MEASURING THE EFFICIENCY OF SERVICE DELIVERY PROCESS IN HOSPITALITY INDUSTRY

A dissertation submitted in partial fulfilment of the
requirements for the award of the degree of

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BY

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DECLARATION

I, Samyak Swastik Sahoo, do hereby declare that the dissertation entitled **Measuring the Efficiency of Service Delivery Process in Hospitality Industry** has been undertaken by me for the award of the degree of Master of Business Administration. I have completed this study under the guidance of **Prof Padmanabh B, Associate Professor of Lean Operations and Systems, Institute of Management, Christ University**, Bangalore.

I also declare that this dissertation has not been submitted for the award of any degree, diploma, associateship or fellowship or any other title in this University or any other university.

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CERTIFICATE

This is to certify that the dissertation submitted by **Mr Samyak Swastik Sahoo** on the title **Measuring the Efficiency of Service Delivery Process in Hospitality Industry** is a record of research work done by him during the academic year 2012 – 13 under my guidance and supervision in partial fulfillment of Master of Business Administration. This dissertation has not been submitted for the award of any degree, diploma, associateship or fellowship or any other title in this University or any other university.

Place: Bangalore   Prof Padmanabh B

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ABSTRACT

Hospitality Industry is a lucrative business and a multi billionaire dollar industry. Over the years this sector has seen significant growth. The sector is widely distributed into several sub sectors. Service delivery is an important aspect in the hospitality industry. Operations involved in service delivery process needs to be efficient to meet customer requirement and satisfy them. The service delivery process consists of two processes one is the back end, the other the front. The customer sees the front end only. It is this front end activity which has to be improved upon and should be consistent every time for a proper service delivery.

The research paper covers only one part of the industry that is the restaurants. The restaurant business is quite complicated and the services delivered have to be accurate as they are visible to customers. The quality of the service has to be accurate and consistent as TQM implies "Do it right the first time" or the service will fail. Certain variables have been identified here in the study which contributes to the efficiency measurement in service delivery. Data were collected and analyzed for finding these variables. These variables have to be used to measure the delivery system efficiency.

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CHAPTER I

INTRODUCTION

1.1   INTRODUCTION

Atithi devo bhava as Indians say is a way of welcoming guests into someone's house. They refer it as "guest is god". This type of Hospitality has impressed many a travelers to this country & the concept has been implemented by many hotels, resorts & inns around the world.

The Hospitality industry is a broad category of industry that comes under service industry. The hospitality industry consists of lodging, restaurants, event planning, theme parks, transportation, cruise line, and additional fields within the tourism industry.

Hospitality is concerned with the provision of accommodation & catering services for guests. It also refers to the reception and entertainment of travelers, the way they are treated by industry employees and an overall concern for the traveler's well-being and satisfaction. Tourists are not the only consumers of hospitality services; Local residents also use them.

The history of the hotel industry is as old as the history of tourism and travel industry. In fact, both are two sides of the same coin. Both are complementary to each other. Hotel is an establishment which provides food, shelter and other amenities for comfort and convenience of the visitors with a view to make profit. Hotel is a commercial establishment and intends to provide visitors with lodging, food and related services with a view to please them so as to build goodwill and to let them carry happy memories.

The design and implementation of service delivery processes plays a key role in the overall competitiveness of modern organizations. For example, Roth and Jackson (1995) provide clear evidence that process capability and execution are major drivers of performance due to their impact on customer satisfaction and service quality. Thus, any study of the efficiency of service organizations *must* focus on the role of process design and performance.

Traditional efficiency studies measure the performance of a firm by its ability to transform inputs to outputs. However, the actual way in which these inputs are

transformed to outputs is often overlooked. That is, each firm's operation is conceptualized as a black box: inputs go in, outputs come out, and little analytical attention is paid to the inner workings of the transformation process.

Delivering good service to customers is the main goal that every service business strives to accomplish from time to time. The ability for a service provider to deliver quality service is considered an essential strategy for success and survival in today's competition. In this case, service encounter is a critical part of the service delivery process because it gives impact to customer's evaluations of service consumption experiences.

1.2   BACKGROUND OF THE STUDY

This paper presents and illustrates a methodology that determines the role of process design in calculating process efficiency. This study concentrates on one aspect of organizational performance; the role of process design. By focusing on the process as the unit of analysis, the impact of technology, human resources, and, most importantly, the interaction between the two, on performance is analyzed. Why focus on processes? The traditional approach to process management and control develops an optimal schema for work and then encodes this into the organizational culture and resulting information systems.

The structure of the remainder of this paper is as follows.

Chapter one is an introduction to the paper.

Chapter two provides the reader with necessary literature available on hospitality industry.

Chapter three discusses the research methodology including interviews and focus groups that have been used for primary research.

Chapter four provides Industry overview.

Chapter five presents the data analysis and the interpretation.

Chapter six discusses the finding, conclusion and suggestions.

CHAPTER II
REVIEW OF LITERATURE

2.1   INTRODUCTION

A review of literature is done to bridge the gap between what has been done and what is to be done. It tells us about the researches done in past and suggests the research to be done.

Service delivery process in hospitality consists of mainly two processes:
-   Activities involved
-   Technological aspects that help make the product

These two factors lead the customers to decide to buy or use the product or service. Any mistake in the whole process disrupts the whole process and it leads to customer dissatisfaction.

Shostack (1987) has the idea that the process of service delivery can be further divided into logical sequence of operations whose goal is to facilitate its analysis and control. She has divided it into two types:

i) Front-office operations, which is visible to the customer and is delivered according to his/her participation or non participation. A direct contact takes place between the customer and the employees/staff.

ii) Back-office operations, which the customer cannot see, and which leads to non contact between the staff & customers.

This is a critical process as the contact of employees and staff is a very important factor on the delivery process.

Chase and Hayes (1995) consider service delivery as a system in which the basic elements are the staff, the customers and the material environment. The process of "production", rendering and consumption of hotel services is carried out during their interaction.

Jones and Lockwood (1998) describe the delivery process as the combination of various operations which include customers, staff and physical environment (buildings, equipment and financial resources). All the three are related to each other

and should be in a balanced state. Physical environment plays an important in satisfying the needs of the customer using the skills of the staff. The authors point out that the main problem in improper delivery of services in most hotels is due to imbalance in the three operations.

Lemmink (1998) cites an instance of a restaurant visit, which is characterized by personal interaction; others are described in non-personal terms (e.g., a wide selection of food). During a visit to a restaurant, a customer experiences various things. In case of a restaurant service delivery process this would begin by checking in at the reception of the restaurant and end with presenting the bill to the customer and saying good-bye (checking-out). Within the period, the customer will evaluate the table, the menu card, the ordering, the food and the service by restaurant personnel. At the same time, the different stages can be described in terms of the three value dimensions that were introduced above (emotional, practical and logical). The practical dimension focuses on physical and concrete objects in the service process (e.g., food), while the logical dimension pertains to an abstract and rational sequence of events, procedures (helping customers in an efficient manner). The emotional value dimension reflects the feelings of the respondent in relation to the stage in the service delivery process. While an operational of the practical dimension will focus on objects that is logical and emotional dimensions will frequently describe the experience.

Neely (1999) says the increasing competition is a reason why performance measurement is important in today's business.

There is a great competition among the peers in hotel industry. An unsatisfied customer at a particular hotel would go to another hotel the next time. This also possesses a risk for hotels as the unsatisfied customer will lead to the spread of information about the hotel and will lead to loss of customers.

In this digital age, flow of information is very fast through social networking sites like Facebook, twitter, trip advisor, etc.,. A customer might post the reviews on these sites. This will hamper other customer's perception for a particular hotel and the hotel will lose the customer base.

Hospitality industry is a very complicated sector. A small mistake in the whole process and the particular hotel might lose its business.

It always needs to focus on good food, entertainment and effective service (interaction between staff and customer) to satisfy the customer.

Gržinić (2007) in a journal **"Concepts of service quality measurement in hotel industry"** opines that the efficiency of the whole system is possible only if we monitor and analyze the demands of the customers, as well as define and control the process and implement constant improvements. Quality is a complex term, made up of several elements and criteria.

All quality elements or criteria are equally important in order to obtain one hundred percent quality. If only one element of quality is missing, the complete quality of product or service is impossible to obtain.

Besides the mentioned general elements of quality, the product or service has to satisfy specific elements of quality, according to the demands of the profession in their pertaining activity. Today quality is the result of growing and increasingly diverse needs of the consumers, along with a highly increasing competition, market globalization and the development of modern technology.

Lukanova (2010) says that the role of staff is of prior importance as the guests have a perception that quality comes with the type of service.

CHAPTER III
RESEARCH METHODOLOGY

3.1 INTRODUCTION

Research Methodology describes the process undertaken to find the final conclusion. It tells us the approach taken to find the results of the research. It also includes the statistical tools used to find a conclusion of the problem.

3.2 STATEMENT OF THE PROBLEM

Most of the services in Restaurants take place in back end. The efficiency of the process is very difficult to measure, if the variables are unknown.

Here variable means those critical factors that affect the process. Of all the papers reviewed, it was found that the variables to measure efficiency has been neglected and there was need to identify those variables

3.3 OBJECTIVES OF THE STUDY

The main objective of this paper is to study the back end process happening in the hospitality industry mainly in the Restaurants. To find the variables and measure the efficiency of service delivery in the hospitality sector using various statistical models

3.4 SOURCES OF DATA

Primary data was collected from managers of various restaurants and customer reviews were taken using questionnaires from Bengaluru city only. Questionnaires were designed differently for both restaurants and customers. Personal interviews were taken with restaurant managers too.

3.5 POPULATION AND SAMPLE

123 responses were collected from customers and 20 restaurant managers were interviewed in Bengaluru city only.

3.6   SAMPLING TECHNIQUE

HYPOTHESES:

1. H_0= Customer service has no effect on customer satisfaction.

   H_a= Customer service has effect on customer satisfaction

   a. H_0 = High service speed does not play a crucial role in providing service delivery.

      H_a = High service speed plays a crucial role in providing service delivery.

   b. H_0= Service attentiveness is not important for service delivery.

      H_a= Service attentiveness is important for service delivery.

   c. H_0= Courtesy & friendliness of employees towards customer does not affect service delivery

      H_a= Courtesy & friendliness of employees towards customer affects service delivery

   d. H_0= Service visibility does not improve the service delivery in Restaurants

      H_a= Service visibility improves the service delivery in Restaurants.

2. H_0= Technology is not at all involved in faster delivery of services.

   H_a= Technology plays an important factor in faster delivery of services

3. H_0= Customer participation doesn't have any role in service delivery.

   H_a= Customer participation will help in reducing the delivery time and thus gets a better service.

3.7 TOOLS INVOLVED

The data analysis was done using SPSS software.

The statistical tools involved in this research were:

i. Cronbach's alpha(α):

Cronbach's (α) is a coefficient of internal consistency. It is commonly used as an estimate of the reliability of a psychometric test for a sample of examinees.

ii. Factor analysis:

Factor analysis is a statistical method used to describe variability among observed, correlated variables in terms of a potentially lower number of unobserved variables called factors.

iii. t-Test:

It is used to determine if two sets of data are significantly different from each other, and is most commonly applied when the test statistic would follow a normal distribution if the value of a scaling term in the test statistic were known.

3.8 SCOPE:

The study will help in finding the variables in restaurants that actually help in proper service delivery process. These variables can be used for measuring the efficiency of service delivery. This will also help in improving the current process and help in increase in satisfaction level of customers.

3.9 LIMITATIONS OF THE STUDY:

- As hospitality industry is a huge industry, so the focus had to be made on one sector and so restaurants were chosen for the research.
- The time period was so less that data had to be collected from Bengaluru only and other cities couldn't be covered.
- Data could be collected from few restaurants as many did not want to respond.

CHAPTER IV
INDUSTRY OVERVIEW

4.1   INTRODUCTION

The hospitality industry is one of the major sector which deals in delivering of leisure services. It consists of major sub sectors like the food & beverage sector, tourism sector and the hotel sector. The survival of hospitality industry depends completely on the country's economy.

The growth of economy is fuelled by the inflow of tourists to the country; it increases the foreign exchange of the country with a need in growth of the hospitality sector as well.

Hospitality Industry in India has witnessed tremendous boom in recent years. With the liberalization of the Indian economy in the 90s, there has been an increase in business opportunities in India & has created as a boon for Indian hospitality industry. The introduction of low cost airlines and the associated price wars have given domestic tourists a host of options.

Growth of economy and improvement in hospitality has been going hand in hand. Development in various sectors has improved the living conditions of individuals and that has lead to a demand in fine dining experience of individuals. This demand has created a plethora of various restaurants in the country.

4.2   THE RESTAURANT INDUSTRY

As the hospitality industry is a huge billion dollar industry, the data collection was beyond the scope of the research and so the focus here has been mainly on restaurants.

Traditionally, the Indian consumers used to eat at roadside eateries and dhabas and stall which still occupy a major share of the unorganized sector. But with the opening of the economy to foreign players there was a requirement for development in the food and beverage. So the need was fulfilled with introduction of fine dining restaurants and famous fast food joints.

The market is highly competitive with a large number of Indian and foreign players. Mc Donald's and KFC are the classic examples of foreign players in fast food restaurants while famous chains like Barbeque Nation, Hyderabad house, Mainland China, etc. restaurants can be considered the Indian players in fine dining restaurants.

Global players have mainly dominated the Indian food service market in the organized fast food segment. The growing trend of consumption of multi cuisines and increasing brand consciousness among the middle class and upper middle class Indians has led to the increase of global player footprints. Indian hotel chains are also left not far behind with opening of restaurants in each city of India. Organized modern formats like malls and supermarkets have also become a favourite destination for the outlets. Companies are tying up with small franchisors and mall owners to promote their brand. To lure the local customers they have come out with various offers and discounts. Some have even gone to the extent of making the customer feel of the particular place of which their menu comprises of like if you go to Thai Restaurant, you will feel the Thai culture in there.

4.3   THE INDIAN RESTAURANT OVERVIEW

The restaurant industry is one of the Indian economy's best kept secrets. Current revenues amount to a sizeable Rs 43,000 crore, with a growth rate of 5-6% per annum, the relatively new organized segment of the industry is estimated at between Rs 7,000 crore and Rs 8,500 crore.

Restaurant/Food service market in India has witnessed tremendous growth in recent years. The rising population with the rising income and changing lifestyle, eating out has become a lifestyle of its own. The rising demand has made the restaurant industry to offer major opportunities to the players to capture a larger consumer base.

Even major corporations are focusing on providing their employees with the fine dining option during a lunch break. This growing demand has led to growth in fast food chains, cafes and fine dining restaurants within the premises of the office.

There is an increasing trend of Indian players exploring the foreign markets also. With rising number of Indians outside India there is a carving for these Indians for Indian food. Khansama Restaurant in Bangalore is a classic example, being present in multi countries.

Target consumer group for the restaurants mainly lies in Tier I & II cities of India as the revenue generation is much more.

Constant innovations with the product varieties have proved to be a strong growing aspect for the players. With easy licensing available for restaurants from the local municipal authorities, anyone can open up a restaurant in India.

The main problem with restaurants is the competitive factors which can lead to opening up and closure of business very fast. Some of the key challenges are cumbersome licensing, food price fluctuations, high cost of real estate and lack of skilled manpower.

But these problems are temporary. The main problem lies with the service delivery to customers. Good operations can make a restaurant well known and can actually retain customers. Restaurants being a lucrative business have always have the risk if there is a problem with the service delivery, that is the reason restaurants always try to improve themselves with certain surveys or providing any platform to showcase themselves.

There are certain parameters on the basis of which researchers try to evaluate every industry and that same applies for restaurants also. Several researches have been done on restaurants delivery and customer satisfaction and the outcome have been quite satisfying.

CHAPTER V
DATA ANALYSIS
AND
INTERPRETATION

5.1   INTRODUCTION

The study has been carried out through primary data mainly by questionnaire method. The research needed response from both consumers and the industry, so separate questionnaire were made and distributed to customers and restaurants. Both the survey questionnaire consisted of questions based on 5-point Likert scale where strongly disagree was assigned 1 and strongly agree was assigned as 5. The data collected were analyzed using various statistical analysis like Cronbach's alpha, Factor analysis & t-test.

5.2   SAMPLE CHARACTERISTICS

The population for this study consisted of both customers and Restaurant Managers. A total of 123 responses were collected from customers and 20 from different restaurants.

5.3   RESPONDENT PROFILE:

The survey consisted of two different segments. One was Customer and the other restaurant.

5.3.1 CUSTOMER:

Respondents mostly consisted of the age group 18-30 years. Respondents above the age of 30 did not feel like responding except for few. The respondent percentage is given below.

Chart 5.1: Sex Ratio of Respondents
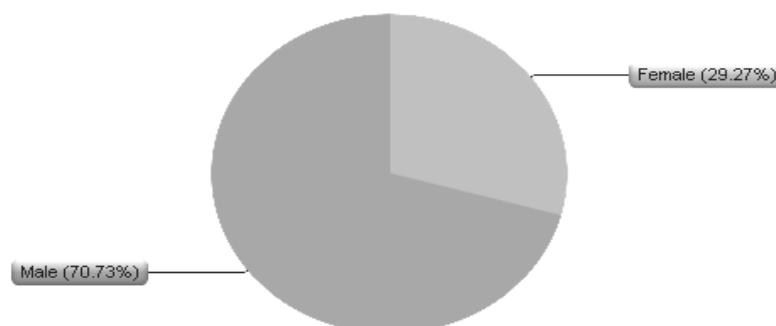
Source: Primary Data

5.3.2 RESTAURANT:

The response was taken mostly from restaurant managers but personal observations were also done for actual data collection.

5.4 DATA ANALYSIS

The data analysis for customer and restaurants were done separately.

5.4.1 CUSTOMER DATA

The following are the tests done from customer responses.

5.4.1.1 CRONBACH'S ALPHA (α)

Cronbach's alpha (α) test was done in SPSS on 13 variables in the questionnaire to estimate the reliability of the Questionnaire.

Table 5.1: Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.880	.888	13

Source: SPSS

The reliability of data is good, if Cronbach's alpha is found to be above 0.6. Here the Cronbach's alpha for 13 variables was found to be .88, which proves that the reliability of the questionnaire is very good and so further analysis can be done using factor analysis.

5.4.1.2 FACTOR ANALYSIS

The questionnaire consisted of 13 variables and using SPSS the total variables were reduced to 8. The initial 13 variables that were tested for factor analysis are the following.

1. Ambiance of the restaurant
2. Service speed
3. Service attentiveness
4. Cleanliness
5. Staff Behavior
6. Courtesy & friendliness
7. Efficiency
8. Service visibility
9. Information availability on food
10. The overall service is outstanding
11. You are likely to use the service again
12. You would recommend the restaurant to friends
13. Improvement required to the current service

The outputs for factor analysis were the following:

5.4.1.2.1 KMO AND BARTLETT'S TEST

The KMO and Bartlett's test is done to examine the appropriateness of factor analysis. In KMO the values should be between 0.5 and 1.0. So we use SPSS to find the value.

The KMO & Bartlett's tests for the 13 variables are input in SPSS and the result is:

Table 5.2: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.863
Bartlett's Test of Sphericity	Approx. Chi-Square	810.198
	Df	78
	Sig.	.000

Source: SPSS

The variables input in SPSS showed the test result was found to be .863 which satisfied the condition for KMO & Bartlett's test.

5.4.1.2.2 SCREE PLOT

Figure 5.1: Scree plot for the 13 variables
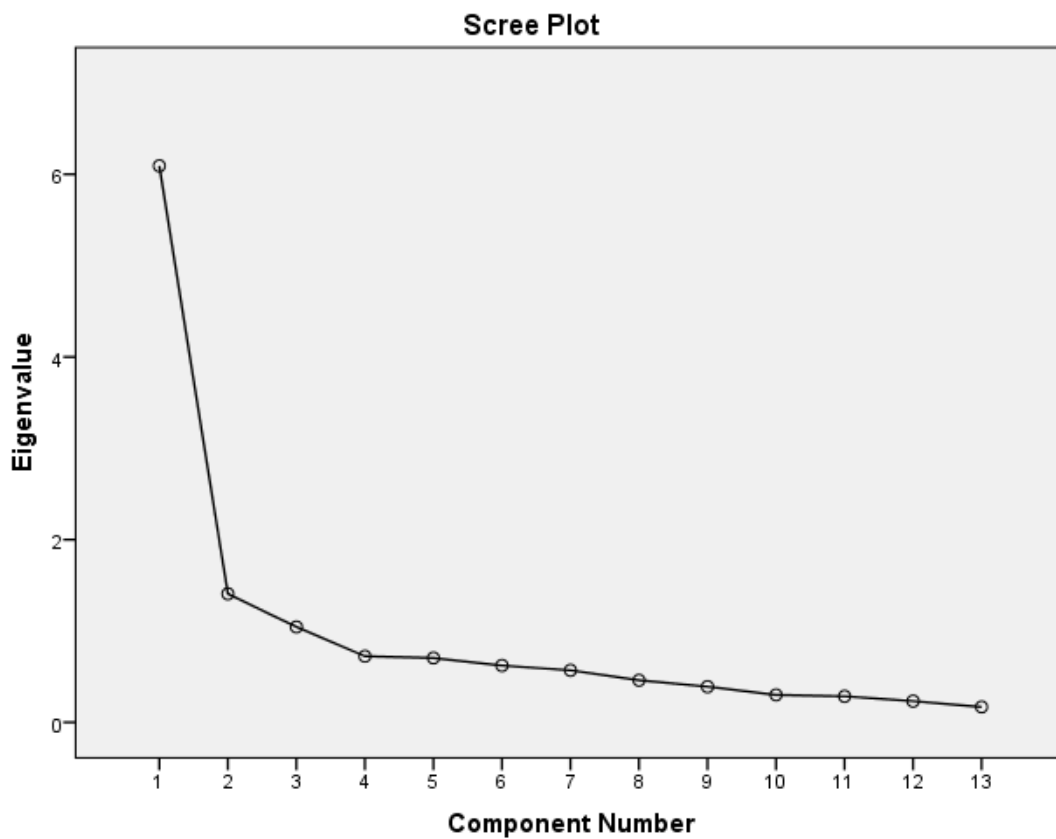
Source: SPSS

The scree plot was found from SPSS which showed the eigenvalues against the factors for extraction.

5.4.1.2.3 COMMUNALITIES

Communalities explain the extraction method employed.

Table 5.3: Communalities

	Initial	Extraction
Ambiance of the restaurant	1.000	.533
Service speed	1.000	.536
Service attentiveness	1.000	.665
Cleanliness	1.000	.616
Staff Behavior	1.000	.660
Courtesy & friendliness	1.000	.727
Efficiency	1.000	.653
Service visibility	1.000	.604
Information availability on food	1.000	.516
The overall service is outstanding	1.000	.659
You are likely to use the service again	1.000	.757
You would recommend the restaurant to friends	1.000	.771
Improvement required to the current service	1.000	.846

Extraction Method: Principal Component Analysis.
Source: SPSS

5.4.1.2.4 VARIANCE

Table 5.4: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.092	46.862	46.862	6.092	46.862	46.862	4.461	34.318	34.318
2	1.407	10.820	57.682	1.407	10.820	57.682	2.804	21.569	55.888
3	1.045	8.037	65.719	1.045	8.037	65.719	1.278	9.831	65.719
4	.724	5.566	71.285						
5	.705	5.420	76.705						
6	.622	4.783	81.488						
7	.570	4.383	85.871						
8	.461	3.543	89.414						
9	.390	3.002	92.416						
10	.301	2.313	94.729						
11	.285	2.189	96.917						
12	.232	1.786	98.703						
13	.169	1.297	100.000						

Extraction Method: Principal Component Analysis.
Source: SPSS

The variance of the first 7 components has to be considered as the cumulative % of initial Eigen value is 85.87%.

5.4.1.2.5 ROTATED COMPONENT MATRIX

Rotated component matrix is used to find the strongest variable of all the variables input in SPSS.

Table 5.5: Rotated Component Matrix

	Component		
	1	2	3
Efficiency	.787	.134	-.124
Courtesy & friendliness	.771	.358	
Service visibility	.765	.132	
Staff Behavior	.752	.297	
Service attentiveness	.736	.153	-.316
Information availability on food	.652	.235	.189
Cleanliness	.650	.425	-.112
Service speed	.539	.348	-.354
You would recommend the restaurant to friends	.176	.846	.155
You are likely to use the service again	.228	.834	.101
The overall service is outstanding	.299	.701	-.279
Ambiance of the restaurant	.493	.514	-.161
Improvement required to the current service			.918

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 5 iterations.
Source: SPSS

From the rotated component matrix, 3 components were found. From the components the variables having the highest value among the components present in component 1 were filtered and then used for further test as they were found to be the strongest variables among the 13 variables.

The SPSS rotated component matrix showed the 8 strong variables. They are:

1. Efficiency
2. Courtesy & friendliness
3. Service visibility
4. Staff Behavior
5. Service attentiveness
6. Information availability on food
7. Cleanliness
8. Service speed

Further on observing we filtered 4 strongest variables among the 8 variables as they were directly co related with the hypotheses. They are:

1. Courtesy & friendliness
2. Service visibility
3. Service attentiveness
4. Service speed

Further the 4 strongest variables are then tested using t-test to check the variability of the hypothesis.

5.4.2 RESTAURANT DATA

The data analyses for the responses from restaurants are as follows:

5.4.2.1 CRONBACH'S ALPHA (α)

Table 5.6: Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.896	.898	11

Source: SPSS

The Cronbach's alpha (α) for 11 variables was found to be .89, which proves that the reliability of the questionnaire is very good and so further analysis can be done using factor analysis.

5.4.2.2 FACTOR ANALYSIS

The questionnaire consisted of 11 variables and using SPSS the total variables were reduced to 6. The initial 11 variables that were tested for factor analysis are the following:

1. Use of electronic devices for service
2. Technology used for Reservation
3. Automation in Restaurant back end processes
4. Service delivery effective due to fully automation
5. service speed
6. service attentiveness
7. Use of electronics devices while ordering
8. Customer involvement in service
9. Customer is satisfied & returns back
10. Customer refers to new customers
11. Discount offering to returning customers

The outputs for factor analysis were the following:

5.4.2.2.1   KMO AND BARTLETT'S TEST

The KMO & Bartlett's tests for the 11 variables are input in SPSS and the result is:

Table 5.7: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.664
Bartlett's Test of Sphericity	Approx. Chi-Square	165.750
	Df	55
	Sig.	.000

Source: SPSS

The variables input in SPSS showed the test result was found to be .664 which satisfied the condition for KMO & Bartlett's test.

5.4.2.2.2 SCREE PLOT

Figure 5.2: Scree plot for the 11 variables
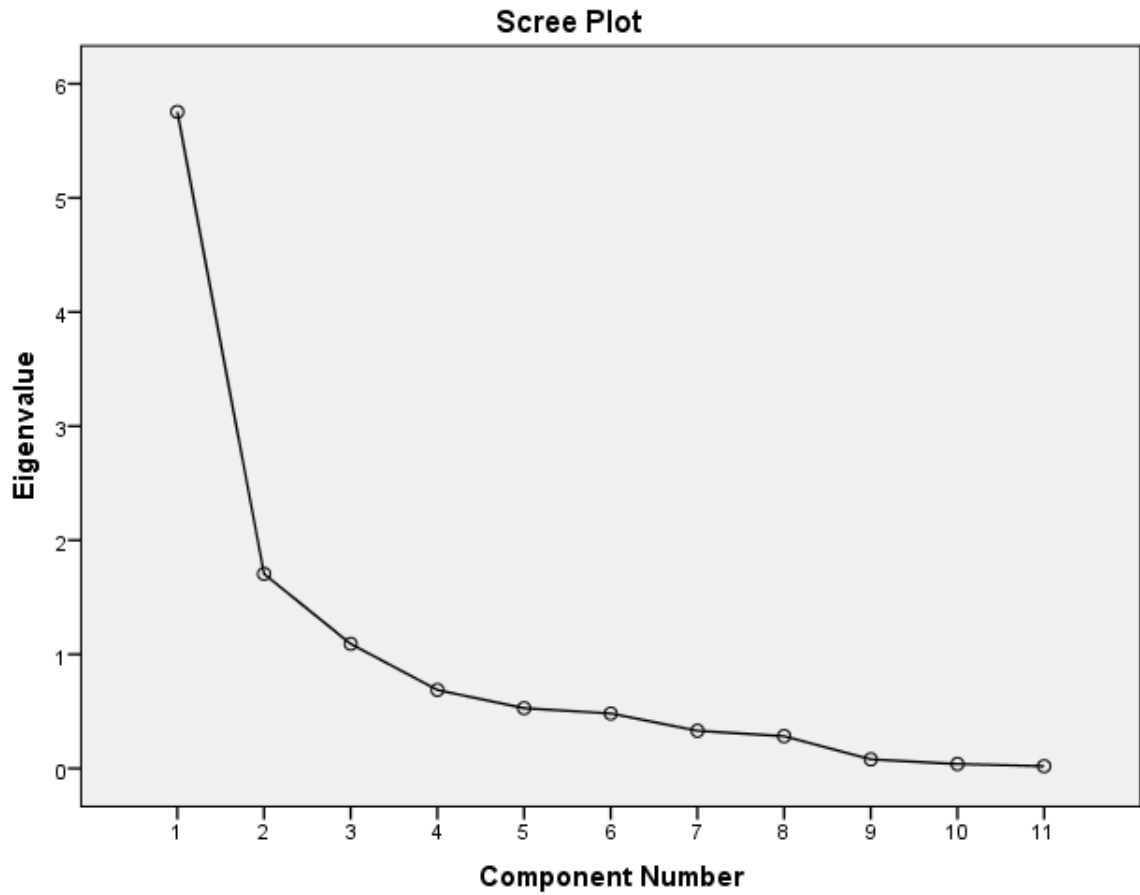
Source: SPSS

The scree plot was found from SPSS which showed the eigenvalues against the factors for extraction.

5.4.2.2.3 COMMUNALITIES

Communalities explain the extraction method employed.

Table 5.8: Communalities

	Initial	Extraction
service speed	1.000	.618
Use of electronics devices while ordering	1.000	.701
Use of electronic devices for after service	1.000	.902
Technology used for Reservation	1.000	.853
Customer involvement in service	1.000	.569
Service attentiveness	1.000	.536
Automation in Restaurant back end processes	1.000	.860
Service delivery effective due to fully automation	1.000	.805
Customer is satisfied & returns back	1.000	.918
Customer Refers to new customers	1.000	.889
Discount offering to returning customers	1.000	.836

Extraction Method: Principal Component Analysis.
Source: SPSS

5.4.2.2.4 ROTATED COMPONENT MATRIX

Rotated component matrix is used to find the strongest variable of all the variables input in SPSS.

Table 5.9: Rotated Component Matrix

	Component		
	1	2	3
Use of electronic devices for service	.915	.192	-.162
Technology used for Reservation	.877	.236	.170
Automation in Restaurant back end processes	.844	.249	.323
Service delivery effective due to fully automation	.823	.235	.300
Use of electronics devices while ordering	.725	.282	-.310
Customer involvement in service	.536	.421	.224
Customer is satisfied & returns back	.226	.932	
Customer refers to new customers	.324	.870	.114
Discount offering to returning customers			.908
service speed	.310	.485	.549
service attentiveness	.233	.522	.546

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.
Source: SPSS

From the rotated component matrix, 3 components were found. From the components, the variables having the highest value among the components present in component 1 were filtered and then used for further test as they were found to be the strongest variables among the 11 variables.

The SPSS rotated component matrix showed the 6 strong variables. They are:

1. Use of electronic devices for service
2. Technology used for Reservation
3. Automation in Restaurant back end processes
4. Service delivery effective due to fully automation
5. Use of electronics devices while ordering
6. Customer involvement in service

Further on observing we filtered 2 strongest variables among the 6 variables as they were directly co related with the hypotheses. They are:

1. Service delivery effective due to fully automation
2. Customer involvement in service

Further the 4 strongest variables are then tested using t-test to check the variability of the hypotheses.

5.5   t - TEST

From all the variables found in the factor analysis, one sample t test was done only on those variables that were found to be co related with the hypotheses to be proved.

In a t-test, the significance value should be less than .05 to accept the alternate hypotheses.

5.5.1   CUSTOMER DATA & HYPOTHESES TESTING

The variable was input in SPSS for t- test and the output for the variables was found to prove the hypothesis.

Hypothesis-1

H_0= Customer service has no effect on service delivery and that leads to customer satisfaction.

H_a= Customer service has effect on service delivery and that leads to customer satisfaction.

Hypothesis - 1.A

H_0 = High service speed does not play a crucial role in providing service delivery.

H_a = High service speed plays a crucial role in providing service delivery.

Table 5.10: One-Sample Test

	Test Value = 3					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Service speed	8.497	122	.000	.610	.47	.75

Source: SPSS

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Interpretation:

The p-value (significance value) is found to be .000 which is < .05 which is, from which it can be inferred that null hypothesis has to be rejected and alternate hypothesis to be accepted.

So from the t-test values it can be inferred that high service speed plays a crucial role in providing service delivery.

Hypothesis - 1.B

H_0= Service attentiveness is not important for service delivery.

H_a= Service attentiveness is important for service delivery.

Table5.11: One-Sample Test

	Test Value = 3					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Service attentiveness	11.104	122	.000	.821	.67	.97

Source: SPSS

Interpretation:

The p-value (significance value) is < .05, so null hypothesis is rejected and the alternate hypothesis is accepted, so service attentiveness is important for service delivery.

Hypothesis - 1.C

H_0= Courtesy & friendliness of employees towards customer does not affect service delivery

H_a= Courtesy & friendliness of employees towards customer affects service delivery

Table 5.12: One-Sample Test

	Test Value = 3				95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Courtesy & friendliness	12.738	122	.000	.992	.84	1.15

Source: SPSS

Interpretation:

The p-value (significance value) is < .05, so null hypothesis is rejected and the alternate hypothesis is accepted, so courtesy & friendliness of employees towards customer affects service delivery.

Hypothesis - 1.D

H_0= Service visibility does not improve the service delivery in Restaurants

H_a= Service visibility improves the service delivery in Restaurants.

Table5.13: One-Sample Test

	Test Value = 3				95% Confidence Interval of the Difference	
	t	Df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Service visibility	8.957	122	.000	.732	.57	.89

Source: SPSS

Interpretation:

The p-value (significance value) is < .05, so null hypothesis is rejected and the alternate hypothesis is accepted, so service visibility improves the service delivery in Restaurants.

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Hypothesis-1 Interpretation:

It is inferred from the hypothesis 1.A, 1.B, 1.C, 1.D that the entire four alternative hypotheses stand true, and so the alternate hypothesis for the main hypothesis 1 is acceptable.

Therefore it is proved that customer service has effect on service delivery and that leads to customer Satisfaction.

5.5.2   DATA FROM RESTAURANT & HYPOTHESIS TESTING

The variables were input into SPSS and t-test was performed to prove the hypothesis.

Hypothesis - 2

H_0= Technology is not at all involved in faster delivery of services.

H_a= Technology plays an important factor in faster delivery of services

Table 5.14: One-Sample Test

	Test Value = 4					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Service delivery effective due to fully automation	-4.333	19	.000	-1.300	-1.93	-.67

Source: SPSS

Interpretation:

The p-value (significance value) is < .05, so null hypothesis is rejected and the alternate hypothesis is accepted, so technology plays an important factor in faster delivery of services.

Hypothesis – 3

H_0= Customer involvement doesn't have any role in service delivery.

H_a= Customer involvement will help in reducing the delivery time and thus gets a better service.

Table 5.15: One-Sample Test

	Test Value = 4					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
customer involvement in service	-5.227	19	.000	-1.700	-2.38	-1.02

Source: SPSS

Interpretation:

The p-value (significance value) is < .05, null hypothesis is rejected and alternate hypothesis is accepted, customer involvement will help in reducing the delivery time and thus gets a better service.

CHAPTER VI
# FINDINGS, CONCLUSION AND SUGGESTIONS

6.1 INTRODUCTION

This Chapter brings out the findings from the study and analysis done on the topic "Measuring Efficiency of Service Delivery process in Hospitality Industry". The important variables are found out from observations and statistical analysis and suggestions are also given for the improvement.

6.2 FINDINGS:

From the research it was found that the efficiency of service delivery depends on certain factors which are mentioned here.

Figure 6.1: Factors for service delivery
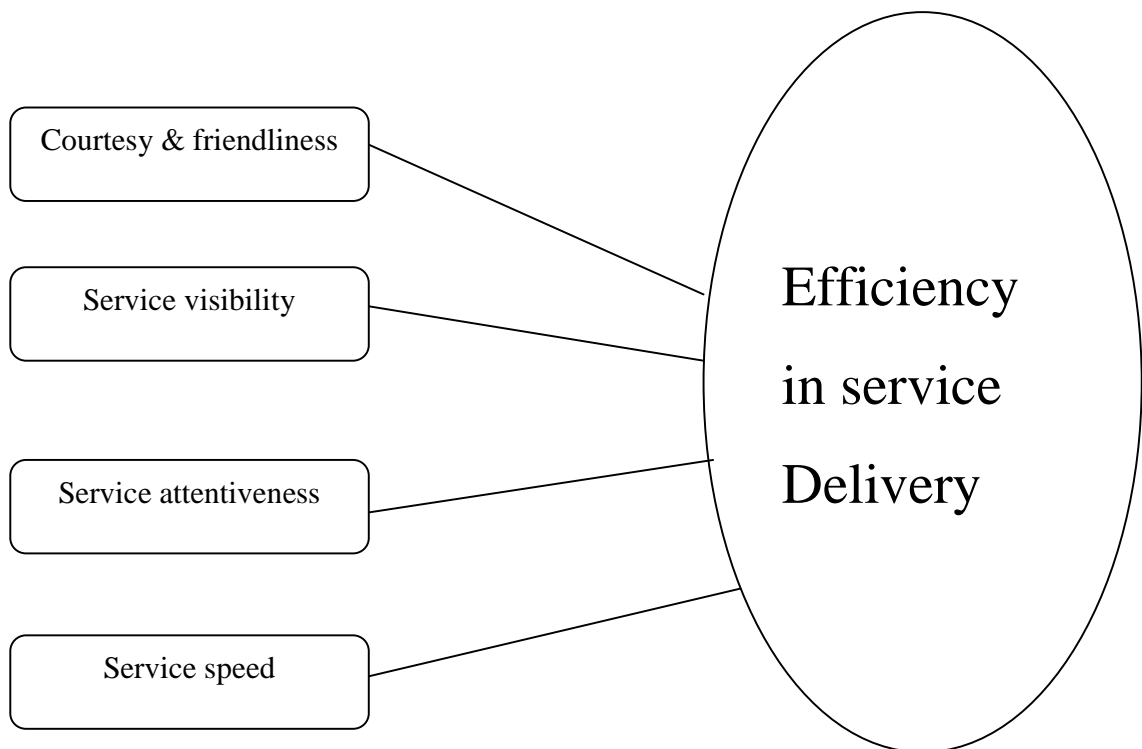
Source: Primary Data

The findings were:

1. Courtesy & friendliness
2. Service visibility
3. Service attentiveness
4. Service speed;

All these variables are important for service delivery. Efficiency of the service delivery can be measured using these variables mostly. But the research involved personal observation too and it was found that factors like

1. Use of technology in every aspect of service delivery
2. Involving guests in restaurants in the process of service delivery has helped in service delivery.

6.3   CONCLUSION

The result of the study suggests that the factors found here has a great implication on restaurants and their managers. The managers who manage these restaurants have to keep the factors in mind and go on doing their business. The study also shows that there sometimes exist some gaps that can be actually rectified by measuring the efficiency in their delivery process using the factors mentioned here.

Service delivery needs good quality measurement and follows the TQM principle
"DO IT RIGHT THE FIRST TIME".

So restaurants can actually use this study to see how efficient they are in their own process. The study has taken in many considerations that have revealed the loopholes in the process and the suggestions have been made here which can actually increase the efficiency of the process.

A model can be formed using the factors found here from the study, which will have a proficient effect on the customers and the restaurant. This will make the customer's experience a wonderful experience after all serving customers is to make them delight and have the advantage to gain their trust and self improvement in every process.

6.4 SUGGESTIONS:

It is suggested that restaurants can actually focus on the variables suggested here regularly to monitor the efficiency in their service process. These variables will make the restaurants to have a competitive advantage over others.

As Restaurant is a lucrative business, and present in a highly competitive market, the entry and exit strategy varies. The best restaurants actually use these variables regularly and try to improve.

Another major finding was increased use of technology in every aspect of service delivery process. It involved from reserving a table in the restaurant to taking orders to cooking and serving and then finally producing a bill within seconds than traditional individual entry.

With the market flooded in different types of e-tablets, it is advisable for restaurants to introduce this tablet in order taking process so that the time taken to take orders and delivering to customers. The device can actually be synced with the local computer so that bill will be calculated along with the order and can be produced within seconds.

But the major thing is investment; Restaurants should invest properly and heavily on the factors found here so that they can have a good sustainability in the competitive market.

Courtesy and friendliness actually helps to create a relationship between the customers and the service provider and so there can be mutual understanding and service can be improved upon customer's demand. People with good communication skill and multilingual people can create an effect on customers as they can be properly expressive.

These days there is a concept of open kitchen, where customers can actually see and know how to prepare the food they ordered. This concept will help them to know properly about the food they are going to eat as there is complete service visibility.

A restaurant tour and creating in house shows will engage guests and that can increase the satisfaction level. In turn waiting time can be reduced for guests in queue.

Buffet system is an age old concept that most restaurants are following these days and actually helps in less investment in manpower and increase in faster service delivery.

Customers can actually get whatever they feel like and there is no stopping in the quantity taken. The waiting time is even reduced through this and for the time taken for the bill to arrive to the customer is very less as the price is fixed.

These are some of the suggestions that can actually help in improvement of efficient service delivery in hospitality sector particularly in restaurant where the service has to be delivered properly and there cannot be error in the process. One error and the whole process get disturbed.

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APPENDIX

QUESTIONNAIRE FOR CUSTOMERS:

1. Name:

2. Age group
   a. 18-25
   b. 26-30
   c. 31-45
   d. 46-50
   e. 51 and above

3. Occupation:
   a. Service
   b. Student
   c. Self-employed
   d. Retired
   e. Housewife

4. Sex:
   a. Male
   b. Female

5. Marital status:
   a. Single
   b. Married

6. Your favorite restaurant in Bengaluru:

7. How often do you go to the restaurant?
   a. Daily
   b. Once in a week
   c. Once in a month
   d. Once in two months

8. How do you reserve a place at your favorite Restaurant? (multiple answers allowed)

    a. Phone

    b. Website

    c. Mobile applications

    d. None.

9. What is the waiting time for service in your restaurant?

    a. 5-10 minutes

    b. 10-15 minutes

    c. 15-25 minutes

    d. 25-30 minutes

10. Are you satisfied with the waiting time?

    a. Yes

    b. No

11. How do you rate your favorite restaurant in terms of the following parameter? Rate each accordingly

	Very poor	Poor	Fair	Good	Great
Ambiance of the restaurant					
Service speed					
Service attentiveness					
Cleanliness					
Staff Behavior					
Courtesy & friendliness					
Efficiency					
Service visibility					

12. Rank the following according to the preference of choosing a particular restaurant(1 being the highest and 10 being the lowest)

TYPE	RANK
a. Location	
b. Price	
c. Service	
d. Brand name	
e. Service attentiveness	
f. Easy Reservation system	
g. Ambiance	
h. Food variety	
i. Parking facility	
j. Hygiene & Cleanliness	

13. What is the duration of getting the bill after you finish your food?
   a. 2 minutes
   b. 2-5 minutes
   c. 5-10 minutes
   d. More than 10 minutes

14. Rate your satisfaction level at the Restaurant

	Strongly Disagree	Disagree	Not sure	Agree	Strongly Agree
The overall service is outstanding					
You are likely to use the service again					
You would recommend the restaurant to friends					
Improvement required to the current service					

15. Comment on the improvement level of service at the restaurant (if any).

QUESTIONNAIRE FOR RESTAURANT:

1. Name:

2. Number of employees in your organization?
   - 5-10
   - 10-20
   - 20-30
   - 30-40
   - 40+

3. Do you have a website?
   - Yes
   - No

4. Rate the usage of parameters in Restaurants

	Much Lower	Slightly Lower	About the Same	Higher Much	Higher
service speed					
use of electronics devices while ordering					
use of electronic devices for after service					
Technology used for Reservation					
customer involvement in service					
service attentiveness					

5. Rate the internal processes

	Far too Little	Too Little	About Right	Too Much	Far too Much
Automation in Restaurant back end processes					
Service delivery effective due to Fully automation					

6. Customer waiting time after ordering?
   - 1-5 minutes
   - 5-10 Minutes
   - 10-15 Minutes
   - 15-25 Minutes
   - 25-30 Minutes

7. Bill timing?
   - 3-5 Minutes
   - 5-10 Minutes
   - 10-15 Minutes

8. Customer satisfaction

	Strongly Disagree	Disagree	Not sure	Agree	Strongly Agree
customer is satisfied & returns back					
Customer Refers to new customers					
Discount offering to returning customers					