall, New Jersey, 1988)

- Identify the highest overall score (*i.e.*, 64 here) in the matrix. Brands '2' and '8' having this score will form the first cluster.
- Look out for another underlined brand, in that row (of brand 2 and 8) and if found (brand 10) include it in the original cluster. Now the 1st cluster will comprise of brands 2, 8 and 10 and these are omitted from any further assessments.
- Repeat the whole procedure and the remaining highest value in the matrix is identified. Here this value is 0.484 (the score between brands 5 and 7).
- Once again look across these 2 rows to see if they contain underlined scores. Here brand 3 does. So this will be included in the second cluster comprising of brands 3, 5 and 7.
- In this way the procedure is repeated again and again till all brands are assigned to a cluster.
- Once all the clusters have been identified, the researcher is required to use intuition, logic and experience to see what the cluster really indicate.

While employing the cluster analysis, the researcher has to be cautious about the following:

- Most of the cluster analysis techniques are relatively simple and usually not supported by an extensive body of statistical reasoning.
- Cluster analysis methods have been evolved from many fields of discipline so one has to be cautious about the inbred biases.

- If to the same set of data, different clustering methods are used, different solutions may be generated.
- Although cluster analysis is structure imposing, its strategy is structure seeking.

### Factor Analysis:

*Factor analysis describes how a group of statistical methods primarily will take place with a minimum loss of information to that contained in the original variables to a more manageable set. This reduction will take place with a minimum loss of information to that contained in the original variables.*

In factor analysis (though uses an advanced form of correlation), there are “no dependent variables and all the variables are evaluated simultaneously. Moreover, factor analysis can be applied to ratio or interval data. Factor analysis is typically used for the purpose of analysing results involving the usage of semantic differential or Likert scales to procure information.

We go back to our example of the ABC bank. Suppose the bank is interested in identifying the “factors” that are important to senior customers (Above 58 years of age) when approaching a financial institution for the first time. ABC develops a survey design which are to be filled up by 400 randomly selected senior adults from the community. The survey, say includes 50 statements related to banks and the respondents are required to use a seven point scale to indicate the extent of their agreement (or disagreement) with each statement. Some of the statements include:

- The bank premises should be spacious so as to avoid collusion with others.
- Bank tellers should identify and address senior customers by their names.
- Banks should be open on Sundays also.

Thus, for each of the 50 statements, there will be 400 responses, over a seven point scale ranging from strongly agree to strongly disagree.

The variance in the responses to each question is tried to be explained by associating the responses of anyone statement with responses of other statements. Then a complicated procedure is adopted while attempting to identify those statements which also seem to measure the same underlying condition. This “underlying condition” is called a factor.

A summarised form of 6 of the 50 statements are presented in the Table 13.5.

Actually a number of mathematical steps are involved in the factor analysis process to obtain the data presented in the Table 3.14. However to simplify the example, these steps are not explained here.

The numbers adjacent to each statement are referred to as factor loadings. As seen from the Table 13.5 statements 1 and 2 have, high correlation with factor 1, while statements 3 and 4 are strongly tied to factor 2.



TABLE 13.5. A Summary form of Factor Analysis

Statement No.	Factor 1	Factor 2	Factor	Communality ( $h^2$ )
1	0.67	0.32	0.10	$(0.67)^2 + (0.32)^2 + (0.10)^2 = .561$
2	0.83	0.12	0.29	$(0.83)^2 + (0.12)^2 + (0.29)^2 = .787$
3	0.50	0.88	0.21	$(0.50)^2 + (0.88)^2 + (0.21)^2 = 1.068$
4	0.11	0.70	0.39	$(0.11)^2 + (0.70)^2 + (0.39)^2 = 0.534$
5	0.28	0.18	0.70	$(0.28)^2 + (0.18)^2 + (0.70)^2 = 0.6$
6	0.11	0.31	0.63	$(0.11)^2 + (0.31)^2 + (0.63)^2 = 0.505$
Eigen values	1.491	1.508	1.177	4.176

The figures mentioned under the column communality is the percentage of a variable's variance (or correlates with other variables) to other variables. Thus for statement

$(.67^2 + .32^2 + .10^2 = 0.561)$ . And so on for other statements.

The eigen value refers to the amount of variances associated with a factor. This can also be written as the sum of the square of the factor loadings of each variable on a factor and is represented as the eigen value. For instance, factor 1 explains 1.491 of the variance in Table 13.5, i.e.,  $(0.67)^2 + (0.83)^2 + \dots + (0.11)^2 = 1.491$ .

The three factors when combined will explain 4.176 of the variance in all six statements.

Once it is seen that the factors can be good substitutes for a larger number of statements, the researcher will have to work out:

- Which of the identified factors are to be used?
- What do these factors really represent?

While trying to identify these factors, the researcher will be on the look out for those statements with the highest correlation to each factor and assess their similarities. Say, statements 1 and 2 refer to the relations between the respondents and the bank staff. That means, factor 1 is indicative of provision of a *friendly environment*. Statements 3 and 4 refer to the *convenience factor* especially in terms of *hours open (time and day)* and so on.

If the researcher is able to understand the conditions underlying each factor, the researcher will be able to identify those traits which are important to senior customers. As seen above, factor analysis is a method to be used in situations where the researcher is trying to probe or identify the key characteristics of products/services to consumers/customers even in situations where it becomes difficult for customers themselves to recognise those specific characteristics.

**Note:** It should be borne in mind that factor analysis actually is a complicated procedure and the simplified version given above is only to facilitate the reader with a general idea on how the process works. It will always be preferable to consult a statistician to help in carrying out the process of factor analysis.

### 13.4 Criteria for Selecting an Appropriate Statistical Test:

When faced with the situation of many statistical tests being available, it is left to the researcher to decide which test is the most apt to use. We have presented certain questions, the answers to these will help him/her in selecting the appropriate statistical test.

- What is the purpose of the test? (Is it to determine whether significant differences exist between the groups of data or whether it is to determine if an association exists between 2 or more variables?)
- Which type of measurement scale is required? (nominal, ordinal, internal or ratio.)
- What is the sample size?
- Are the samples independent or dependent?
- How many variables are to be measured?

### 13.5 Analysis of Experiments:

Marketing experiments are involved in diverse activities such as evaluating new product, selecting advertising copy themes and determining the frequency of sales person's calls. There are various techniques used for designing and analysing marketing experiments. An experimental design helps to identify the sources of variation in an experiment. There are both single variable designs/such as after-only with control and before-after with control) and multivariable designs/such as factorial, randomised blocks, Latin squares and Cross-over). Here we will be discussing only a few multivariable designs namely Completely Randomised Design, Factorial Designs, Latin Square, Cross-over Design and Randomised-Block Design.

Completely Randomised design is the simplest type of statistical design. Here the experimental designs are assigned to test units on a random basis. We will take an illustration. Suppose a marketer is interested in knowing the effect of shelf height on supermarket sales of personal care products. We presume that the marketer with the co-operation of the store manager decides to run an experiment involving three levels of shelf height, ('knee' level, 'waist' level and 'eye' level) on sales of a single brand of personal care products, which we shall call 'Fragrance' we assume further, that our experiment will be conducted in a single super market and that our response variable will be of 'Fragrance' personal care products, per some appropriate unit of time. Finally, we also assume that we have agreed to change the shelf height position of fragrance three times a day and run the experiment for eight days. There are certain issues which are not looked into in the experiment:

- What should be used as our unit of time (because there could variations in hour-hour or day-to-day or even week-to-week basis)?
- Sales may be affected by specific discounts offered, Promotional offers from competitors, the store managers prior knowledge of the experiment and other variables.

TABLE 13.6. Completely Randomised Experiment - 'Fragrance' Experiment

<i>Shelf Height</i>		
<i>Knee level</i>	<i>Waist level</i>	<i>Eye level</i>
$X_{11}$	$X_{12}$	$X_{13}$
$X_{21}$	$X_{22}$	$X_{23}$
$X_{31}$	$X_{32}$	$X_{33}$
$X_{41}$	$X_{42}$	$X_{43}$
$X_{51}$	$X_{52}$	$X_{53}$
$X_{61}$	$X_{62}$	$X_{63}$
$X_{71}$	$X_{72}$	$X_{73}$
$X_{81}$	$X_{82}$	$X_{83}$

So we will not deal explicitly with within-day and among day differences and assign the shelf higher randomly over three time periods per day. Then over experimental design might look like shown in Table 13.6 above. This design is most applicable when it is believed that extraneous variables will have about the same effect on all test units and the researcher is focusing only on one independent variable.

#### Factorial Designs:

A factorial experiment involves having an equal number of observations made of all combinations involving at least two levels of variables. Such an experiment design enables the researcher to study all the possible interactions among the variables of study. Suppose, we go back to our personal care products illustration. However, now we assume that the researcher is interested in studying the effects of two variables: shelf height (still at three levels) and shelf facings (at two levels, i.e., at half width at the pointed ends and at full width at the pointed ends). This design is shown in Table 13.7.

TABLE 13.7. Factorial Design - Fragrance Experiment

<i>Facings</i>	<i>Shelf facings</i>		
	<i>Knee level</i>	<i>Waist level</i>	<i>Eye level</i>
Level 1 (half width)	$F_1H_1$	$F_1H_2$	$F_1H_3$
Level 2	$F_2H_1$	$F_2H_2$	$F_2H_3$

From the Table 13.7 it can be seen that each combination of  $F_1H_1$  occurs only once in the design. Although the plan is still to use a single store for the experiment, the researchers has replicated each combination three times, resulting in  $3 \times 2 \times 3 = 18$  observations. The advantage of using factorial experiment is that the researcher is able to test all main effects (i.e., facing, height) and in the above illustration, where each combination is replicated, the interactions of the variables as well, can be tested. Typically the researcher (or experimenter) will be interested in the *best combination* of variables, so if the interaction term is significant, the calculation of main effects will

be perfect. For the marketing researchers, the combination of the controlled variables should be such, so as to obtain the best payoff in terms of sales, market share, cash flow or some other measure of effectiveness.

### Latin Square:

Latin square designs are multivariable designs which are used to reduce the number of observations that would be required in a full factorial design. The researchers using latin square design go by the assumption that the *interaction effects are negligible*, thus, all main effects can be estimated by this procedure.

Let us go back to our 'Fragrance' illustration. While using the latin square design we assumed that the researcher is interested in *three variables* (each at four levels) or store sales.

- Shelf height (four levels) - kneelevel, waist level, eye level, reach level.
- Shelf facings (four levels) 25%,50%,75% and 100% of total width of pointed edges.
- Shelf fulness (four levels) - 25%, 50%,75%, 100%, of total height of pointed edges.

Supposing the researcher were to run a full factorial experiment with only one replication, there would be  $4^3$  or 64 observations required.

But by using a latin square design only 16 observations are required with estimation of main effects only.

TABLE 13.8. Latin Square design - Fragrance Experiment

Variable 'A' Shelf Facings	Variable 'B' - Shelf Height			
	$B_1$	$B_2$	$B_3$	$B_4$
$A_1$	$C_1$	$C_2$	$C_3$	$C_4$
$A_2$	$C_4$	$C_1$	$C_2$	$C_3$
$A_3$	$C_3$	$C_4$	$C_1$	$C_2$
$A_4$	$C_2$	$C_3$	$C_4$	$C_1$

In Table 13.8, we have seen one possible latin square design for this experiment. It is seen that each level of treatment 'C' (shelffulness) appears once in each row and each column. Further, the same number of levels (four) exists for each treatment.

### Cross Over Design

Cross over design refers to a type of design, in which *different treatments* are applied to the *same test unit* in different time periods. Although, this type of design can reduce the effect of variation among test units, it is also possible that the successive observations may not be independent. So the experimenter may have to contend with a carryover effect. So he (researcher) can either assume that there are no carryover effect, with each test unit receiving each treatment in 'randomised' over the specified time periods. Or the researcher will have to make suitable assumptions on the nature of the carryover effects.

### Randomised Block Design:

Earlier in the chapter we have seen that randomised block designs are used while dealing with multivariable classifications and the researcher wants to eliminate a possible source of uncontrolled variation from the error term in order that the effects due to treatments will not get covered by a larger than necessary error term.

For instance, we suppose that the researchers was interested only in the effects of shelf height on sales of personal care products but has designed the experiment so that more than a single store was used for the study purpose. Since the effect of store type could influence sales, the researcher may want to remove this effect from the 'error' by 'blocking' the store types. Simply put, each store would be treated as test unit and each level of shelf height would be tested in each store: for illustration purpose, if the researchers were interested in examining three levels of shelf height in each of the four stores, the results would be as shown in Table 13.9.

**TABLE 13.9. Randomised Block Design - Fragrance Experiment**

Blocks-stores	Treatments state Height		
	Level 1	Level 2	Level 3
1	$X_{11}$	$X_{12}$	$X_{13}$
2	$X_{21}$	$X_{22}$	$X_{23}$
3	$X_{31}$	$X_{32}$	$X_{33}$
4	$X_{41}$	$X_{42}$	$X_{43}$

Table 13.9 shows we are dealing with a two variable classification and can accordingly separate the block effect from the error term.

So, if genuine effects are present, this type of design will be more likely to detect them when compared to a single variable classification.

### 13.6 Attitudes-Measurement and Scaling:

Some measurement approaches were touched upon in the earlier chapters. But since attitude measurement is a very important aspect in marketing, in this chapter we will describe the various qualitative aspects, which form an integral part of measurement.

**Attitudes** are defined as mental states used by individuals to structure the way they perceive their environment and guide the way they respond to it.

**Measurement** of marketing phenomenon is fundamental so as to facilitate provision of meaningful information for effective marketing decision-making. In Marketing Research, the measurement process requires using quantified data along with quality to represent the marketing phenomena under consideration (or investigation).

### 13.7 The Concept of measurement and Scaling:

*Measurement* can be defined as a standardised process of assigning number or other symbols to certain characteristics of the object of interest, according to certain prespecified rates. *Scaling* is the process of creating a continuum on which objects are to be located according to the amount of the measured characteristic they possess. (Aaker, Kumar, Day, 2001).

## Types of Scales

There are various types of scales used for measurement purposes. These include nominal scale, ordinal scale (or rank order scale), interval scale and ratio scale.

**Nominal Scale:** In a nominal scale, objects are assigned to mutually exclusive labelled categories although there need not be relationship among the categories. Sex, geographic location area, social class, marital status etc. are nominally scaled variables. Usually, for such a scale, a count of each category is done, *i.e.*, we can count the number of Maruti dealers in Bangalore or the number of KSRTC buses plying on the Karnataka -Tamilnadu route.

**Ordinal Scale:** An ordinal scale is obtained by ranking or arranging objects in order with regard to some common variable. This scale will indicate the amount (or how much) of difference there exists between the objects. Since the amount of difference between objects is not known, statistical methods of median and mode are allowed.

This level of measurement contains all the information of a nominal scale alongwith a measure of whether the object has more or less of a characteristic when compared to another object but not how much more or less. In marketing it can measure an individual's attitude, preferences, social class etc.

**Interval Scale:** With interval scales differences can be compared. In an interval scale the numbers used to rank the objects also represent equal increments of the attribute being measured. Interval scale will indicate that the difference between 1 and 2 is the same as between 2 and 3. Interval scales permit the usage of the entire range of statistical operations (including addition and subtraction) to analyse the resulting number. Thus, it is possible to compute an arithmetic mean from interval-scale measures.

However, interval scale have limited statistical versatility because of having no zerobase. Which means that, even though we can add and subtract scores on interval scales, it cannot be used to divide one score by another because division presupposes the existence of a zerobase.

**Ratio Scale:** With a ratio scale, data can be measured from a base of zero. This scale is very versatile in terms of the various statistical analysis which can be possibly done by them. This scale will enable the researcher to ascertain how much one object is greater or smaller than another, *i.e.* it is possible to make comparisons of absolute magnitude.

Of course, ultimately, for effective comparisons to be made by the respondent, the researcher must ensure that they have the desired competence to make proportional judgement before attempting the actual research.

## 13.8 Criteria for Good Measurement:

If the measurements are to be of acceptable quality, they have to include the following aspects of attitude measures which contribute to accuracy.

- **Validity:** An instrument is valid when it measures what it is supposed to measure, but since attitudes are elusive, attitude-scale validation is difficult.

Marketing studies must have validity otherwise their data becomes dangerous decision inputs, if they are invalid..

- **Reliability:** This is related to producing consistent results when certain research methods are repeated. Data has to be reliable, so that generalizations can be drawn on them for guiding decisions. If the replication of the same technique on a similar population does not produce the same measurement as the first data gathered, it would indicate that it is marred by random errors.
- **Sensitivity:** The third characteristic of a good attitude measure is sensitivity. This indicates the ability to discriminate among meaningful differences in attitudes. Sensitivity is achieved by increasing the number of scale categories.

In case of more categories, lower will be the reliability. Conversely, if a large number of response categories are used and only a few distinct attitude positions are measured, then this may result in a considerable, though unwarranted fluctuations.

**TABLE 13.10. Type of Measurement Scales and their Properties**

<b>Type of Scale</b>	<b>Types of attitude scale</b>	<b>Typical marketing or other application</b>	<b>Statistical tests</b>
Nominal	Dichotomous 'yes' or 'no' scales.	Classifications such as sex, occupation, region, social class, brands etc.	Percentages, mode, binomial test, chi-square tests.
Ordinal	Comparison paired, itemwise, rank order etc.	Ranking of preferences, attitudes, occupation, social class.	Percentile, median, rank order correlation or Friedman ANOVA.
Interval	Likert, Thurstone, Stapel, associative, semantic-differential	Attitudes opinion measures, Index numbers, temperature scales.	Mean, Standard deviation, Range, Product moment correlation/ ANOVA, Regression factor analysis.
Ratio	Specific scales with special instructions.	Age, costs, number of customers, units produced, age.	Geometric and Harmonic mean, coefficient of variation.

This rating scale requires a respondent to mark his/her attitude 'by selecting a position on a continuum, which may reflect a range of possible views regarding an attitude object. It may take the form of:

On the whole, how much satisfied are you with our 'A' product:

'A'	'B'	'C'	'D'	'E'
Very satisfied	Somewhat satisfied	Average	Somewhat dissatisfied	Very dissatisfied

**Figure 13.2 A basic rating scale format.**

**Graphic Rating Scale:**

This graphic rating scale requires the respondent to indicate his/her attitude along a line or graphic continuum, which starts from one extreme to end at another. If required the researcher may subdivide the continuum into appropriate sets of categories and assign them with numericals.

**Rank Order Scale**

In the case of itemized and graphic scales, the respondent is asked to make a judgement without a comparative basis.

Here the ranking questions are in the form of opinion questions and the respondent is asked to rank by comparing the items.

The advantage here is it facilitates easy tabulation with a definite set of items.

**Generalizability:** This refers to the ease of scale administration and interpretation in different research settings and situations. This generalizability cannot be stated in absolute terms and is a matter of degree.

**Relevancy:** Relevancy of a scale refers to how meaningful it is to apply the scale to measure a construct. In mathematical term,

$$\text{Relevance} = \text{reliability} + \text{validity}.$$

The reliability and validity of a scale is evaluated with the help of correlation coefficients.

**13.9 Types of Rating Scales (Basic):**

While undertaking Marketing Research, the researcher may be interested in measuring certain psychological concepts such as motivation or attitudes, but respondents may be having difficulty in communicating their attitudes or motivational aspects. Then, the researcher will have to use appropriate research methods which make it easy for respondents to answer in such a manner so as to avoid measurement errors. The success of such objectives will depend on developing specific measurement scales. These start from basic rating scales to specific attitude rating scales.

**Basic Rating Scale**

These are very commonly used rating scales in Marketing Research because of its simplicity and adaptability to most measurement situations.

**Paired Comparison Scale**

At times, people are able to more readily select items which they can compare directly. The paired comparison method overcomes the weakness of ranking questions that have three or more items and also avoids order bias. The ranking is done by identifying how many times each item is preferred over the other.

**Constant Sum Scale**

This scale gives a better perspective of the distance between points on a continuum. The respondent here is asked to divide or allocate a number of points, percentages or money, to indicate the relative importance of the attributes being studied.



The amounts allocated to each alternative are referred to as ranks assigned by the respondent. They also indicate the amount of differences set between each alternative by the respondent.

### 13.10 Specific Attitude Scales Adapted to Marketing Studies:

Though there are a variety of specific scaling techniques which can and have been used in marketing studies, here we will discuss only on three scales which are widely used:

- Semantic Differential Scale.
- Likert Scale
- Stapel Scale.

*Semantic Differential Scale:* These scales are often used to describe a set of beliefs that comprises an individual's image of an organisation or brand. This method also gives an insight to comparing the images of competing brand, stores or services. Respondents are asked to rate each attitude object on a 5 or 7 point rating scales, bounded at each end by polar adjectives or phrases. The respondent is required to select the end point adjective which closely matches that object. Depending on the type of scale being used, the mid point of the scale has two different meanings.

	Extremely	Quite	Slight	Quite	Extremely	
Less costly.	_____	_____	_____	_____	_____	Very costly.
Strong flavour.	_____	_____	_____	_____	_____	Mild flavour.
Smooth exteriors.	_____	_____	_____	_____	_____	Rough exteriors.
Bright	_____	_____	_____	_____	_____	Dull.

Figure 13.3 An example of Semantic Differential Scales.

(Some *specific features* of Semantic Differential Scale :)

- The pairs of objects or phrases are carefully selected so as to be meaningful and match product or service attributes.
- The favourable and unfavourable labels are rotated (sometimes on left and sometimes on right side) to avoid a 'halo' effect in which the respondents tend to put all their responses on the same side as in the questionnaire.
- The category increments are treated as interval scales.
- *Likert Scale:* These type of scales require a respondent to specify a degree of agreement or disagreement with a variety of statements related to the attitude or object. Since the scores of the individual items are summed up to give a total score to the respondent, they are also called *Summated Scales*.

A Likert Scale comprises of two parts — The *item part* (a statement about a certain product/ event/attitude) and the *evaluative part* (list of response) categories ranging from 'strongly agree' to 'strongly disagree'. The resulting scale is usually uni dimensional. The Likert Scaling Method is in the form of a series of 5 to 20 or more statements or questions.

	Strongly Agree	Generally Agree	Moderately Agree	Moderately Disagree	Generally Disagree	Strongly Disagree
(a) Wide choice	_____	_____	_____	_____	_____	_____
(b) High brand recall	_____	_____	_____	_____	_____	_____
(c) Very good after sales service	_____	_____	_____	_____	_____	_____

Figure 13.4 A format of Likert Scale.

A major advantage of Likert Scale is that the respondent has to only consider one adjective (description) (or each item thereby doing away with the task of finding opposite items and a uniform set of rating categories for even all items run.

- *Stapel Scale*: This is a simplified version of Semantic Differential in which a single adjective/pole/ description is used for each item rated. Respondents are asked to indicate the object by selecting a numerical response category, and higher the positive score, the better the adjective describes the object.

	+3		+3		+3
	+2		+2		+2
	+1		+1		+1
Wide choice		High brand recall		Very good after sales service	
	-1		-1		-1
	-2		-2		-2
	-3		-3		-3

Figure 13.5 A Stapel Scale example.

### 13.11 Considerations for Selecting Appropriate Scale:

- Decide a suitable scaling technique based on the nature of the item being scaled.
- The researcher must keep in mind the kind of information being sought and easy use of the particular scaling technique by the respondent.
- Selection of the appropriate scaling technique by keeping in mind the nature and number of concepts or variables and how these will set limits on the analysis of the study.
- The method of communication also affects the selection of an appropriate scaling technique. Because it would not be possible to use graphic rating scales over the telephone.

### 13.12 Activities:

Meet five of your friends and ask them the following questions.

- (a) The season most preferred by you.

.....Summer.....Winter.....Rainy Season.

- (b) How Satisfied are you with the public transport system?

.....Very Satisfied.....Satisfied.....Neither Satisfied nor dissatisfied.....Dis  
satisfied..... very dissatisfied.

- (c) Rank the following according to your preference:

.....Surf exel.....Ariel.....Henko.....Rin.....Fena

Which type of scale did you use for each questions? Why?

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### 13.13 Summary:

- While carrying our business researcher the research may be required to determine if there exists any relationship between two or more variables and if yes, what is the strength of the relationship and nature of relationship. The statistical techniques used for measuring associations include the Regression Analysis, Correlation Analysis, Rank Correlation, Discriminant Analysis, Cluster Analysis and Factor Analysis. There are also certain experimental designs such as Completely Randomised Design, Latin Square, Factorial design, Cross over and Randomised block designs, which help in the identification of the sources of variation in an experiment.
- Measurement is the standard process of assigning numbers or other symbols to certain characteristics of the object of interest based on certain prespecified rules. Scaling is the process of creating a continuum on which objects are to be located according to the amount of the measured characteristics they possess. There are various types of scales used to measure the data collected for marketing research. These include mainly the Semantic Differential scale, Likert Scale and the Staple Scale.

### 13.14 Self Assessment Questions:

- (1) Distinguish between Regression analysis and Correlation Analysis.
- (2) Bring out the importance of using the analysis of experiments, for a company which is evaluating the effect on sales of a product with free coupon offer and without the offer. What is your conclusion?
- (3) Write a brief note on cluster analysis, discriminant analysis and factor analysis.
- (4) Which are the typical scales used to measure the data collected? Discuss each of them and also the situation in which they are most likely to be used?

### 13.15 Additional Reading:

- (1) Suja R. Nair, *Marketing Research*, Himalaya Publishing House, Mumbai, 2003.
- (2) Luck J. David and Rubin S. Ronald, '*Marketing Research*', 7<sup>th</sup> edn, Prentice Hall of India Pvt. Ltd, New Delhi, 2001.
- (3) Kress George, '*Marketing Research*', 3rd edn, Prentice Hall, Engle Wood Cliffs, New Jersey, 1988.
- (4) Churchill Gilbert, '*Marketing Research: Methodological Foundation*' Hinsdale Ill, Dryden Press, 1983.
- (5) Alder derfer S. Mark., Blash Field K. Roger, '*Cluster Analysis*', Beverly Hills, C. A. Sage, 1984.



## SELECTED STATISTICAL TABLES

## APPENDIX - I

**Table B1: Proportion of the area under the normal curve with values as extreme as the observed values of Z.**

Z	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	0.5000	0.4960	0.4920	0.4880	0.4840	0.4801	0.4761	0.4721	0.4681	0.4641
0.1	0.4602	0.4562	0.4522	0.4483	0.4443	0.4404	0.4364	0.4325	0.4286	0.4247
0.2	0.4207	0.4168	0.4129	0.4090	0.4052	0.4013	0.3974	0.3936	0.3897	0.3859
0.3	0.3821	0.3873	0.3745	0.3707	0.3669	0.3632	0.3594	0.3557	0.3520	0.3483
0.4	0.3446	0.3409	0.3372	0.3336	0.3300	0.3264	0.3228	0.3192	0.3156	0.3121
0.5	0.3085	0.3050	0.3015	0.2981	0.2946	0.2912	0.2877	0.2843	0.2810	0.2776
0.6	0.2743	0.2709	0.2676	0.2643	0.2611	0.2578	0.2546	0.2514	0.2483	0.2451
0.7	0.2420	0.2389	0.2358	0.2327	0.2296	0.2266	0.2236	0.2206	0.2177	0.2148
0.8	0.2119	0.2090	0.2061	0.2033	0.2005	0.1977	0.1949	0.1922	0.1894	0.1867
0.9	0.1841	0.1814	0.1788	0.1762	0.1736	0.1711	0.1685	0.1660	0.1635	0.1611
1.0	0.1587	0.1562	0.1539	0.1515	0.1492	0.1469	0.1446	0.1423	0.1401	0.1379
1.1	0.1357	0.1335	0.1314	0.1292	0.1271	0.1251	0.1230	0.1210	0.1190	0.1170
1.2	0.1151	0.1131	0.1112	0.1093	0.1075	0.1056	0.1038	0.1020	0.1003	0.0985
1.3	0.0968	0.0951	0.0934	0.0918	0.0901	0.0885	0.0869	0.0853	0.0838	0.0823
1.4	0.0808	0.0793	0.0778	0.0764	0.0749	0.0735	0.0721	0.0708	0.0694	0.0681
1.5	0.0668	0.0655	0.0643	0.0630	0.0618	0.0606	0.0594	0.0582	0.0571	0.0559
1.6	0.0548	0.0537	0.0526	0.0516	0.0505	0.0495	0.0485	0.0475	0.0465	0.0455
1.7	0.0446	0.0436	0.0427	0.0418	0.0409	0.0401	0.0392	0.0384	0.0375	0.0367
1.8	0.0359	0.0351	0.0344	0.0336	0.0329	0.0322	0.0314	0.0307	0.0301	0.0294
1.9	0.0287	0.0281	0.0274	0.0268	0.0262	0.0256	0.0250	0.0244	0.0239	0.0233
2.0	0.0228	0.0222	0.0217	0.0212	0.0207	0.0202	0.0197	0.0192	0.0188	0.0183
2.1	0.0179	0.0174	0.0170	0.0166	0.0162	0.0158	0.0154	0.0150	0.0146	0.0143
2.2	0.0139	0.0136	0.0132	0.0129	0.0125	0.0122	0.0119	0.0116	0.0113	0.0110
2.3	0.0107	0.0104	0.0102	0.0099	0.0096	0.0094	0.0091	0.0089	0.0087	0.0084
2.4	0.0082	0.0080	0.0078	0.0075	0.0073	0.0071	0.0069	0.0068	0.0066	0.0064
2.5	0.0062	0.0060	0.0059	0.0057	0.0055	0.0054	0.0052	0.0051	0.0049	0.0048
2.6	0.0047	0.0045	0.0044	0.0043	0.0041	0.0040	0.0039	0.0038	0.0037	0.0036
2.7	0.0035	0.0034	0.0033	0.0032	0.0031	0.0030	0.0029	0.0028	0.0027	0.0026
2.8	0.0026	0.0025	0.0024	0.0023	0.0023	0.0022	0.0021	0.0021	0.0020	0.0019
2.9	0.0019	0.0018	0.0018	0.0017	0.0016	0.0016	0.0015	0.0015	0.0014	0.0014
3.0	0.0013	0.0013	0.0013	0.0012	0.0012	0.0011	0.0011	0.0011	0.0010	0.0010
3.1	0.0010	0.0009	0.0009	0.0009	0.0008	0.0008	0.0008	0.0008	0.0007	0.0007
3.2	0.0007									
3.3	0.0005									
3.4	0.0003									
3.5	0.00023									
3.6	0.00016									
3.7	0.00011									
3.8	0.00007									
3.9	0.00005									
4.0	0.00003									

Source: Tables B1, B2 and B3 are taken from Tables III and IV of Fisher and Yates: *Statistical Tables for Biological Agricultural and Medical Research*, published by Longman, London (previously published by Oliver and Boyd, Edinburgh).

## SELECTED STATISTICAL TABLES

## APPENDIX - II

Table B2: Table of Critical Values of *t*.

<i>df</i>	<i>Level of Significance for One-Tailed Test</i>					
	0.10	0.05	0.025	0.01	0.005	0.0005
	<i>Level of Significance for Two-Tailed Test</i>					
	0.20	0.10	0.05	0.02	0.01	0.001
1	3.078	6.314	12.706	31.821	63.657	636.619
2	1.886	2.920	4.303	6.965	9.925	31.598
3	1.638	2.353	3.182	4.541	5.841	12.941
4	1.533	2.132	2.776	3.747	4.604	8.610
5	1.476	2.015	2.571	3.365	4.032	6.859
6	1.440	1.943	2.447	3.143	3.707	5.959
7	1.415	1.895	2.365	2.998	3.499	5.405
8	1.397	1.860	2.306	2.896	3.355	5.041
9	1.383	1.833	2.262	2.821	3.250	4.781
10	1.372	1.812	2.228	2.764	3.169	4.587
11	1.363	1.796	2.201	2.718	3.106	4.437
12	1.356	1.782	2.179	2.681	3.055	4.318
13	1.350	1.771	2.160	2.650	3.012	4.221
14	1.345	1.761	2.145	2.624	2.977	4.140
15	1.341	1.753	2.131	2.602	2.947	4.073
16	1.337	1.746	2.120	2.583	2.921	4.015
17	1.333	1.740	2.110	2.567	2.898	3.965
18	1.330	1.734	2.101	2.552	2.878	3.922
19	1.328	1.729	2.093	2.539	2.861	3.883
20	1.325	1.725	2.086	2.528	2.845	3.850
21	1.323	1.721	2.080	2.518	2.831	3.819
22	1.321	1.717	2.074	2.508	2.819	3.792
23	1.319	1.714	2.069	2.500	2.807	3.767
24	1.318	1.711	2.064	2.492	2.797	3.745
25	1.316	1.708	2.060	2.485	2.787	3.725
26	1.315	1.706	2.056	2.479	2.779	3.707
27	1.314	1.703	2.052	2.473	2.771	3.690
28	1.313	1.701	2.048	2.467	2.763	3.674
29	1.311	1.699	2.045	2.462	2.756	3.659
30	1.310	1.697	2.042	2.457	2.750	3.646
40	1.303	1.684	2.021	2.423	2.704	3.551
60	1.296	1.671	2.000	2.390	2.660	3.460
120	1.289	1.658	1.980	2.358	2.617	3.373
∞	1.282	1.645	1.960	2.326	2.576	3.291

SELECTED STATISTICAL TABLES  
APPENDIX - III

Table B3: Critical Values of Chi-Square ( $\chi^2$ )

	Probability under $H_0$ that $\chi^2 \geq$ Chi-Square													
	0.99	0.98	0.95	0.90	0.80	0.70	0.50	0.30	0.20	0.10	0.05	0.02	0.01	0.001
1	0.00016	0.00030	0.0039	0.016	0.064	0.15	0.46	1.07	1.64	2.71	3.84	5.41	6.64	10.83
2	0.02	0.04	0.10	0.21	0.45	0.71	1.39	2.41	3.22	4.60	5.99	7.82	9.21	13.82
3	0.12	0.18	0.35	0.58	1.00	1.42	2.37	3.66	4.61	6.25	7.82	9.84	11.34	16.27
4	0.30	0.43	0.71	1.06	1.65	2.20	3.36	4.88	5.99	7.78	9.49	11.67	13.28	18.46
5	0.55	0.75	1.14	1.61	2.34	3.00	4.35	6.06	7.29	9.24	11.07	13.39	15.09	20.52
6	0.87	1.13	1.64	2.20	3.07	3.83	5.35	7.23	8.56	10.64	12.59	15.03	16.81	22.46
7	1.24	1.56	2.17	2.83	3.82	4.67	6.35	8.38	9.80	12.02	14.07	16.62	18.48	24.32
8	1.65	2.03	2.73	3.49	4.59	5.53	7.34	9.52	11.03	13.36	15.51	18.17	20.09	26.12
9	2.09	2.53	3.32	4.17	5.38	6.39	8.34	10.66	12.24	14.68	16.92	19.68	21.67	27.88
10	2.56	3.06	3.94	4.86	6.18	7.27	9.34	11.78	13.44	15.99	18.31	21.16	23.21	29.59
11	3.05	3.61	4.58	5.58	6.99	8.15	10.34	12.90	14.63	17.28	19.68	22.62	24.72	31.26
12	3.57	4.18	5.23	6.30	7.81	9.03	11.34	14.01	15.81	18.55	21.03	24.05	26.22	32.91
13	4.11	4.76	5.89	7.04	8.63	9.93	12.34	15.12	16.98	19.81	22.36	25.47	27.69	34.53
14	4.66	5.37	6.57	7.79	9.47	10.82	13.34	16.22	18.15	21.06	23.68	26.87	29.14	36.12
15	5.23	5.98	7.26	8.55	10.31	11.72	14.34	17.32	19.31	22.31	25.00	28.26	30.58	37.70
16	5.81	6.61	7.96	9.31	11.15	12.62	15.34	18.42	20.46	23.54	26.30	29.63	32.00	39.29
17	6.41	7.26	8.67	10.08	12.00	13.53	16.34	19.51	21.62	24.77	27.59	31.00	33.41	40.75
18	7.02	7.91	9.39	10.86	12.86	14.44	17.34	20.60	22.76	25.99	28.87	32.35	34.80	42.31
19	7.63	8.57	10.12	11.65	13.72	15.35	18.34	21.69	23.90	27.20	30.14	33.69	36.19	43.82
20	8.26	9.24	10.85	12.44	14.58	16.27	19.34	22.78	25.04	28.41	31.41	35.02	37.57	45.32
21	8.90	9.92	11.59	13.24	15.44	17.18	20.34	23.86	26.17	29.62	32.67	36.34	38.93	46.80
22	9.54	10.60	12.34	14.04	16.31	18.10	21.24	24.94	27.30	30.81	33.92	37.66	40.29	48.27
23	10.20	11.29	13.09	14.85	17.19	19.02	22.34	26.02	28.43	32.01	35.17	38.97	41.64	49.73
24	10.86	11.99	13.85	15.66	18.06	19.94	23.34	27.10	29.55	33.20	36.42	40.27	42.98	51.18
25	11.52	12.70	14.61	16.47	18.94	20.87	24.34	28.17	30.68	34.38	37.65	41.57	44.31	52.62
26	12.20	13.41	15.38	17.29	19.82	21.79	25.34	29.25	31.80	35.56	38.88	42.86	45.64	54.05
27	12.88	14.12	16.15	18.11	20.70	22.72	26.34	30.32	32.91	36.74	40.11	44.14	46.96	55.48
28	13.56	14.85	16.95	18.94	21.59	23.65	27.34	31.39	34.03	37.92	41.34	45.42	48.28	56.89
29	14.26	15.57	17.71	19.77	22.48	24.58	28.34	32.46	35.14	39.09	42.56	46.69	49.59	58.30
30	14.95	16.31	18.49	20.60	23.36	25.51	29.34	33.53	36.25	40.26	43.77	47.96	50.89	59.70

SELECTED STATISTICAL TABLES

APPENDIX - IV

Table B4: F Distribution (upper 5% points).

<i>n/m</i>	1	2	3	4	5	6	7	8	9	10	12	15	20	24	30	40	60	120	$\infty$
1	161.40	199.50	215.70	224.60	230.20	234.00	236.80	238.90	240.50	241.90	243.90	245.90	248.00	249.10	250.10	251.10	252.30	253.30	254.30
2	18.51	19.00	19.16	19.25	19.30	19.33	19.35	19.37	19.38	19.40	19.41	19.43	19.45	19.45	19.46	19.47	19.48	19.49	19.50
3	10.13	9.55	9.28	9.12	9.01	8.94	8.89	8.85	8.81	8.79	8.74	8.70	8.66	8.64	8.62	8.59	8.57	8.55	8.53
4	7.71	6.94	6.59	6.39	6.26	6.16	6.09	6.04	6.00	5.96	5.91	5.86	5.80	5.77	5.75	5.72	5.69	5.66	5.63
5	6.61	5.79	5.41	5.19	5.05	4.95	4.88	4.82	4.77	4.74	4.68	4.62	4.56	4.53	4.50	4.46	4.43	4.40	4.36
6	5.99	5.14	4.76	4.53	4.39	4.28	4.21	4.15	4.10	4.06	4.00	3.94	3.87	3.84	3.81	3.77	3.74	3.70	3.67
7	5.59	4.74	4.35	4.12	3.97	3.87	3.79	3.73	3.68	3.64	3.57	3.51	3.44	3.41	3.38	3.34	3.30	3.27	3.23
8	5.32	4.46	4.07	3.84	3.69	3.58	3.50	3.44	3.39	3.35	3.28	3.22	3.15	3.12	3.08	3.04	3.01	2.97	2.93
9	5.12	4.26	3.86	3.63	3.48	3.37	3.29	3.23	3.18	3.14	3.07	3.01	2.94	2.90	2.86	2.83	2.79	2.75	2.71
10	4.96	4.10	3.71	3.48	3.33	3.22	3.14	3.07	3.02	2.98	2.91	2.85	2.77	2.74	2.70	2.66	2.62	2.58	2.54
11	4.84	3.98	3.59	3.36	3.20	3.09	3.01	2.95	2.90	2.85	2.79	2.72	2.65	2.61	2.57	2.53	2.49	2.45	2.40
12	4.75	3.89	3.49	3.26	3.11	3.00	2.91	2.85	2.80	2.75	2.69	2.62	2.54	2.51	2.47	2.43	2.38	2.34	2.30
13	4.67	3.81	3.41	3.18	3.03	2.92	2.83	2.77	2.71	2.67	2.60	2.53	2.46	2.42	2.38	2.34	2.30	2.25	2.21
14	4.60	3.74	3.34	3.11	2.96	2.85	2.76	2.70	2.65	2.60	2.53	2.46	2.39	2.35	2.31	2.27	2.22	2.18	2.13
15	4.54	3.68	3.29	3.06	2.90	2.79	2.71	2.64	2.59	2.54	2.48	2.40	2.33	2.29	2.25	2.20	2.16	2.11	2.07
16	4.49	3.63	3.24	3.01	2.85	2.74	2.66	2.59	2.54	2.49	2.42	2.35	2.28	2.24	2.19	2.15	2.11	2.06	2.01
17	4.45	3.59	3.20	2.96	2.81	2.70	2.61	2.55	2.49	2.45	2.38	2.31	2.23	2.19	2.15	2.10	2.06	2.01	1.96
18	4.41	3.55	3.16	2.93	2.77	2.66	2.58	2.51	2.46	2.41	2.34	2.27	2.19	2.15	2.11	2.06	2.02	1.97	1.92
19	4.38	3.52	3.13	2.90	2.74	2.63	2.54	2.48	2.42	2.38	2.31	2.23	2.16	2.11	2.07	2.03	1.98	1.93	1.88
20	4.35	3.49	3.10	2.87	2.71	2.60	2.51	2.45	2.39	2.35	2.28	2.20	2.12	2.08	2.04	1.99	1.95	1.90	1.84
21	4.32	3.47	3.07	2.84	2.68	2.57	2.49	2.42	2.37	2.32	2.25	2.18	2.10	2.05	2.01	1.96	1.92	1.87	1.81
22	4.30	3.44	3.05	2.82	2.66	2.55	2.46	2.40	2.34	2.30	2.23	2.15	2.07	2.03	1.98	1.94	1.89	1.84	1.78
23	4.28	3.42	3.03	2.80	2.64	2.53	2.44	2.37	2.32	2.27	2.20	2.13	2.05	2.01	1.96	1.91	1.86	1.81	1.76
24	4.26	3.40	3.01	2.78	2.62	2.51	2.42	2.36	2.30	2.25	2.18	2.11	2.03	1.98	1.94	1.89	1.84	1.79	1.73
25	4.24	3.39	2.99	2.76	2.60	2.49	2.40	2.34	2.28	2.24	2.16	2.09	2.01	1.96	1.92	1.87	1.82	1.77	1.71
26	4.23	3.37	2.98	2.74	2.59	2.47	2.39	2.32	2.27	2.22	2.15	2.07	1.99	1.95	1.90	1.85	1.80	1.75	1.69
27	4.21	3.35	2.96	2.73	2.57	2.46	2.37	2.31	2.25	2.20	2.13	2.06	1.97	1.93	1.88	1.84	1.79	1.73	1.67
28	4.20	3.34	2.95	2.71	2.56	2.45	2.36	2.29	2.24	2.19	2.12	2.04	1.96	1.91	1.87	1.82	1.77	1.71	1.65
29	4.18	3.33	2.93	2.70	2.55	2.43	2.35	2.28	2.22	2.18	2.10	2.03	1.94	1.90	1.85	1.81	1.75	1.70	1.64
30	4.17	3.32	2.92	2.69	2.53	2.42	2.33	2.27	2.21	2.16	2.09	2.01	1.93	1.89	1.84	1.79	1.74	1.68	1.62
40	4.08	3.23	2.84	2.61	2.45	2.34	2.25	2.18	2.12	2.08	2.00	1.92	1.84	1.79	1.74	1.69	1.64	1.58	1.51
60	4.00	3.15	2.76	2.53	2.37	2.25	2.17	2.10	2.04	1.99	1.92	1.84	1.75	1.70	1.65	1.59	1.53	1.47	1.39
120	3.92	3.07	2.68	2.45	2.29	2.17	2.09	2.02	1.96	1.91	1.83	1.75	1.66	1.61	1.55	1.50	1.43	1.35	1.25
$\infty$	3.84	3.00	2.60	2.37	2.21	2.10	2.01	1.94	1.88	1.83	1.75	1.67	1.57	1.52	1.46	1.39	1.32	1.22	1.00

*m* = degrees of freedom for numerator and *n* = degrees of freedom for denominator.

Source: Table B4 and B5 are abridged from Table 18 of the *Biometrika Tables for Statisticians*, vol. 1 (3rd ed., 1966), edited by E.S. Pearson and H.O. Hartley.



SELECTED STATISTICAL TABLES

APPENDIX - V

Table B5: F Distribution (upper 1% points).

n/m	1	2	3	4	5	6	7	8	9	10	12	15	20	24	30	40	60	120	$\infty$
1	4052	4999.50	5403	5625	5764	5859	5928	5982	6022	6056	6106	6157	6209	6235	6261	6287	6313	6339	6366
2	98.50	99.00	99.17	99.25	99.30	99.33	99.36	99.37	99.39	99.40	99.42	99.43	99.45	99.46	99.47	99.47	99.48	99.49	99.50
3	34.12	30.82	29.46	28.71	28.24	27.91	27.67	27.49	27.35	27.23	27.05	26.87	26.69	26.60	26.50	26.41	26.32	26.22	26.13
4	21.20	18.00	16.69	15.78	15.52	15.21	14.98	14.80	14.66	14.55	14.37	14.20	14.02	13.93	13.84	13.75	13.65	13.56	13.46
5	16.26	13.27	12.06	11.39	10.97	10.67	10.46	10.29	10.16	10.05	9.89	9.72	9.55	9.47	9.38	9.29	9.20	9.11	9.02
6	13.75	10.92	9.78	9.15	8.75	8.47	8.26	8.10	7.98	7.87	7.72	7.56	7.40	7.31	7.23	7.14	7.06	6.97	6.88
7	12.25	9.55	8.45	7.85	7.46	7.19	6.99	6.84	6.72	6.62	6.47	6.31	6.16	6.07	5.99	5.91	5.82	5.74	5.65
8	11.26	8.65	7.59	7.01	6.63	6.37	6.18	6.03	5.91	5.81	5.67	5.52	5.36	5.28	5.20	5.12	5.03	4.95	4.86
9	10.56	8.02	6.99	6.42	6.06	5.80	5.61	5.47	5.35	5.26	5.11	4.96	4.81	4.73	4.65	4.57	4.48	4.40	4.31
10	10.04	7.56	6.55	5.99	5.64	5.39	5.20	5.06	4.94	4.85	4.71	4.56	4.41	4.33	4.25	4.17	4.08	4.00	3.91
11	9.65	7.21	6.22	5.67	5.32	5.07	4.89	4.74	4.63	4.54	4.40	4.25	4.10	4.02	3.94	3.86	3.78	3.69	3.60
12	9.33	6.93	5.95	5.41	5.06	4.82	4.64	4.50	4.39	4.30	4.16	4.01	3.86	3.78	3.70	3.62	3.54	3.45	3.36
13	9.07	6.70	5.74	5.21	4.86	4.62	4.44	4.30	4.19	4.10	3.96	3.82	3.66	3.59	3.51	3.43	3.34	3.25	3.17
14	8.86	6.51	5.56	5.04	4.69	4.46	4.28	4.14	4.03	3.94	3.80	3.67	3.51	3.43	3.35	3.27	3.18	3.09	3.00
15	8.68	6.36	5.42	4.89	4.56	4.32	4.14	4.00	3.89	3.80	3.67	3.52	3.37	3.29	3.21	3.13	3.02	2.96	2.87
16	8.53	6.23	5.29	4.77	4.44	4.20	4.03	3.89	3.78	3.69	3.55	3.41	3.26	3.18	3.10	3.02	2.93	2.84	2.75
17	8.40	6.11	5.18	4.67	4.34	4.10	3.93	3.79	3.68	3.59	3.45	3.31	3.16	3.08	3.00	2.92	2.83	2.75	2.65
18	8.29	6.01	5.09	4.58	4.25	4.01	3.84	3.71	3.60	3.51	3.37	3.23	3.08	3.00	2.92	2.84	2.75	2.66	2.57
19	8.18	5.93	5.01	4.50	4.17	3.94	3.77	3.63	3.52	3.43	3.30	3.15	3.00	2.92	2.84	2.76	2.67	2.58	2.49
20	8.10	5.85	4.94	4.43	4.10	3.87	3.70	3.56	3.46	3.37	3.23	3.09	2.94	2.86	2.78	2.69	2.61	2.52	2.42
21	8.02	5.78	4.87	4.37	4.04	3.81	3.64	3.51	3.40	3.31	3.17	3.03	2.88	2.80	2.72	2.64	2.55	2.46	2.36
22	7.95	5.72	4.82	4.31	3.99	3.76	3.59	3.45	3.35	3.26	3.12	2.98	2.83	2.75	2.67	2.58	2.50	2.40	2.31
23	7.88	5.66	4.76	4.26	3.94	3.71	3.54	3.41	3.30	3.21	3.07	2.93	2.78	2.70	2.62	2.54	2.45	2.35	2.26
24	7.82	5.61	4.72	4.22	3.90	3.67	3.50	3.36	3.26	3.17	3.03	2.89	2.74	2.66	2.58	2.49	2.40	2.31	2.21
25	7.77	5.57	4.68	4.18	3.85	3.63	3.46	3.32	3.22	3.13	2.99	2.85	2.70	2.62	2.54	2.45	2.36	2.27	2.17
26	7.72	5.53	4.64	4.14	3.82	3.59	3.42	3.29	3.18	3.09	2.96	2.81	2.66	2.58	2.50	2.42	2.33	2.23	2.13
27	7.68	5.49	4.60	4.11	3.78	3.56	3.39	3.26	3.15	3.06	2.93	2.78	2.63	2.55	2.47	2.38	2.29	2.20	2.10
28	7.64	5.45	4.57	4.07	3.75	3.53	3.36	3.23	3.12	3.03	2.90	2.75	2.60	2.52	2.44	2.35	2.26	2.17	2.06
29	7.60	5.42	4.54	4.04	3.73	3.50	3.33	3.20	3.09	3.00	2.87	2.73	2.57	2.49	2.41	2.33	2.23	2.14	2.03
30	7.56	5.39	4.51	4.02	3.70	3.47	3.30	3.17	3.07	2.98	2.84	2.70	2.55	2.47	2.39	2.30	2.21	2.11	2.01
40	7.31	5.18	4.31	3.83	3.51	3.29	3.12	2.99	2.89	2.80	2.66	2.52	2.37	2.29	2.20	2.11	2.02	1.92	1.80
60	7.08	4.98	4.13	3.65	3.34	3.12	2.95	2.82	2.72	2.63	2.50	2.35	2.20	2.12	2.03	1.94	1.84	1.73	1.60
120	6.85	4.79	3.95	3.48	3.17	2.96	2.79	2.66	2.56	2.47	2.34	2.19	2.03	1.95	1.86	1.76	1.66	1.53	1.38
$\infty$	6.63	4.61	3.78	3.32	3.02	2.80	2.64	2.51	2.41	2.32	2.18	2.04	1.88	1.79	1.70	1.59	1.47	1.32	1.00