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A Predictive Approach for Customer Behavior Modeling & Analysis at Food and Beverage Outlets on National Highways

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ABSTRACT

For a successful business customer satisfaction is very important and in management point of view it measures how to fulfill the expectation of the customer's. Customer satisfaction is necessary and important because it provides the business owner with a metric that can be used to manage and improve the businesses. As technology is growing day by day therefore we have decided to use recent statistical methods to predict the behavior of customer at various food and beverage outlets on National highways. This predictive approach identifies behavior of the customer by applying few factors which normally affects the preference of the customer. For every system there is predefined scope therefore scope of our approach is food and beverage outlets on National highways. A method is always necessary to conduct the experimental approach to retrieve some meaningful data. In this case after preparing a questionnaire a feedback was collected from 'n' customers. Criticizing this collected data is very important to generate meaningful output. In this predictive approach factors has been identified for the satisfaction of customer on the basis of food quality, service quality, physical environment of food outlets, hygiene and cleanliness etc. Methodology used in this research paper Factor analysis, Correlation and Multiple regressions were applied to find out which factor has strong impact on customer satisfaction. The data collected was analyzed using SPSS software version 20.0 for this study. The respondents are from the region of Punjab who visited in food outlets which are situated on the Jalandhar - Amritsar National Highway. A total of 200 questionnaires were distributed, out of which 150 are received form the respondents. The 5 points Likert Scale was used for measuring the performance of all factors for customer satisfaction. In this research paper, quantitative methods were used. Ultimately, the research sample consisted of 150 customers.

Keywords: Customer satisfaction, food quality, service quality, physical environment of food outlets, hygiene and cleanliness, food and beverage outlets.

1. INTRODUCTION

1.1. Introduction to Food and Beverage Industry

As all of, we know food and beverage is one of the major sources of revenue in hospitality industry. But to maintain the quality of these outlets is not so easy therefore while designing such outlets we need to consider few factors which contribute to the smooth execution from raw material purchasing, sorting and food preparation, dish presentation, serving etc. After all, we are expecting customer satisfaction only that is very important in our growing business. Commercial approach is important at the time of designing outlet. Few points we can consider such as identifying our customer segment, type of food expected by individual segments, method of food distribution and finally to serve better staff requirement. As this field consists of multitasking activities such as purchasing required raw material from market, preparation, maintaining best service consistently. It is expected that in the outlets standards of food and beverage should be high. If the food outlets offers best quality and services to the guest's requirement then obviously guests will visit repeatedly which automatically increase the yield of business.

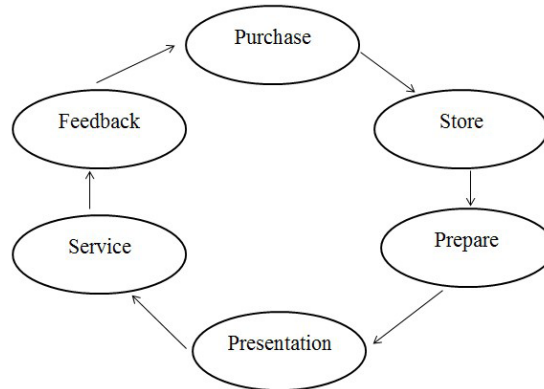


Figure 1: Food and Beverage Cycle

Today's scenario focus of hospitality industry is on developing of new technologies, innovation and environment friendly services which will helpful for increase the customer satisfaction level. Today's hospitality industry facing one of the major challenges that to sustain the customer for longer time. Food outlets are one of the most important needs while travelling. This is the reasons that most of highways are full of Dhabas and now days branded restaurants, fast food outlet, coffee shop and take away outlets etc. This is the reason that most of the customer who were earlier used to dine in Dhabas has shifted to branded restaurant, fast food outlet, coffee shop as Dhabas failed to provide them with clean and hygienic washroom which is one of the common ancillary area that is looked for by the travelers. This gives rooms for the fast food outlets and branded F&B outlets to grow with their outlets on highways. Food is one the factor the forces the traveler to look for F&B outlets on highways but now a days the ancillary area which are generally overlooked by the management like clean and hygienic washroom which affects the repeated clientele. The demand for quality product and service has increased in the recent years in terms of adding new innovative practices in Food service Industry.

1.2. Pros and Cons in Food and Beverage Industry are as follows

Whenever customer visits the outlets, we can categorize satisfaction levels as follows:

- (a) *Physiological:* This requirement will vary with the special food requirement from individual. Some customers may prefer healthy diet whereas some are light.
- (b) *Economic:* Requirement for good value of food i.e. quality for which customer is paying.
- (c) *Social:* As customers are visiting outlets far from home for a change, then it is the responsibility of outlets owner to maintain a good, clean, hygienic atmosphere.

2. REVIEW OF LITERATURE

According to the Adediran, D. (2003), concluded in his study that the most of the travelers consider food quality, service quality, physical environment of food outlets, hygienic and cleanliness are the prime factors to select food outlet while travelling. Food safety and hygienic an essential part of the food industry. While this may usually “just” entail things like diarrhea or vomiting for healthy adults, those with weaker immune systems, like children, the elderly or people with certain medical conditions may very well become seriously ill or even die. Sanitation is a key component to foodservice safety, and it is the responsibility that you accept as a food service provider for your customers. Now days, there are so many other factors like physical environment, entertainment facility, hygiene and cleanliness has become more popular than the food quality. Henson and Trail (1993), studied the role of four different attributes of food quality, which have positive impact on customer satisfaction that are as follows: food safety, nutritional value, and package. Marija Pecotić (2014). Physical environment of the food outlets also has a great impact on image of the restaurant, physical surrounding of the restaurant has to be change-according trend in the market, which carry positive impact on customers. Chow Keng Yong (2013), according to study that the cleanliness and hygienic of restaurant are the key factors which influence the choices of customer as make them loyal customer towards the food outlets. Ali Dorosti (2012) discussed about the increasing competition between restaurant and food outlets, it become very difficult to attract new customers and guarantee the profit, but retaining existing customers is more important. In fact, a competitive environment provides customers more alternative option to choose the new restaurant and food outlets as suggested by Young (2007), describes in his study the high quality of products of food outlets is an essential tool for achieving guest satisfaction. Food quality has positive impact on customer satisfaction, food quality have great influence on customer satisfaction than service quality, which will help to retention of customer for future. Saleha Anwer (2011) clearly mentioned in the study that service quality, food quality, nutrition quality, entertainment quality and physical environment quality are the main ingredients of perceived value. Ali Nasir et. al., (2014), conducted a survey on blend of good taste, menu variety, and nutritional value, attractiveness of presentation, and flavor of food; so that every food outlets fulfill the basic need of the customer and increase the retention percentage of customer in future visit. Positive atmosphere, good service has an important impact on the perceived customer value of a restaurant. Mohammad et. al., (2012), study identify that the food quality is major factors but apart from this factor, appropriate layout of the restaurant, design and appropriate color of the restaurant, furniture and fixture also shows their impact on customer satisfaction. Olise, M., Okoli, M., & Ekeke, J. (2015), describes in study that service quality, atmospheric quality, environment, influencing the behavior of consumers towards patronizing the fast food restaurants. Every customer have different views on food outlets but factors are same.

Research Objectives

- To study the preference of food & beverage outlet across different age and demographic.

- To find out the association between food qualities, service quality, physical environment, hygiene and cleanliness of F&B outlets for customer satisfaction.
- To find out most significant factors that has an impact on customer satisfaction on food and beverage outlets on highways.

3. RESEARCH METHODOLOGY

3.1. Research Design, Sampling Procedure and Participants

The sample of this study consists of travelers who are travelling on Jalandhar – Amritsar National Highway Punjab. A total 200 questionnaires were distributed, out of which 150 are received form the respondents. The 5 points Likert Scale was used for measuring the performance of all factors for customer satisfaction. Data was collected from traveler who avail the services in the food outlets which were situated on the National Highway. Food and Service Quality: food quality plays an important role for every food outlets for satisfaction of customer. It is one of the major tool of sales, fresh ingredients and nutritive food are become one of the reason for customer return in the restaurant. Ryu et. al., (2012), suggested different dimensions of food quality which includes enjoyable food, nutritive value, different types of menu and appealing of food to customers. Kisang Ryu (2010), customer wants to eat healthy food in health environment. Service quality and customer satisfaction both factors responsible for success of any business. Food outlets are spending huge amount of money on service quality to improve service standard of the outlets and increase the customer levels. Nham Phong Tuan (2014) conducted a survey in star hotel, to survive in the competitive market hotel industry need to pay special attention in improving the quality of service. Many researchers apply the model SERVQUAL another model used for service quality that is SERVPERF model for measuring of service quality. Physical Environment: Food outlets images depends upon two things one is tangible and another intangible attributes.

3.2. Instrumentation & Measurement

Questionnaire was designed to find out the objective of the study. The questionnaire was divided into two sections. Section 01 questions asked related to the demographic of the respondents. Section 02 questions asked on information of respondent's awareness of the factors affecting on customer satisfaction in food and beverage outlets Amritsar and Jalandhar National Highway ie food quality, service quality, physical environment, hygiene and cleanliness of the food outlets. The questionnaire general consists of 25 questions in two different sections and used for measuring the factors in food and beverage outlets. A 5-Points Likert scale was used to assess the statements in the scale where 01 represented to "Strongly disagree" and 5 represented to "Strongly agree" In addition to these questions in the scale, 06 questions on demographic like: gender, age group, marital status, education qualification, monthly income and occupation.

3.3. Research Model

A qualitative approach is used to explain present scenario and examine the factors effect on customer satisfaction in food and beverage outlets on highways.

3.3.1. Food Quality

A product should be very good in condition and as good as its packaging. When we think about the food and beverage outlets, every item must be tightly, (airtight) sealed (if it is for packaging) and stored at the correct

temperature to maximize life. In outlets, we must ensure the highest level of quality always by adopting good manufacturing practices and quality assurance testing when handling materials and products.

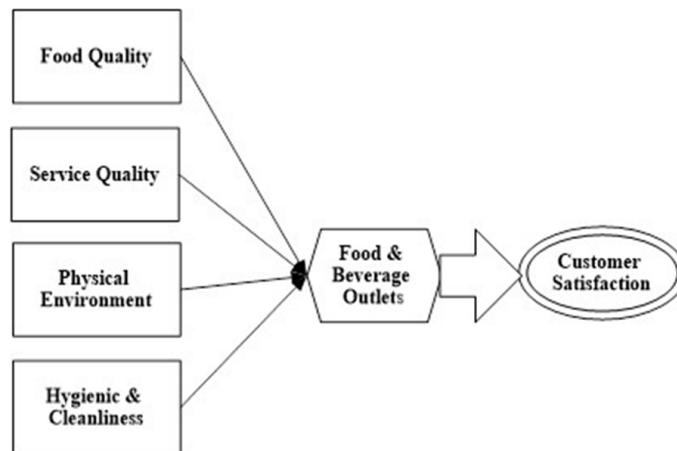


Figure 2: Proposed Research Model

3.3.2. Service Quality

Service quality is major pillar for any industry, which based on business 2-customer principal. Essentially, it seems to be very simple, relating to the provision of goods or services that meet the expectations of the customers. Today's customer giving equal important to service because it is becoming the sale tool for the food outlets. A satisfied customer is only revisit in the outlets and help to business for the future.

3.3.3. Physical Environment

Physical environment (ambience), food and service are significant factors for a restaurant to impress its customers. Ambience of the food outlets also help to attract more number of customer due to their surrounding area along with interior and exterior décor. Today's food outlets spending huge amount of money on physical environment and create theme according to the events, which show the customer satisfaction level is very high.

3.3.4. Hygiene and Cleanliness

Cleanliness and maintaining hygiene at the outlet is expected in every hospitality establishment.

Each member working with food and beverage must maintain a high degree of cleanliness. Staff working with food outlets should be in proper grooming. Special need to pay for cleanliness and hygiene. Long nails are the ideal home for bacteria. Members working in the kitchen should wear protective gloves and hairnets. Personal hygiene in restaurants is very important in order to maintain food health standards as it directly relates with the customers.

3.4. Variables of the Study

In the study there are various variable are studied to find out the truth that which factor has impact that is more significant on the customer satisfaction. Some of the common variables of studies mentioned below:

Table 1
Variables of the study

<i>Food Quality</i>	Food was palatable
	Food was fresh
	The crispness and flavor of the food
	Overall dining experience
	Willingness to help guests
<i>Service Quality</i>	Attitude and behavior of service staff
	Quality of service and effectiveness
	Food delivered on time
<i>Physical Environment</i>	Layout & decor
	Table Layouts
	Theme
<i>Hygienic Cleanliness</i>	Standard of hygiene
	Grooming and personal hygiene
	Cleanliness of the food outlets and ancillary section
	Surrounding areas of the food outlets
<i>Customer Satisfaction</i>	Satisfaction rate at food and beverage outlets
	Recommend outlets to your friends and relative
	Would you like to choose again

4. RESEARCH FINDINGS

- (a) **Objective 01:** The preference of F&B outlet across different age and income group, Demographic Findings are as follows:

Table 2
Gender wise analysis

	<i>Gender</i>	<i>Frequency</i>	<i>Percent</i>	<i>Valid Percent</i>	<i>Cumulative Percent</i>
Valid	Male	88	58.7	58.7	58.7
	Female	62	41.3	41.3	100.0
	Total	150	100.0	100.0	

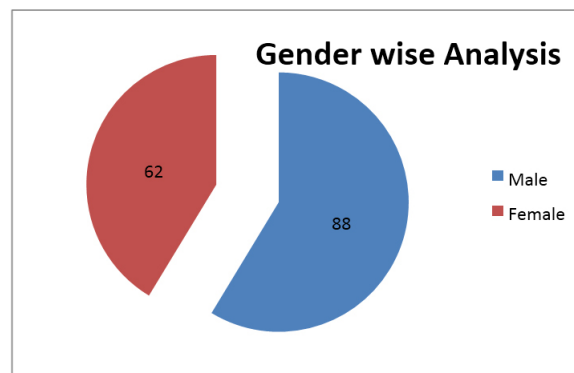


Figure 3: Gender Analysis

(b) **Age:**

Table 3
Age wise analysis

	<i>Age group</i>	<i>Frequency</i>	<i>Percent</i>	<i>Valid Percent</i>	<i>Cumulative Percent</i>
Valid	18-24	35	23.3	23.3	23.3
	25-34	38	25.3	25.3	48.7
	35-44	44	29.3	29.3	78.0
	45-54	15	10.0	10.0	88.0
	55 and above	18	12.0	12.0	100.0
	Total	150	100.0	100.0	

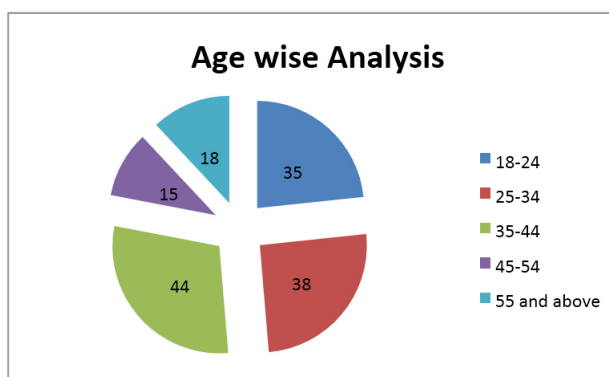


Figure 4: Age wise Analysis

As it can be seen in Table 2, the male respondents are 88% and female respondents 62%. The respondents were in the age group between 18-24 years (23.3%), 25-34 years (25.3%), 35-44 years (29.3%), 45-54 years (10%) and 55 above age group (12%). The result shows that the different age groups of respondents choose their food outlets different according to their age group. The result proved that when customers travelling on the national highway their preference towards choosing food outlet different, the result shows that only 15.3% of respondent choose branded restaurant, 23.3% fast food outlets rather than branded restaurant because traveler has no time to spend in food outlets, 27.3%. Customers choose take away outlets, which they feel comfortable eating of food their own vehicle, and only 19% of customer choose other categories of food outlets like Dhabas.

Table 4
Demographic characteristics of the sample

	<i>Types of food outlets</i>	<i>Frequency</i>	<i>Percentage</i>	<i>Valid Percentage</i>	<i>Cumulative Percentage</i>
Valid	Branded Restaurant	23	15.3	15.3	15.3
	Fast food outlets	35	23.3	23.3	38.7
	Coffee Shop	32	21.3	21.3	60.0
	Take away	41	27.3	27.3	87.3
	Other	19	12.7	12.7	100.0
	Total	150	100.0	100.0	

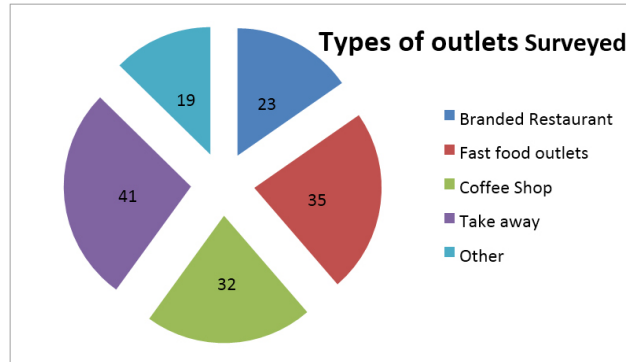


Figure 5: Outlets Surveyed

Table 5
Correlation between Food Quality, Service Quality & Ambience of Food Outlets and Customer Loyalty

<i>Correlation between food quality service quality and ambience</i>			
<i>Variables</i>	<i>Service Quality</i>	<i>Ambience</i>	<i>Customer Loyalty</i>
Food Quality	.838**	.584**	.838**
Service Quality		.557**	.856**
Ambience			.658**

The above table show the correlation between food quality, service quality and ambience, food quality has strong correlation with service quality ie .838**. It show that if food outlet focus on improving the food quality and do innovation in menu planning, it will help to retaining the customer for longer time. Food quality has positive correlation with customer loyalty ie .838**. On the other hand, service quality has strong correlation with customer loyalty ie .856**. Today's customers give more important to service quality like food quality. Result prove that the service quality have positive correlation with customer loyalty. Where ambience also has positive correlation with customer loyalty ie .658**. To attract more number of customer food outlet set the themes in the food outlets according to the occasion, where customer visit increase and show the loyalty level towards the food outlet.

Table 6
Demographic Correlation of Food Quality with Service Quality, Ambience and Customer Loyalty

<i>Correlation between food quality and other 3</i>				
<i>Sample</i>	<i>N</i>	<i>Service Quality</i>	<i>Ambience</i>	<i>Customer Loyalty</i>
Male	98	.861**	.561**	.840**
Female	52	.757**	.633**	.827**
High School	15	.808**	.022	.873**
Bachelor Degree	36	.842**	.618**	.813**
Master's Degree	44	.902**	.675**	.876**
Professional Degree	55	.779**	.567**	.829**
Business	37	.638**	.274**	.713**
Government Employee	34	.817**	.374**	.850**
Self-employed	41	.919**	.720**	.892**
Private Employee	38	.829**	.664**	.803**

As the above table shows the correlation of food quality with service quality, ambience and customer loyalty which have positive relation with each other. The total sample 150 out of 98 male respondents and 52 female show all the value has positive relationship with customer loyalty; hence, it can conclude that there is significance correlation ($r = .861^{**}$, $.840^{**}$, $.757^{**}$ & $.827^{**}$) respectively. The correlation find according to education qualification has positive relationship with each other where master degree holder and professional degree holder given more important to customer loyalty in term of food quality. According to occupation, wise businessperson, self-employed and private employee have strong correlation with food quality the maximum value found ($r = .919^{**}$)

Table 7
Demographic Correlation of Service Quality with Ambience and Customer Loyalty

<i>Correlation between service quality and other 2</i>				
<i>Sample</i>	<i>N</i>	<i>Ambience</i>	<i>Customer Loyalty</i>	
Male	98	.511 ^{**}	.874 ^{**}	
Female	52	.684 ^{**}	.804 ^{**}	
High School	15	.000	.827 ^{**}	
Bachelor Degree	36	.657 ^{**}	.849 ^{**}	
Master's Degree	44	.646 ^{**}	.892 ^{**}	
Professional Degree	55	.454 ^{**}	.852 ^{**}	
Business	37	.336 ^{**}	.715 ^{**}	
Government Employee	34	.426 ^{**}	.876 ^{**}	
Self-employed	41	.639 ^{**}	.888 ^{**}	
Private Employee	38	.671 ^{**}	.865 ^{**}	

As the above table shows the correlation of service quality with ambience and customer loyalty which have positive relation with each other. The total sample 150 out of 98 male respondents and 52 female show all the value has positive relationship with customer loyalty; hence, it can conclude that there is significance correlation ($r = .874^{**}$ & $.804^{**}$) respectively. The correlation find according to education qualification has positive relationship with each other where bachelor degree, master degree holder and professional degree holder given more important to customer loyalty ($r = .849^{**}$, $.892^{**}$ & $.852^{**}$). According to occupation, wise Government employee, self-employed and private employee have strong correlation with food quality the maximum value found ($r = .876^{**}$, $.888^{**}$ & $.865^{**}$) respectively.

Table 8
Demographic Correlation between Ambience and Customer Loyalty

<i>Correlation between ambience and customer loyalty</i>		
<i>Sample</i>	<i>N</i>	<i>Customer Loyalty</i>
Male	98	.670 ^{**}
Female	52	.616 ^{**}
High School	15	.675 ^{**}
Bachelor Degree	36	.764 ^{**}

(Contd..)

<i>Correlation between ambience and customer loyalty</i>		
<i>Sample</i>	<i>N</i>	<i>Customer Loyalty</i>
Master's Degree	44	.705**
Professional Degree	55	.557**
Business	37	.481**
Government Employee	34	.530**
Self-employed	41	.743**
Private Employee	38	.770**

As the above table shows the correlation of service quality with ambience and customer loyalty which have positive relation with each other. The total sample 150 out of 98 male respondents and 52 female show all the value has positive relationship with customer loyalty towards the ambience; hence, it can conclude that there is significance correlation ($r = .670^{**}$ & $.616^{**}$) respectively. The correlation find according to education qualification has positive relationship with each other where bachelor degree and master degree holder given more important to food outlet ambience ($r = .764^{**}$ & $.705^{**}$) According to occupation, wise self-employed and private employee have strong correlation with food outlet ambience the maximum value found ($r = .743^{**}$ & $.770^{**}$) respectively.

- (c) **Objective 02:** The association between food qualities, service quality, physical environment, hygiene and cleanliness of F&B outlets for customer satisfaction. To calculating the most significant factor that has significant impact on customer satisfaction; in this study four factors are study (food quality, service quality, physical environment, hygiene and cleanliness) to find out the association on customer satisfaction.

Table 5
Correlation between various parameters

<i>Independent Variables</i> ↓	<i>Dependent Variables</i>				
	<i>Customer Satisfaction Rate</i>	<i>Recommend to their friends & relative</i>	<i>Would you choose again</i>	<i>Overall satisfaction</i>	
	<i>Food Variables</i>				
Food Palatable	Pearson Correlation	.522**	.694**	.647**	.584**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	150	150	150	150
Food was fresh	Pearson Correlation	.518**	.681**	.550**	.486**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	150	150	150	150
Crispiness & Flavor of food	Pearson Correlation	.505**	.643**	.601**	.584**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	150	150	150	150
Overall Dining Performance	Pearson Correlation	.403**	.569**	.475**	.578**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	150	150	150	150

(Contd..)

<i>Independent Variables</i>		<i>Dependent Variables</i>			
↓		<i>Customer Satisfaction Rate</i>	<i>Recommend to their friends & relative</i>	<i>Would you choose again</i>	<i>Overall satisfaction</i>
<i>Service Variables</i>					
Willingness to help guests	Pearson Correlation	.561**	.766**	.645**	.657**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	150	150	150	150
Attitude & behavior of service staff	Pearson Correlation	.503**	.616**	.604**	.502**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	150	150	150	150
Quality and efficiency of service staff	Pearson Correlation	.517**	.612**	.571**	.650**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	150	150	150	150
Food Delivered on time	Pearson Correlation	.552**	.698**	.627**	.632**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	150	150	150	150
<i>Physical Environment</i>					
Layout & design of food outlets	Pearson Correlation	.392**	.511**	.537**	.484**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	150	150	150	150
Seating arrangement	Pearson Correlation	.351**	.444**	.482**	.350**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	150	150	150	150
Theme of the restaurant	Pearson Correlation	.457**	.427**	.422**	.526**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	150	150	150	150
Flooring, ceiling & wood work	Pearson Correlation	.284**	.440**	.336**	.386**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	150	150	150	150
<i>Hygienic and Cleanliness</i>					
Standard of hygiene	Pearson Correlation	.445**	.620**	.559**	.561**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	150	150	150	150
Grooming and personal hygiene	Pearson Correlation	.582**	.653**	.660**	.703**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	150	150	150	150
Cleanliness of food outlets & ancillary section	Pearson Correlation	.566**	.624**	.608**	.677**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	150	150	150	150
Surrounding areas of food outlets	Pearson Correlation	.600**	.678**	.654**	.684**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	150	150	150	150

As the above table shows, the independent variable has strong relationship with each other but Food Palatable has a positive correlation with customer satisfaction, which signifies that food palatable with recommend food outlets to their friends and relative. The value shows the relationship between ($r = .694^{**}$ and $.647^{**}$) which has strong correlation. The satisfied customers recommend the food outlets to their friend and relative and choose the same outlets in the next visit. Other variables of food also have strong significant association for satisfaction of customers.

Table 6
Food factor analysis

	<i>Palatable</i>	<i>Fresh</i>	<i>Crispiness</i>	<i>Overall</i>
<i>Palatable</i>	1			
<i>Fresh</i>	0.604825	1		
<i>Crispiness</i>	0.573349	0.597702	1	
<i>Overall</i>	0.555263	0.468619	0.47401	1

Customers also recommend the food outlets to other on the basis of freshness of food and Crispiness & Flavor of food.

Table 7
Physical Environment Analysis

	<i>Ambience</i>	<i>Seating</i>	<i>Flooring</i>	<i>Theme</i>
<i>Ambience</i>	1			
<i>Seating</i>	0.381585	1		
<i>Flooring</i>	0.5419975	0.616986	1	
<i>Theme</i>	0.548093	0.439871	0.488635	1

Above table shows physical environment analysis i.e. overall experience in the outlets has a positive impact on the customers. The independent variables of service quality have strong relationship with each other; willingness to help guests, attitude & behavior of service staff have a positive correlation with customer satisfaction which signifies that customers like the services offered by the food outlets and they will recommend the food outlets to their friends and relative. The value shows the relationship between ($r = .766^{**}$ and $.647^{**}$) which has strong correlation. Customers are fully satisfied with the delivery of food time on time as the result proved that ($r = .698^{**}$) which has strong correlation. The layout and seating arrangements have significance correlation with dependent variables. The value shows the relationship between ($r = .537^{**}$ and $.482^{**}$) which has strong correlation. On the basis of this relation customers choose the food outlets once again in future. Study proved that the theme of outlets has strong correlation which all customers are fully satisfied with the performance of the food outlets ($r = .526^{**}$). The correlations between grooming, personal hygiene, and cleanliness of food outlets, ancillary section and surrounding areas of food outlets have positive relationship. Hence, it can conclude that there is significance correlation between independent variables and dependent variables. The maximum value represent ($r = .703^{**}$ and $.684^{**}$) which shows the overall performance of the food outlets.

Table 8
Correlation between factors

	<i>Standard</i>	<i>Cleanliness</i>	<i>Grooming</i>	<i>Surrounding</i>
Standard	1			
Cleanliness	0.55518261	1		
Grooming	0.54807519	0.775690415	1	
Surrounding	0.575904047	0.7762654	0.768338693	1

(d) **Objective 03:** The most significant factors that has an impact on customer satisfaction on food and beverage outlets on highways.

Table 9
Model Summary

<i>Model</i>	<i>R</i>	<i>R Square</i>	<i>Adjusted R Square</i>	<i>Std. Error of the Estimate</i>	<i>R Square Change</i>	<i>Change Statistics</i>			<i>Sig. F Change</i>
						<i>F Change</i>	<i>df1</i>	<i>df2</i>	
1	.901 ^a	.812	.807	.31429	.812	156.862	4	145	.000

^a*Predictors:* (Constant), hygienic, physical, food quality, service quality.

^b*Dependent Variable:* Customer satisfaction.

Table 10
Multiple Linear Regression between Independent and Dependent Variable

<i>Model</i>	<i>Unstandardized Coefficients</i>		<i>Standardized Coefficients</i>	<i>T</i>	<i>Sig.</i>
	<i>B</i>	<i>Std. Error</i>	<i>Beta</i>		
(Constant) 1	-.382	.213		-1.789	.076
Food quality	.309	.068	.290	4.566	.000
Service quality	.265	.075	.248	3.518	.001
Physical environment	.185	.062	.138	2.989	.003
Hygienic and cleanliness	.334	.072	.331	4.662	.000

5. CONCLUSION

Aim of this proposed research work states that food and beverages outlets must pay attention in terms of services, quality of food in order to retain the customer flow and fulfill the expectations of the customers. A branded food and beverage outlet mainly focuses on service quality than other normal outlets. Main reason is cost incurred on employees therefore normal outlets do not focus on qualities. Customers are more conscious with few factors such as hygienic and cleanliness. Customers are expecting healthy food rather than service quality. Service quality is regular exercises to do the assessments on regular basis for achieve the customer expectation. This study proved service quality is also very important factor for customer satisfaction. Thus, physical environment – ambience is also considerable factor for customer satisfaction. Proper layout of food outlets, seating arrangement especially for family members, theme and interior also create the positive impact on customer behavior. Food outlets should pay more attention to the physical environment. Therefore, we believe this study will enhance the qualities and future of food and beverage outlets.

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