CHAPTER – 3

3. RESEARCH DESIGN

From the review of literature, it is observed that though significant research efforts have been made in the area of Servicescape, very few studies have attempted to establish the link between Servicescape, emotions and behavioural intentions particularly in fine dining restaurants industry. Large number of studies focused on retail store Servicescape (Billings, 1990; Donovan et al, 1994; Dennis and Newman, 2005). Majority of the research has investigated the effect single Servicescape elements such as music (Yalch and Spangenberg, 2000; Chebat et al., 2001), scent (Spangenberg et al., 2005, 2006), colour, lighting and few more. Further, most of the research comes from developed economies such as North America (Baker et al., 1992; Bellizzi and Hite, 1992; Kelleris and Kent, 1992), Europe (Bigne et al., 2005; Newman, 2007) Australia (Donovan et al., 1994), Hong Kong (Tai and Fung, 1997), Israel (Gilboa and Rafaeli, 2003), and Singapore (Wirtz et al., 2000). This has helped the researcher to understand the research gap and thereby identify the research problem. This chapter states the research problem and objectives of the study and then elaborates on the research design adopted.

3.1 Statement of the Problem

At present, Indian Fine dining Restaurant industry is at cross roads. Backed by expanding service sector and increasing affluence, no doubt this sector is growing faster. The rapid growth and fine future prospects has led many players to enter this space both from International and domestic arena. This has surely increased the competition and is expected to increase further as many players are in the pipe line. At the same time, growing disposable incomes and changing life styles have made Indian consumer ever demanding, of deeper
sensory experiences (Datamonitor, 2009). At this juncture, the immediate challenge for fine dining restaurateurs is therefore to design a unique and appealing Servicescape which is believed to create extraordinary consumption experiences, and thereby attract and retain customers.

Despite the acknowledged importance of Servicescape and its impact on consumer emotions and behavioural intentions, very little empirical research is conducted especially in the fine dining restaurant industry. Surprisingly, there is a dire lack of Servicescape research in Indian context. Till date very few researchers have shown interest in Servicescape studies (Kumar, et. al., 2010; Tripathi and Siddiqui, 2007, 2008; Jain and Bagdare, 2011; Paninchukunnath, 2009; Bhardwaj, Palaparthy and Agrawal, 2008). Further studies by Jain and Bagdare (2011) and Bhardwaj, Palaparthy and Agrawal (2008) focused on the review of existing literature. Jain and Bagdare (2011) presented a review on single Servicescape element i.e., music and its influence on consumption experience. Bhardwaj, Palaparthy and Agrawal (2008) again based on literature found that there is a need for studies with rigorous methodology to establish interaction between servicescape dimensions and behavioral consequences and incorporating external factors like architecture, layout and location of the Servicescape. Out of four empirical studies, Tripathi and Siddiqui (2007, 2008) assessed the effects of Servicescape on satisfaction and re-patronage intentions. Kumar, Garg, and Rahman (2010) examined the influences of retail atmospherics on customer value. Paninchukunnath (2009) explored the dimensions of elaborate Servicescape. All of these studies ignored the role of emotions, which significantly affects customer service experiences (Zeithaml et al, 2008). Therefore it is of critical importance to study the applicability of Mehrabian and Russel (1974) model in Indian context which states that 'the perceptions of Servicescape (physical environment) elicit emotional (feelings) responses in consumers, which in turn lead to approach or
avoidance behaviours’. Further, it is required to identify the factors which are critical for the perception of Servicescape and to establish the causal relationships among Servicescape factors, emotions and consumer behavioural responses in fine dining restaurants. Therefore, this study has been undertaken with the primary objective of exploring the Servicescape factors and investigating the impact of these factors on consumer emotions and behavioural intentions. Bangaloreans are known for their eating-out habits who eat-out twice as much as their counterparts in New Delhi and Mumbai cities.\(^2\) They spend around 40.3\% of their money on eating-out (Hindustan Times – CNN IBN survey in 2010).\(^3\) Bangalore also houses wider range of fine dining restaurants. Therefore, Bangalore has been chosen as the study geography.

3.2 Need and Significance of the Study

With the international brands entering Indian fine dining space and existing ones on expansion mode, the competitiveness is increasing. All the restaurants offering international cuisines, authentic foods, excellent customer service, these are no more deciding factors for consumers and the only way restaurant can gain competitive edge is through Servicescape. With increased awareness and appreciation, many restaurateurs have already placed Servicescape central to their competitive strategies. However, there is a dire lack of systematic knowledge on Servicescape. Therefore, there is a strong need for intense empirical research on various aspects of Servicescape in fine dining restaurant industry in India. Keeping in mind the changing needs of today’s consumers, who look for sensory dining experiences, knowing what kind of Servicescape customer likes and feels pleasure in visiting and spending time, is very crucial for making better strategies. Further, fine dining restaurants are investing enormous amount of resources in creating new facilities or modernizing existing ones. Therefore, understanding which factors restaurant Servicescape is composed of, the
relative importance of these factors and how these factors influence their behavioural intentions, will definitely help restaurateurs in designing and managing Servicescape better. The knowledge of how consumers perceive Servicescape and how do they react to these stimuli, not only help restaurateurs in designing unique and customer centric Servicescape, but also spend resources judiciously.

Being first of its kind in the Indian context, particularly in fine dining restaurants, this study assumes significance. The findings of this study contribute both in terms of enriching the existing theory of Servicescape and providing insights to restaurant industry.

➢ Primarily, this study intends to explore the factors of Servicescape and thereby develop an effective measure of perceived Servicescape quality. This will help restaurateurs to periodically check the levels of perceived Servicescape quality and adopt corrective measures to match changed customer needs and expectations. Regular checking of customer perceptions also signals the need for redesigning or renovating the Servicescape. Knowledge of the relative importance of various Servicescape factors helps in the optimal utilization of resources. Comparison of the perceived Servicescape quality among various customer groups based on age, income, occupation, household size, dining frequency and others leads to better targeting and positioning strategies.

➢ Secondly, this study intends to find out how Servicescape factors affect Emotions and thereby Behavioural Intentions. This knowledge definitely helps restaurateurs in thoughtfully designing and maintaining Servicescape to deliver desired customer experiences. By designing customer-centric Servicescape they can also induce desired behavioural responses in terms of desire to stay, re-patronage intentions, willingness to recommend, and willingness to pay more.
Finally, this study also attempts to identify dining-out trends and consumption patterns, pertaining to fine dining restaurant industry which will help restaurateurs in identifying the unique opportunities and developing strategies accordingly.

### 3.3 Scope of the Study

This study attempts to uncover the dimensions of restaurant Servicescape and establish the primary relationships among Servicescape, Emotions and Behavioural Intentions through scientifically developed research design and advanced statistical analyses. Therefore, the results of this study will find applicability in various aspects of Servicescape management of fine dining restaurants. With caution, the findings can be extended to other restaurant formats such as fast-food, casual dining and others forms of food service industry. Further, study also finds applicability in other service encounters where customer experiences are central to the success of business such as shopping malls, multiplexes, gaming zones, hotels and resorts, theme parks, stadiums and so on. Results can be extended to other metro cities across the country but in the same industry.

### 3.4 Objectives of the Study

The primary purpose of this study is to adapt and adopt Mehrabian and Russell (1974) model in fine dining restaurants. The first part of this study aims to identify the reliable and valid factor structure of Servicescape in the fine dining restaurant setting. The second part of the study investigates the causal relationships between Servicescape, emotions (pleasure and arousal) and behavioral intentions (re-patronage, willingness to recommend, desire to stay and willingness to pay more). The specific objectives of the study are presented below.
**Primary objectives**

1. To explore the factors of Servicescape in the fine dining restaurants in Bangalore.
2. To investigate the impact of factors of Servicescape on consumer Emotions.
3. To investigate the impact of consumer Emotions on Behavioural Intentions.

**Secondary objectives**

4. To analyse the influence of select demographic variables on the perception of restaurant Servicescape dimensions.
5. To analyse the dining-out behaviours and consumption patterns in Indian fine dining restaurant sector.
6. To identify customer preferences of select Servicescape elements in fine dining restaurants.

**3.5 Hypotheses of the Study**

A hypothesis is a tentative explanation which formulates the problem, so that it can be studied systematically. Research hypotheses specify a possible relationship between different aspects of the problem, i.e. between the Independent Variables and the Dependent Variables.

In this study hypotheses are framed to address the primary objectives. These are as stated below.

**Confirmatory factor Analysis**

**Hypothesis:** There is no difference (similarity) between the Servicescape Factor Model and the Data.

**Structural Equation Modeling**

**H1a:** Hygiene factor of Servicescape has significant positive impact on Emotions.

**H1b:** Aesthetic factor of Servicescape has significant positive impact on Emotions.

**H1c:** Location factor of Servicescape has significant positive impact on Emotions.
**H2:** Emotions has significant positive impact on Behavioral Intentions.

### 3.6 Operational Definitions

An operational definition defines a variable, term or object in terms of the specific process or set of validation tests used to determine its presence and quantity. It describes the exact meaning of the variables and how they are measured within the context of the study.

- **Arousal:** “The degree to which a customer feels excitement, stimulation, or alertness in service environment” (Mehrabian and Russell, 1974).

- **Behavioral Intentions:** “Probability or likelihood of engaging in behaviours such as re-patronage, willingness to recommend, desire to stay and willingness to pay more” (Zeithaml, Berry and Parasuraman, 1996).

- **Emotion:** “More intense, stable, and pervasive feeling states that influence customer’s perceptions and evaluations of their experiences” (Zeithaml, 2008) measured in terms of pleasure and arousal.

- **Fine Dining Restaurant:** A multi-cuisine, full service restaurant where food is made from the scratch, offering personalised services to guests with the average check per person per meal ranging between Rs.1000 to Rs. 1500.

- **Pleasure:** “The degree to which a customer feels happy, joyful, contented, or satisfied in service environment” (Mehrabian and Russell, 1974).

- **Service encounter:** “when a service customer interacts with the service firm either face to face or through telephone or in a remote situation” (Zeithaml, 2008).

- **Servicescape:** “The style and appearance of physical surroundings combined with tangible commodities at service delivery sites that facilitate performance or communication of the service” (Bitner, 1992) including exterior and social factors.
3.7 Research Methodology

Research can be defined as ‘a scientific and systematic search for pertinent information on a specific topic’. It is not just a process of gathering information; rather, it is about answering unanswered questions or creating new knowledge or things which do not currently exist. Good research is “systematic” in the sense that it is planned, organized and has a specific goal. Broadly, research can be either Pure research or Applied research. Pure research is the research performed for the single goal of gaining knowledge. The applied research is the one which is performed to solve a specific practical problem. Research Methodology explains the research methods used in the context of study and explains why a particular method or technique is opted over others, so that research results are capable of being evaluated. It helps the researcher and the reader to understand the process of the research thus giving it scientific merit. It includes the research design, population, instruments used to collect data, ethical considerations, tools and techniques adopted for data analysis and its interpretation.

This study involved the understanding of the relationships exist between Servicescape, Emotions and Behavioural intentions. As Descriptive research designs is more suitable for testing hypotheses about relationships between variables, this study primarily adopted Descriptive research design. Additionally, this study attempts to explain how these relationships are formed, therefore Explanatory research design also has been followed. Further, the study adopted mainly Quantitative research approach which involves collecting and converting data into numerical form so that statistical calculations can be made and conclusions can be drawn. The main emphasis of quantitative research is on Deductive reasoning which tends to move from the general to the specific. The gist of research design adopted for this study is presented below in Figure 3.1.
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<thead>
<tr>
<th><strong>Research Type</strong></th>
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<td><strong>Descriptive and Explanatory</strong></td>
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<td><em>Describing and explaining the phenomena</em></td>
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<td><strong>Survey</strong></td>
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<td><em>Estimation of Population based on sample characteristics</em></td>
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<td><strong>Cross Section</strong></td>
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<td><em>Two-stage systematic sampling</em></td>
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<th><strong>Data Collection Tool</strong></th>
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<td><strong>Questionnaire</strong></td>
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<td><em>Personal and self-administrated</em></td>
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<th><strong>Data Analysis Tools</strong></th>
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<tr>
<td><strong>Descriptive and Inferential Techniques</strong></td>
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<tr>
<td><em>Univariate &amp; Bivariate Tabulation, T-test &amp; ANOVA,</em></td>
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<td><em>Exploratory &amp; Confirmatory Factor Analysis and</em></td>
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<tr>
<td><em>Structural Equation Modeling</em></td>
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3.7.1 Type of Research Design

A Research Design is the framework or plan for a study used as a guide in collecting and analyzing data. It is the structure, or an outline that guides the process of research from the formulation of the research questions and hypotheses to reporting the research findings. There are three basic types of research design: exploratory, descriptive, and causal.

- **Exploratory Research** - Design in which the major emphasis is on gaining ideas and insights. Exploratory research is conducted to provide a better understanding of a situation and not to come up with final answers or decisions. Through exploratory research, researchers hope to produce hypotheses about what is going on in a situation.

- **Descriptive Research** - Research design in which the major emphasis is on determining the frequency with which something occurs or the extent to which two variables co-vary. It can be used to accomplish a wide variety of research objectives. However, descriptive data become useful for solving problems when the process is guided by one or more specific research problems, much thought and effort, and quite often exploratory research to clarify the problem and develop hypotheses. Descriptive research is used for the following purposes:
  - To describe the characteristics of certain groups.
  - To determine the proportion of people who behave in a certain way.
  - To make specific predictions.
  - To determine relationships between variables.

Further descriptive study may follow cross-sectional designs, or longitudinal designs.
A **cross-sectional study** involves a sample of elements selected from the population of interest that are measured at a single point in time.

A **longitudinal study**, involves a fixed sample of elements that is measured repeatedly through time.

**Sample Survey**: Cross-sectional study in which the sample is selected to be representative of the target population and in which the emphasis is on the generation of summary statistics such as averages and percentages is known as Sample Survey. A sample survey offers a couple of advantages such as targeting very specific populations and the results from the sample can be projected to the overall population.

- **Causal Research** - Research design in which the major emphasis is on determining cause-and-effect relationships. Causal research designs work toward establishing possible causal relationships through the use of experiments.

![Figure 3.2: Types of Descriptive Research](image)

Further based on the nature of research, purpose of research, research questions, sample selection, data collection methods, and data analysis techniques the research designs can be
classified into one of three broad categories: (1) Quantitative research designs, (2) Qualitative research designs, and (3) Mixed-research designs.

**Quantitative research** refers to the systematic empirical investigation of quantitative properties and their relationships. The objective of quantitative research is to develop and employ mathematical models, theories or hypothesis pertaining to phenomena. The process of measurement is central to quantitative research, and involves the use of structured questions, where the response options have been pre-determined and large number of respondents is involved.

**Qualitative research** is the approach emphasises the socially constructed nature of reality. It is about recording, analysing and attempting to uncover the deeper meaning and significance of human behaviour and experience, including contradictory beliefs, behaviours and emotions. Researchers are interested in gaining a rich and complex understanding of people’s experience and not in obtaining information which can be generalized to other larger groups.

### 3.7.2 Geographical Area of the Study

Bangalore (Bengaluru) is the capital city of the south Indian state of Karnataka. It is also known as Silicon Valley of India, a hub of most of the IT companies around the world. Bangalore is known as the Pub City as it has the highest number of pubs in any Indian city and as Garden City for its year round blossoms and greenery. Modern Bangalore was founded by Kempe Gowda in the 16th Century and was officially announced as the state capital in 1831. The Government of Karnataka officially changed the name of the city from Bangalore to Bengaluru on 1st November 2006.
**Geography:** Bangalore is located in the heart of the Mysore Plateau at an average elevation of 920 m (2953 feet). Bangalore covers an area of 740 sq. km with a population of 6,200,000. It is the third most populated city in India after Mumbai and Delhi. Urban Agglomeration (BUA) extends from 2°50’26” to 13°08’58” N Latitude and 77°27’54” to 77°46’44” E Longitude.

![Figure 3.3: Bangalore Facts and Figures](http://www.karnataka.com/bangalore/facts/)

<table>
<thead>
<tr>
<th>Area:</th>
<th>740 square kilometers</th>
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</thead>
<tbody>
<tr>
<td>Altitude:</td>
<td>3000 ft. above sea level</td>
</tr>
<tr>
<td>Geographical Location:</td>
<td>Latitudinal Parallels: 12 degree 8’ N&lt;br&gt;Longitudinal Meridians: 77 degree 37’ E</td>
</tr>
<tr>
<td>Temperature:</td>
<td>Maximum: 33 degree C&lt;br&gt;Minimum: 14 degree C</td>
</tr>
<tr>
<td>Language:</td>
<td>Regional Language: Kannada, English, Hindi, Telugu and Tamil are widely spoken and understood</td>
</tr>
<tr>
<td>Population:</td>
<td>6 million</td>
</tr>
<tr>
<td>Literacy:</td>
<td>85.74%</td>
</tr>
<tr>
<td>Per Capita Income:</td>
<td>About Rs 50,000 per annum</td>
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</tbody>
</table>


**Bangalore City**

Bangalore city is governed by Municipal Corporation which comes under Bangalore Metropolitan Region. Population of Bangalore is 8,425,970; of which male and female are 4,401,299 and 4,024,671 respectively. Although Bangalore city has population of 8,425,970; its urban / metropolitan population is 8,499,399 of which 4,441,248 are males and 4,058,151 are females Bangalore Population 2011(Census India, 2011).
- **Literacy Rate** - Total literates in Bangalore city are 6,775,942 of which 3,664,959 are males while 3,110,983 are females. Average literacy rate of Bangalore city is 89.59 percent of which male and female literacy was 92.63 and 86.25 percent.

- **Sex Ratio** - The sex ratio of Bangalore city is 914 per 1000 males. Child sex ratio of girls is 940 per 1000 boys.

- **Child Population** - Total children (0-6) in Bangalore city are 862,493. There were 444,639 boys while 417,854 are girls. The child population forms 10.24% of total population of Bangalore City.

![Population Break-up of Bangalore District](http://www.census2011.co.in/census/district/242-bangalore.html)

Bangalore has the impeccable record of highest growth within a span of 20 years. More than US$ 100 billion economy makes Bangalore a major economic center in India. It is the fastest growing major metropolis with more than 10% economic growth. The thriving economy of the city has resulted with a net district income of Rs. 262,592 million (approx. US $ 5.8 billion). The city is the third largest hub for high net worth individuals after Mumbai and Delhi. Bangalore also posts the third largest average disposable income level in India, following Delhi and Mumbai (Euromonitor, 2013). Due to rapid industrialization in the last decade, the middle class segment grown enormously and dine-out on weekends has become a
habit for most of the urban middle class people. The booming middle class households armed with greater disposable income currently comprise 8% of the total number of households. This segment is growing annually at around 15%. Disposable income too is expected to rise at an average of 8.5% per annum till 2015. According to a recent survey conducted by recruitment companies MyHiringClub.com and FlikJobs.com, the average salary in Bangalore in 2012 stood at Rs. 6,13,100 whereas it is Rs. 5,42,432 in Pune and Rs. 5,14,607 crore in Mumbai. The average median salary for IT professionals is also the highest ranging from Rs. 3,96,935 to Rs. 17,26,551. Bangalore lands in the top spot on a ranking of cities that offer the best paying jobs. Bangalore, with most number of analytics professionals in the city, offers 11.8 lakhs mean salary (Business Standard, dated January 28, 2013)\(^7\). Bangalore has taken the art of fine dining to a completely different level and the city has become one of the top places in India to enjoy foods catering to the Spanish, Italian, Chinese, Japanese, Indian, Continental and Mexican palates. One can chose from a number of restaurants to gain the rich experience of eating out in Bangalore. For this reason, it is a huge hit among foreigners from all across the globe who form a small but substantial part of the city.

### 3.7.3 Sources of Data

For the purpose of this study both primary and secondary data are used.

- **Primary data** is collected through survey method using a structured questionnaire from fine dining restaurant service customers (diners). Also, by interviewing few restaurateurs and restaurant managers of fine dining restaurants in Bangalore.

- **Secondary data** is collected through desk research. Publications from refereed journals, published thesis, conference proceedings, magazines, newspaper articles are used. Also, online databases such as Ebscohost, Emerald publishing, and Sage Publications have been employed.
3.7.4 Survey and Field Study Plan

A field study approach is used in this study to collect primary data. Data has been collected from the subjects who are actually dining at select fine dining restaurants where they could observe and experience the Servicescape directly and therefore can provide more valid responses than if they are surveyed outside the restaurant. Further, Servicescape and emotional states used in the study are difficult to verbalize, transient and therefore difficult to recall (Bitner, 1992). Thus, field study approach is best suited for this study.

Survey approach has been adopted to collect the data via structured, self-report questionnaires at select fine dining restaurants. Survey spanned for 2 and half months from mid January to end of March in 2013. Questionnaires were self-administered. Respondents were asked towards the end of their meal if they were willing to participate in the survey, and based on their consent questionnaires were distributed.

3.7.5 Sampling Design

A sample survey has been used in this study as it is favoured in situations where the population size is large and taking appropriate sample reduces time and monetary costs. Sampling involves a process of selecting a sub-section of a population that represents the entire population in order to obtain information regarding the phenomenon of interest. There are two methods of sampling, one yield Probability Samples in which the probability of selection of each respondent is equal and assured. The other yields Non-Probability Samples in which the probability of selection is unknown.

3.7.5.1 Sample Unit – Any individual who dines at select fine dining restaurants in Bangalore city.
3.7.5.2 Target Population – All the people in Bangalore who dine at fine dining restaurants are considered to be the part of target population. These are generally urban, middle class to upper middle class population of Bangalore.

3.7.5.3 Sampling Scheme – As target population is infinite, it is not practically possible to compile a sampling frame of all the diners of fine dining restaurants. Therefore, sampling frame of fine dining restaurants was compiled. The list of fine dining restaurants in Bangalore was compiled using published sources such as Zomato Restaurant Guide 2012, Times Bangalore City Restaurant Guide 2012 and online sources such as www.burpp.com, www.asklalia.com.

A list of 135 fine dining restaurants was prepared and total of 25 restaurants were chosen. All the 25 restaurants were contacted personally and permission to conduct survey was obtained. Around 700 questionnaires were distributed in these 25 restaurants drawing minimum of 20 diners from each of the restaurant.

3.7.5.4 Inclusion and Exclusion Criteria – For the purpose of this study, fine dining restaurant was operationally defined as a ‘multi-cuisine, full service restaurant where food is made from the scratch, offering personalized services to guests with the average check per person ranging between Rs.1000 to Rs. 1500’. Therefore, restaurants meeting this criterion and willing to participate in the survey only were included in the sampling frame. Fine dining restaurants not meeting this criterion, and those attached to 5star/deluxe category hotels where average check per-person is above Rs. 1500 were totally excluded from the study.
3.7.5.5 Sampling Technique – Probability Sampling Technique of Two-Stage Sampling has been adopted for the purpose of this study which is deemed more appropriate in a situation where the sampling frame is available for the primary units (fine dining restaurants) but not the secondary stage units (diners).

In the first stage 25 fine dining restaurants were chosen from a list of 135, by drawing every 5\textsuperscript{th} (fifth) restaurant \((135/25 = 5.4)\) using systematic sampling. However, restaurants were listed in the order of the area these belong to like Bangalore east, west, north, south and central regions to have proper representative sample of Bangalore city. In the second stage, every 4\textsuperscript{th} (fourth) diner was chosen from each of the 25 selected restaurants over 2 - days period (through Monday to Friday) during lunch hours.

3.7.5.6 Sample Size – Sample size depends on many factors: size of the model, distribution of variables, amount of missing data, and reliability of variables and strength of relationships among the variables. Formula for Sample Size calculation when estimating means (continuous scale) is,

\[
n = \left(\frac{Z\sigma}{e}\right)^2
\]

However, the requirement of sufficient sample size to apply structural equation modeling is to have a 10:1 ratio of the number of subjects to the number of model parameters and ratio less than 5:1 leads to unstable estimates (Suhr, 2006). As there were 50 parameters in the proposed structural model, sample size of 500 was deemed suitable.
3.7.6 Survey Instrument and Measurement of Variables

A structured questionnaire with closed ended, pre-determined options is used for this study. The questionnaire is divided into four parts. Part-1 of the questionnaire measures the demographic characteristics, dining-out behaviours and select Servicescape preferences of fine diners. Part-2 is comprised of restaurant Servicescape items. Servicescape items relevant to fine dining restaurants were collected through extensive review of literature as well as consulting few restaurant managers. Total of 36 items related to facility aesthetics, ambience, tangibles, layout, cleanliness, exteriors and social factors were compiled. Respondents were asked to rate each statement using a 7-point Likert scale (1 = extremely disagree to 7 = extremely agree). Part-3 of the questionnaire contained emotional responses of pleasure and arousal items. Total of eight bipolar items derived from the Mehrabian and Russell (1974) model, 4 representing pleasure and 4 representing arousal were adopted. All the 8 bipolar measures were measured on a 7-point semantic differential scale. Pleasure consisted of four bipolar measures: unhappy-happy; annoyed-pleased; bored-entertained; disappointed-delighted and arousal was comprised of four items: depressed-cheerful; calm-excited; indifferent-surprised; sleepy-awake. Part-4 of the questionnaire contained 11 items related to behavioral intentions such as re-patronage intentions, willingness to recommend, desire to stay and willingness to pay more. All these scales were adopted from previous studies with suitable modifications: re-patronage intentions (Zeithaml, Berry, and Parasuraman 1996), willingness to recommend (Zeithaml, Berry, and Parasuraman 1996), desire to stay (Wakefield and Blodgett 1996) and willingness to pay more (Donovan and Rossiter, 1982). These items were rated on a 7-point Likert scale (1 = extremely disagree, 7 = extremely agree).
3.7.7 Pilot study

A pilot study was conducted among small sample to check the time taken to complete the questionnaire, length, level of ease to eliminate ambiguities or difficulties in wording. Based on pilot study, few questions were deleted and few were rephrased for easy understanding. Further the scale reliability was checked.

3.7.8 Tools and Techniques of Data Analysis

Detailed explanation of data analysis tools and techniques used in this study are given below.

- **Simple Tabulation** - In a questionnaire based survey, the first stage of analysis is called simple tabulation. This consists of treating every variable or question separately and the number of responses in each category of the answers is counted. In addition to number of respondents, percentage of respondents is also computed.

- **Cross Tabulation and Chi-Square Test** – A cross tabulation can be done by combining any two of the questions and tabulating the data together. The general rule for percentage calculation is to calculate it across independent variable. Further to test if the two variables are statistically associated or not, a test of significance called the Chi-square test can be used.

- **Independent Samples T-Test and ANOVA** - In simple terms, the t-test compares the actual difference between two means in relation to the variation in the data (expressed as the standard deviation of the difference between the means). If the calculated t value exceeds the tabulated value, it implies that the means are significantly different at that level of probability. The Independent-Samples T-Test procedure compares means for two groups of cases, where the subjects are randomly assigned to two groups, so that any difference in response is due to the treatment (or lack of treatment) and not to other factors. To compare
three or more variables, an analysis of variance (ANOVA) can be used. If the sample size is large, then a z-test is used.

In its simplest form, ANOVA provides a statistical test of whether the means of several groups are equal or not and therefore generalizes t-test to more than two groups. Doing multiple two-sample t-tests would result in an increased chance of committing a type I error. For this reason, ANOVAs are useful in comparing three or more means for statistical significance. ANOVA is available for both parametric (score data) and non-parametric (ranking/ordering) data.

➢ **Exploratory Factor Analysis (EFA)** - Exploratory factor analysis is generally used to discover the factor structure of a measure and to examine its internal reliability. EFA is often recommended when researcher has no hypotheses about the nature of the underlying factor structure of their measure. It is commonly used by researchers when developing a scale (a *scale* is a collection of questions used to measure a particular research topic) and serves to identify a set of latent constructs underlying a battery of measured variables. *Measured variables* are any one of several attributes of people that may be observed and measured. Researchers must carefully consider the number of measured variables to include in the analysis and assumes that any indicator/measured variable may be associated with any factor. EFA procedures are more accurate when each factor is represented by multiple measured variables, at least 3 to 5 measured variables per factor. When developing a scale, researchers should use EFA first before moving on to Confirmatory factor analysis (CFA). EFA has three basic decision points: (1) decide the number of factors, (2) choosing an extraction method, (3) choosing a rotation method.

The **Maximum Likelihood Extraction Method** (MLE) has many advantages in that it allows researchers to compute of a wide range of indexes of the goodness of fit of the model.
It allows testing the statistical significance of factor loadings, calculating correlations among factors and computing confidence intervals for the parameters.

- **Confirmatory Factor Analysis (CFA)** - It is a special form of factor analysis, used to test whether measures of a construct are consistent with a researcher's understanding of the nature of that construct (or factor). The objective of confirmatory factor analysis is to test whether the data fit a hypothesized measurement model which is based on theory and/or previous analytic research (exploratory factor analysis). In confirmatory factor analysis, the researcher first develops a hypothesis about what factors are underlying the measures used. Model fit measures could then be obtained to assess how well the proposed model captured the covariance between all the items or measures in the model. The results of statistical tests of model fit will indicate whether the model is accepted or rejected.

- **Structural Equation Modeling (SEM)** is a technique for testing and estimating causal relations using a combination of statistical data and qualitative causal assumptions. Structural equation models (SEM) allow both confirmatory and exploratory modeling, meaning they are suited to both theory testing and theory development. However SEM is a largely confirmatory, rather than exploratory, technique used to determine whether a certain model is valid. Confirmatory modeling usually starts with a hypothesis that is represented in a causal model. The model is tested against the obtained measurement data to determine how well the model fits the data. Some of the more commonly used measures of fit include:
  - **Chi-Square** - A fundamental measure of fit and is a function of the sample size and the difference between the observed covariance matrix and the model covariance matrix.
  - **Root Mean Square Error of Approximation (RMSEA)** - RMSEA values <.05 are considered to indicated good fit.
Comparative Fit Index (CFI) - CFI depends on the average size of the correlations in the data. A CFI value of .90 or higher indicates higher average correlation between variables which is desirable.

3.7.9 Plan of Data Analysis

Data is analyzed using SPSS (20.0 version) and Amos (version18) software using five stage analysis addressing each of the stated objectives.

Stage I – Descriptive Analysis

The first stage of the data analysis used the techniques of frequency, percentages, cross tabulations, chi-square tests, mean scores and standard deviation to analyse the demographic profile of the respondents, dining-out behaviours and servicescape preferences with reference to fine dining restaurants.

Stage II – T-Test and ANOVA

The second stage of data analysis compared the respondent’s perceptions of the restaurant servicescape dimensions among various customer groups. Series of T-Test and ANOVA are conducted to know if there are any significant differences in the perception of servicescape dimensions based on demographic characteristics.

Stage III - Exploratory Factor Analysis

The third stage of the data analysis is an exploratory factor analysis to identify the factor structure of servicescape. Maximum likelihood method with varimax rotation is used in the factor analysis. Further factor loadings greater than 0.5 and an eigen value equal to or greater
than 1 are used as criteria to identify the factors. Cronbach’s alpha coefficient is used to test the reliability of multi-item scales.

**Stage IV – Confirmatory Factor Analysis**

Confirmatory factor analysis is adopted to confirm the factor structure of servicescape and to check the validity and reliability of the model. The adequacy of the measurement model is evaluated based on criteria of overall fit with data and indices such as chi-square test, root mean square error of approximation (RMSEA), Tucker-Lewis index (TLI), goodness-of-fit index (GFI), and comparative fit index (CFI) are employed.

**Stage V – Structural Equation Modeling (SEM)**

Structural Equation Modeling (SEM) is conducted to identify the structural relationships between the servicescape factors, customer emotions and behavioural intentions. To assess the model and to know the relationships among the variables criteria of overall model fit with data and path analysis are employed. Goodness fit indices such as the Chi square, Normed Chi-square, CMIN, GFI, TLI, CFI, RMSEA are adopted.

**3.7.10 Over-view of the Thesis**

**Chapter I: Introduction**

This chapter gives general introduction to the study. First the concepts of Servicescape, Consumer Emotions and Behavioural Intentions, and Fine dining Restaurants have been explained and the study title has been introduced. Further detailed industrial analysis focused on Services sector, Hospitality and Tourism industry and Restaurant industry is presented emphasizing the growth and importance of Fine dining segment.
Chapter II: Conceptual Background and Review of Literature

First servicescape concept has been elaborated in terms of definitions, types, dimensions. Role and importance of servicescape in the service industry and in restaurant industry has been discussed. Major theoretical frame works on servicescape explaining the relationship among servicescape, emotions and behavioural intentions are discussed. A detailed summary of literature on servicescape, emotional responses, and behavioral intentions along with mediating and moderating roles has been presented.

Chapter III: Research Design

This chapter basically explains in detail the research methodology adopted for the present study. First the research gap has been analysed followed by identifying and stating the research problem. Study objectives, hypotheses, operational definitions, sample design, questionnaire development, measurement of variables, field study plan, plan of data analysis, overview of the thesis and limitations of the study are discussed.

Chapter IV: Data Analysis – Part I

This chapter presents data analysis and results of demographic profile of the respondents, dining-out behaviours with reference to fine dining restaurants, servicescape preferences. Customer perceptions of servicescape dimensions and the influence of demographic variables on these perceptions are analysed. Further exploratory factor analysis results, factor labeling and description, confirmatory factor analysis results, and reliability and validity test results are presented.
Chapter V: Data Analysis – Part II

The data analysis and results of structural equation modeling along with model fit indices and path analysis have been discussed. A structural diagram is presented.

Chapter VI: Findings and Conclusions

This chapter includes summary of findings, managerial implications, recommendations, limitations and pointers of future research, and conclusions of the study.

3.7.11 Limitations of the Study

Though utmost care has been taken in terms of choosing research design and adopting scientific tools and techniques, the study may suffer from certain limitations:

- The present study is conducted only in fine dining restaurants; therefore findings may not be applicable to other formats such as fast food or casual dining restaurants or to other service establishments.

- The survey is conducted in Bangalore city. Therefore results may not be generalized to other geographies.

- Concepts of emotions and behavioural intentions are difficult to articulate; therefore some amount of bias is inevitable in survey responses (Mehrabian and Rusell, 1974).
End Notes:


4 http://www.karnataka.com/bangalore/facts/


6 https://www.google.co.in/#q=euromonitor+consumer+trends+2013

References


