

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of the study

The study of-consumer behaviour enables marketers to understand and predict consumer's consuming and disposing activities. Consumer behaviour is defined as the behaviour that consumers display in searching for, purchasing, using, evaluating, and disposing of products, services and ideas that they expect 'will satisfy their needs.

Consumers and customers are diverse in nature. Customers stand for those who regularly purchase from a particular store, company, organization or place. But consumers are those who regularly purchase and use by themselves. Customers may or may not be consumers, but consumers are always being customers.

Consumers are mainly of two types; individual consumers and organizational consumers. Individual consumers buy goods and services for their own use and for household use. Organizational consumers include profit and non-profit businesses, government agencies and institution. Both consumers purchase goods, services, and ideas for their own use. But in consumer behaviour, individual consumers are the main focus of the study.

In general, consumers are both buyers and users. But in some extent, at least one person can play one or more than one role in purchasing and consuming. These roles may appear in the forms of initiator, influencer, decider, buyer, and user. These roles are explained in table- 1.1 (Zaltman and Buyer 1975:142)

Table 1.1

Role as	Description
Initiator	The individual who suggests the idea for product
Influencer	Provides information and advice about the product.
Decider	Who makes the buying decision.
Buyer	The individual, who actually makes the purchase of product.
User	The person most directly involved in the consumption or use the product.

For example, a wife as an initiator and influencer may ask her husband (buyer) pick up a box of total cereal on his shopping trip because their child (user) said she wanted it.

Consumer behaviour is an exciting and dynamic field of study. Consumer behaviour is a young discipline; the first textbook was written in the 1960s. Its intellectual forefathers, however, are much older. For example, Thorstein Veblen talked about conspicuous consumption in 1899. Similarly, in the early 1900s writers began to discuss how psychological principles could be used by advertiser. (Ward and Robertsom, 1973:3-42)

Consumer behaviour was a relatively new field of study in the mid-to-late 1960s. With no history or body of research of its own, the new discipline was borrowed heavily from concepts developed in other scientific disciplines, such as economics, psychology, social psychology, anthropology and demography. In psychology, we have to study the behaviour and mental process of individuals. In sociology, we have to study the collective behaviour of people in group. In social psychology, how individuals influence and are influenced by group is studied. In Economics, people's production, exchange, and consumption of goods and services are dealt in. And, in Anthropology, how people are related to their culture is mentioned.

The study of consumer behaviour has three levels of analysis: (I) individual level, (II) Micro environmental level, and (III) Macro environmental level. Individual level of analysis focuses on identifying the processes that influence a person in the acquisition, consumption, and disposition. In fact problem recognition, information search and evaluation, purchasing problem, decision process, post purchase behaviour, and feedback are studied in individual analysis. Micro environmental levels of study consist of those interpersonal and situational factors, which are outside of the person, that influence consumer behaviour at any particular point of time. In it, we have to study on information processing, learning and memory, motivation and involvement, attitudes, personality, self concept and leadership. Macro environment levels of study consist of the broad set of forces that influence a large number of consumers to act similarly. The type of macro-

environment includes the effects of culture, subculture, social class, social group, family and personal, economic and government conditions.

The study of consumer behaviour provides benefit for consumers, marketers, and even students. As consumers and marketers are diverse in nature, the reasons why people study consumer behaviour are also diverse.

Consumers' insight into their own consumption- related decision; what they buy, why they buy, and the promotional influences that persuade consumer to buy by showing their behaviour.

Marketers recognize why and how individuals make their consumption decisions by studying consumer behaviour. They can make better strategic marketing decisions. If marketers understand consumers' behaviour, they are able to predict how consumers are likely to react various informational and environmental clues, and are able to shape their marketing strategies. Marketers who understand consumer behaviour have great comparative advantage in the market place.

Students gain insights into why individuals act in certain consumption related ways and with learning what internal and external influences impel them to act as they do.

The interdisciplinary background in which the consumer behaviour discipline is rooted, it is not surprising that academicians from a verity of contributing disciplines, including marketing itself have become interested in the study of consumer behaviour not necessarily from a managerial or applied perspective, but simply to understand the consumer better. From the point of view of understanding consumption behaviour and the meanings behind such behaviour is called interpretivism.

Interpretivists have expanded the boundaries of study to include many subjective aspects of consumer behaviour such as the effects of moods, emotions and type of situation on consumer behaviour, the role of fantasy of rituals, even of the sensory pleasures that certain products and services provide. Many interpretivists consider each purchase experience unique, because of the diverse set of variables that play at a particular moment in time. Because of its focus on the consumption experience, the interpretive approach is also known as experimentalism.

Despite the apparent diversity in context with consumer behaviour, some common approaches should be taken into account while studying consumer behaviour.

Consumer analysis provides the foundation of marketing management. It assists managers in designing the marketing mix: segmenting the market place; predicting product positioning and differentiation; performing environmental analysis; and developing market and research study.

- ) Consumer analysis plays a critical role on public policy development
- ) Knowledge of consumer behaviour improves personal ability to be a more effective consumer.
- ) Consumer analysis provides Knowledge of human behaviour.
- ) The study of human behaviour provides three types of information.

Consumer orientation, fact about behaviour, and theories to recognize the thinking process.

Consumer decision process varies considerably in its complexity. Most of the decisions consumers require to make are probably rather simple ones, such as the purchase of staple foods. However, consumers also must make decisions that are comparatively complicated, such as buying durable goods. The range of difficulty of consumer decision process extends even further to problem solving that may be characterized as being highly complex, such as might well typify the consumer's purchase of a very expensive item like a home. (Ludaon and Della Bitta, 1993:485-486)

The range of consumer problem solving approaches can be placed on a spectrum from routine problem solving to limited problem solving, and to extensive problem solving as follows. ( Howard 1989:361-364)

### **Routine problem solving (RPS)**

In routine problem solving when consumers buy a new brand they have purchased before, it usually involves little or no information seeking and performed quickly. Consumers are brand loyal and trend to buy in a habitual, automatic, and unthinking way.

### **Limited problem solving (LPS)**

In limited problem solving when consumers buy a new brand in a family product. It usually involves a moderate amount of information seeking and time of choosing.

### ***Extensive Problem Solving (EPS)***

In extensive problem solving when consumers buy an unfamiliar product category, it usually involves the need to obtain substantial information and a longer time to choose. They must form a concept of the new product category and determine the criteria to be used in choosing a brand.

The examples of consumer decision-making cited above may be generalized toward a typical consumer problem-solving model consisting of four basic types of activities in the process of purchasing. The consumer's four steps are,

- Problem Recognition
- Information Search and Evaluation
- Purchase decision
- Post purchase Behaviour

The assumption underlying this and other decision process approaches to consumer behaviour seem to be following. (Richard and Donald, 1979:6-93)

1. Two or more alternatives provide opportunity to consumers to make a choice.
2. Consumer evaluation criteria facilitate the forecasting of each alternative's consequences for the consumer's goals or objectives.
3. The consumer uses a decision rule or evaluative procedure to determine the chosen alternative.
4. Information obtained from external sources and or memory is used the application of the decision rule or evaluative procedure.

The characteristics of consumer problem solving approach is presented in Table 1.2

Table 1.2

**Characteristics of Consumer Problem Solving Approach**

	Routine Problem Solving	Limited Problem Solving	Extensive Problem Solving
Purchase involvement level	Low	Medium	High
Problem Recognition	Automatic	Semi-Automatic	Complex
Information search and Evaluation	Minimal	Limited	Extensive
Purchasing orientation	Convenience	Mix	Shopping
Post Purchase processes	Very limited Habit Brand Loyalty	Limited inertia to repurchase Brand switching if dissatisfied	Complex Loyalty if satisfied Complain if dissatisfied

Consumer behaviour is a broad field that studies how individuals, families and groups acquire, consume and dispose of goods, ideas, and experience. (Mowen, 1990)

**1.2 Background of the company**

RS. 2.5 billions soft drinks market offer immense potential, as there are only two major players, Pepsi and Coke. There is tremendous opportunity for these two companies as Global population, income level, life style and consumption ratio are growing fast. The total annual sales of aerated drinks in the market are estimated at some 6.5 million cases (each case contains 24 bottles). There is tremendous opportunity in this industry in Nepal because there is growing trend of drinking in Cinema Halls, Stadiums, consumer's daily travels, social gathering, restaurant, bear bar, hotel etc.

Pepsi co. inc. a New York based multinational company. Which produces and sales its products in about 190 countries, began its operation in Nepal in 1986 through the local bottler, Swastika Area led Pvt. Ltd. It was introduced to Nepalese market about 10 years later than Coca-cola. Now Pepsi products have been growing popularity and capturing its good market share.

The management of Pepsi bottler in Nepal was under taken by Varun Bevarages (Nepal) Pvt. Ltd. In 1999, Varun Beverages (Nepal) Pvt. Ltd. was controlled and managed by Jaipuria Group India. Its territorial head office and Factory was situated at Sinamangal, Kathmandu.

The purpose of Varun Beverages (Nepal) Pvt. Ltd. Is to make availability of deferent brands of beverage all over the kingdom to fulfill the consumer's taste and their changing preferences. Its target consumers mainly comprise and temporarily are presented in table 1.3 in the classified fashion.

**Table 1.3**

**Employment Profile**

Employment	Permanent	Temporary	Total
Male	471	191	662
Female	165	68	233
Total	636	259	895

(source:- Internal unpublished data of the company)

Hence there are eight hundred ninety five employees all together. Among them 73% employees are male and 27% employees are female similarly near about 71% employees are permanent and 29% employees are temporary.

These employees are organized in flow chart structure, which is presented below :-

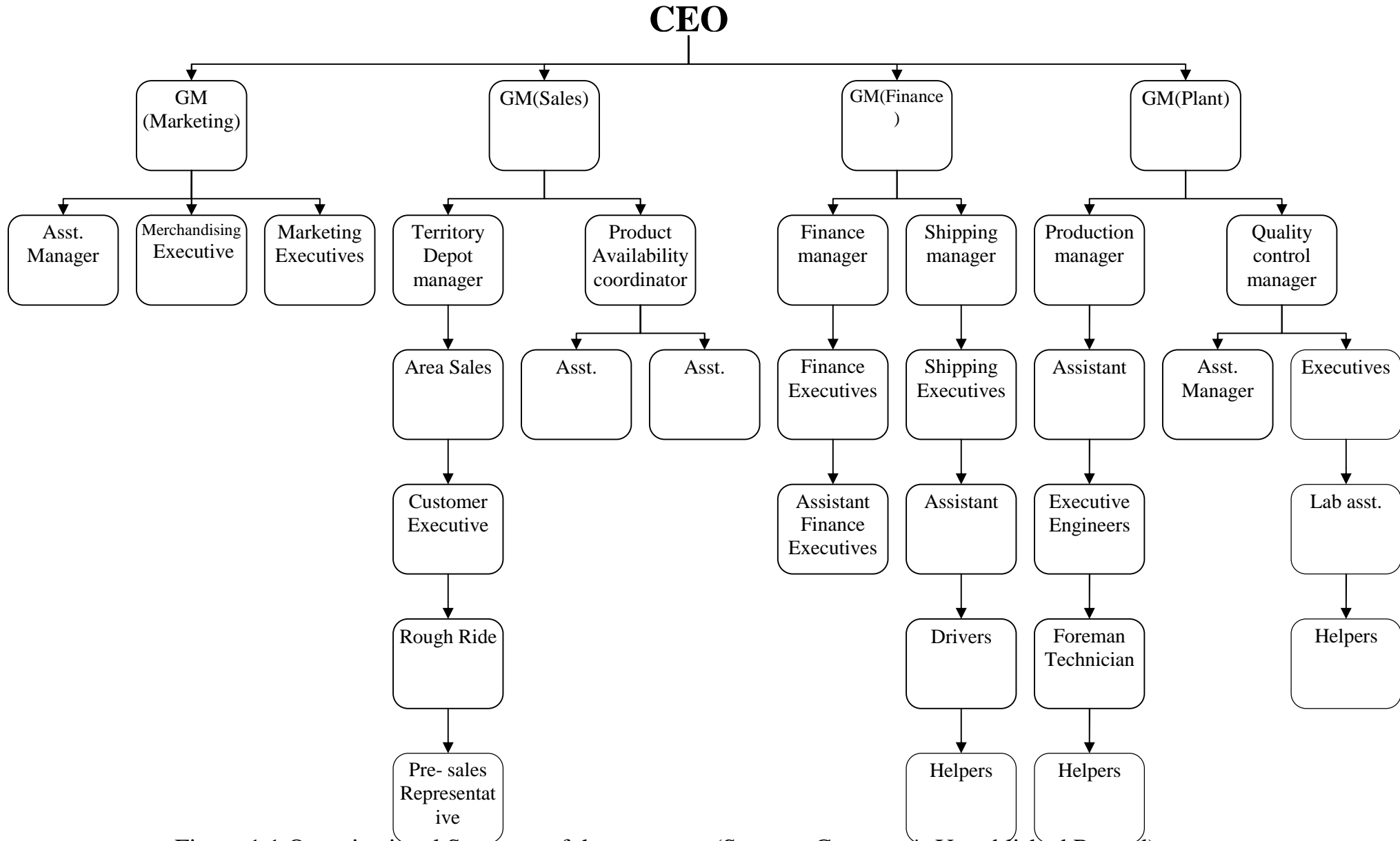


Figure 1.1 Organizational Structure of the company (Source : Company's Unpublished Record)



Production capacity of Pepsi is 420 Bottle per minute (BPM) and its capacity utilization is 90,70,000 crates. The producer of Pepsi in Nepal claims that it holds 40% of the market, and the rest by is Coke.

The company has been the leader for producing new pack size such as 1.5 liters, 2 liters pet bottle and 200 ml. Phuchche flavors such as Slice and mountain Dew, which have helped to increase market share. Now the company is producing seven brands in different flavor and pack, which are presented below.

**Table 1.4**

**Brand, flavor, and Pack Size of the Company's Products**

Brand	Flavor	Pack
Pepsi	Cola	200ml, 250ml, 300ml, 1.5ltr, 2ltr,500ml.
Mirinda	Orange, lemon	200ml, 250ml, 1.5ltr, 2ltr, 500ml.
7 up/ Mountain Dew	Lime	200ml, 250ml, 500ml, 1.5ltr, 2ltr.
Slice	Mango	200ml, 300ml, 1ltr,500ml.
Soda		250ml
Evervess Soda		1.5ltr,500ml.

These products are distributed all over the kingdom through distributors and retailers. These are 67 distributors all over the Nepal. Most of distributors operate by direct observation of the company. These distributors, Most of distributors operate by direct observation of the company.

In context of Birgunj "New Jagdamba Trader" is the authorized distributer of the Varun beverage Nepal Pvt. Ltd. It is situated in Birgunj Jail road -6. Now it has got authority to

sale almost all items of Pepsi product like; Pepsi, 7up, Mirinda, Soda, Mountain Dew, slice etc.

Its target customers mainly comprise the young generation across the country. In terms of competition, the different brands of Coca-Cola are its prime competitors.

Marketing strategy, Investment pattern, brand outlook, and acceptance of the brand by the public are all different from competitors. The company is also implementing deferent and very aggressive marketing strategies to enhance its competitiveness. Consumer schemes have always proved to be effective tools of promotion. The company has set different strategy than Coke, offered a pack of WAI WAI noodles for these customers who buy a 1.5 and 2 liter bottle of Pepsi. In other size bottle the company has offered MaMa bhujiya (Karat, Shyam k., Business age : val 4,2004)

Since the establishment of the company, its flay ship brand Pepsi is doing very well. Mountain Dew has also proved to be a good flavor and attractive packaging. Its has been very well received by consumers. Also, there is no competitor for Mountain Dew. So that the market of mountain dew increasing day by day also.

### **1.3 Statement of the problem.**

Pepsi and Coke are mainly two competitors in cold drinks market in Nepal. The prestigious growth of the market between these Cola giants has been growing ever since Pepsi to Nepal in 1999. Since Coke entered Nepal in 1997, it had been enjoying market leadership in soft drink industry. So Coke had a sort of monopoly in the market till then.

The total annual sale of aerated drinks in the market is estimated at some 6.5 million cases. The producer of Pepsi in Nepal claims that the Pepsi holds 40% of the market. The rest is attributed to Bottler's Nepal (Shyam, 2004). So, the Varun Beverages (Nepal) Pvt. Ltd. must affectively use its marketing strategies for growing their market share.

But to what extent it is effortful in boosting up Nepalese consumer's behaviour in the intervals of time remains always a question to be answered from time to time. Therefore, this research starts with the following problems.

- ) What is the buying behaviour of consumers (age group, sex group, and occupational group)?
- ) Which are the most effective factors that consumers consider while making buying decision?
- ) What are the consumption patterns of consumers (age group, sex group, and occupational group)?
- ) Are the Nepalese consumers of Pepsi product satisfied with what they get in the market?
- ) Which are the important promotional activities carried out by the company?
- ) Which advertising media are most effective to remote consumer?
- ) Does the location, brand awareness, and shop awareness affect the purchase behaviour of consumers?

#### **1.4 Objectives of the study**

Keeping in view the statement of research of problems, the objectives of the study are set as follows;

- ) To ascertain and compare buying behaviour of age group, sex group, and occupation group consumers.
- ) To find our consumption patterns of these categories of consumers.
- ) To ascertain the degree of satisfaction that consumers get from Pepsi products.
- ) To evaluate the effective promotional activities that the company uses.
- ) To measure the effectiveness of advertising media, used by the company.
- ) To examine of what extent the location, brand awareness, and shop awareness of consumers influence their purchasing decision.
- ) To evaluate factors that influence consumer purchase decision.
- ) To provide suggestions on findings of the study.

## 1.5 Research Hypothesis.

This research has the following hypotheses:

H<sub>0</sub>: There is no significant difference between the views expressed by different groups of respondents relating to consumption pattern, price, quality, quantity, brand image, Advertising media, and promotional activities.

H<sub>A</sub>: There is significant difference between the views expressed by different groups of respondents relating to consumption pattern, price, quantity, quality, Brand image, Advertising media, and promotional activities.

## 1.6 Significance of the Study

Consumers are the king of the market so consumer's satisfaction is the main motto of any organization or producer. Consumer's behaviour plays a significant role in consumption patterns. Consumption is the optimum use of the product. For knowing the complexity of the consumer's behaviour, studies are conducted from time to time.

The Nepalese market has been gradually heading towards cut-throat competition. In this context, different types of product with a large number of alternative brands are available in the market. It is essential for the manufacturers and/or marketers of the products to know the buying behaviour of target customers to achieve its goods.

The focus of the study, therefore, is on buying behaviour of Pepsi products of different groups of customers having their own values, belief, and customs. The research therefore, will occupy the following importance.

- | This study will be a good assets for the library.
- | This research will help other researchers while reviewing their literature.
- | This study will also be useful for Varun Beverages (Nepal) Pvt. Ltd. As it will mention same suggestions.
- | The research will meet the partial requirement of completing master degree.

## 1.7 Limitations of the Study

This research has the following limitations.

- ) Since convenience sampling is used, it may not reach some areas of true representation of soft drinks users.
- ) The findings have been derived from only those data which were responded by the sampled consumers and the organization.
- ) The researcher limited the uses of statistical tests because of small sample size.
- ) Due to various reasons the primary data are mainly collected from Birgunj Sub-Metropolitan city.

## 1.8 Chapter Scheme

This thesis has been prepared under five specific chapters.

**The first chapter** includes background of the study, background of the company, statement of the problem, objectives of the study, research hypothesis, significance of the study, limitation of the study, and chapter scheme.

**The second chapter** contains review, and review of previous studies. Conceptual review includes introduction of consumer behaviour traditional models of consumer behaviour, and contemporary models of consumer behaviour, introduction of advertising of promotional activities.

**The third chapter** presents research design, nature and sources of data, sampling plan, data collection procedure, and analytical tools and procedure.

**The fourth chapter** is explanatory in nature and deals with consumption pattern of Pepsi consumers, degree of consumer satisfaction, effectiveness of promotional schemes of the company, effectiveness of the media advertising of the company, locations, stress, and brand awareness of the company, and factors influencing consumer purchase decision.

**The fifth chapter** provides summary, conclusions and major finding of the study, and recommendations.

In addition to these chapters, bibliography and references, and appendices have also been attached with at the end.

## **CHAPTER –TWO**

### **REVIEW OF LITERATURE**

The purpose of reviewing the literature is to develop some expertise in one's area to see what new contributions can be made and to receive some ideas for developing a research design.

Scientific research must be based on past knowledge. The previous studies cannot be ignored because they provide the foundation to the present study in other words, there has to be continuity in research studies.

Thus, the purpose of literature review is to find out what research studies have been conducted in one's chosen field of study, and what remains to be done. It provides the foundation for developing a comprehensive theoretical framework from which hypothesis can be developed for testing ( H.K.Wolff and P.R. Pant 1999, 30)

In this section the researcher has tried to review the findings of a few past researches in consumer buying decision making along with the textual review.

#### **2.1 Conceptual review**

In this part, concept of the topic and its related meaning are presented which help to know the research and its findings in this study, conceptual review includes introduction of consumer behaviour, and models of consumer behaviour.

##### **2.1.1 Introduction of consumer Behaviour.**

Consumer behaviour in simple terms means the behaviour shown by consumer before purchase, while purchasing and after purchase of the product. The term consumer behaviour refers to searching for purchasing using evaluating and disposing of products and service that they expect will satisfy.

Consumer behaviour is the study of the decision making units and processes involved in acquiring consuming and disposing of goods and services, experiences and ideas ( mayan, J.C 2<sup>nd</sup> p5 )

The term consumer behaviour refer to the behaviour of that consumers display in searching for purchasing using, evaluating and disposing of products and service that they expects will satisfy their needs ( seiffman, L.G1995, 5<sup>th</sup> P-7)

Study consumer behaviour is quite complex, especially because of many variables involved and their tendency to interact. Consumer behaviour is an exciting and dynamic field of study. A wonderful aspect of taking a course in consumer behaviour is those examples are everywhere. Because all of us are consumers, we can draw on our everyday experiences in the market place to understand consumer behaviour concepts and theories.

In order to study consumer behaviour, it is necessary to make up one's mind with different behaviour models so that it will be easier latter to find out the satiability of cold drink consumers behaviour. these models have been separately briefed out.

In order to study consumer's behaviour, it is necessary to make up one's mind with deferent behavioural models so that it will be easier to understand it. A model can be defined as a simplified representation of reality. it simplifies by incorporating only those aspects of reality that interest model builder. Other aspects that are not of interest only add to the complexity of the situation and can be ignored, thus an architect's model of a building's design. Similarly in modeling consumers we should feel free to exclude any aspects that are not relevant to their behaviour. Since we have defined consumer behaviour as involving in a decision process, models that focus on this process will be of considerable interest to us ( \* Engel, James and Black well, 1993 : P 599)

There are two types of consumer behaviour models : Traditional models and contemporary models.

### **2.1.2 Traditional Models of consumer Behaviour.**

The earliest comprehensive consumer models were actually devised by economists seeking to understand economic systems. Economics involves the study of how scarce

resources are allocated among unlimited wants and needs. ( Michael, 1965,P-4) its tow majour disciplines – Macroeconomics and Microeconomics – have each developed alternative views of consumers

- ) Economics
- ) Behavioural model

#### **2.1.2.1. Economics Models – They are also of two types**

- ) Micro Economic model.
- ) Macro economic model.

Micro economic model :

The classical microeconomic approach, developed early in the nineteenth century, focused on the pattern of goods and prices in the entire economy. it involved making a series of assumptions about the nature of the “ average” consumer and then developing a theory useful in explaining the workings of an economy made up of many such people. Focus was placed on the consumer’s act of purchase, which of course is only a portion of what we have defined as consumer behaviour. Thus micro economists concentrated on explaining what consumers would purchase and in what qualities these purchases would be made. the tastes and preferences leading to these purchase were assumed to be known already. There fore, micro economists chose to ignore why consumers develop various needs and preferences and how consumers rank these needs and preferences.

The resulting theory was based on a number of assumptions about consumers. Primary among these were the following :

- ) Consumer wants and needs are in total unlimited and therefore cannot be fully satisfied.
- ) Given a limited budget, consumers goals are to allocate available purchasing dollars in a way that maximizes satisfaction of their wants and needs.



- ) Consumers independently develop their own preferences, without the influence of other, and these preferences are consistent over time.
- ) Consumers have perfect knowledge of the utility of an item ; that is they know exactly how much satisfaction the product can give them.
- ) As additional units of a the units of a given product ro service are acquired the marginal ( additional ) satisfaction or utility provided by the next unit will be less than she marginal satisfaction or activity provided by previously purchased units. this is referred to as the law of diminishing marginal utility.
- ) Consumer use the price of a good as the sole measure of the sacrifice involved in obtaining it price plays no other role in the purchase decision.
- ) Consumer are perfectly rational in that given their subjective preferences ; they will always act in a deliberate manner to maximize their satisfaction.

Given these assumptions economists argued that perfectly rational consumers will always purchase the good that provides them with the highest ratio of additional benefit to cost ( Eagel, James, Reger, 1993; p 600-601)

### **Macroeconomic models**

Macroeconomic focus on aggregate flows in the economy –the monetary value of goods and resources, where they are directed and how they change over time ( Richard, 1966, p-8 ) from such a facous, the macroeconomist draws conclusions about the behaviour of consumers who influence these flows. Although the discipline has not generated a full unified model of consumers it does offer a number of insights into their behaviour.

One interest centers on how consumers divide their income between consumption and savings. This deals with two economic facts of life higher income families spend a smaller proportion of their disposable income than do lower –income families but as economic progress raises all income levels over time these proportion do not seem to change. That is lower –income groups do not significantly change the proportion of income devoted to spending as economic progress result in an increase in their

income. The relative –income hypothesis explains this apparent contradiction by arguing that people’s consumption standards are mainly influenced by their peers and social groups rather than their absolute income levels ( J.J. Duesenberry, 1949). Therefore, the proportion of a family’s income devoted to consumption is expected to change only when an income change places the family in different social setting. This will not happen when an income levels are rising at the same time.

Another macroeconomic proposition, the permanent –income hypothesis explains why specific individuals are slow to change their consumption patterns even when their incomes do suddenly change. It proposes that consumers do not use actual income in any period to determine the amount of their consumption expenditures, but instead are influenced by their accumulated wealth ( J. William : 1980, p-55-66 ) suddenly increases or decreases in income are viewed by the consumer as temporary and therefore are expected to have little influence on consumption activity.

### **2.1.2.2 Behavioural Economics models**

Behavioural influence on consumers were viewed as complication factors which could be assumed to cancel each other out. George Katona found this approach lacking and argued that an appreciation of how psychological variables influence consumers could lead to a deeper understanding of the behaviour of economic agents ( Katona : 1963). Katona’s viewpoint now known as behavioural economics was fostered by important changes which occurred in our economy, especially after World war II. Rising income levels had given a large number of consumer’s significant discretionary income spending power available after necessities had been purchased, In short, our economy had changed from one characterized as “ much for few “ to one described as more for many “ ( Katona 1980,-6) A very simplified representation of Katonah, viewpoint appears in figure.

2.1 As in traditional models, actual economic conditions are shown as influencing consumers. These economic condtions include the rates of interst inflation and

unemployment, the level of the GNP as well as more personal economic situations such as the household's current status regarding taxes, income and debt. However as the diagram shows with modulating arrows, rather than directly influencing the consumer these actual economic conditions are modified by psychological factors which include consumer's motivations knowledge, perceptions and attitudes.

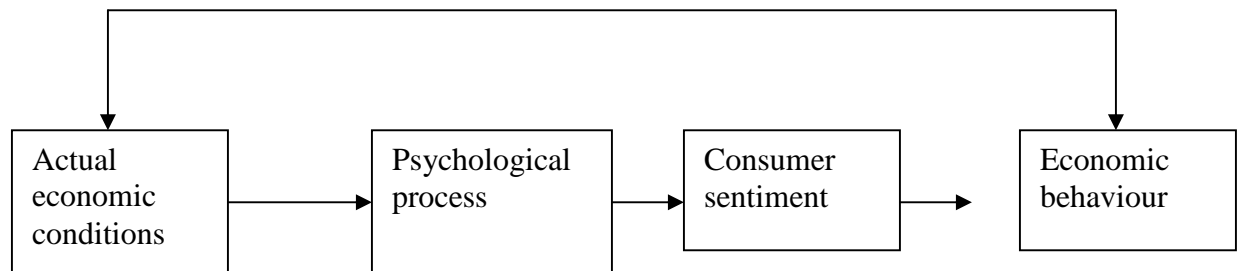


Figure 2.1 A simplified representation of Katons's behavioural economics perspective.

### 2.1.3 Contemporary models of consumer Behaviour

As the study of consumer behaviour evolve into a distinct discipline, newer approaches were offered to describe and explain what influenced consumers behaviour. These contemporary views are quite different from previous models because of their concentration on the decision process that consumers engage in when deliberation about products and services. Therefore contrary to the economic models, emphasis is placed on the mental activity that occurs before, during and after purchase are made.

A second distinguishing characteristic of contemporary models is the extensive borrowing from material developed in the behavioural science in fact. Most of the variables discussed in these models were originally identified in the field of psychology and sociology.

A large number of contemporary consumer models have been developed varying considerably in terms sophistication, precision, domain and scope. However due to space limitations only a few of the more widely quoted models will be reviewed here.

### 2.1.3.1 Nicosia model

Francesco Nicosia was one of the first consumer – behaviour modelers to shift focus from the act of purchase itself to the more complex decision process that consumers engage in about products and services ( Nicosia 1966 ) The model is presented in flow – chart format, resembling the steps in a computer program. Also all variables are viewed as interacting with none being inherently dependent or independent. Thus the model describes a circular flow of influences where each component provides input to the next.

The model is viewed as representing a situation where a firm is designing communications ( ads, product, etc ) to deliver to consumers and consumers responses will influence subsequent actions of the firm. Generally as shown in figure 1.2 the model contains four major components or fields :

- ) The firm's attributes and output or communications and the consumer's psychological attributes.
- ) The consumer's search for and for and evaluation of the firm's output and other available alternatives.
- ) The consumers motivated act of purchase.
- ) The consumers shortage or use of the product.

Nicosia assumes that the consumers seeks to fulfill specific goals and that initially there is no history between the consumer and the firm, so no positive or negative predispositions towards the firm exist in the consumer's mind.

Field one

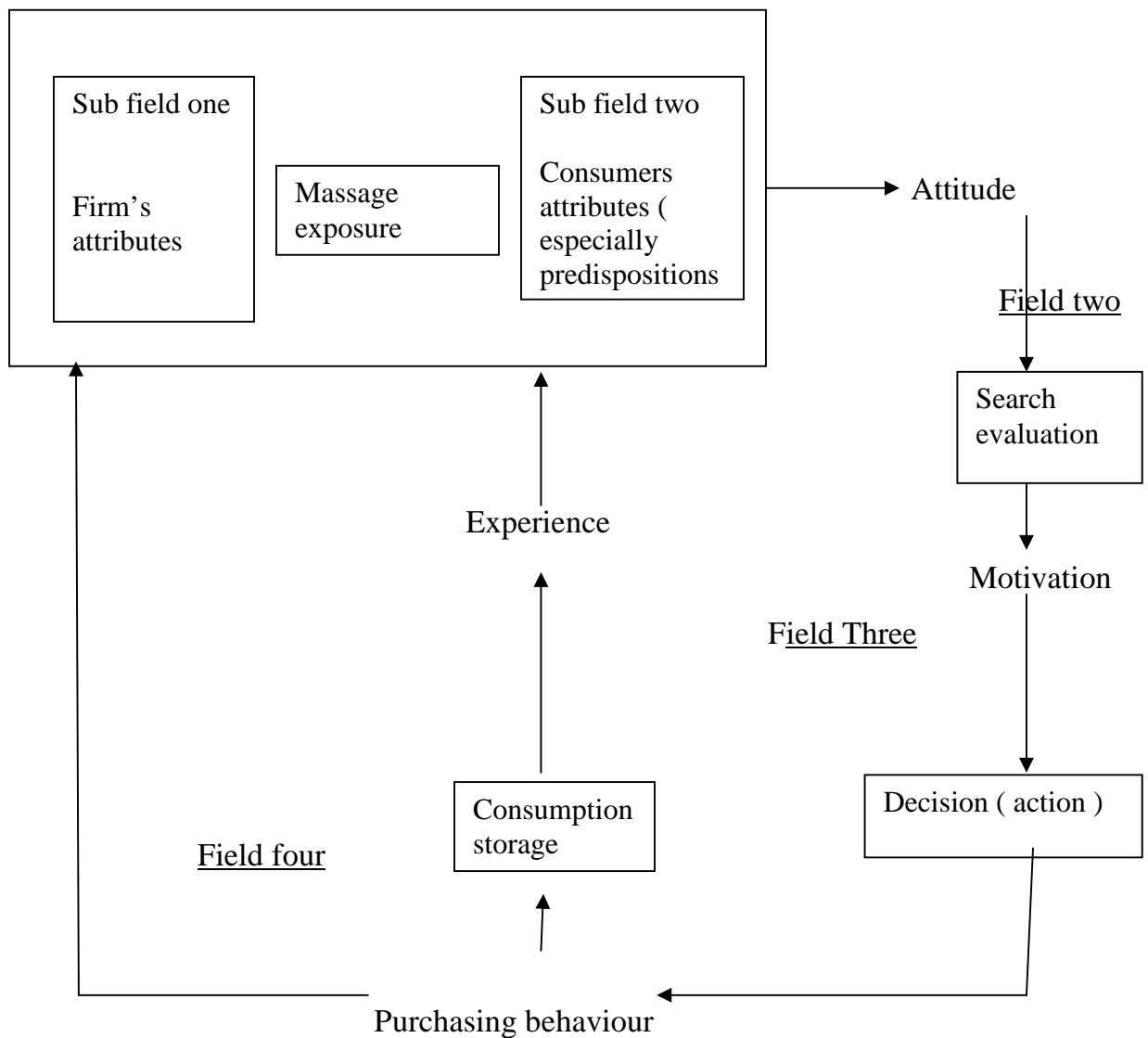


Figure – 2.2 A summary view of the Nicosia model of consumer behaviour.

As shown in the figure, the firm produces some communications that the consumers are exposed to attributes of the message and the consumer determines the nature of consumer's exposure to it and its influence on him. One consequence is that the message will influence the consumer's attitude towards the brand. This attitude is the input to field two.

The consumer will probably become motivated to gain information at that point, and search activity is likely to occur. Some search activity will involve searching internal memory for relevant information about the communication. external search may also occur where the consumer visit store, reds, etc. This is likely to lead to evaluation. if consumer processes relevant information and. begins to favor the firms's brand he will be motivation towards it. if nothing intervenes, this motivation is likely to lead to sopping activity and purchase of the brand. At this point a number of out comes can occur. One outcomes is that the firm receives feedback and another is that the consumers attitudes towards the brand may change because he gain experience with the product during its storage and use. The product experience is feedback to the consumer's predispositions.

### **2.1.3.2 Howard – sheth Model**

The Howard –sheth model is a very sophisticated comprehensive theory of consumer behaviour ( Howard and sheth the theory of Buyer Behaviour 1996 ) It should be noted that the authors actually use the term ‘ Buyer’ in the their model to industrial purchase as well as ultimate consumers. Thus it can be seen that their interest was to develop a unified theory useful for understanding a great variety of behaviour.

The model attempts to depict rational brand choice behaviour by buyers under conditions of incomplete information and limited abilities It distinguishes three levels of decision making.

#### **\* Extensive problem solving.**

Extensive problem solving is the early stages of decision making in which the buyer has little information about brand and has not yet developed well defined and structured criteria by which to choose among products ( choice Criteria )

#### **\* Limited problem solving**

In this more advantage stage choice criteria are well defined but the buyer is still undecided about which set of brand will best serve him. Thus the consumer still experiences uncertainty about which brand is “ best”

## **Routinized Response Behaviour**

In routinized response behaviour buyers have well defined choice criteria and also have strong predispositions towards one brand. Little confusion exists in the consumers mind and he is ready to purchase a particular brand with little evaluation of alternatives.

The models borrowed from learning theory concepts to explain brand choice behaviour over time as learning takes place and the buyer moves from expensive to reutilized problem solving behaviour. Four major components have been explained as under.

### **Input Variables**

Input variables are the stimuli in the environment significant stimuli are actual elements of brands that the buyer confronts, while symbolic stimuli are generated by producers representing their products in symbolic form, such as in advertisements. Social stimuli are generated by the social environment including family and group.

### **Output variables**

Output variables in the right hand portion of the model are the buyers observable responses to stimulus inputs. They are arranged in order from attention to actual purchase and are defined as follows.

**Attention** – The magnitude of the buyer's information intake.

**Comprehension** – The buyers store of information about a brand.

**Attitude** - The buyers evaluation of a particular brand's potential to satisfy his or her motives.

**Purchase behaviour** – **The actual** purchase act which reflects the buyers predisposition to buy as modified by any inhibitors.

### **Hypothetical constructs -**

Hypothetical constructs are categorized into two major groups.

- ) **Preceptual constructs which deals with information processing.**
- ) **Leaning constructs which deals the buyer's formulation of concept**

**The three perceptual constructs of the model are as follows :**

**Sensitivity to information** – The degree to which the buyers regulates the stimulus information flow.

**Perceptual bias** – distorting or altering information

**Search for information** – active seeking of information about brands or their characteristics.

The buyers six learning constructs are defined as:

**Motive** – general or specific goals impelling action.

**Brand potential of the evoked set** - the buyers perception of the ability of brands in his or her evoked set ( those that actively considered ) to satisfy his or her goals.

**Decision mediator** - The buyers mental rules for matching and ranking purchase alternatives according to his or her motives.

**Predisposition** – a preference toward brand in he evoked set expressed as an attitude towards them.

**Inhibitors** – environmental forces such as price and time pressure which restrain purchase of a preferred brand.

**Satisfaction** - the degree to which consequences of a purchase measure up to the buyer's expectation for it.

#### **Exogenous variables**

At the top of the black box the model lists a number of external variables that can significantly influence buyer decisions. These variables are not as well defined as other aspects of the model because they are external to buyer.

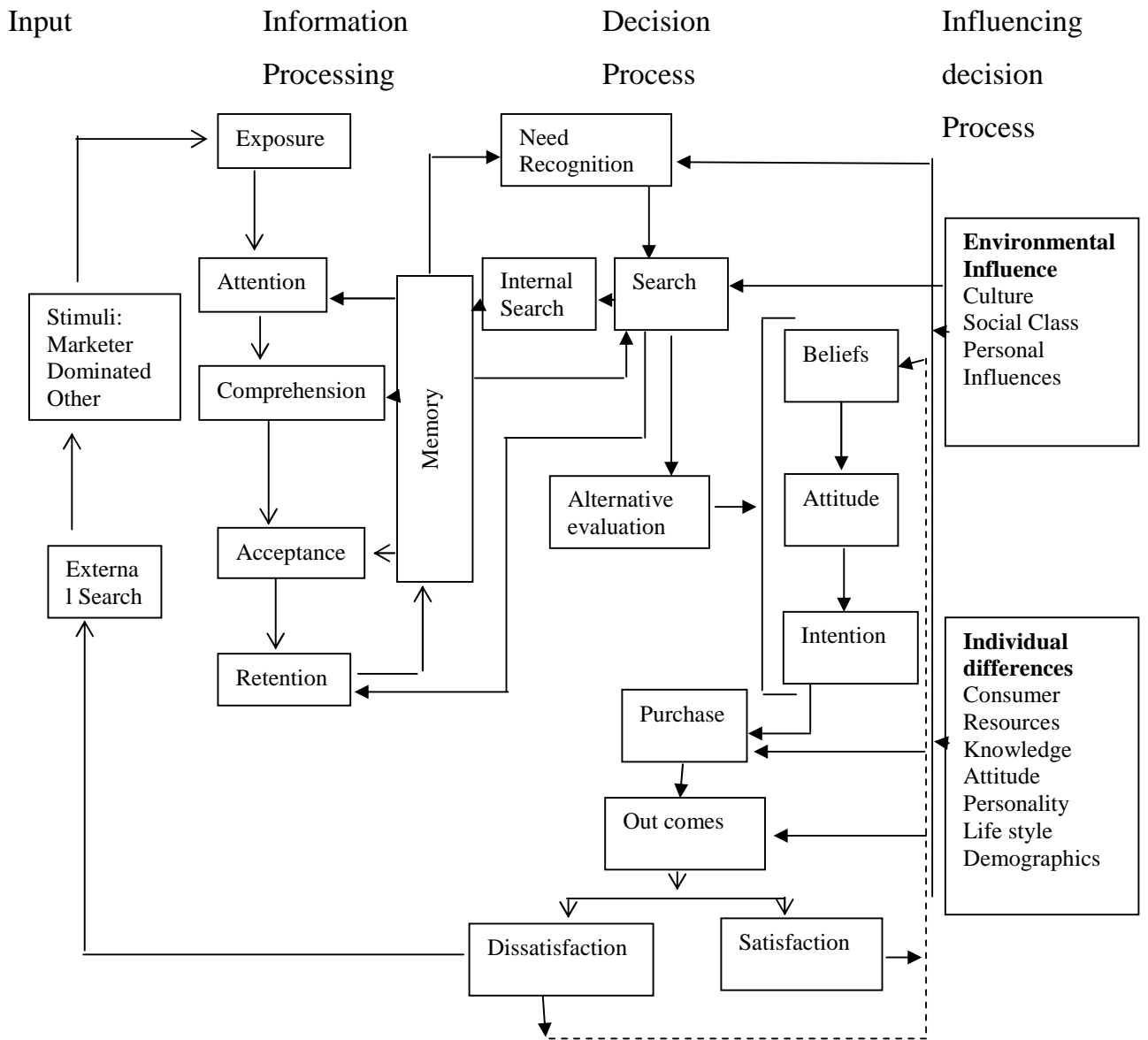


Although there are various aspects of the model that are beyond the scope of this report a brief review of its operation is appropriate. The process starts when the buyer confronts an input stimulus and it achieves attention the stimulus is subjected to perceptual bias as a result of the influence of the buyer's predispositions as affected by his or her motives decision mediators and evoked set. The modified information will also influence these variables which in turn will influence his or her predispositions to purchase

The actual purchase is influenced by the buyer's intentions and inhibitors which are confronted. A purchase leads the buyer to evaluate his or her satisfaction with it and satisfaction increases the buyer's predisposition toward the brand ; As less external search for information and exhibits more routine purchase behaviour.

### **2.1.3.3 Engle – Blackwell – Miniard Model**

The Engle – Blackwell – Miniard model was originally developed in 1968 by Engle, Kollat and Blackwell and has gone through numerous revisions ( Engle, Kollat, Blackwell : consumer behaviour : 1990 ) Most recently the model has been developed by Miniard in conjunction with Engle and Blackwell ( Engle, Blackwell and Miniard, consumer behaviour 1990)



**Figure-2.3 The engel Blackwell Minard Model of consumer behaviour.**

Similar to the Howard –sheth engel blackwell and miniard model recognize to significantly different modes of operation by consumer One is describe as extended problem solving behaviour ( EPS ) which is characterize by high levels of involvement and or high levels of perceived risk. Under EPS the products evaluation process will be rigorous and if necessary the consumer will shop at many outlets. In addition satisfaction with the brand is crucial for continued commitment to use the brand. In limited problem

solving behaviour ( LPS ) the consumer is operation under low levels of involvement and / or low levels of perceived risk. Consequently he has low motivation to search for brand information and is only willing to engage in a no rigorous evaluation of alternatives. He is not motivated to shop at many outlets and satisfaction with the purchase will encourage repurchase because of inertia not real loyalty with the product.

First the consumer searches internal memory to determine what is known about the alternatives and how auto choose among them. External search for information will be activated if the consumer does not feel comfortable with his existing knowledge. The likelihood of external search is also affected by characteristics of the individual ( low risk takers will tend to seek more information etc ) and environmental influences such as the urgency of need.

Any informational inputs are subject to information processing activities which the consumer uses to derive meaning from stimuli. The first step in processing involves exposure to such stimuli. Exposure can happen on an involuntary basis-such as when one sees a billboard next to a highway or through the active search for information. After exposure, stimuli must capture the consumers conscious attention to significantly influence extensive problem solving. The attention stage is highly selective since it tends to ignore most stimuli and admits only those that the individual believes are important. The comprehension stage then involves deriving meaning from information that has been attended to and holding this meaning in what is termed short term memory where it can be retained briefly to allow further processing. The final two steps of information processing are related to the third stage of the decision process – alternatives evaluation. The alternative evaluation ; stage involves comparing information about alternative brands gained through the search process to evaluation criteria which are product judging standard that have been stored in permanent memory. The first information –processing step associated with this evaluation task is termed acceptance. Acceptance occurs when information is compared to evaluation criteria and as a result, existing beliefs held in

permanent memory are either reinforced or changed. whether the information tends to reinforce or to change existing beliefs is a function of how consistent it is with the beliefs and the degree to which the consumer generates supportive or negative thoughts about the information being received. In either case, acceptance results in the retention of information in permanent memory while a lack of acceptance results in the loss of such information.

Generally the most common path is the information acquired is used to evaluate alternatives and this leads to changes in beliefs about the brands this in turn, leads to change in attitudes and intentions to purchase

Brand judged against evaluation criteria are likely to have some features either positive or negative. In EPS these result tend to compensate for one another so that the consumer develops an overall weighted judgment of each brand.

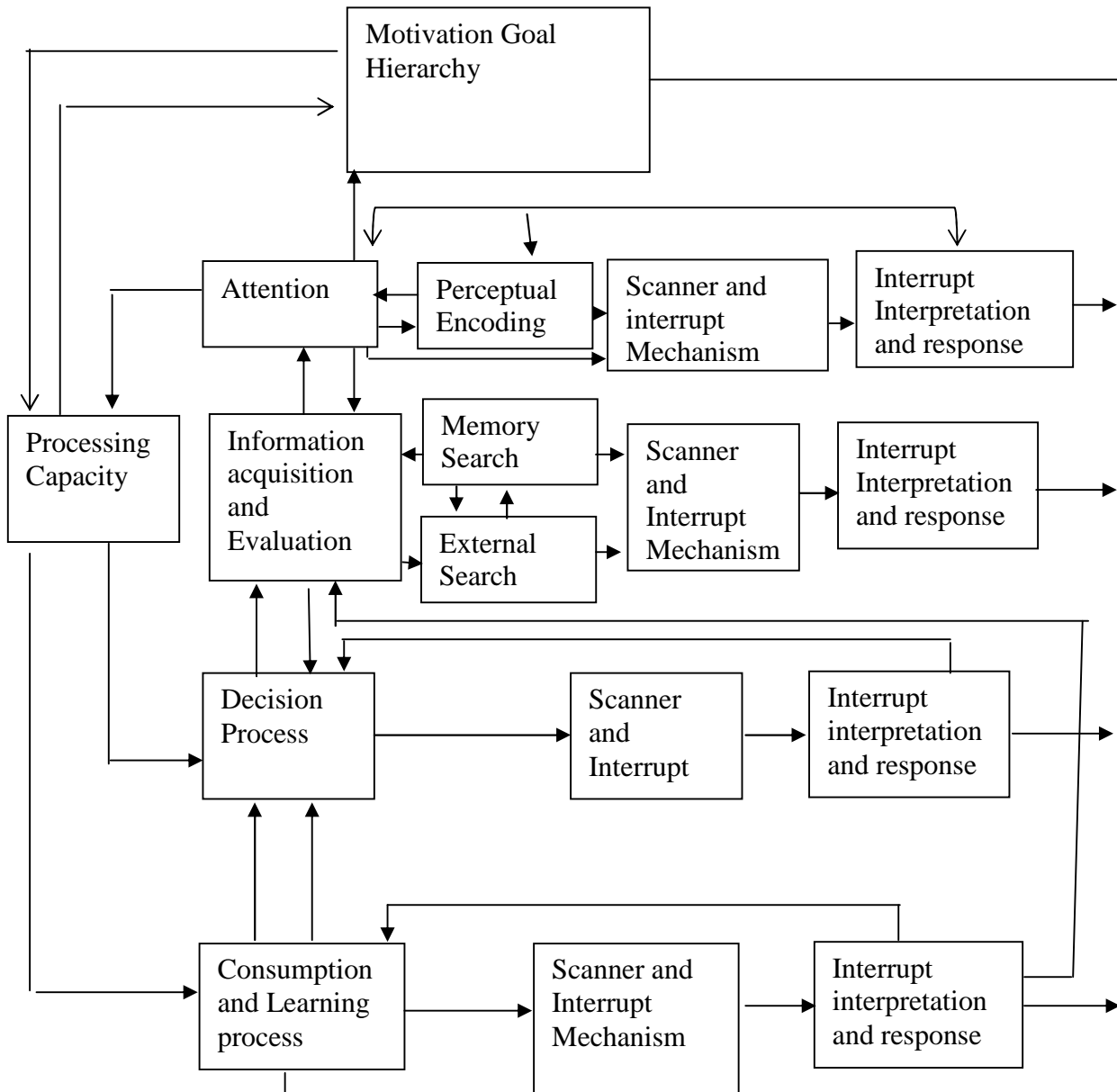
The alternative evaluation process leads to an intention to make a purchase of the most favorably evaluated brand. Unless situations ( lack of money uncertainty about future income etc) intervene to postpone or stop the process, intentions will lead to actual purchase behaviour. At this point the consumer begins to use the product and evaluation continues by comparing performance to expectations. One outcome is satisfaction but if the alternative does not meet expectations dissatisfaction is the result. These results may lead to further search for information about the brand and change in beliefs. Thus the process is seen as a continuous one that does not stop with a purchase.

In limited problem – solving situations the consumer is not highly involved and a number of the stages are shortened or pursued by the consumer with less just run out of the product. External search is also likely to be minimal and often information is acquired by just seeing ads and “running into” the sources of product information. Alternatives are often evaluated by determining whether they meet some minimal level of acceptability and purchase is made with minimal deliberation. IF the brand meets expectation repurchase is likely but brand loyalty is not likely due to the lack of involvement.

**Bettman's Information Processing Model of Consumer Choice** (Bettman, 1990: p. 659-663)

The Bettman's model has seven basic components

- i) Processing capacity.
- ii) Motivation
- iii) Attention and perceptual
- iv) Information acquisition and evaluation.
- v) Memory
- vi) Decision Processes
- vii) consumption and learning processes
- viii) Scanner and interrupt mechanisms



**Figure 2.4 Bettman's Information Processing Model of Consumer Choice.**

## **Sheth – Family Decision Making**

The sheth –family decision making model considered the family as the appropriate consumer decision making unit and it suggests that joint decision making tends to prevail in families that are middle class, newly married and close – knit with few prescribed family roles. In terms of product specific factors it suggests that joint decision making is more prevalent in situation of high perceived risk or uncertainty when the purchase decision is considered to be important and when there is an ample time to make a decision ( Schiffman and Kanuk 1993:p571-583).

## **Sheth – Newman – cross model**

The sheth – Newman –cross model of consumption value was recently developed to explain why consumers make the choice they do

The model concentrates on accessing consumption- relevant value that explain why consumer choose to buy or not to buy ( to use or not to use ) a specific product why consumer choose one product type over another and to durable consumer durable industrial goods and services ( Sheth, Neman and cross ). The sheet-Newman – cross model is rooted in three central propositions.

- i) Consumer choice is a function of a small number of consumption values
- ii) Specific consumption values make defferential contribution in any given choice situation.
- iii) Different consumption values are independent.

This model of consumer choice behaviour identifies the five consumption values namely.

- a) Functional value
- b) Social value
- c) Emotional value
- d) Epidemic value
- e) Conditional value

Of the entire consumer behaviour model presented here, only the Howard Sheth model have been subject to more than a minimum of systematic testing. The Engel, Kollat, Blackwell model has received only modest small scale testing and the Nicosia and Bettman model have not been tested at all ( Schiffman and Kanuk, 1992:p664 ) Sheth family decision model deals family decision –making and Sheth, Neman- cross model is concerned with consumption values especially why consumers choose to buy a specific product or a specific brand.

Although the number and complexity of operations carried out by a consumer varies with the type of purchase involved the consumer buying in general has been regarded as a problem solving i.e extensive problem solving limited problem solving and routinized response behaviour the consumer decision process involves myriad of decisions made with respect to the choice of the product brand vendor buying quantity delivery time mode of payment etc.

A normative consumer decision process model as postulated by Howard and Sheth ( 1969) Nicosia ( 1969) Engel Kollat and Blackwell ( 1968) and Andreessen ( 1966) involves five step of problem recognitions information search alternative evaluation choice and outcomes. As argued by Bettman ( 1978) these steps however need not be sequential. According to him it is too simplistic a view to say that decisions are made after all necessary information regarded has been gathered because choice and information acquisition occur simultaneously. Moreover the stages decision processes are also affected by decision inputs ( Marketing mix offered by the firms ) and socio – cultural background of the decision maker ( Schiffman and Kanuk 1990). The chief assumption of such flow chart model of consumer decision making is that alternatives exist for a buyer and he/ she is rational enough to judge the consequences of each action on him/ her by evaluating them on the basis of information available either in their memory or from external sources of information A brief description of different components of consumer decision process follows which might be able provide an

understanding of the entire complete scale of consumer decision and the specific aspects there of reviewed in this chapter..

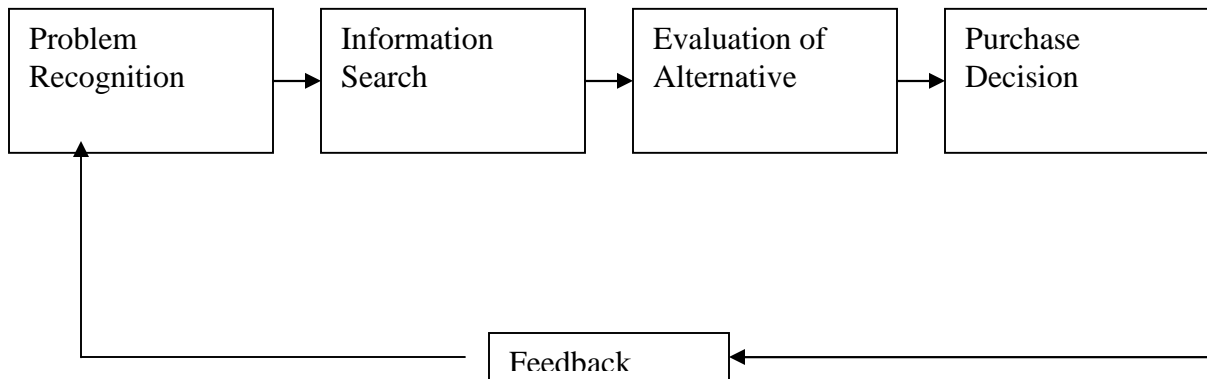


Figure 2.6 Simplified summary of Consumer decision process.

### **Problem Recognition**

The existence of a problem ( ungratified needs ) trigger off a series of activities that end up with a choice made by the buyers consumer's needs for a product or product class many be aroused either by internal stimuli such as hunger thirst or sex or by internal stimuli resulting from consumers interaction with the external environment for example raining may cause a consumer considered the purchase of a raincoat or umbrella.

### **Information Search**

Unlike in reutilized response behaviour in which problem in which problem recognition automatically leads to choice behaviour due to previous learning in the purchase of low involvement items like groceries in a unique purchase situation devoid of previous learning and experiences problem recognition leads to search for information either from internal source ( memory or from external sources such as friend relatives colleagues reference groups advertisements dealers product testing organization.

Information search enables consumers to develop a set of buying alternative form among which they can make a choice. The emergence this situation pushes them ahead to the next step of decision process.



## **Evaluation of Alternative**

Having come up with a set of buying alternatives consumers tend to evaluate each of them on their attributes and their relative worth to them to arrive at the final choice. consumers many use various compensatory and non compensatory models while evaluating alternatives on different dimensions. No matter how they are evaluated consumers at this stage are able to come up with the decisions as to the brand they would buy.

## **Purchase Decision and Outcomes.**

Consumers evaluate their preferences across alternative brand and they are likely to choose the brand which is most preferred. At this stage consumers execute their purchase intention.

Satisfaction or dissatisfaction with the newly bought product may be the outcome of the execution of purchase intention. While positive experiences tend to routinized decision process the negative experience may stimulate buyers to consider new alternatives and undertake increased amount of search in similar buying situation in future.

To the best of our knowledge, no attempt has been made so far to empirically test the validity of flow chart process of consumer decision making as theorized by Howard and Sheth and other. Some of its components have been empirically examined. In particular, search and choice behaviour are the aspects.

### **2.1.4 Introduction of Advertising**

Advertising is directed toward a group of people who are also called prospects of influence in the buying decision this view may be clear by the view of Kenneth A Longman. He has said “ when a persuasive communication is directed toward large group of individuals it is called advertising.

Advertising media is the vehicle thorough which advertiser’s message goes to target audiences, it is the vital connection between the company th company that manufacturing a product and consumer who buy it. Advertising media is a type of communication. Producer want to give a lot of information about his products but he

cannot do so by is personal efforts by personal contact or by mail “ The advertising media is the career of the advertising message.

i) Newspapers
ii) Magazine -Customers Magazine - Business Publications -Professional Journals
iii) Radio
iv) T.V
v) Direct Mail
vi. Out door
vii. Other - Dealers Display - Package labels, insert - Theaters Screen - Novelties.

The medium or communication channels can be impersonal or interpersonal “ ( Leon G. Schiffman, Kanuk, Lazor 2002). Mass media consists. budget. It is possible to achieve a given sales level with varying promotional mixes ( Philip Kotler, 1980 P622)

It is the variable that communicates to the consumer about other variable of marketing mix for their need of satisfaction. It consists of advertising, publicity, personal selling and sales promotion. In this study promotion schemes are under the crown ( UTC) x Percent quantity extra or free X item free with purchase of pet bottle rupees X discount on popular music concert and submission of special wrapper is launched by the organization. ( Not : X denotes certain. )

## 2.2. Review of Previous Students in Nepal

Some researcher have conduct research on consumer behaviour in Nepal. The researcher have tried to highlight only on a single aspect of cold drinks consumer behaviour or their market.

A dissertation entitled “ **The marketing of cold Drinks in Narayanghat**” has addressed on the following major objectives ( Ratna Prasad 1998 )

- ) To examine the potential consumers in purchasing cold drinks.
- ) To identify the purchase behaviour who purchase cold drinks.
- ) To estimate demand of cold drinks in Narayanghat.
- ) To identify the best choice of consumers on cold drink on the basis of selecting brands and advertising, habitual testing, asking question and personal inspection
- ) To find the relationship between brand preference and advertising.
- ) To find out the popular media of advertising for the cold drinks which can easily attract the potential consumers on each company’s branded cold drink.
- ) To estimate sale of cold drinks in Narayanghat.

The Major findings of the study are :

- ) Pepsi- cola is increasing gradually while coca-cola is highly increased among the cold drinks due to different advertising strategies.
- ) Advertisement expenditure of coca-cola is much higher than that of Pepsi-cola in each fiscal year.
- ) Most of the consumers have been found consuming cold drinks of coca- cola brand in the market.
- ) NTV is the most popular media in Narayanghat city, while Radio Nepal hold the second position and wall painting the third.
- ) Consumers give more preference to the brand but less preference to the quality and taste.
- ) Advertisement of Coca-cola in NTV and on Radio is much more attractive than that to Pepsi-cola.
- ) Cinema halls advertising techniques also have greater influence of coca-cola’s consumers.

Another dissertation entitled “ **advertising Through Television : Impact on consumer Behaviour**” has presented on the following major objective ( Ram Bahadur 2000)

- ) To identify the present situation of TV, advertising of NTV
- ) To know what kind of advertising they prefer.
- ) To know how the different group of people perceive the advertisement from television and their reaction about advertising.

The Major finding of the study are :

- ) Mostly children young age and old age people prefer musical advertisement where as others prefer good wording advertisements.
- ) Considering the education factor of the people mostly below S.L.C and uneducated People prefer musical advertisements where as other people prefers good wording advertisements.
- ) Considering the sex femal consumer prefers musical advertisement rather people prefers good wording and vice – versa.
- ) Most People gave first preference to advertisement from TV followed by newspaper radio, magazine and cinema respectively.
- ) Many people watch the NTV advertisements.
- ) Most the people buy the products when they need and watch the advertisement.
- ) Repetition of advertisement attracted people’s attention.
- ) Few TV advertisement are good few are boring.
- ) People prefer to choose advertised peoducts if the price and quality of both products are same.
- ) Advertisement helps to recall the brand or product name while buying.

One another dissertation entitled “**A study on Buyer’s behaviour of India Gorkhas and local people**” : has addressed on the following major abjectives ( Jugat Timilsina 1998 )

- ) To find out the brand preference and purchase frequency of the clothing approval.
- ) TO fine out shop awareness purchase frequency of the clothing approval.
- ) To find out the criteria used by the India – Gorkha and local people for choosing a particular brand product and shop and their importance.
- ) To compare the buying behaviour of the India – Gorkha and the local people

**The major finding of he study are :**

- ) Majority of respondents used India and Chinese brand clothing apparels. The main reasons form selecting these brand were price quality and easily availability of Nepalese clothing apparels in wide range of variables high risk for Nepalese brand. Foreign brand is considered as quality brands.
- ) Clothing apparels were bought on either the half – yearly or the yearly basis.
- ) So far as the shop awareness was concerned majority of Indian Gorkhas and local people have how level of awareness regarding name and brand.
- ) Concerning to the purchase location, local market seems to be the favorite place for purchasing.
- ) So far as the criteria used to choose a product is concerned price quality durability seemed to be the most prominent decisive criteria for a brand choice.
- ) Availability of wider varieties of clothing apparels attracts large number of customer in the shop.
- ) Majority of Indian Gorkhas and local people were involved in bargaining and have a favorite attitude towards bargaining.
- ) The behaviour of shopkeeper was an important determinant for favorable response from customers.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

Research is the systematic and scientific effort in order to identify the truth. It is a fact – finding action. Thus research is searching and answer to question. It is a systematic and organized effort to investigate a specific problem that needs a solution. ( Sekaran 1992 )

Methodology is the set of research method used to collect information analyze and interpret the data and test the hypothesis. Therefore methodology can be designed as a systematic procedure of solving the problem. It may be understood as a science of study how research is done scientifically.

In this study the research methodology includes Research design, Nature and sources on data, sampling plan Data collection procedure and Data procedures which are explained and presented below.

#### **3.1 Research Design.**

Research design is scheme for doing research work. It is the plan structure and strategy of investigation conceived so as to obtain answers to research questions and to control variance.

It is always purposeful scheme of action purposed to be carried out in a sequence during the process of research, focusing on the management problem to be tackled ( Michael 2000)

Research design is the plan structure and strategy of investigation conceived so as to obtain answers to research question and ot control variance ( Karlinger 1986; 275 )

Basically, the research design has two purposes. The first purpose is to answer the research question or test the research hypothesis. The second purpose of a research design

is to control variance. Several typologies have been suggested for classifying a wide variety of research designs used in social science research. Mc Grath ( 1962 ) Suggested five models of different types of research design controlled experiment study survey investigation and action research. Seltzer and other ( 1963 ) suggest three broad categories of research design exploratory research and descriptive research desing. In this study research design are to be categories according to Boyd, West and stasch.

There are mainly two type of research design – exploratory and descriptive. Exploratory design is essential for formulating hypothesis. It is doe to investigate possible cause and effect relationship by exposing one or more control group to one or more treatment conditions and comparing the results to one or more control groups but not receiving the treatment. Descriptive research design is a type of fact – finding research. It is conducted under respondents options.

The descriptive research designs will be followed in the study. Such designs provide a description of a specific situation in such a ways as to help the researcher identify cause and effect relationship.

This study is basically based on survey research. To examine the consumption behaviour of student businessman and service holder on Pepsi products is the main objective of the study. Therefore a survey research design was applied to fulfill this objective.

### **3.2 Nature and Sources of Data**

Data are mainly two types one is primary and another is secondary. Primary data are the first hand data generated by original research to solve the specific and current research question the major advantage of primary data is that information is specific relevant and up-to-data. There are two principle methods of collecting primary data; observation and questionnaire

Secondary data are information that are already collected for other purposes and is readily available the major advantage of this type is its easy availability. the major advantage of this type is its availability and lower cost than primary data.

For this study both primary and secondary data and information are used. But the research is mainly based on primary data or original data collected direct through questionnaire.

### **3.3 Sampling plan**

Sampling is the practice of selecting group of consumers considered to be representative of the entire population because it is neither feasible nor practical for research to contact to all the members of a population.

Sampling plan consists the target population, sampling unit and sample method.

#### **3.3.1 Target population**

The target population of this study consists of three distinct groups of consumers ; the student the businessman and the service holder who are consumers of Pepsi products of Birgunj sub-metropolitan Parsa district.

#### **3.3.2 Sample Unit**

The target population is very large ; there fore the whole population 100 samples were taken. it is expected to provide a useful basis for understanding consumers behaviour of Pepsi product. Sampling units for this study were occupational group of consumers business, students and service who located Birgunj the sample profiles are presented below categorizing them into sex and education groups.



**Table 3.1**  
**Sex Group of Consumers**

<b>Occupation Sex</b>	<b>Business</b>		<b>Student</b>		<b>Service</b>		<b>Total</b>	
	<b>No</b>	<b>%</b>	<b>No</b>	<b>%</b>	<b>No</b>	<b>%</b>	<b>No</b>	<b>%</b>
<b>Male</b>	<b>15</b>	<b>60</b>	<b>20</b>	<b>40</b>	<b>15</b>	<b>60</b>	<b>50</b>	<b>50</b>
<b>Female</b>	<b>10</b>	<b>40</b>	<b>30</b>	<b>60</b>	<b>10</b>	<b>40</b>	<b>50</b>	<b>50</b>
<b>Total</b>	<b>25</b>	<b>100</b>	<b>50</b>	<b>100</b>	<b>25</b>	<b>100</b>	<b>100</b>	<b>100</b>

**Table 3.2**  
**Age Group of Consumer**

<b>Occupation Age</b>	<b>Business</b>		<b>Student</b>		<b>Service</b>		<b>Total</b>	
	<b>No</b>	<b>%</b>	<b>No</b>	<b>%</b>	<b>No</b>	<b>%</b>	<b>No</b>	<b>%</b>
<b>16-20</b>	<b>1</b>	<b>4</b>	<b>22</b>	<b>44</b>	<b>4</b>	<b>16</b>	<b>27</b>	<b>27</b>
<b>21-30</b>	<b>14</b>	<b>56</b>	<b>26</b>	<b>52</b>	<b>14</b>	<b>56</b>	<b>54</b>	<b>54</b>
<b>31-40</b>	<b>5</b>	<b>20</b>	<b>2</b>	<b>4</b>	<b>5</b>	<b>20</b>	<b>12</b>	<b>12</b>
<b>41 to above</b>	<b>5</b>	<b>20</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>8</b>	<b>7</b>	<b>7</b>
<b>Total</b>	<b>25</b>	<b>100</b>	<b>50</b>	<b>100</b>	<b>25</b>	<b>100</b>	<b>100</b>	<b>100</b>

**Table 3.3**  
**Education group of consumers**

<b>Occupation Education</b>	<b>Business</b>		<b>Student</b>		<b>Service</b>		<b>Total</b>	
	<b>No</b>	<b>%</b>	<b>No</b>	<b>%</b>	<b>No</b>	<b>%</b>	<b>No</b>	<b>%</b>
<b>Under S.L.C</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>20</b>	<b>3</b>	<b>12</b>	<b>13</b>	<b>13</b>
<b>S.L.C/ Int.</b>	<b>10</b>	<b>40</b>	<b>20</b>	<b>40</b>	<b>5</b>	<b>20</b>	<b>35</b>	<b>35</b>
<b>Graduate</b>	<b>10</b>	<b>40</b>	<b>20</b>	<b>40</b>	<b>7</b>	<b>28</b>	<b>37</b>	<b>37</b>
<b>Above graduate</b>	<b>5</b>	<b>20</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>40</b>	<b>15</b>	<b>15</b>
<b>Total</b>	<b>25</b>	<b>100</b>	<b>50</b>	<b>100</b>	<b>25</b>	<b>100</b>	<b>100</b>	<b>100</b>

### 3.3.3 Sampling Method and procedure.

Sampling method are classified into two board categories ; probability sampling and non- probability sampling.

Probability samples consists of simple random sampling stratified random sampling cluster sampling and systematic sampling. Non –probability sample consists of convenience sampling quata sampling and judgmental sampling.

The respondents are identified and served a set of structured questionnaire. The respondents are chosen on personal contact basis. The respondents are randomly selected from different academic background ( under S.L.C to above graduate ), different sex group ( male and female ) and different occupational group ( businessman, student and service holder )

### **3.4 Data Collection procedure**

The data have been collected through a self-administered questionnaire survey at respondents' place at mutually convenient time. The respondents were supported by oral explanation at that point where they got confused or unable to understand content of the questionnaire. Sample of the questionnaire is given in annex A. Besides, the researcher had personally observed the buying activities of the consumer's of Pepsi products.

### **3.5 Analytical Tools and procedure.**

The primary data and information collected from survey method are grouped into homogeneous nature. After that required tables have been prepared in an understandable form. In course of tabulation the collected data have been presented by giving them different ranks. Similarly the secondary data have been rearranged in tabular form according to need.

Statistical tools such as percentage and chi-square test are used. they are as follows.

- a) Percentage ( %) – percentage is mostly used measurement tools. It helps to analyze comparatively
- b) Chi – square test (  $\chi^2$  )

The chi square test is used basically to test the significant difference between the actual ( observed ) frequency and the expected frequency based on the null hypothesis. In other words it is used to test whether more than two population are classified onto several categories with respect to two attributes. It can be used a chi-square test to determine if the two attributes are independent of each other. If we have a set of observed frequencies and we want to test whether a particular distribution supports a hypothesis  $\chi^2$ . Test is used to test the goodness of fit.

## Steps in computing chi- square ( $\chi^2$ ) test ( S C Gupta 1990)

**Step 1** complete the expected frequencies  $E_1, E_2, \dots, E_n$  corresponding to the observed frequencies  $O_1, O_2, \dots, O_n$  under some theory or hypothesis.

**Step 2** complete the deviation  $(O-E)$  for each frequency and then square them to obtain  $(O-E)^2$

**Step 3** Divide the square of the deviation  $(O-E)^2$  by the corresponding expected frequency to obtain  $(O-E)^2/E$

**Step 4** Add the values obtained in step 3 to complete  $\chi^2 = \sum (O-E)^2/E$

**Step 5** Under the null hypothesis that the theory fits the data well the above statistic follows  $\chi^2$  distribution =  $(n-1)$  d.f

**Step 6** Look up the tabulated values of  $\chi^2$  for  $(n-1)$  d.f.

Significance, usually 5 % from the table. ( significance value of  $\chi^2$  at different d.f. are given in the table )

Critical region of  $\chi^2$  test statistic is obtained from the  $\chi^2$  table which is given for combination of the level of significance ( $\alpha$ ) and the corresponding degrees of freedom (d.f). case of testing the independence among the attributes in contingency table the d.f =  $(r-1)(c-1)$ , where  $r$  is the no. of rows and  $c$  is the number of columns. If the calculated value of  $\chi^2$  obtained is less than the corresponding tabulated value it is said to be non significant at the required level of significance. It means data do not provide any evidence against the null hypothesis which may therefore be accepted at the required level of significance and we may conclude that there is good fit between theory and practice.

## **CHAPTER FOUR**

### **DATA PRESENTION AND ANALYSIS**

Since this chapter is analytical and interpretive in nature it consists of various activities that the researcher has undertaken. First, collected data were sorted out in accordance with their homogeneity. Then they were presented in suitable tables with appropriate heading to provide clear picture of what was intended to show. While preparing these tables it was tried to the best to remove complexities. In course of analysis both the mathematical and statistical tools which were previously explained in the third chapter were used. The researcher interpreted the table data taking into account three angles in the first angle simply the exact figurative explanation was made in the second angle what these data meant for was drawn to But in the last angle various cause why certain occurrences took place were explored.

This chapter particularly, consists of the analysis of the analysis and interpretation of the following.

- Consumption pattern of Pepsi consumers
- Degree of consumer's satisfaction
- Effectiveness of promotional schemes of the company
- Effectiveness of advertising media of the company.
- Location, store and brand awareness of consumers
- Facture influencing consumer's porches decision.

#### **4.1 Consumption pattern of Pepsi consumers.**

The opinion survey undertaken by the researcher, relation to their consumption patter and consumption time, reveals that the respondents have varying consumption behaviour. The data have been presented in table 4.1 and chat 4.1 makes it more obvious.

**Table 4.1**  
**Consumption pattern of Pepsi consumers ( In a week )**

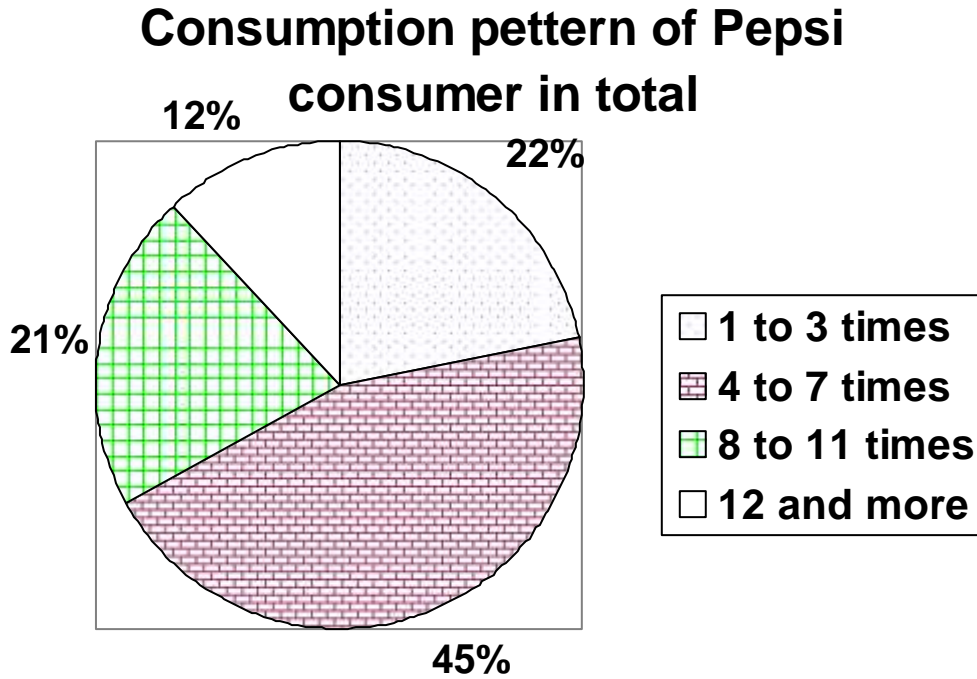
<b>Respondent No. of Time</b>	<b>Business Group</b>		<b>Student Group</b>		<b>Service Group</b>		<b>Total</b>	
	<b>No.</b>	<b>%</b>	<b>No.</b>	<b>%</b>	<b>No.</b>	<b>%</b>	<b>No.</b>	<b>%</b>
<b>1 to 3 times</b>	<b>5</b>	<b>20</b>	<b>12</b>	<b>24</b>	<b>5</b>	<b>20</b>	<b>22</b>	<b>22</b>
<b>4to 7 times</b>	<b>10</b>	<b>40</b>	<b>25</b>	<b>50</b>	<b>10</b>	<b>40</b>	<b>45</b>	<b>45</b>
<b>8to 11 times</b>	<b>8</b>	<b>32</b>	<b>8</b>	<b>16</b>	<b>5</b>	<b>20</b>	<b>21</b>	<b>21</b>
<b>12to above times</b>	<b>2</b>	<b>8</b>	<b>5</b>	<b>10</b>	<b>5</b>	<b>20</b>	<b>12</b>	<b>12</b>
<b>Total</b>	<b>25</b>	<b>100</b>	<b>50</b>	<b>100</b>	<b>25</b>	<b>100</b>	<b>100</b>	<b>100</b>

The above table shows that among business group, twenty two percent respondents opined that they used Pepsi products 1 to 3 times forty five percent expressed their opinion that they used to drink 4 to 7 times twenty one Present respondents expressed their opinion that they consumed these products 8 to 11 times and only twelve percent of them were found drinking them 12 and above times with in a week.

These representing students have also more or less the same behaviour twenty four student group of Pepsi consumers drink 1to 3 time fifty percent respondent 4 to 7 times, sixteen percent respondent 8 to 11 times and only ten percent of them were likely to drink these products 12 and above time in a week.

Those who are under service group expressed different opinions. Twenty percent of them used Pepsi products 1 to 3 times forty percent consumers 4 to 7 times twenty percent of them and 12 and above times respectively with in a week.

Chart 4.1



Out of total consumers forty five percent were found drinking Pepsi products 4 to 7 twenty two percent consumers 1 to 3 times, where as twelve percent consumers drank either 12 times or more with in a week.

From above explanation, it is clear that most of consumers consume Pepsi products 4 to 7 times in a week. However more or less the consumers consume these products 1 to 3 times and 8 to 11 times respectively.

When the hypothesis was tested taking into account  $\chi^2$  test the calculated value came 5.8684 ( Appendix –B) The table value for 6 degree of freedom ( d.f) at 5% level of significance is 12.59 ( Appendix – A ) which is greater than the calculated value. so the null hypothesis is accepted. it means there is independent response of the occupational group

About time related consumption behaviour the researcher again got various responses, which are shown in Table 4.2

**Table 4.2**

Time – Related Usage Behaviour Of Pepsi Consumers

Respondents	Business Group		Student Group		Service Group		Total	
	No.	%	No.	%	No.	%	No.	%
Noon	17	68	32	64	19	76	68	68
Evening	4	16	14	25	4	16	12	12
Night	3	12	2	4	2	8	7	7
Morning	1	4	2	4	-	-	3	3
Total	25	100	50	100	25	100	100	100

Table 4.2 shows that out of total consumers, 68 % business group respondents 84% students group consumers and 76% service group consumers preferred Pepsi products to use at noon. But in aggregate, 78% of total respondents used to drink these products at time. In this way, it can be said that consumers were likely drink Pepsi at noon.

The above table also shows that 16% business group respondent 28% student group respondents and 16% service group consumers were likely to use Pepsi products in the evening. Among total respondents only 12% consumers preferred to drink these products at that time. Evening is the secondly preferred time to take Pepsi products by the consumers.

So far as the consumption pattern is concerned 12% of the total business group respondents 4% of total student group consumers 8% of service group respondent and 7% of aggregate consumers prefer to consume Pepsi products at night time. From this

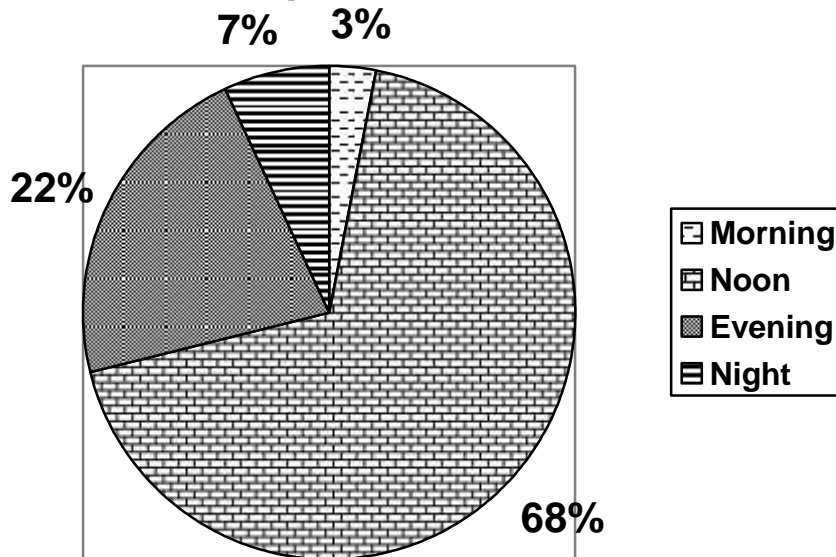


explanation it is clear that according to the respondents nighttime was the third most preferred time to take Pepsi products.

While studying consumer behaviour of different group of Pepsi users on the basis of morning time, only 4% business group and student group respondents were in favour of using at that time. In totality, only 3% of total consumers were likely to drink Pepsi products at morning. As above analysis morning time is lastly preferred to drink Pepsi products by the consumers.

**Chart 4.2**

**Time – Related Usage Behaviour  
Of Pepsi Consumers**



In order to test hypothesis  $\chi^2$  was used. The calculate value of  $\chi^2$  at 5% level of significance appeared 14.4687 and the table value of  $\chi^2$  test for 6 d.f at 5% level of significance appeared is 12.59 (  $H_0$  ) is rejected or alternative hypothesis (  $H_A$  ) is accepted. In another words the views expressed by respondents group were significantly different.

**4.2 Degree of Consumer satisfaction**

In this study the researcher categorized the degree of consumer satisfaction into five parts ; highly satisfied, satisfied normally satisfied dissatisfied and highly dissatisfied.

Here the researcher tried to measure the degree of consumer's satisfaction with available Pepsi products. Table 4.3 represents the response obtained.

**Table 4.3**

**Degree of consumers satisfaction with Available Pepsi Product**

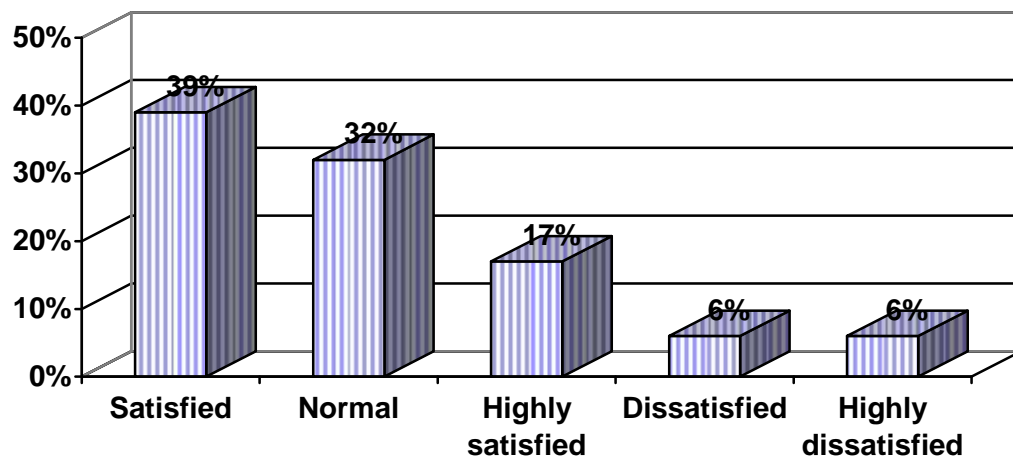
Respondents	Business Group		Student Group		Service Group		Total	
	No.	%	No.	%	No.	%	No.	%
Satisfied	8	32	19	38	12	48	39	39
Normal	9	36	16	32	7	28	32	32
Highly satisfied	4	16	10	20	3	12	17	17
Dissatisfied	2	8	2	4	2	8	6	6
Highly dissatisfied	2	8	3	6	1	4	6	6
Total	25	100	50	100	25	100	100	100

Among the business group 32% respondents opined that they were satisfied 36% expressed that they were normally satisfied 16% said that they were highly satisfied with the available Pepsi products in the market. Both the consumers who were dissatisfied and highly dissatisfied with the available Pepsi products in the market represented 8% each. From above analysis we can say that most of the business group consumers were normally satisfied and satisfied with available Pepsi products.

Twenty percent of student group opined that there is not necessary for improving the products or they are highly satisfied with available Pepsi products. similarly, thirty eight percent respondents were satisfied with them. Only four percent respondents opined that they were dissatisfied with them and six percent of them were found highly dissatisfied with the available Pepsi products. In this way available Pepsi products in the market.

Service group consumers have been found responds the same behaviour as was found with respect to student group consumers. Out of total service group consumers 12% respondents opined that they were normally satisfied with the company's products. However 8% of respondents were dissatisfied with the Pepsi products and only 4% total were highly dissatisfied with these products.

The above information is also shown on the simple bar diagram as follows.



*Figure 4.3 Degree of consumer satisfaction*

Form above explanation, it is clear that most of the consumers were satisfied with available Pepsi products but only 12% respondents were dissatisfied with them.

For testing dependency between respondents professions chi-square test ( $\chi^2$ ) was used. Calculate value of  $\chi^2$  test was 2.743( Appendix –B) which is less than the table i.e.  $\chi^2$  8d.f.0.05=15.51 ( Appendix A) so the null hypothesis is accepted or the view expressed by the respondents professions is independently related.

### **4.3 Effectiveness of Promotional Schemes of The Company.**

The researcher also tried to find out the effectiveness of the promotional schemes which are used by the company. Five major promotional schemes are preferred by the company for boosting up sales. The response have been presented in table 4.4

**Table 4.4**

**Weight Response Of the Respondents About the Promotional Schemes**

Respondents	Business Group	Student Group	Service Group	Total
Promotional Schemes	Wei No (Rank)	Wei No (Rank)	Wei No (Rank)	Wei No (Rank)
Under the crown UTC	46 (1)	113 (1)	48 (1)	207 (1)
X % quantity Extra	75 (3)	118 (2)	57 (2)	250 (2)
X Item free	61 (2)	142 (3)	73 (3)	276 (3)
Rs X discount on popular music consult	85 (4)	163 (4)	89 (4)	337 (4)
Submission of special wrapper	108 (5)	214 (5)	108 (5)	430 (5)
Total	375	750	375	1500

The above table shows that all of the occupational groups placed the first rank to under the crown scheme (UTC). X % quantity extra scheme appears in the second rank for student and service respondents a against X item extra scheme in the third rank. But business group respondents placed X% quantity extra scheme in the third position.

Again, all of the respondents groups assigned fourth rank to Rs X discount on popular music consult scheme. similarly submission of special wrapper scheme is the last priority ( Fifthly ranked ) by the entire consumers group.

From the above explanation we know that to under the crown scheme is in the first priority and x% quantity extra x item free Rs X discount on popular music consult and submission of special wrapper scheme.

In other orders of preference the calculated value of  $\chi^2$  test arrived 7.042 ( Appendix B) where as the table value at 0.05 for  $\chi^2$  test is lesser than tabulated value. So the null hypothesis is accepted or the respondents opinions are independently related.

#### 4.4 Effectiveness of the Media Advertising of the company

The company mostly uses four advertising media. the responses relating to their effectiveness are presented in appendix C but Table 4.5 represents total no of weighted responses.

Table 4.5

##### Weighted Responses of the Respondents about the Advertising Media

<b>Respondents</b>	<b>Business Group</b>	<b>Student Group</b>	<b>Service Group</b>	<b>Total</b>
<b>Advertising Media</b>	<b>Wei No (Rank)</b>	<b>Wei No (Rank)</b>	<b>Wei No (Rank)</b>	<b>Wei No (Rank)</b>
<b>TV</b>	<b>5</b> <b>(2)</b>	<b>73</b> <b>(1)</b>	<b>51</b> <b>(2)</b>	<b>177</b> <b>(1)</b>
<b>FM / Radio</b>	<b>49</b> <b>(1)</b>	<b>115</b> <b>(2)</b>	<b>51</b> <b>(1)</b>	<b>214</b> <b>(2)</b>
<b>Press</b>	<b>61</b> <b>(3)</b>	<b>142</b> <b>(3)</b>	<b>71</b> <b>(3)</b>	<b>274</b> <b>(3)</b>
<b>Hoarding Board</b>	<b>87</b> <b>(4)</b>	<b>170</b> <b>(4)</b>	<b>78</b> <b>(4)</b>	<b>335</b> <b>(4)</b>
<b>Total</b>	<b>250</b>	<b>500</b>	<b>250</b>	<b>100</b>

**Business group and service group respondents preferred t F.M / Radio medium the most but student group T.V media the most. In total T.V medium stood in the first rank of preference.**

Television medium stood in the first rank of preference

Television medium appeared in the second rank or business and service group respondents as against FM / Radio media for student group respondents in total FM media stood in the second rank of preference.

All the respondents of Pepsi products put the third rank to press media and fourth to hoarding Board.

In aggregate T.V advertising medium has taken the first priority and the most effective advertising medium; majority of the respondents placed the press medium in the third rank, where as hoarding board in the fourth.

The calculated value of  $\chi^2$  test came 8.3 ( Appendix B) where as the table value at 0.5 for 6 d.f is 12.592 since the table value of  $\chi^2$  test is grater than.

The calculated value the null hypothesis is accepted in another word the views expressed by the respondent groups have significance difference.

#### **4.5 Locations, Store, and Brand Awareness of Consumers**

In Course of finding out locating, store, and brand awareness of consumers, the researcher converted the obtained responses into weighed form for the analysis purpose. But the original responses have been presented in appendix C.

**Table 4.6**

**Weighted Responses of Pepsi Consumers about the Location.**

<b>Respondents</b>	<b>Business Group</b>	<b>Student Group</b>	<b>Service Group</b>	<b>Total</b>
<b>Advertising Media</b>	<b>Wei No. (Rank)</b>	<b>Wei No. (Rank)</b>	<b>Wei No. (Rank)</b>	<b>Wei No. (Rank)</b>
Retail shop	67(2)	110(1)	73(2)	250(2)
Restaurant and Bar	57(1)	125(2)	61(1)	243(1)
Home	98(5)	157(3)	88(5)	343(4)
Street Side	84(4)	176(4)	77(4)	337(4)
Anywhere	69(3)	182(5)	76(3)	327(3)
<b>Total</b>	<b>375</b>	<b>750</b>	<b>375</b>	<b>1500</b>

Table 4.6 depicts that business group and service group consumers along with total consumers of Pepsi products, have reflected the same behaviour. They preferred to rank the Retail shop, Restaurant & Bar, Home, Street side and elsewhere the 2<sup>nd</sup>, the 1<sup>st</sup>, the 5<sup>th</sup>, the 4<sup>th</sup> and the 3<sup>rd</sup> for choosing places for buying. But the student group respondents were likely to take Pepsi products at Retail shop and others at home, at street side and at elsewhere in that order.

For testing the hypothesis, calculated value of  $\chi^2$  test came 12.703 (Appendix B) where as table at 0.05 for 8 d.f. is 15.5 (Appendix A). So, the views expressed by the respondents were independently related.

Consumers buying store have been categorized into only three types grocery, departmental store, and home delivery jobbers. The responses where from the buy or which types they prefer are presented in Table 4.7.

**Table 4.7**

**Consumers Usually Buying Store**

<b>Respondents Stores</b>	Business Group	Student Group	Service Group	Total
	No. (%)	No. (%)	No. (%)	No. (%)
Grocery	16(64)	42(72)	18(72)	76(76)
Departmental Store	7(28)	7(14)	6(24)	20(20)
Home delivery	2(8)	1(2)	1(4)	4(4)
Total	25(100)	50(100)	25(100)	100(100)

Out of total business group consumers of Pepsi products, 64% consumers used to buy from grocery store, 28% respondents from departmental store, and 8% of them used to purchase these products from home delivery jobbers.

Among the student group consumers of Pepsi products, 84% used to purchase from grocery store, 14% from departmental store, and only 2% from home delivery jobbers.

Out of the aggregate service group consumers, seventy two percent consumers used to buy from grocery store, six percent from departmental store, and four percent from home delivery jobbers respectively.

In aggregate, most of the consumers (76%) preferred to buy the Pepsi products from grocery store, and only twenty percent respondent from departmental store and only four percent from home delivery jobbers.

For testing the hypothesis the calculated value of  $\chi^2$  test arrived 3.922 (Appendix –B) where as the table value of  $\chi^2$ , 0.05,4 d.f. is 9.49 (Appendix-A), so relating to their responses, there is no relationship between occupational groups responses.



The researchers also tried to measure the brand awareness level of Pepsi product consumers. Their responses have been included in appendix –C, but the total weighted responses have been presented in Table 4.8

**Table 4.8**

**Brand Awareness and Rank Order of Responses**

<b>Respondents</b>	<b>Business Group</b>		<b>Student Group</b>		<b>Service Group</b>		<b>Total</b>	
	<b>Wei</b>	<b>No.</b>	<b>Wei</b>	<b>No. (Rank)</b>	<b>Wei</b>	<b>No.</b>	<b>Wei</b>	<b>No.</b>
<b>Brand</b>	<b>(Rank)</b>				<b>(Rank)</b>		<b>(Rank)</b>	
Pepsi Cola	53	(1)	95	(1)	51	(1)	199	(1)
Mirinda	79	(3)	134	(2)	70	(3)	283	(3)
7'Up	100	(5)	195	(4)	91	(4)	386	(4)
Mountain Dew	69	(2)	147	(3)	67	(2)	283	(2)
Soda	129	(6)	266	(6)	137	(6)	532	(6)
Slice	95	(4)	213	(5)	109	(5)	417	(95)
<b>Total</b>	<b>525</b>		<b>1050</b>		<b>525</b>		<b>2100</b>	

The above table shows that the entire respondents assigned the first priority to Pepsi-cola for purchasing and using. Mountain Dew stood in the second rank as all the respondents under business group and service group, along with the total sampled respondents expressed their priority for this rank.

Similarly, the business group and the service group respondents placed Mirinda in the third rank. So was ranked by the total respondents. But the student group of respondents assigned Mountain Dew the third rank.

7'Up is fourthly preferred item by student group, service group, and total respondents of Pepsi product consumers. But business group consumers placed Slice in the fourth rank.

Slice appears in the fifth rank for the students and service respondents as against 7<sup>th</sup> Up for business group business. In total, Slice stood in the fifth rank of preference.

All the respondents of Pepsi products ranked sixth position to Soda. When hypothesis was tested taking into account  $\chi^2$  test, the calculated value arrived 3.9614(Appendix-B) where as the table value at 0.005 for 10 degree of freedom (d.f) is 18.3 (Appendix –A), which is greater than the calculated value. So the null hypothesis accepted. It means the responses are independently interested.

#### 4.6 Factors Influencing Consumers Purchase decisions

When an opinions survey was made relating to factors affecting consumers which quality remained the prime factor. The obtained responses have been shown in table 4.9.

**Table 4.9**

#### Factor influencing the scheme of Pepsi Products

<b>Respondents</b>	<b>Business Group</b>	<b>Student Group</b>	<b>Service Group</b>	<b>Total</b>
<b>Factors</b>	No. (%)	No. (%)	No. (%)	No. (%)
Low price	3(12)	3(6)	2(8)	8(8)
Good quality	9(36)	31(62)	13(52)	53(53)
Convenient Quality	4(16)	7(14)	4(16)	15(15)
Convenient Availability	4(16)	6(12)	2(8)	12(12)
Enjoy scheme	5(20)	3(6)	4(16)	12(12)
<b>Total</b>	<b>25(100)</b>	<b>50(100)</b>	<b>25(100)</b>	<b>100(100)</b>

Among the business group respondents, 12% consumers of Pepsi products preferred price, 36% of them preferred good quality, 16% respondents emphasized on convenient quality and convenient availability respectively, But 20% respondents under this group preferred it due to enjoying schemes associated with the item.

Out of total sampled students, 6% gave importance to price factor, 62% to quality, 14% to convenient quality, 12% to convenient availability, and the rest enjoying schemes associated with the item in selecting the Pepsi products.

Out of the total respondents in service group, 52% were influenced by quality, 16% by convenient quality and by enjoying schemes associated with the item, where as only 8% of the respondents preferred to convenient availability and the rest 8% the price.

In Aggregate, most of the respondents preferred the Pepsi item due to good quality, and convenient availability.

For testing dependency between respondents professions chi-square test ( $\chi^2$ ) was used. Calculated value of  $\chi^2$  test is 6.7807(appendix-B), which is greater than table, i.e.  $\chi^2_{8d.f.0.05}=15.51$ (appendix-A). So the null hypothesis is accepted. In other words, there is no significance difference the views expressed by the respondents groups.

## **CHAPTER FIVE**

### **SUMMARY, CONSLUSIONS AND RECOMMENDATIONS**

This is the last chapter of this study. In this section, the researcher tried to present the aggregate view expressed by specially the consumers of the Pepsi products and on that basis, the findings and recommendation have been concluded. Especially this chapter includes summary, conclusions and recommendation.

#### **5.1 Summary**

Consumer is the king of modern business, the success and failure of any business firm entirely depends on consumer's reaction to its offers. It is, therefore, essential for the marketers or manufactures of the products and services to understand the consumer buying behaviour for term survival on today's changing and competitive business environment. However, understanding of consumer behaviour is becoming more complex and complicated day by day; it requires continuous efforts of investigation and exploration of consumers. But such practices of investigation and exploration on consumers buying behaviour are too rare or entirely absent in Nepalese business perspectives.

Varun Beverages (Nepal) Pvt. Ltd. has been producing Pepsi products under technical celebration with Pepsi Co, New York. The company is producing seven brands within different flavors and packs. Pepsi Co. has its competition with cola in terms of Coca Cola Vs Pepsi Cola, Mirinda Vs Fanta, 7'Up Vs Sprite, Soda Vs Teem and Slice Vs Juice. But there is no competitor brand or Mountain Dew, so it keeps the monopoly market in soft drinks.

Nepal is a small and poor country and so Nepalese consumers seem bias and they use any products depending upon availability. Most of the marketing policies, strategies, and work forces are heavily borrowed from India. However, Nepalese market is small, the researcher tried to enhance or support to understand the consumer's behaviour in Nepal.

This study or research is very small. So, the researcher has set limited objectives, In this study the researcher has tried to find out the consumption pattern of consumers, degree of consumers satisfaction, effectiveness of promotional schemes, effectiveness of advertising media, locations, store and brand awareness of consumers, and factors influencing consumers purchase decision.

Review of literature conceptual review and review of previous studies. In conceptual review includes introduction and models of consumer behaviour, introduction of promotional activities, and introduction of advertising.

In this study, the research methodology includes research design, nature and sources of data, sampling plan, data collection procedure, and data analysis procedure. In data analysis only two tools (i.e. percentage, and chi-square test) and pie-chart are used.

## **5.2 Conclusions and Major Findings of the study**

Consumers have their own interesting using various types of goods through most of them have almost the same type of nature for consuming. From the investigation, the researcher has concluded various findings, which are presented below.

- ) Most of the consumers consume Pepsi products is four to seven times within a week.
- ) Seventy eight percent respondents consume Pepsi products at noon time
- ) Most of the consumers are satisfied with available Pepsi products. And only twelve percent consumers are dissatisfied.
- ) Under the Crown (UTC) schemes were highly preferred and then X% quantity extra, X item free, Rs. X Discount on popular music concert and submission of special wrapper schemes are respectively preferred.
- ) Respondents firstly prefer to T.V. media, and then F.M./Radio media, Press media, and Hoarding board are respectively preferred second, third and fourth.
- ) Respondents prefer to drink Pepsi products first at Restaurant & Bar and then Retail Shop, Anywhere, Street side and at Home respectively.
- ) Seventy six percent or more than seventy percent consumers are usually buying Pepsi products from Grocery Store.

- ) Majority of the respondents have placed Pepsi –Cola the first priority and other Pepsi products like Mountain Dew, Mirinda, 7’Up, Slice and Soda in that order.
- ) Most of the consumers (50%) were influenced by the quality. So the quality is the most effective factors to increase interest of consumers.

### **5.3 Recommendations**

On the basis of analysis and findings the study has forwarded some recommendations, which are presented below.

- ) Pepsi products are not available in urban area; therefore, the company should employ its effort to enlarge its branches in remaining urban areas. It should also focus on distributing to the remote areas.
- ) Most of the people preferred to further improvement in quality of the available brands, so this expectation should rightly be considered.
- ) Advertising of the company is dependent on Indian origin but in Nepal, it should be focus on Nepali origin. In advertising, visuals and slogans should also be oriented towards Nepalese origin.
- ) Promotional schemes are not efficient; they are only focusing to dealers. Therefore, the company should improve their promotional policy. Which can direct attract to the ultimate consumers.

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## APPENDICES

### APPENDIX A

#### Questionnaire

**Dear Respondent,**

The researcher, Surendra pd. Kushwaha, MBS. Student of “Tribhuvan University”, is conducting a research on “A Study on Pepsi Products Consumer Behaviour in Birgunj”.

This Questionnaire is presented for your valuable information about the Pepsi products consumption patterns and your expectation. Without your kind co-operation it will be difficult to complete the research.

The researcher assures that the data and information provided by you will be kept most confidential.

Please fill up these questions.

1. Age:-            16-20 [ ]                      21-30 [ ]                      31-40 [ ]
2. Sex:-                      Male [ ]                      Female [ ]
3. Occupation:- Business man [ ]                      Student [ ]                      Service [ ]
4. Education:- Below SLC [ ]                      Slc/10+2 [ ]  
                    Graduate [ ]                      Above Graduate [ ]
5. Have you taken Pepsi Products?                      Yes [ ]                      No [ ]                      If yes, please  
                    tick or write number on the box, i.e. [ ], [1 ]
6. Which products item do you like most? (Please rank them from higher to lower i.e.  
1,2,3,-----,6).                      Pepsi cola [ ]  
                    Mirinda [ ]                      7'Up                      Mountain Dew [ ]  
                    Soda [ ]                      Slice [ ]

7. How often do you use cold drinks within a week?(Please tick any one)

1 to 3 times [ ]

4 to 7 times [ ]

8 to 11 times [ ]

12 to above times [ ]

8. Why do you select Pepsi products?(Please tick any one)

low price [ ]

Good Quality/Test [ ]

Convenient quantity [ ]

Convenient availability [ ]

9. When do you have cold drink?(please tick any one)

At morning [ ]

At noon [ ]

At evening [ ]

At night [ ]

10. Which advertising media have dominance on such effect? Please rank them from higher to lower i.e. 1,2,3,-----,5)

T.V. [ ]

F.M./Radio [ ]

Press [ ]

Hoarding Board/Wall paper [ ]

11. Which promotional schemes affect most in your bung decision? Please rank them from higher to lower i.e. 1,2,3,----5.

Under the Crown [ ]

X% quantity extra [ ]

X items free with purchase of pet bottle [ ]

Rs. X discount on popular music concert [ ] Submission of special wrapper [ ]

12. Where do you most likely to drink cold drinks? Please rank them from higher to lower i.e. 1,2,3,----5.

shop [ ]

In restaurant and bar [ ]

In any retail  
At home [ ] on the

street side [ ]

Anywhere [ ]

13. From where do you usually buy? Please tick any one.

Grocery Store(Kirana) [ ]

From Departmental Store [ ]

Through home Delivery jobbers [ ]

Do you want to suggest the manufactures and enhance both the organizational and product image? If yes what are they?

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Thanks for your kind co-operation.

**APPENDIX –B**  
**CHI-SQUARE( $x^2$ )TEST**

The table value and calculated value of chi-square( $x^2$ ) test is as follows:

Table no.	Degree of freedom (d.f)	Tabulated values at 5% level of Significance	Calculated value
4-1	6	12.59	5.8684
4-2	6	12.59	14.4687
4-3	8	15.51	2.743
4-4	8	15.51	7.042
4-5	6	12.59	8.3
4-6	8	15.51	12.703
4-7	4	9.49	3.922
4-8	10	18.31	13.3614
4-9	8	15.51	6.787

## APPENDIX-C

### Calculation of chi-square(x<sup>2</sup>) values.

Calculation of Expected Frequency (E)<sub>n</sub>  $\times \frac{\text{RowTotal} \mid \text{ColumnTotal}}{\text{GrandTotal}}$

**Table No. 4.1 (Consumption Pattern of Pepsi consumers)**

$E(5) \times \frac{22 \mid 25}{100} \times \frac{550}{100} \times 5.5$	$E(8) \times \frac{12 \mid 50}{100} \times \frac{1050}{100} \times 10.5$
$E(10) \times \frac{45 \mid 25}{100} \times \frac{1125}{100} \times 11.25$	$E(5) \times \frac{12 \mid 25}{100} \times \frac{600}{100} \times 6$
$E(8) \times \frac{21 \mid 25}{100} \times \frac{525}{100} \times 5.25$	$E(5) \times \frac{22 \mid 25}{100} \times \frac{550}{100} \times 5.5$
$E(2) \times \frac{12 \mid 25}{100} \times \frac{300}{100} \times 3$	$E(10) \times \frac{45 \mid 25}{100} \times \frac{1125}{100} \times 11.25$
$E(12) \times \frac{22 \mid 50}{100} \times \frac{1100}{100} \times 11$	$E(5) \times \frac{21 \mid 25}{100} \times \frac{525}{100} \times 5.25$
$E(25) \times \frac{45 \mid 50}{100} \times \frac{2250}{100} \times 22.50$	$E(5) \times \frac{12 \mid 25}{100} \times \frac{300}{100} \times 3$

### **Calculation of Chi-Square(x<sup>2</sup>) Value**

Observed Frequency(O)	Expected frequency(E)	(O-E)	(O-E) <sup>2</sup>	(O-E) <sup>2</sup> /E
5	5.5	-0.5	0.25	0.0455
10	11.25	-1.25	1.5625	1.3889
8	5.25	2.75	7.5625	1.4405
2	3	-1	1	0.3333
12	11	1	1	0.0909
25	22.50	2.5	6.25	0.2778
8	10.5	-2.5	6.25	0.5952
5	6	1	1	0.1667
5	5.5	-0.5	0.25	0.0455
10	11.25	-1.25	1.5625	0.1389
5	5.75	-0.25	1.5625	0.1389
5	3	2	4	1.3333
				$E \times \frac{(O-E)^2}{E} \times 5.8684$

**Table No. 4.2 (Time Related Usage Behaviours of Pepsi consumers)**

$$E(1) \times \frac{3 | 25}{100} \times \frac{75}{100} \times 0.75$$

$$E(17) \times \frac{78 | 25}{100} \times \frac{1950}{100} \times 19.5$$

$$E(4) \times \frac{12 | 25}{100} \times \frac{300}{100} \times 3$$

$$E(3) \times \frac{7 | 25}{100} \times \frac{175}{100} \times 1.75$$

$$E(2) \times \frac{3 | 25}{100} \times \frac{75}{100} \times 0.75$$

$$E(42) \times \frac{78 | 50}{100} \times \frac{3900}{100} \times 39$$

$$E(14) \times \frac{12 | 50}{100} \times \frac{600}{100} \times 6$$

$$E(2) \times \frac{7 | 50}{100} \times \frac{350}{100} \times 3.5$$

$$E(0) \times \frac{3 | 25}{100} \times \frac{75}{100} \times 0.75$$

$$E(19) \times \frac{78 | 25}{100} \times \frac{1950}{100} \times 19.5$$

$$E(4) \times \frac{12 | 25}{100} \times \frac{300}{100} \times 3$$

$$E(2) \times \frac{7 | 25}{100} \times \frac{175}{100} \times 1.75$$

**Calculation of Chi-Square(x<sup>2</sup>) Value**

Observed Frequency(O)	Excepted frequency(E)	(O-E)	(O-E) <sup>2</sup>	(O-E) <sup>2</sup> /E
1	0.75	0.25	0.0625	0.0833
17	19.50	-2.5	6.25	0.3205
4	3	1	1	0.3333
3	1.75	1.25	1.5625	0.5606
2	0.75	0.5	0.25	0.1667
42	39	3	9	0.2308
14	6	8	65	10.6667
2	3.5	1.5	2.25	0.6429
0	0.75	-0.75	0.5625	0.75
19	19.5	-0.5	0.25	0.0129
4	3	1	1	0.3333
2	1.75	0.25	0.0625	0.0357
				$E \times \frac{(O - E)^2}{E} \times 14.4689$

Degree of Freedom(d.f)=(r-1)(c-1) = (4-1)(3-1) = 6

**Table No. 4.3 (Degree of consumer Satisfaction with available Pepsi Products)**

$$\begin{array}{lll}
 E(4) \times \frac{17 | 25}{100} \times 4.25 & E(8) \times \frac{39 | 25}{100} \times 9.75 & E(9) \times \frac{32 | 25}{100} \times 8 \\
 E(2) \times \frac{6 | 25}{100} \times 1.5 & E(1) \times \frac{6 | 25}{100} \times 1.5 & E(10) \times \frac{17 | 25}{100} \times 4.25 \\
 E(19) \times \frac{39 | 50}{100} \times 19.5 & E(16) \times \frac{32 | 50}{100} \times 16 & E(2) \times \frac{6 | 50}{100} \times 3 \\
 E(3) \times \frac{6 | 50}{100} \times 3 & E(3) \times \frac{17 | 25}{100} \times 4.25 & E(12) \times \frac{39 | 25}{100} \times 9.75 \\
 E(7) \times \frac{32 | 25}{100} \times 8 & E(2) \times \frac{6 | 25}{100} \times 1.5 & E(1) \times \frac{6 | 25}{100} \times 1.5
 \end{array}$$

**Calculation of Chi-Square(x<sup>2</sup>) Value**

Observed Frequency(O)	Excepted frequency(E)	(O-E)	(O-E) <sup>2</sup>	(O-E) <sup>2</sup> /E
4	4.25	-0.25	0.0625	0.0147
8	9.75	-1.75	3.0625	0.3141
9	8	1	1	0.125
2	1.5	-0.5	0.25	0.1667
1	1.5	-0.5	0.25	0.1667
10	4.25	1.5	2.25	0.2647
19	19.5	-0.5	0.25	0.0128
16	16	0	0	0
2	3	1	1	0.3333
3	3	0	0	0
3	4.25	-1.75	1.5625	0.3676
12	9.75	2.25	5.0625	0.5192
7	8	-1	1	0.125
2	1.5	-0.5	0.25	0.1667
1	1.5	-0.5	0.25	0.1667
				$E \times \frac{(O-E)^2}{E} \times 2.743$

Degree of Freedom(d.f)=(r-1)(c-1) = (5-1)(3-1) = 8



**Table No. 4.4 (Effectiveness of Promotional Scheme)**

$$\begin{array}{lll}
 E(46) \times \frac{207 | 375}{1500} \times 51.75 & E(75) \times \frac{250 | 375}{1500} \times 62.5 & E(61) \times \frac{276 | 375}{1500} \times 69 \\
 E(85) \times \frac{337 | 375}{1500} \times 84.25 & E(108) \times \frac{430 | 375}{1500} \times 107.5 & E(133) \times \frac{207 | 750}{1500} \times 103.5 \\
 E(118) \times \frac{250 | 750}{1500} \times 125 & E(142) \times \frac{276 | 750}{1500} \times 138 & E(163) \times \frac{337 | 750}{1500} \times 168.5 \\
 E(214) \times \frac{430 | 750}{1500} \times 215 & E(48) \times \frac{207 | 375}{1500} \times 51.75 & E(57) \times \frac{250 | 375}{1500} \times 62.5 \\
 E(73) \times \frac{276 | 375}{1500} \times 69 & E(89) \times \frac{337 | 375}{1500} \times 84.25 & E(108) \times \frac{430 | 375}{1500} \times 107.5
 \end{array}$$

**Calculation of Chi-Square(x<sup>2</sup>) Value**

Observed Frequency(O)	Excepted frequency(E)	(O-E)	(O-E) <sup>2</sup>	(O-E) <sup>2</sup> /E
46	51.75	-5.75	33.0625	0.6389
75	62.5	12.5	156.25	2.5
61	69	-8	64	0.9275
85	84.25	0.75	0.5625	0.0677
108	107.5	0.5	0.25	0.0233
113	103.5	9.5	90.25	0.8720
118	125	-7	49	0.392
142	138	4	16	0.1159
163	168.5	-5.5	30.25	0.1795
214	215	-1	1	0.465
48	51.75	-3.75	14.0625	0.2717
57	62.5	-5.5	30.25	0.1795
73	69	4	16	0.2319
89	84.25	4.75	22.5625	0.2678
108	107.5	0.5	0.25	0.0233
				$E \times \frac{(O-E)^2}{E} \times 7.042$

Degree of Freedom(d.f)=(r-1)(c-1) = (5-1)(3-1) = 8

**Table No. 4.5 (Effectiveness of Advertisement media)**

$$\begin{array}{lll}
 E(53) \times \frac{177 \mid 250}{1000} \times 44.25 & E(49) \times \frac{214 \mid 250}{1000} \times 53.5 & E(61) \times \frac{274 \mid 250}{1000} \times 68.5 \\
 E(87) \times \frac{335 \mid 250}{1000} \times 83.75 & E(73) \times \frac{177 \mid 500}{1000} \times 88.5 & E(115) \times \frac{214 \mid 500}{1000} \times 107 \\
 E(142) \times \frac{274 \mid 500}{1000} \times 137 & E(170) \times \frac{335 \mid 500}{1000} \times 167.5 & E(51) \times \frac{177 \mid 250}{1000} \times 44.25 \\
 E(50) \times \frac{214 \mid 250}{1000} \times 53.5 & E(71) \times \frac{274 \mid 250}{1000} \times 68.5 & E(78) \times \frac{335 \mid 250}{1000} \times 83.75
 \end{array}$$

**Calculation of Chi-Square( $\chi^2$ ) Value**

Observed Frequency(O)	Excepted frequency(E)	(O-E)	(O-E) <sup>2</sup>	(O-E) <sup>2</sup> /E
53	44.25	8.75	76.5625	1.73
49	53.5	-4.5	20.25	0.38
61	68.5	-7.5	56.25	0.82
87	83.75	3.25	10.5625	0.13
73	88.5	-15.5	240.25	2.72
115	107	8	64	0.60
142	137	5	25	0.18
170	167.5	2.5	6.25	0.04
51	44.25	6.75	45.5625	0.03
50	53.5	-3.5	12.25	1.23
71	68.5	2.5	6.25	0.04
78	83.75	-5.75	33.0625	0.40
				$E \times \frac{(O - E)^2}{E} \times 8.3$

Degree of Freedom(d.f)=(r-1)(c-1)

$$= (4-1)(3-1)$$

$$= 6$$

**Table No. 4.6 (Location Affects Their Buying Decision)**

$$\begin{array}{lll}
 E(67) \times \frac{250 | 375}{1500} \times 62.5 & E(57) \times \frac{243 | 375}{1500} \times 60.75 & E(98) \times \frac{343 | 375}{1500} \times 85.75 \\
 E(84) \times \frac{337 | 375}{1500} \times 84.25 & E(69) \times \frac{327 | 375}{1500} \times 81.75 & E(110) \times \frac{250 | 750}{1500} \times 125 \\
 E(125) \times \frac{243 | 750}{1500} \times 121.5 & E(157) \times \frac{343 | 750}{1500} \times 171.5 & E(176) \times \frac{337 | 750}{1500} \times 168.5 \\
 E(182) \times \frac{327 | 750}{1500} \times 163.5 & E(73) \times \frac{250 | 375}{1500} \times 62.5 & E(61) \times \frac{243 | 375}{1500} \times 60.75 \\
 E(88) \times \frac{343 | 375}{1500} \times 85.75 & E(77) \times \frac{337 | 375}{1500} \times 84.25 & E(76) \times \frac{327 | 375}{1500} \times 81.75
 \end{array}$$

**Calculation of Chi-Square(x<sup>2</sup>) Value**

Observed Frequency(O)	Excepted frequency(E)	(O-E)	(O-E) <sup>2</sup>	(O-E) <sup>2</sup> /E
67	62.5	4.5	20.25	0.324
57	60.75	-3.75	14.0625	0.232
98	85.75	12.25	150.0625	1.75
84	84.25	-0.25	0.0625	0.001
69	81.75	-12.75	162.5625	1.99
110	125	-15	225	1.80
125	121.5	3.5	12.25	0.101
157	171.5	-14.5	210.25	1.226
176	168.5	7.5	56.25	0.334
182	163.5	18.5	342.25	2.093
73	62.5	10.25	110.25	1.764
61	60.75	0.25	0.0625	0.001
88	85.75	2.75	5.0625	0.059
77	84.25	-7.25	52.5625	0.624
76	81.75	-5.25	33.0625	0.404
				$E \times \frac{(O - E)^2}{E} \times 12.703$

Degree of Freedom(d.f)=(r-1)(c-1) = (5-1)(3-1) = 8

**Table No. 4.7 (Consumers Usually Buying Stores)**

$$\begin{array}{lll}
 E(16) \times \frac{76 \mid 25}{100} \times 19 & E(7) \times \frac{20 \mid 25}{100} \times 5 & E(2) \times \frac{4 \mid 25}{100} \times 1 \\
 E(42) \times \frac{76 \mid 50}{100} \times 38 & E(7) \times \frac{20 \mid 50}{100} \times 10 & E(1) \times \frac{4 \mid 5}{100} \times 2 \\
 E(18) \times \frac{76 \mid 25}{100} \times 19 & E(6) \times \frac{20 \mid 25}{100} \times 5 & E(1) \times \frac{4 \mid 25}{100} \times 1
 \end{array}$$

**Calculation of Chi-Square( $\chi^2$ ) Value**

Observed Frequency(O)	Excepted frequency(E)	(O-E)	(O-E) <sup>2</sup>	(O-E) <sup>2</sup> /E
16	19	-3	9	0.474
7	5	2	4	0.8
2	1	1	1	1
42	38	4	16	0.421
7	10	-3	9	0.474
1	2	-1	1	0.5
18	19	-1	1	0.053
6	5	1	1	0.2
1	1	0	0	0
				$E \times \frac{(O-E)^2}{E} \times 3.922$

Degree of Freedom(d.f)=(r-1)(c-1)  
 = (3-1)(3-1)  
 = 4

**Table No. 4.8 (Brand Choice behaviour of Consumers)**

$$\begin{array}{lll}
 E(53) \times \frac{199 \mid 525}{2100} \times 49.75 & E(79) \times \frac{283 \mid 525}{2100} \times 70.75 & E(100) \times \frac{386 \mid 525}{2100} \times 96.5 \\
 E(69) \times \frac{283 \mid 525}{2100} \times 70.75 & E(129) \times \frac{532 \mid 525}{2100} \times 133 & E(95) \times \frac{417 \mid 525}{2100} \times 104.25 \\
 E(95) \times \frac{199 \mid 1050}{2100} \times 99.5 & E(134) \times \frac{283 \mid 1050}{2100} \times 141.5 & E(95) \times \frac{386 \mid 1050}{2100} \times 193 \\
 E(147) \times \frac{283 \mid 1050}{2100} \times 141.5 & E(266) \times \frac{532 \mid 1050}{2100} \times 266 & E(213) \times \frac{417 \mid 1050}{2100} \times 208.5 \\
 E(51) \times \frac{199 \mid 525}{2100} \times 49.75 & E(70) \times \frac{283 \mid 525}{2100} \times 70.75 & E(91) \times \frac{386 \mid 525}{2100} \times 96.5 \\
 E(67) \times \frac{283 \mid 525}{2100} \times 70.75 & E(137) \times \frac{532 \mid 525}{2100} \times 133 & E(109) \times \frac{417 \mid 525}{2100} \times 104.25
 \end{array}$$

**Calculation of Chi-Square(x<sup>2</sup>) Value**

Observed Frequency(O)	Excepted frequency(E)	(O-E)	(O-E) <sup>2</sup> /E
53	49.75	3.25	0.2123
79	70.75	8.25	0.962
100	96.50	3.5	0.127
69	70.75	-1.75	0.0433
129	133	-4	0.1203
95	104.25	-9.25	0.8207
95	99.5	-4.5	0.2035
134	141.5	-7.5	0.3975
195	193	2	0.0207
147	141.5	6.5	0.2138
266	266	0	0
213	208.5	5.5	0.0971
51	49.75	1.25	0.0314
70	70.75	-0.75	0.008
91	96.5	-5.5	0.3135
67	70.75	-3.75	0.1988
137	133	4	0.1203
109	104.25	2.75	0.0712
			$E \times \frac{(O - E)^2}{E} \times 3.9614$

Degree of Freedom(d.f)=(r-1)(c-1) = (6-1)(3-1) = 10

**Table No. 4.9 (Factors Influencing in Selecting Pepsi Products)**

$$\begin{array}{lll}
 E(3) \times \frac{8 | 25}{100} \times 2 & E(9) \times \frac{53 | 25}{100} \times 13.25 & E(4) \times \frac{15 | 25}{100} \times 3.75 \\
 E(4) \times \frac{12 | 25}{100} \times 3 & E(5) \times \frac{12 | 25}{100} \times 3 & E(3) \times \frac{8 | 50}{100} \times 4 \\
 E(31) \times \frac{53 | 50}{100} \times 26.5 & E(7) \times \frac{15 | 50}{100} \times 7.5 & E(6) \times \frac{12 | 50}{100} \times 6 \\
 E(3) \times \frac{12 | 50}{100} \times 6 & E(2) \times \frac{8 | 25}{100} \times 2 & E(13) \times \frac{53 | 25}{100} \times 13.25 \\
 E(4) \times \frac{15 | 25}{100} \times 3.75 & E(2) \times \frac{12 | 25}{100} \times 3 & E(4) \times \frac{12 | 25}{100} \times 3
 \end{array}$$

**Calculation of Chi-Square(x<sup>2</sup>) Value**

Observed Frequency(O)	Excepted frequency(E)	(O-E)	(O-E) <sup>2</sup> /E
3	2	1	0.5
9	13.25	-4.25	1.363
4	3.75	0.25	0.017
4	3	1	0.333
5	3	2	1.333
3	4	-1	0.25
31	26.5	4.5	0.764
7	7.5	-0.5	0.033
6	6	0	0
3	6	-3	1.5
2	2	0	0
13	13.25	-0.25	0.0047
4	3.75	0.25	0.017
2	3	-1	0.333
4	3	1	0.333
			$E \times \frac{(O - E)^2}{E} \times 6.7807$

Degree of Freedom(d.f)=(r-1)(c-1) = (5-1)(3-1) = 8