Chapter 1

Scope of Research

And

Research methodology
1) Introduction

According to the latest studies conducted by A.C.Nielsen on October 2004 throughout 28 countries across Asia-Pacific, Europe and the USA, Asians are emerging as the world’s greatest Fast Food fans and India being at the seventh place, is among the top ten markets for weekly Fast Food consumption among the countries of Asia-Pacific region. College students are the major customers of the Fast Food industry. It is estimated that college students spend $7 billion for less essential purchases, which include Fast Food (Knutson, 2000).

The Fast Food industry is perceived to be an American creation, in the USA, the first hamburger outlets appeared in the mid 1930’s with the sector quickly developing and expanding into Fast Food chains only in the post Second World War era. In the UK, Fast food preparation and presentation thus follows the American model which created a strong cultural and collective identity. The model has provided the consumers with uniformity and repeated experience. Guthman calls this phenomenon the “McDonaldisation” of our society that has embraced the all American meal throughout the globe (Richardson & Aguiar, 2004).

While maintaining the characteristics or caliber of the international brands, localization is an important consideration. Today, Fast Food industry is getting adapted to Indian food requirements and is growing in India. After liberalization of the Indian economy in the early 1990s, lifestyles and the
food tastes of Indians changed (Goyal & Singh, 2007). Fast Food is gaining acceptance primarily from Indian people and younger generation and is becoming part of life. This study has focused on comparison of Fast Food restaurant selection criteria between Indian and Non-Indian students.

2) Problem Statement

Throughout this study, researcher has tried to find the answers for these questions:

1. Which criteria do influence on selection of Fast Food restaurant by Indian and Non-Indian students?

2. What are cultural differences between Indian and Non-Indian students as Fast Food’s consumers?

3. Which factors are more important for college students?

4. What are the characteristics of Fast Food restaurant customers?

3) Research Background

“Consumer change in fast food PREFERENCES” is the title of the article which indicates in the UK fast food companies are failing to meet changes in consumer demands. This article’s objectives include testing fast food chains attributes that appeal to contemporary consumer, fast food brand recognition, and consumers alternative fast food outlets (Richardson and Aguiar, 2004). In the UK, fast food preparation and presentation follows
the American model which created a strong cultural and collective identity. The model has provided the consumers with uniformity and repeated experience. Guthman (2003) calls this phenomenon the “McDonaldisation” of our society that has embraced the all American meal throughout the globe. However, in the UK the great success of the traditional fast food outlet is potentially beginning to lose its pull factor. Sandelman (2003) believes that the actual fast food sector is in transition from a traditional selling of burgers to the pre-eminent arrival of a last casual food industry. The fast food industry is going through a transient period where consumers, by becoming more alert to the implications of the effects of modern life, are scrutinizing fast food companies. What holds on to the consumer may no longer be valid. The gap notion that has framed between the needs of UK consumers and the offering of the fast food retailer may not be entirely fulfilled. Companies that fail to come with replacements for such a consumer’s perception may contribute to enlarging the gap of products on offer and consumer’s wants. This gaps could be understand by fast food companies maintaining their original branding attributes and not moving on with time. After all, branding communicates the firm across multiple dimensions: culture, product mix, geographical area and consumer mix. Mohan (1989) believes that an effective brand must be capable of responding to a changing technological and global environment. And knowledge about the external environment is thus key to branding.
Thompson (1967) understands branding as key functions so that it works for mitigating uncertainty sensing changes in a dynamic environment; understanding the impact on the organization, and creating viable responses. Griffing (2007) sees McDonald’s largest obstacles is overcome its present uncertainties due to its sheer brand success. As a generic symbol of the fast food industry is represents all that is good and bad. However, the chain has been able to manage all the uncertainties so for such as all allegations of beef content on its French fires oil thus affecting vegan, vegetarians and Hindus.

In order to establish what is provoking the gap between what fast food companies deliver and what consumer actually want, a pilot focus group was carried out at the Royal Agricultural College involving students. The major fast food outlets recall included McDonald’s, Burger Kings, Pret-a-Marger, Domino’s and supermarkets. For the author’s surprise, supermarkets came up in the panel as the ultimate expression of fast food outlet. This may be due to supermarkets localization strategies in recent years that have promoted widespread acceptance as a convenient and potentially trusted retailer of fast food.

Data was collected using a partial-random sampling technique in the form of a self-administered questionnaire. The implication of the highest female response rate is twofold, may be, women are more inclined to fill in a questionnaire, but more importantly they are the driving force behind the
fast food industry. Women attitude towards health and food content has put pressure on the fast food industry to alter their product mix.

The primary attributes guiding consumer behavior such as taste, cleanliness, convenience and cost are not longer enough to represent the true desires of the consumer findings indicated that in the UK there has been a shift of preference from satisfaction based on cheap food and speedy service to more emphasis on ingredients and taste.

The brand power in contemporary fast food format is being eroded. The perceived attitudes of the traditional fast food retailer no longer meet the demand and product expectations of the discerning UK consumers. The gap generated between the UK consumer’s needs and the products of the fast food retailer has not been filled. In the post-modern fast food sector, supermarkets despite not being characterized as fast food outlets, provide, intentionally or not, discrete and translucent brands that are likely to play a defining role in the consumer purchasing choice.

UK fast food companies are not responding quickly enough to satisfy those aspirations. This research shows a real opportunity for fast food companies to enter a more specialist end of the market.

In light of the research whose title is: “Marketing strategy for fat food restaurant” (Kara et al, 1995) the panel proposed a set of attributes that should be investigated as considered key to the UK fast food industry. These are speed, convenience, choice, healthiness, predictability, aroma,
cleanliness, presented friendly staff and cost. These attributes were tested in isolation and in association with the principle outlets identified. In order to establish what attributes contemporary consumers ideologies and aspirations perceive as lacking from the fast food provision, a set of secondary attributes was identified and tested. These include: lower fat content, organic ingredient, larger vegetarian selection, more local product, better service, biodegradable packaging, Kosher/ Hallal ingredients, more licensed outlets and pleasant looking staff.

Modeling repurchase frequency and customer satisfaction for fast food outlets is the title of an article by Law and Hui. They indicated although customer satisfaction and loyalty have attracted a lot of attention in service management research, relatively few studies had examined the impact of waiting time and service quality on customer satisfaction and repurchase frequency (Law and Hui, 2002).

In this study, they modeled the relationship between customer satisfaction, repurchase frequency, waiting time and other service quality factors in fast food outlets. The model helps mangers to identify root causes for customer satisfaction and loyalty and thus enables them to make focused improvements in critical area to improve profitability. Waiting time is an important issue in service operation management because of its impact on customer satisfaction and operation capabilities. Jones and Dent (1994) found that more than 70 percent of all service customers were concerned
about their waiting time. Waiting not only causes inconvenience and reduce productivity, it also adds frustration and stress to people’s daily lives. Studies have shown that waiting contributes to customer satisfaction because individual who found waiting time unacceptable perceived the service as being of lower quality. Queuing models have been developed to determine waiting time and the length of the waiting line given the demands distribution and service facility configurations such as the number of services.

These model can help operations managers make the trade-offs between the cost of providing services and the cost of customer waiting. However, calculating waiting time and waiting length solves only part of problems. Its also need to consider the behavioral and psychological aspects of waiting in additional to the waiting time. Maister was among the first researchers in the operations management fields to examine waiting issues behavioral approaches rather than analytical modeling approaches. He identified a number of conditions that influence customer’s perception during waiting time. These include information about the reason for the length of the delay, the ways in which the waiting time is field and the perceived fairness of the queen setup. He used the following equation to represent the customers satisfaction with waiting:

\[
\text{Waiting} = \text{Perception} - \text{Expectation}
\]

Maister pointed out that customer satisfaction with waiting is influenced by
the gap between the perception and expectation for the waiting experience.

4) Relevance

Most researches about consumer behavior have focused on values attitudes and behaviors for high involvement product fields such as clothing, mass media consumption or tourism. Some researchers however, suggest that the influence of values may not be limited to high involvement area, but may also be relevant to less involving product fields such as Fast Foods. Nowadays, newer perspectives on consumption patterns are emerging in India society; this, in turn, leads to a newer lifestyle. As a part of this lifestyle, Fast Food acceptance is growing in India, too.

According to the findings of the recent online survey from A.C. Nielson, India has the seventh place among top ten markets for Fast Food among the countries of Asia-Pacific zone. Nonetheless, very few researches have been conducted about Fast Food industry in India. Since Fast Food is gaining acceptance primarily from Indian youth and younger generations, this research has tried to explore factors that affect college students population as they have a great majority in the young community of India. Moreover, Pune city is famous for the great population of university and college students (either Indian or foreign students) among other cities in India; thus, researcher chose this city as a suitable location in order to recognize, compare and contrast cultural differences or similarities among Indian and
foreign students about making use of Fast Food.

5) **Objective of the Research**

Having noted the similarities and differences between the two groups of students (Indian and Non-Indian students) in the eating habits, localization and perceptions of Fast Food, as well as recognizing the growth of the Fast Food industry in Asian countries and the popularity of Fast food among college students, the purpose of this study is to investigate college student behaviors on the selection of Fast food restaurant in India. The objectives of this research are as follows:

1. To explore the attributes that college students perceive to be important in the selection of Fast Food restaurants.
2. To determine if any cultural differences exist in the importance placed on the criteria used to select Fast Food restaurants between Indian and non-Indian college students.

6) **Justification of Objectives**

As the number of restaurants has mushroomed! So, the business has become much more competitive. Being able to meet consumers’ basic expectations in today situation at the best can ensure business survival. To be successful and outstanding, a Fast Food restaurant has to exceed consumers’ expectation by really understanding customers’ reason for
selecting a particular type of dining experience (Davis & Smith, 2004). In fact, every business looks for the highest profit, which is not achieved unless through customer satisfaction. Too many companies spend more time measuring product profitability than customer profitability. But the latter is more important (Kotler, 2003). As Peter Drucker believes “the only profit center is the customer satisfaction”. Customer satisfaction is not obtained unless, his preferences and expectations are recognized. To do this, marketing research is necessary. Hence, this research is conducted in order to explore the attributes that college students perceive to be important in the selection of Fast Food restaurants. Knowing utilities for different customer group enables restaurant operators to devise effective business strategies best suited to serve their specific market segments. Knowing which utilities are most important to a particular customer group, the restaurant managers can determine what should be promoted in order to lure these desired customers from their competitors. They can also make predictions about consumers’ purchase intentions in responses to changes to these utilities (Koo, et al., 1999).

As the seventeenth Vice-Chancellor of the Pune University Dr. Narendra Jadhav says, “Studying in Pune University and Colleges means meeting young people from around the world. During the last two years, there was more than 40 percent increase in the number of students, taking the total number to an estimated level of 6.5 lakh students which makes the
University of Pune as the largest traditional University in the world. The University of Pune as ‘Oxford of the East’ is the most highly rated State University in India. Notably, there was more than 40 percent increase in the number of foreign students. With around 15,000 foreign students from 102 different countries, University of Pune has now been established as the most preferred destination for foreign students coming to India. In fact, nearly 45 percent of foreign students coming to India come to the University of Pune alone”. Accordingly, Pune University provides a suitable ground for a cross cultural comparison regarding customer behavior in purchase decision making on Fast Food.

7) Theoretical Framework

7.1) Criteria of Fast Food restaurant selection by college students

1. Food-related factors (Quality, Various menu, Enough serving, Easy eating).

2. Service-related factors (Speed service, Delivery service, Hygiene, Staff behavior).

3. Brand name (McDonalds, KFC, Subway, Other brands).

4. Menu price (Expensive, Reasonable, Cheap).

5. Decoration (Good decoration, Average decoration, Poor decoration).

6. Car park or Two-wheelers Park (With car park, No car park).
7.2) Characteristic of Fast Food Restaurant Customers

1. Main reason of patronage
   1.1. For a simple meal or snack.
   1.2. Meeting other people.
   1.3. Companion’s request.
   1.4. Others.

2. Decision maker of brand selection
   2.1. Myself.
   2.2. Spouse or lover.
   2.3. Children.
   2.4. Friend, colleague or boss.

3. Dine-out frequency
   3.1. Less than 5 times.
   3.2. 5-10 times.
   3.3. 11-15 times.
   3.4. 16-20 times.
   3.5. More than 21 times.

4. Degree classification
   4.1. Undergraduate.
   4.2. Master.
   4.3. M. Phil.
   4.4. PhD (Doctor of Philosophy).
8) Hypotheses of Research

1. Brand name of Fast Food restaurant is important factor for Indian and non-Indian students in order to select that restaurant.

2. Menu price is important factor for Indian and non-Indian students in order to select the Fast Food restaurant.

3. Food quality is important factor for Indian and non-Indian students in order to select the Fast Food restaurant.

4. Enough serving is important factor for Indian and non-Indian students in order to select the Fast Food restaurant.

5. Various menu is important factor for Indian and non-Indian students in order to select the Fast Food restaurant.

6. Speed service is important factor for Indian and non-Indian students in order to select the Fast Food restaurant.

7. Hygiene is important factor for Indian and non-Indian students in order to select the Fast Food restaurant.

8. Decoration is important factor for Indian and non-Indian students in order to select the Fast Food restaurant.

9. Car park (two-wheelers park) is important factor for Indian and non-Indian students in order to select the Fast Food restaurant.

10. Delivery service is important factor for Indian and non-Indian students in order to select the Fast Food restaurant.
11. *Easy eating* is an important factor for Indian and non-Indian students in order to select the Fast Food restaurant.

12. *Staff behavior* is important factor for Indian and non-Indian students in order to select the Fast Food restaurant.

### 9) Justification of the Hypotheses

1. Doyle argues that “brands are at the heart of marketing and business strategy” and Kotler suggests that “the most distinctive skill of professional marketers is their ability to create, maintain, protect, reinforce and enhance brands”. Brand is seen to be increasingly important in service retailing and nowhere is this more obvious than in the Fast Food sector (Jones & et al., 2002).

2. Globalization, hyper-competition, and the internet are reshaping markets and business. All three forces act to increase downward pressure on prices. As one of the main factors of marketing mix, price is at the center of attention of consumers, producers, and suppliers (Kotler, 2006). As a consumer, students care about prices even more than others.

3. Rust and Oliver suggested that quality is one of the dimensions on which satisfaction is based. Service quality is viewed as an antecedent to satisfaction. A common definition of service quality is that the service should correspond to customers’ expectations and satisfy their needs and requirements. While service quality is an overall attitude towards a service
firm, customer satisfaction is specific to an individual service encounter.

4. As one of the food-related factors, enough serving is of great value among Korean and Filipino students. But this factor is more important for Korean students (Lam and Zhang, 2003). Through this hypothesis the researcher examined this factor (enough serving) among Indian and non-Indian students.

5. Various menu here means the right of having more options on food selection. According to findings of Agnes and Hui, various menu is one of the factors that makes a great influence on customer satisfaction and his loyalty or repurchase behavior and the return frequency.

6. Considering the term “Fast Food Restaurants”, speed becomes an indispensable part of the Fast Food service. Waiting time is an important issue in service operations management because of its impact on customer satisfaction and operations capabilities. Jones and Dent found that waiting contributes to customer satisfaction because individuals who found waiting time unacceptable perceived the service as being of lower quality.

7. In Indian context there is high concern towards health and hygiene in 21st century. This cleanliness and sanitation factor is spotlighted in three sections: staff, eating environment and food. Being hygienic, these three sections most probably influence customer satisfaction and the return frequency.

8. Decoration is a profession concerned with anything that is found inside a
restaurant: walls, windows, doors, textures, light, furnishings and furniture. All of these elements are used by interior designers and decorators to develop a functional, safe, and aesthetically pleasing space for customers. Accordingly this factor can influence the selection of that restaurant by the customer and his frequency return.

9. Since most students use vehicles in a crowded city like Pune, then it is likely that the availability of a parking place at the restaurant area gives them more psychological security and satisfaction. This may lead to greater frequency return.

10. A research conducted by Ivor Church, Andrew J. Newman focuses on the UK fast food retailers and the importance of the service delivery systems in fast food burger outlets. Waiting time and the impact it has on customer perceptions of service quality is considered alongside a typology of customers, based on their waiting characteristics. Thus this delivery service factor is probably an influential factor for selecting Fast Food restaurants by students.

11. According to Backman definition, “Fast Food should have four generic aspects: a low relative monetary price, quick service of the end product, suitability for eating with fingers, and low finished product durability”. Obviously “eating with fingers” here refers to the same factor of easy eating which can become a selection preference for students in such restaurants. Quick to capture the changing nature of the business, the Fast Food Industry
has also changed the face of the food chain in the last decades. According to Richardson and Aguiar as well as food preparation, the presentation of food also went through transformation. Outlets that relied highly on staff and the use of crockery and cutlery, gave way to a strong “eat with your fingers” emphasis.

12. It is crucial that customers are satisfied not only with the products and the dining environment (hardware), but also with the services (software) provided by staff. Some studies have found that employee satisfaction is important because customer satisfaction can only be achieved when employees are content, and the level of employee satisfaction is positively related to customer satisfaction (Lam & Zhan, 2003). Staff behavior towards customers can influence the return frequency.

10) Utility of the Study

Marketers, consumer psychologists and public policy makers have an interest in the personal and social values of consumers because these deeply held feeling of what is important in life, influence both consumer attitudes and behaviors. Certainly managers and marketers can use this knowledge and these findings to design effective promotional brand strategies (Henderson, et al., 1995). Fast Food industry has developed all over the world and India’s Fast Food Industry is growing by 40 percent a year and supposed to generate over a billion dollars in sales in 2005 as per their estimates. According to AFP and BBC (Feb. 18th, 2009) while in 2008 Auto Industry in USA experienced a sharp collapse and recession, during the
same year McDonalds, as an avant-garde in Fast Food Industry, gained over 10 percent profit. This proves that Fast Food Industry has a fundamental status in the economic growth of a society. Studying Fast Food restaurant selection criteria by students is a necessity which causes marketing managers focus more on most important criteria from consumers’ point of view. In this way, services are presented to consumers proportionate to their expectations and marketing managers take advantage from the benefit coming out of presented services. Profitability in this industry (Fast Food industry) leads to economical and social welfare. Finally, it should be mentioned that performing such studies and researches are requisite for globalization of the food service industry in developing effective marketing strategies and establishing operational strategies.

11) Working (key words) definitions

*Fast Food*

Fast Food has been defined in a variety of ways, with no single definition or interpretation gaining a consensus:

- Backman (1994) stated that Fast Food should have four generic aspects: a low relative monetary price, quick service of the end product, suitability for eating with fingers, and low finished product durability.

- A.E. Bender and D. A. Bender (1995) have defined Fast Food as a general term used for a limited menu of foods that lend themselves to production-line techniques; suppliers tend to specialize in products such as hamburgers, pizzas, chicken, or sandwiches.
• In Data Monitor’s (2005) survey the Fast Food market is defined as the sale of food and drinks for immediate consumption either on the premises or in designated eating areas shared with other food service operators, or for consumption elsewhere.

• According to Merriam-Webster online dictionary Fast Food is designed for ready availability use or consumption and with little consideration given to quality or significance.

**Conjoint Analysis**

A conjoint analysis is known as a statistical marketing research tool with strong predictive power of consumer choices among multi-attribute product and service alternatives (Chan, 2004). A conjoint analysis is a multivariate technique, which determines the relative importance of a product’s multi-dimensional attributes and measures consumers’ degree of preferences for each level of each attribute (Tull & Hawkins, 1993). The relative importance of each attribute is calculated as the utility range. This is different between the highest and the lowest utility for that attribute divided by the sum of utility ranges of all attributes. The technique calculates group statistics, attribute part-worth (utilities) and a distribution of preferred levels from the data file, using an ordinary least squares (OLS) regression. Attribute part-worth is the quantified attribute values derived from a conjoint modelling, which is what the product (service) does for the
customer or the individual amount of satisfaction it provides.

Conjoint analysis produces two important results (Koo, et al., 1999):

1. Utility of attribute. It is a numerical expression of the value consumers place in an attribute level. It represents the relative “worth” of the attribute. Low utility indicates less value; high utility indicates more value.

2. Importance of attribute. It can be calculated by examining the difference between the lowest and highest utilities across the levels of attributes.

It should be mentioned that the results of conjoint analysis are more reliable, since the relative importance of factors are studied on the basis of this sort of analysis, not the importance and impact of each fact factor separately. This special feature of conjoint analysis has made it one of the best tools for analyzing consumer's behaviour all around the world, because it is less likely that consumers only pay attention to one factor in their purchases or selections and exclude other factors in their purchase decision.

**Cross-cultural**

According to Merriam-Webster online dictionary cross-cultural means dealing with or offering comparison between two or more different cultures or cultural areas. Free dictionary online defines cross-cultural as comparing or dealing with two or more different cultures.

To be cross-cultural, the marketing research project must be conducted across nations or culture groups, rather than across provinces or ethnic
groups (Berry, 1980). For the purpose of this review, international marketing research (research dealing with international issues), foreign research (research conducted in a country other than the country of the research-commissioning organization), or multinational research (research conducted in all or all important countries where the company is represented), and other similar terms, will be subsumed under the rubric of cross-cultural research. It should not be denied the fine distinctions that can be made among these concepts (e.g. Terpstra and Sarathy, 1990). However, it is not necessary to make these distinctions as the methodological issues we consider apply in varying degrees to all of these types of research.

In recent years cross-cultural marketing research has assumed great importance in the academic and business worlds. Academically, cross-cultural research has gained wide acceptance both in international business journals and in specialized journals. A recent review identified 720 articles on the subject that were published in various academic journals between 1980 and 1990 (Aulakh and Kotabe, 1993).

**College Students**

In this study, college students contain post-graduate students in the
main campus of Pune University and under-graduate and post-graduate students in Symbiosis society’s college of arts and commerce, Poona college of arts, science and commerce and Fergusson College, all in Pune zone.

**Indian and Non-Indian**

In this study, Indian students refer to those groups of students who are considered Indian by nationality. And non-Indian students refer to those foreign students who are staying in Pune for a limited period of time (3-10 years) for an educational purpose.
12) Research Methodology

12.1) Introduction

Research is undertaken within most professions. More than a sex of skills, research is a way thinking, examining critically the various aspects of day to day professional works’ understanding and formulating guiding principles that govern a particular procedure; and developing and testing new theories for the procedure, and developing and testing new theories for the enhancement of practice. It is a habit of questioning and a systematic examination of the observed information to find answers, with a view to instituting appropriate changes for a more effective professional service (Kumar, 2005). The past few years have witnessed unparalleled developments in research methods. Much of this has occurred in the field of psychometrics and statistics, but many important contribution have been made by marketing research as well (Bagozzi, 1994).

Most professional that are in the human service industry, would lend themselves to the questions and as a service provided should be well prepared to answer them. Research is one of the ways to help them to answer such questions objectively (Kumar, 2005).

12.2) Application of Research

Very little research in the field is pure in nature. Most research is applied research, which has wide application in many disciplines. Every
profession uses research methods in varying amounts in many areas. They use the methods and procedures developed by research methodology in order to increase understanding in their own professional and to advance the professional knowledge base. It is through the application of research methodology that they strengthen and advance their own profession. Research techniques applied entirely in nature are used primarily for professional consolidation, understanding, development and advancement (ibid., p. 4).

12.3) Type of Research

Research can be classified from three perspectives:

- Application of the research study;
- Objectives in undertaking the research;
- Inquiry mode employed.

These three classification are not mutually exclusive – that is, a research study classified from the viewpoint of ‘application’ can also be classified from the perspectives of ‘objectives’ and ‘inquiry mode employed’. A research project may be classified as pure or applied research from the perspective of application, as descriptive, correlational, explanatory or exploratory from the perspective of objectives and a qualitative or quantitative from the perspective of the inquiry mode employed.
Accordingly, the present research is an applied research from the viewpoint of application, and correlation from the perspective of objectives, and qualitative from the view of application, and correlational from the perspective of objectives, and qualitative from the viewpoint of inquiry mode employed. And its comparative because researcher compares Indian and Non-Indian students.

12.4) Correlational Research

As just mentioned, a study is classified as correlational research from the perspective of objectives. The main emphasis in a correlational research study is to discover or establish the existence of relationship or association or interdependence between two or more aspects of a situation. What is the relationship between technology and unemployment? What is the impact of an advertising campaign on the sale of a product? What is the effect of a speedy service in the fast food industry on the customer satisfaction? These kind of studies examines whether there is a relationship between two or more aspects of a situation or phenomenon and, therefore, are called correlational studies. Accordingly, the present research also discovers the impact of different criteria on the selecting the fast food restaurants by Indian and Non-Indian students.
12.5) **Population or Universe**

Population in statistics means the whole of the information which comes under the purview of statistical investigation. It is totality of all the observations of a statistical experiment or enquiry. In other words, an aggregate of objects; animate or inanimate under study is the population. It is also known as the universe (Arora et.al., 2008:1510). Population is defined as all elements which have one or more common characteristics. The population is too large to study in its entirely or techniques used in the study are destructive in nature. In either case researcher must draw conclusions about the population based on observing only a portion or sample of objects drawn from the population (Milton and Arnold, 2008). In this study statistical population (universe) is the students who are studying in the Pune University including Pune, Nashik and Amednagar districts.

12.6) **Sample and Sampling**

A part of the population selected for study is called a sample. In other words, the selection of a group of individuals or items from a population in such a way that this group represents the population, is called a sample. A sample is a selected portion of the universe (Arora et.al., 2008). Sample is a collection of objects which is selected from the larger group of population, in such a manner that this collection of objects shows the characteristics of
the population (Milton and Arnold, 2008).

Sampling is the process of selecting a sample from a population. A sampling can also be defined as the process of drawing a sample from universe and of compiling a suitable statistic from such a sample in order to estimate the parameter of the parent population and to test the significance of the statistic computed from such sample (Arora et al., 2008). Sampling, therefore, is the process of selecting a few (a sample) from a bigger group (population) to become the basis for estimating or predicting the prevalence of an unknown piece of information, situation or outcome regarding the bigger group (Kumar, 2005).

In this study multi-stage sampling method is used for selecting sample. Multi-stage sampling is the developed format of cluster sampling method. In this method, objects of the sample are selected through different stages. This means selecting one sample from another sample. Firstly a sample of cluster is selected, and from them a sample of elementary unit is selected. This method is suitable in those cases where population size is very big and it contains a large number of units. Accordingly to the chart in the next page and on the basis of multi stage sampling method, the sample volume in this study amounts to 377.
Figure (4.1) Universe and Sample
Table (4.1) Sample volume determination from the Universe by Krejcie and Morgan (Sekaran, 1984)

Regarding the total number of students in the main campus and three other affiliated colleges, which amounts to 16511, thus, the volume of the sample is 377. This number (377) has been driven from the table of sample volume determination from statistical population (Sekaran, 1984). The figures in this table have been calculated by Krejcie and Morgan as it is shown in the previous page. As before mentioned in this research in point of nature and essence of the object and performing facilities the research methodology is a correlation-comparative one. As result for promoting result-reliability, a sample with 377 foreign students also are selected.
12.7) Instrument and Techniques of Data Collection

Two types of questionnaire are used to gather data in this study, which are available in Appendix No.1. A questionnaire is a written list of goal-oriented questions, the answer to which is recorded by respondents (Kumar, 2005: 130). A questionnaire in comparison with other methods of data collection has several advantages. It is less expensive. By using a questionnaire time and human and financial resources will be saved (ibid, p. 130). Particularly when it is administered collectively to a study population, it is an extremely in expensive method of data collection. Questionnaire helps to increase the likelihood of obtaining accurate information. It is a widely useful and used instrument for collecting survey information, providing structural, after numerical data, being able to b administered without the presence of the researcher, and often being comparatively straightforward to analyze (Wilson and Mclean, 1994). Although, there also are several disadvantage such as limitation of application, low response rate, self-selecting bias, etc. .. still the use of a questionnaire, therefore is comparatively convenient.

12.7.1) Planning and Operationalizing the Questionnaire

At this preliminary stage of design and no a more positive note, Sellitz and her associates have provided a fairly exhaustive guide to researcher in constructing their questionnaire which is summarized as
follows:

a) Decisions about question content.
   Is the question necessary? Just how will it be useful? Do respondents have the information necessarily to answer the question? Does the question need to be more concrete, specific and closely related to the respondent’s personal experience? Will the respondents give the information that is asked for accurately? And any other decisions that can help to recognize about question content.

b) Decision about question wording.
   Can the question be misunderstood? Does it contain difficult or unclear phraseology? Is the question misleading because of unstated assumption or unseen implications? Would a more personalized wording of the question produce better results? Can the question be better asked in a more direct or a more indirect form? (Cohen et al., 2007; 320)
   This part of decision making about question wording is one the most important stage for designing a questionnaire. The researcher tried to make the question clear and easy to understand as much as possible.

c) Decision about form of response to question.
   In this part of response to question in this part, researcher should decide about the best type of scale for questions, reasonable length, impartial and balanced items of wording, easy, definite, uniform and
adequate layout (ibid, p. 320)

d) Decisions about the place of the question in the sequence.

Is the answer to the question likely to be influenced by the content of preceding questions? Is the question led up to in a natural way? Is it in correct psychological order? Does the question come too early or too late from the point of view of arousing interest and receiving sufficient attention, avoiding resistance, and so on? With respect of questionnaire, it should be developed in an interactive style and its layout should be such that it is easy to read and pleasant to the eye, and the sequence of questions should be easy to follow.

Additionally, researcher can set out a staged sequence for planning a questionnaire thus: decide the purposes or objectives of the questionnaire, decide the population and sample generate the topics or concepts issues to be addressed and data required in order to meet the objectives of the research, decide the kinds of measures / scales / questions / responses required, write the questionnaire items, pilot the questionnaire and refine items as a sequence, administer the final questionnaire. The first type of questionnaire which is used in this study includes structured or closed ended questions that contain definite options amongst which the respondent chosen one questions are quick complete an straightforward to code, and do not discriminate unduly on the basis of ho articulate respondent are (Wilson & McLean 1994 : 21). On the other hand, they do not enable respondents to
add any remarks qualifications and explanations to the categories and there is a risk that the categories might not be exhaustive and that there might be bias in them (Oppenleim, 1992: 115).

As a result, the researcher decided to add one part to the questionnaire whether students (respondents) have any suggestion they can right it down, in that part. The first type of questionnaire is divided into two sections. The first section presents individual attributes of respondents. These characteristics and attributes consist of age, gender, nationality, marital status, degree classification and major. The second itself has two part and presents general questions. The first part contains four questions about dine-out frequency, brand preferences, decision make for selecting a brand of last food restaurant and main reason for supporting the fast food restaurant. The second part has 24 questions related to the thesis hypothesis in order hypothesis testing. In this part there is a space. If students (respondents) would like to give any suggestion. Five options Likert scale (see the 7.2 section) is used in this questionnaire. The options in Likert scale are indicative of agreement / disagreement measure of the respondent to a definite subject or concept. The option in this questionnaire include, strongly agree, either, disagree, strongly disagree.

The second type of questionnaire is in the form of list – cards (profile) that are organized on the basis of full profile method. A full profile method and orthogonal array are used to measure the preference of attributes in selecting
fast food restaurants. There are six attributes at twenty different levels: four brands (McDonald’s, KFC, Subway, Other brands), there menu price (expensive, rescannable, Chip) four food-related factors (Quality, Various Menu, Enough Serving, Easy eating), four service related factors (Speedy services, Delivery Services, Hygiene, Staff behavior), three levels of declaration (Good decoration, Average decoration, Poor decoration) and two levels of parking (with parking, without parking).

<table>
<thead>
<tr>
<th>No. of Questions</th>
<th>Hypotheses of Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>11,17</td>
<td>Brand name of Fast Food restaurant influences the selection of that restaurant by Indian or non-Indian students.</td>
</tr>
<tr>
<td>15,28</td>
<td>Menu price influences the selection of Fast food restaurant by Indian or non-Indian students.</td>
</tr>
<tr>
<td>12,16</td>
<td>Food quality influences the selection of Fast Food restaurant by Indian or non-Indian students.</td>
</tr>
<tr>
<td>19,27</td>
<td>Enough serving influences the selection of Fast Food restaurant by Indian or non-Indian students.</td>
</tr>
<tr>
<td>14,18</td>
<td>Various menu influences the selection of Fast Food restaurant by Indian or non-Indian students.</td>
</tr>
<tr>
<td>26,34</td>
<td>Speed service influences the selection of Fast Food restaurant by Indian or non-Indian students.</td>
</tr>
<tr>
<td>25,33</td>
<td>Hygiene influences the selection of Fast Food restaurant by Indian or non-Indian students.</td>
</tr>
<tr>
<td>21,30</td>
<td>Decoration influences the selection of Fast Food restaurant by Indian or non-Indian students.</td>
</tr>
<tr>
<td>20,29</td>
<td>Car park (two-wheelers park) influences the selection of Fast Food restaurant by Indian or non-Indian students.</td>
</tr>
<tr>
<td>23,31</td>
<td>Delivery service influences the selection of Fast Food restaurant by Indian or non-Indian students.</td>
</tr>
<tr>
<td>13,22</td>
<td>Easy eating influences the selection of Fast Food restaurant by Indian or non-Indian students.</td>
</tr>
<tr>
<td>24,32</td>
<td>Staff behavior influences the selection of Fast Food restaurant by Indian or non-Indian students.</td>
</tr>
</tbody>
</table>

Table (4.2) The Questions related to the Research Hypotheses
For a total of 1152 possible combinations though the fractional factorial design (FFD) and orthogonal array the size of a set of full-profile stimuli are reduced to a manageable level without sacrificing the predicting power contained in the original design. According to the Balanced Incomplete Block Design (BIBD) 12 scenarios (Profile) are implemented in those list-cards. In fact here the respondents will rank their preferences from 1 to 12.

As mentioned, primary sources in this study are organized on the basis of questionnaires presented to the students. By gather data through questionnaires, hypothesis testing is performed. And the information for secondary sources are gathered form articles and books whether online or in the printed format.

12.7.2) Likert Scale

A Likert Scale is a psychometric scale commonly involved in research that employs questionnaire. It is most widely used approach to scaling responses in survey research, such that the term is often used interchangeably with rating scale, or more accurately the Likert type scale, even though the two are not synonymous. The scale is named after its inventor, psychologist Rensis Likert. Likert distinguished between a scale proper, which emerges from collective responses to a set of items, and the format in which responses are scored along a range. Technically speaking a Likert scale refers only to the former. The difference between those two
concept has to do with the distinction Likert made between the underlying phenomenon being investigated and the means of capturing variation that points to the underlying phenomenon (Carifio et. al., 2007).

When responding to a Likert questionnaire item, respondents specify their level of agreement or disagreement on a symmetric agree-disagree scale for a series of statements. Thus, the range captures intensity of their feelings for a given item (Burns et. al. 2008). A Likert item is simply a statement which the respondent is asked to evaluate accordingly to any kind of subjective or objective criteria; generally the level of agreement or disagreement is measured. It is considered symmetrical balanced because there are equal amounts of positive and negative position (Ibid. p. 250). Often five ordered response levels are used as in this study have been used. Although many psychometricians advocate using seven or nine levels; a recent empirical study (Dawes, 2008), found that a 5 or 7 point scale may produce slightly high mean scores relatives to the highest possibly attainable score, compared to those produced from a 10 point scale, and this difference was statistically significant. In terms of the data characteristics, there was very little difference among the scale formats in terms of variation about the mean, skewness or kurtosis. The format of a typical five level Likert item could be: strongly disagree, disagree, neither agree nor disagree, agree and strongly agree.

Likert scaling is a bipolar scaling method, measuring either positive
or negative response to a statement. The neutral option can be seen as an easy option to take when a respondent is unsure, and therefore whether it is a negligible differences between the use of ‘undecided’ an ‘neutral’ as the middle option in a 5-point Likert scale (Armestrong, 1987). As before was mentioned in this study, the 5-point Likert scale has been used in order to designing the questionnaire.

12.8) Validity and Reliability

There are many different types of validity and reliability. Threats to validity and reliability can never be used completely rather the effects of these threats can be attenuated by attention to validity and reliability throughout a piece of research (Chosen et.al.2007).

Reliability concerns the degree of confidence that can be placed in the results and the data, which is often a matter of statistical calculation and subsequent test redesigning. Validity on the other hand, concerns the extent to which the test tests what it is supposed to test. As recently validity has taken many forms, therefore, this devolves on content, face, criterion-related, construct, cultural, concurrent, internal, external, jury, predictive, consequential, systemic, catalytic, ecological, descriptive, interpretive, theoretical and evaluative validity (ibid., p.133).

It is not researcher’s intention to discuss all of these terms in depth in this chapter. Rather the three types of validity (face validity, content validity and
cultural validity) which seems more important for this research will be addressed.

The judgment that an instrument is measuring what is supposed to is primarily based upon the logical link between the questions and the objectives of the study. Hence, one of the main advantages of this type of validity is that it is easy to apply. Each question or item on the scale must have a logical link with an objective. Establishment of this link is called face validity. It is equally important that the items and questions cover the full range of the issue or attitude being measured.

Assessment of the item of an instrument in this respect is called content validity. In addition, the coverage of the issue or attitude should be balanced; that is, each aspect should have similar and adequate representation in the questions or items (Kumar, 2005).

Content validity is also judged on the basis of the extent to which statements or questions represent the issue they are supposed to measure, as judged by researcher and expert in the field. Accordingly, researcher’s guide confirmed the content validity of the questionnaire for this study.

Cultural validity is a type of validity related to ecological validity. This is particularly an issue in cross-cultural, intercultural and comparative kinds of research, where the intention is to shape research so that it is appropriate to the culture of the researched, and where the researcher and the researched are members of different cultures. Cultural validity is defined as the degree
to which a study is appropriate to the cultural setting where the research is to be carried out (Joy, 2003). Cultural validity applies at all stages of the research, and affects its planning, implementation and dissemination. It involves a degree of sensitivity to the participants, cultures and circumstances being studied. Cultural validity entails an appreciation of the cultural values of those being researched. This could include: understanding possibly different target culture attitudes to the research; identifying and understanding salient terms as used in the target culture; reviewing appropriate target language literature; choosing research instruments that are acceptable to the target participants; checking interpretation and translation of data with native speakers; and being aware of one’s own cultural filters as a researcher (Morgan, 2005).

It is impossible for research to be 100 percent valid; that is the optimism of perfection. In qualitative data the subjectivity of respondents, their opinions, attitudes and perspectives together contribute to a degree of bias. Validity, therefore, should be seen as a matter of degree rather than an absolute state (Gronlund, 1981). Hence, at the best, researcher has strived to minimize invalidity and maximize the cultural validity according to all the factors which were mentioned above.

Pearson’s R (92.4%) and Kendall’s tau (81.8%), association values were used to assess the validity of the Conjoint Analysis method through pilot study, as it has been demonstrated in the table (4.2).
Several procedures are available for assessing the reliability and validity of conjoint analysis results (Carroll and Green, 1995):

1. The goodness of fit of the estimated model should be evaluated. For example, if dummy variable regression is used, the value of $R^2$ will indicate the extent to which the model fits the data. Models with poor fit are suspect.

2. Test–retest reliability can be assessed by obtaining a few replicated judgments later in data collection. In other words, at a later stage in the interview, the respondents are asked to evaluate certain selected stimuli again. The two values of these stimuli are then correlated to assess test–retest reliability.

3. The evaluations for the holdout or validation stimuli can be predicted by the estimated part-worth functions. The predicted evaluations can then be correlated with those obtained from the respondents to determine internal validity.

4. If an aggregate-level analysis has been conducted, the estimation sample can be split in several ways and conjoint analysis conducted on each sub-sample. The results can be compared across sub-samples to assess the stability of conjoint analysis solutions.
The concept of reliability in relation to a research instrument means if a research tool is consistent and stable, and hence, predictable and accurate, it is said to be reliable. The greater the degree of consistency and stability in an instrument the greater is its reliability (Kumar, 2005). Therefore a scale or test is reliable to the extent that repeat measurements made by it under constant conditions will give the same result (Moser and Kalton, 1989).

In the social science it is impossible to have a research tool which is 100 percent accurate, not only because a research instrument cannot be so, but also because it is impossible to control the factors affecting reliability. Some of these are: the wording of questions, the physical setting, the respondent’s mood, the nature of interaction and the regression effect of an instrument (Kumar, 2005).

The reliability of the instrument in this research has been measured by two methods. Chronbach’s Coefficient Alpha method and Guttman Split-Half Coefficient method.

<table>
<thead>
<tr>
<th>Correlations</th>
<th>Value</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson's R</td>
<td>.924</td>
<td>.000</td>
</tr>
<tr>
<td>Kendall's tau</td>
<td>.818</td>
<td>.000</td>
</tr>
</tbody>
</table>

Table (4.3)

*Correlations between observed and estimated preferences*
\[ \alpha = \frac{N}{N-1} \left[ 1 - \frac{\sum S_i^2}{S_x^2} \right] \]

In this formula \( \alpha \) is the number which indicates the percentage of reliability of the questionnaire, \( N \) is the number of subjects (sample), \( S_i^2 \) is the variance of any question and \( S_x^2 \) is the variance of all questions.

The Chronbach’s Coefficient Alpha for pilot study in order to determining the reliability of the questionnaire is 73.8% which indicates that the questionnaire is reliable.

The Guttman Split-Half Coefficient technique is designed to correlate half of the items with the other half and is appropriate for instruments that are designed to measure attitudes towards an issue or phenomenon. The questions or statements are divided to measure the same aspect fall into different halves. The scores obtained by administering the two halves are correlated. Reliability is calculated by using the product moment correlation between scores obtained from two halves. The obtained score for Guttman Split-Half Coefficient for pilot stdy is 84% which indicates the reliability of the questionnaire in this research.

In carrying out a conjoint analysis it is useful to include the following ancillary analysis: test-retest reliability (Gupta and Gupta, 2011). The test-retest reliability can be conducted by including a few replicate judgments drawn from the original set of 25 at a later stage in the questionnaire. The
purpose here is to see if the judgments are highly correlated, on a test-retest basis. It justifies the analysis of the respondent’s data. The result of test-retest technique indicates the reliability of the questionnaire including the 25 scenarios or profiles (see appendix No.2).

12.9) Identifying Variables

In the process of formulating a research problem, there are two important considerations. Firstly, the use of concepts, and secondly, the construction of hypotheses. Concepts are highly subjective as their understanding varies from person to person and therefore, as such, may not be measureable. In a research study it is important that the concepts used should be operationalised in measurable terms so that the extent of variation in respondents’ understanding is reduced if not eliminated. Techniques about how to operationalize the concepts, and knowledge about variables, play an important role in reducing this variability (Kumar, 2005).

An image, perception or concept that is capable of measurement - hence capable of taking on different values- is called a variable. In other words, variable is a concept that can be measured. A variable is a property that takes on different values. Putting it redundantly, a variable is a symbol to which numerals or values are attached (Kerlinger, 1986).

There are some who believe that scientific methods are incapable of measuring some concepts such as feelings, preferences, values and
sentiments. Concepts are mental images or perceptions and therefore their meanings vary from individual to individual. Measurability is the main difference between a concept and a variable. It is therefore important for the concepts to be converted into variables as they can be subjected to measurement even though the degree of precision with which they can be measured varies from scale to scale.

A variable can be classified in a number of ways. The classification developed here results from the viewpoint of causation. In studies that attempt to investigate a casual relationship or association, four sets of variables may operate: change variables, outcome variables, connecting or linking variables and variables which affect the link between cause and effect variables. Change variables are responsible for bringing about change in a phenomenon, Outcome variable are the effects of a change variable and connecting or linking variables in certain situation are necessary to complete the relationship between cause and effect variables. In research terminology, change variables are called independent variables, outcome variables are called dependent variables, the unmeasured variables affecting the cause and effect relationship are called extraneous variables and the variables that link a cause and effect relationship are called intervening variables. Hence:

1. **Independent variable**: the cause supposed to be responsible for bringing about changes in a phenomenon or situation.
2. **Dependent variable:** the outcome of the changes brought about by introduction of an independent variable.

3. **Extraneous variable:** several other factors operating in a real life situation may affect changes in the dependent variable. These factors, not measured in the study, may increase or decrease the magnitude or strength of the relationship between independent and dependent variables.

4. **Intervening variable:** this kind of variable sometimes is called confounding variable (Grinnell, 1988), links the independent and dependent variables. In certain situation the relationship between an independent and a dependent variable cannot be established without the intervention of another variable. The cause variable will have the assumed effect only in the presence of an intervening variable.

In this research, quality, various menus, enough serving, easy eating, speed service, delivery service, coziness, hygiene, staff behavior, Brand name, price and parking are the independent variables and the selection of the FFR is the dependent variable. In current study researcher investigates whether any change on dependent variables leads to the conclusion of a change in selection of fast food restaurant by Indian and Non-Indian students or not? On the other hand, there is any relation between the independent variables and dependent variable or not?
12.10) Processing Data

Irrespective of the method of data collection, the information collected is called raw data or simply data. The first step in processing the data is to ensure that the data are clean, that is free from inconsistencies and incompleteness. This process of cleaning is called editing (Kumar, 2005).

12.10.1) Editing Data

Editing consists of scrutinizing the completed research instruments to identify and minimize, as far as possible, errors, incompleteness, misclassification and gaps in the information obtained from the respondents. Editing is the process of examining errors and omissions in the collected data and making necessary corrections in the same (Gupta and Gupta, 2011). This is desirable when there is some inconsistency in the response or responses as entered the questionnaire or when it contains only a partial or a vague answer. In the case of questionnaire, different kinds of problem can crop up. These problems to a great extent can be reduced simply by checking the contents for completeness and checking the responses for internal consistency. Editing can be helpful in different ways as follows:

The respondent has given answers which are inconsistent with each other. In such a case, the editor has to change one of the answers so as to make it consistent with the other one, which can be suitably changed.
The respondent has marked two answers instead of one for a particular question. In such a case, the editor has to carefully examine which of the two answers would be more accurate.

The respondent has answered a question by checking one of the many possible categories contained in the questionnaire. In addition, the respondent has written some remarks in the margin. These remarks do not go well with the particular category marked by the respondent. This has to be looked into and may have to change the category to better represent the remarks made by the respondent.

In all cases where editorial corrections are to be made, it is necessary that these should be kept distinct from the changes made either by the respondent. Editing can be undertaken both at the time when the field survey is in progress and also when it has been completed. In the former case, it is known as field editing. Another type of editing, which is undertaken after the questionnaires have been received at the headquarters (ibid., p.222), in current study, researcher has carried out both kinds of editing; field editing and central editing.

12.10.2) Coding Data

Having ‘cleaned’ the data, the next step is to code it. The method of coding is largely dictated by two considerations (Kumar, 2005):
The way a variable has been measured (measurement scale) in the research instrument e.g., if a response to a question is descriptive, categorical or quantitative.

The way that the researchers want to communicate the findings about a variable to their readers.

Coding is the procedure of classifying the answers to a question into meaningful categories. Coding is necessary to carry out the subsequent operations of tabulating and analyzing data. If coding is not done, it will not be possible to reduce a large number of heterogeneous responses into meaningful categories with the result that the analysis of data would be weak, ineffective and without proper focus (Gupta and Gupta, 2011).

Coding involves two steps. The first step is to specify the different categories or classes into which the responses are to be classified.

The second step is to allocate individual answers to different categories.

In large survey, like current research, where mostly structured questionnaire are used, the response categories are pre-determined and are contained in the questionnaires themselves. The categories are in the form of multiple-choice answers to the question. For example, about individual attributes such as gender, age, marital status, degree classification and major or general questions such as main reason of patronage, decision maker of brand selection and dine-out frequency, distinct categories are indicated and
the respondents are supposed to indicate by checking the category in which for example their individual attributes falls. It is obvious that in such cases the respondents themselves choose the category, which is applicable to them. At times the questionnaires are wholly or partially pre-coded, these questionnaires contain a numeric code for each of the response categories.

In current study, 377 revised questionnaires which were presented to Indian students have been coded from IS001 to IS377. And 377 revised questionnaires which were presented to Non-Indian students have been coded from NS001 to NS377. 34 questions of the questionnaire have been coded from Q01 to Q34. As the questions in questionnaire are closed ended, they have definite options which any of them have a definite code. In case of conjoint analysis card lists, any card list’s scenarios (profiles) have been coded form P01 to P12.

All these coded data have been saved in 4 excel files in order to analyze by SPSS software.

12.11) Analyzing Data

Data analysis involves organizing, accounting for and explaining the data; in short, making sense of data in terms of the participants’ definitions of the situation, noting patterns, themes, categories and regularities. In respect of data analysis the researcher can set out to discover patterns, to generate themes, to understand individuals, idiographic features and groups,
to discover commonalities, differences and similarities and so forth (Cohen et al., 2007). In abiding by the principle of *fitness for purpose*, the researchers must be clear what they want the data analysis to do. The significance of deciding the purpose is that, it will determine the kind of analysis performed on the data. This, in turn, will influence the way in which the analysis is written up. The data analysis will also be influenced by the number of data sets and people from whom data have been collected. Researchers will need to decide whether to present data individual by individual, and then, if desired, to amalgamate key issues emerging across the individuals, or to proceed by working within a largely predetermined analytical frame of issues that crosses the individuals concerned.

At a practical level, qualitative research rapidly amasses huge amounts of data, and early analysis reduces the problem of data overload by selecting out significant features for future focus. *Progressive focusing* starts with the researcher taking a wide angle lens to gather data, and then, by sifting, sorting, reviewing and reflecting on them, salient features of the situation emerge (Parlett and Hamilton, 1976).

At a theoretical level, a major feature of qualitative research is that analysis often begins early on in the data collection process so that theory generation can be undertaken (LeCompte and Preissle, 1993).

Researchers should set out the main outlets of the phenomena that are under investigation. They should then assemble blocks or groups of data, putting
them together to make a coherent whole (e.g. through writing summaries of what has been found). Then, they should painstakingly take apart their field notes, matching, contrasting, aggregation, comparing and ordering notes made. The intention is to move from description to explanation and theory generation (ibid., p.237).

12.11.1) Inferential Statistics for Hypothesis Testing

Inferential statistics helps to reach conclusions that extend beyond the immediate data alone. Inferential statistics tries to infer from the sample data what the population might think. Researcher uses inferential statistics to make judgments of the probability that an observed difference between groups is a dependable one or one that might have happened by chance in this study. Thus, by using the inferential statistics, researcher tries to make inferences from collected data to more general conditions. Basic analysis invariably involves some hypothesis testing. The procedure for hypothesis testing, for the special case when the  \( t \) statistic is used is as follows:

1. Formulate the null (\( H_0 \)) and the alternative (\( H_1 \)) hypotheses.

2. Select the appropriate formula for the \( t \) statistic.

3. Select a significance level, \( \alpha \), for testing \( H_0 \). Typically, the 0.05 level is selected (Verma and Goodale, 1995).

4. Take one or two samples and compute the mean and standard deviation for each sample.
5. Calculate the $t$ statistic assuming that $H_0$ is true.

6. Calculate the degrees of freedom and estimate the probability of getting a more extreme value of the test statistic. (Alternatively, calculate the critical value of the $t$ statistic.)

7. If the probability computed in step 6 is smaller than the significance level selected in step 3, reject $H_0$. If the probability is larger, do not reject $H_0$. (Alternatively, if the value of the calculated $t$ statistic in step 5 is larger than the critical value determined in step 6, reject $H_0$. If the calculated value is smaller than the critical value, do not reject $H_0$.) Failure to reject $H_0$ does not necessarily imply that $H_0$ is true. It only means that the true state is not significantly different from that assumed by $H_0$.

8. Express the conclusion reached by the $t$ test in terms of the marketing research problem.

The first step is to formulate the null and alternative hypotheses. A null hypothesis is a statement in which no difference or effect is expected. If the null hypothesis is not rejected, no changes will be made. An alternative hypothesis is one in which some difference or effect is expected. Accepting the alternative hypothesis will lead to changes in opinions or actions (Malhotra and Birks, 2006). Thus, the alternative hypothesis is the opposite of the null hypothesis. The alternative hypothesis and the null hypothesis in this study (in respect of the third option in the questionnaire which according to Likert Scale has the score of three) are as follows:
In order to test the hypotheses in this study t-test is used. The t-test assesses whether the means of two groups are statistically different from each other. This analysis is appropriate whenever you want to compare the means of two groups. In the case of a t-test for a single mean the researcher is interested in testing whether the population mean conforms to a given hypothesis \((H_0)\).

Parametric tests provide inferences for making statements about the means of parent populations. A t-test is commonly used for this purpose. This test is based on the Student’s t statistic. The t-statistic assumes that the variable is normally distributed and the mean is known (or assumed to be known) and the population variance is estimated from the sample. Assume that the random variable \(X\) is normally distributed, with mean \(\mu\) and unknown population variance \(\sigma^2\), which is estimated by the sample variance \(s^2\). Recall that the standard deviation of the sample mean, \(\bar{X}\), is estimated as \(\sigma_{\bar{X}} = \frac{s}{\sqrt{n}}\), then

\[
t = (\bar{X} - \mu) / \sigma_{\bar{X}}\]

is \(t\) distributed with \(n - 1\) degrees of freedom.

12.11.2) Chi-Square Test

The statistical significance of the observed association is commonly measured by the chi-square statistic. The strength of association, or degree
of association, is important from a practical or substantive perspective. Generally, the strength of association is of interest only if the association is statistically significant. The chi-square statistic \( (\chi^2) \) is used to test the statistical significance of the observed association in a cross-tabulation. It assists us in determining whether a systematic association exists between the two variables. The null hypothesis, \( H_0 \), is that there is no association between the variables. The test is conducted by computing the cell frequencies that would be expected if no association were present between the variables, given the existing row and column totals. These expected cell frequencies, denoted \( f_e \), are then compared with the actual observed frequencies, \( f_o \), found in the cross-tabulation to calculate the chi-square statistic. The greater the discrepancies between the expected and observed frequencies, the larger the value of the statistic. Assume that a cross-tabulation has \( r \) rows and \( c \) columns and a random sample of \( n \) observations. Then the expected frequency for each cell can be calculated by using a simple formula:

\[
f_e = \frac{n_r n_c}{n}
\]

where \( n_r = \) total number in the row

\[
n_c = \text{total number in the column}
\]

\[
n = \text{total sample size}.
\]

Then the value of chi-square is calculated as follows:

\[
\chi^2 = \sum_{i=1}^{n} \frac{(f_o - f_e)^2}{f_e}
\]
To determine whether a systematic association exists, the probability of obtaining a value of chi-square as large as or larger than the one calculated from the cross-tabulation is estimated. An important characteristic of the chi-square statistic is the number of degrees of freedom \((d_f)\) associated with it. In general, the number of degrees of freedom is equal to the number of observations less the number of constraints needed to calculate a statistical term. In the case of a chi-square statistic associated with a cross-tabulation, the number of degrees of freedom is equal to the product of number of rows \((r)\) less one and the number of columns \((c)\) less one. That is, \(d_f = (r - 1) \times (c - 1)\) (Pett, 1997).

The null hypothesis \((H_0)\) of no association between the two variables will be rejected only when the calculated value of the test statistic is greater than the critical value of the chi-square distribution with the appropriate degrees of freedom (Berenson et al., 2002). The chi-square distribution is a skewed distribution whose shape depends solely on the number of degrees of freedom. As the number of degrees of freedom increases, the chi-square distribution becomes more symmetrical.

In current study, researcher has used the chi-square test in order to investigate the relationship between the times that Indian and Non-Indian students dine out at fast food restaurant with marital status, degree classification and major.
12.11.3) Conjoint Analysis

Since the first reports on conjoint analysis appeared in the marketing literature (Green and Rao, 1971; Green and Wind, 1973), conjoint methodology has gained widespread popularity in academia and practitioners (Wittink et al., 1994). It estimates the relative importance of a product’s multi-dimensional attributes by decomposing a customers’ overall or global judgment about a set of complex alternatives into separate and compatible utility scales by which the original global judgment can be reconstituted. The two main assumption underlying conjoint analysis are as follows:

- Consumer choice behavior is governed by maximization of preferences (Jaeger et al., 2000).
- A product or service can be viewed as a bundle of attributes from which consumers gain utility (Carson et al., 1994; Hensher, 1994).

Conjoint analysis attempts to determine the relative importance consumers attach to salient attributes and the utilities they attach to the levels of attributes. This information is derived from consumers’ evaluations of brands or from brand profiles composed of these attributes and their levels. The respondents are presented with stimuli that consist of combinations of attribute levels. They are asked to evaluate these stimuli in terms of their
desirability. Conjoint procedures attempt to assign values to the levels of each attribute so that the resulting values or utilities attached to the stimuli match, as closely as possible, the input evaluations provided by the respondents. The underlying assumption is that any set of stimuli are evaluated as a bundle of attributes. Conjoint analysis relies on respondents’ subjective evaluations. In conjoint analysis, the stimuli are combinations of attribute levels determined by the researcher. Conjoint analysis seeks to develop the part-worth or utility functions describing the utility consumers attach to the levels of each attribute.

Conjoint analysis has been used in marketing for a variety of purposes, including the following (Malhotra and Birks, 2006):

■ **Determining the relative importance of attributes in the consumer choice process.** A standard output from conjoint analysis consists of derived relative importance weights. The relative importance weights indicate which attributes are important in influencing consumer choice.

■ **Estimating market share of brands that differ in attribute levels.** The utilities derived from conjoint analysis can be used as input into a choice simulator to determine the share of choices, and hence the market share, of different brands.

■ **Determining the composition of the most preferred brand.** Brand features can be varied in terms of attribute levels and the corresponding utilities determined. The brand features that yield the highest utility indicate the
composition of the most preferred brand.

- **Segmenting the market based on similarity of preferences for attribute levels.** The part-worth functions derived for the attributes may be used as a basis for clustering respondents to arrive at homogeneous preference segments.

Applications of conjoint analysis have been made in consumer goods, industrial goods and financial and other services. Moreover, these applications have spanned all areas of marketing. A recent survey of conjoint analysis reported applications in the areas of new product and concept identification, competitive analysis, pricing, market segmentation, advertising and distribution.

The important statistics and terms associated with conjoint analysis include the following (ibid., p.628):

**Part-worth functions:** The part-worth or utility functions describe the utility consumers attach to the levels of each attribute.

**Relative importance weights:** The relative importance weights are estimated and indicate which attributes are important in influencing consumer choice.

**Attribute levels:** Denote the values assumed by the attributes.

**Full profiles:** Full profiles or complete profiles of brands are constructed in terms of all the attributes by using the attribute levels specified by the design.
Cyclical designs. Designs employed to reduce the number of paired comparisons.

Fractional factorial designs: Designs employed to reduce the number of stimulus profiles to be evaluated in the full-profile approach.

Orthogonal arrays: A special class of fractional designs that enable the efficient estimation of all main effects.

Internal validity: This involves correlations of the predicted evaluations for the holdout or validation stimuli with those obtained from the respondents.

Consumers’ reaction to multi-attribute product alternatives is difficult to measure on interval or ratio scales. Asking consumers what is important in a hospitality product often shows highly skewed data, which can also be difficult to analyze (Lewis et al., 1991). When asked to choose the attributes they would like, most customers will choose everything on the wish list. When restaurant customers make a choice, they do not consider each attribute individually and independently; instead, they consider the product attributes in totality. A conjoint analysis can better predict the overall consumer preference by aggregating the utility scores of each product attribute (Levy, 1995). A conjoint analysis is a multi-variate technique, which determines the relative importance of a product’s multi-dimensional attributes and measures consumers’ degree of preferences for each level of each attribute (Green and Wind, 1975; Tull and Hawkins, 1993). The relative importance of each attribute is calculated as the utility range. This is
different between the highest and the lowest utility for that attribute divided by the sum of utility ranges of all attributes (Okechuku, 1993). The technique calculates group statistics, attribute part-worth (utilities) and a distribution of preferred levels from the data file, using an ordinary least squares (OLS) regression. Attribute part-worth is the quantified attribute values derived from a conjoint modeling, which is what the product does for the customer or the individual amount of satisfaction it provides. The full-profile method asks the respondents to rank a set of profiles composed of different combinations of factor levels according to their preference (Koo et al., 1999). Since the possible combination of all factor levels are too large for respondents to rank, the full-profile approach uses a smaller fraction of all possible alternatives, also referred to as fractional factorial designs. Most conjoint tests rely on some kind of fractional factorial design, which uses most commonly an orthogonal array, or an orthogonal array is an experimental design, which assumes away most interactions among the independent variables considering only main effects (Lewis et al., 1991). A conjoint analysis is the appropriate market research tool to handle the psychological matter like extracting attributes that are in the uppermost minds of respondents.

The table(4.4) illustrate the second type of questionnaire in the form of list – cards (profile) that are organized on the basis of full profile method. A full profile method and orthogonal array are used to measure the preference of
attributes in selecting fast food restaurants in this research. As mentioned before, there are six attributes at twenty different levels: four brands (McDonald’s, KFC, Subway, Other brands), there menu price (expensive, rescannable, Chip) four food-related factors (Quality, Various Menu, Enough Serving, Easy eating), four service related factors (Speedy services, Delivery Services, Hygiene, Staff behavior), three levels of declaration (Good decoration, Average decoration, Poor decoration) and two levels of parking (with parking, without parking).

For a total of 1152 possible combinations though the fractional factorial design (FFD) and orthogonal array the size of a set of full-profile stimuli are reduced to a manageable level without sacrificing the predicting power contained in the original design. According to the Balanced Incomplete Block Design (BIBD) 24 scenarios (Profile) are implemented in those list-cards. In fact here the respondents will rank their preferences from 1 to 24.

Table (4.4) List Cards’ 24 Scenarios

<table>
<thead>
<tr>
<th>Food-Related Factor</th>
<th>Service-Related factor</th>
<th>Brand Name</th>
<th>Price</th>
<th>Decoration</th>
<th>Parking</th>
<th>Rank No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enough Serving</td>
<td>Delivery Service</td>
<td>Other Brands</td>
<td>Expensive</td>
<td>Good</td>
<td>Without Parking</td>
<td></td>
</tr>
<tr>
<td>Quality</td>
<td>Speedy Service</td>
<td>McDonald’s</td>
<td>Cheap</td>
<td>Average</td>
<td>Without Parking</td>
<td></td>
</tr>
<tr>
<td>Quality</td>
<td>Staff Behavior</td>
<td>Other Brands</td>
<td>Reasonable</td>
<td>Good</td>
<td>With Parking</td>
<td></td>
</tr>
<tr>
<td>Enough Serving</td>
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<td>McDonald’s</td>
<td>Expensive</td>
<td>Good</td>
<td>Without Parking</td>
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<tr>
<td>Various Menu</td>
<td>Staff Behavior</td>
<td>McDonald’s</td>
<td>Expensive</td>
<td>Average</td>
<td>With Parking</td>
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</tr>
<tr>
<td>Quality</td>
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<td>Subway</td>
<td>Expensive</td>
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<tr>
<td>Various Menu</td>
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<td>KFC</td>
<td>Reasonable</td>
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<tr>
<td>Easy Eating</td>
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<td>KFC</td>
<td>Cheap</td>
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