

Evaluation Of Customer Service Quality In Restaurants Using A Multidimensional Instrument In Guanajuato Mexico

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Abstract— The concept of the quality of a service is understood as that judgment on the excellence or deficiency of a given service. This concept is quite subjective as it is approached from different angles. The purpose of this study is to obtain an evaluation metric for the quality of the service offered by “La Casona Café Restaurant”, by means of the SERVQUAL instrument validated through a statistical process. The results allowed inferring that the quality of service has an added value in the restaurant, since it was possible to know the perception of the consumers.

Keywords— quality; instrument; customer service; SERVQUAL model.

I. INTRODUCTION

A core point to ensure the success and proper functioning of a company is to consolidate a correct quality control in the processes that involve the activities carried out by the company, this with the purpose of achieving continuous improvement that also provides better profitability and at the same time manages to satisfy the needs of customers (Chortoseva, 2018). According to (Solunoglu, 2020) customer service has become a pillar to achieve better service quality in the restaurant industry, since it is said that a restaurant achieves quality in its service when it satisfies the needs and expectations of its consumers.

In this sense, restaurant managers who want to achieve success must create a pleasant environment and provide the best service to their customers. In contrast, it is not enough to meet the elementary physical requirements of customers in businesses, where food and beverage service is provided, as there is also a need to provide an environment in which customers enjoy the atmosphere to satisfy their emotional, intellectual and spiritual needs, i.e., having a pleasant time, saving time and relaxing (Solunoglu,

2020). Thus, the likelihood of higher quality of customer experience translates into the continuation of restaurant choice that sustains such quality.

Based on the above and the need of the “La Casona Café Restaurant” located in the city of Yuriria Gto. to implement some kind of metric, which would allow them to realize how their customers are currently perceiving the quality of their service offered. The SERVQUAL model was implemented for its subsequent application in the restaurant under study, in order to obtain a measurement of the quality of its service and subsequently establish the basis for future measurements and comparisons to improve the service and meet the expectations of its consumers.

II. PROBLEM

The human being has always had the need to feed himself. For a long time, man has covered this need for food by hunting animals and gathering fruits. With the passage of time, man has discovered different ways to improve his diet and different ways to expand his way of preparing food. The preparation of food in a restaurant consists of mixing the ingredients to obtain a stew and is characterized by not containing any preservation or packaging procedure. The quality of service in restaurants is a fundamental part in achieving success in the performance of its operations; it is related to the degree of satisfaction experienced according to the attention, efficiency and manner in which the service was offered (G., 1992).

La Casona Café Restaurant was inaugurated on November 28, 2019, with opening hours from Monday to Sunday from 08:00 to 22:00 hrs, with the exception of Wednesday, with hours from 09:00 to 16:30 hrs. The name is attributed to the main feature of the establishment and the service offered. The company was founded by several people from the same family, so in a way it is known as a family business. It is located in the center of the city of Yuriria, Guanajuato

and has 14 employees. It was observed that the business is attended by customers with different profiles, for example, middle-level employees, family groups and students. Given the great competition in the area and the presence of restaurants with more than five years of experience in the market, new establishments should consider basing their strategies on customer service to attract and keep customers, in addition to seeking better tools such as marketing, administrative, etc., in order to remain competitive in the market.

III. THEORETICAL FRAMEWORK

A. Quality

Quality can have two meanings: first, the characteristics of a product or service that have to do with its capacity to satisfy stated or implied needs; and second, a product or service free of deficiencies. It should be noted that for Juran (1951) quality means "fitness for use", and for Crosby (1979) conformity to requirements. A singular definition is given by Pirsig (1974), who points out that "Quality is the continuous stimulus that our environment provides us to create the world in which we live", undoubtedly in the midst of a constant social dynamic such as the current one, this definition has a special relevance and validity (Torres & Vásquez, 2010).

B. Service

The concept of service is related to intangible actions, processes and executions comprising facts and actions performed for and with customers or users (Zeithaml & Bitner, 2002). All of which derives in the necessary capacity of perception that customers have or may have of the services provided, considering in it a provision of quality as well as the degree to which the provider manages to make its customers feel satisfied, both in terms of the particular product-service and the overall experience of satisfaction experienced (Zeithaml & Bitner, 2002). On the other hand (Taylor, 1993) defines a service as the set of ancillary services that accompany the main service, which may be a tangible product. In general terms, services are actions, processes and executions, therefore companies and organizations should pay attention to the services they are delivering, since they are the differentiation that will mark the User Satisfaction, based on four characteristics considered basic.

C. Quality of service

According to (Duque, 2005), service quality consists of meeting the customer's expectations about how well a service meets their needs. For (Albrecht, 1998) it is important to emphasize that when an organization sets out its vision considering the quality of the service it offers, it must, first of all, understand that a service is considered to be of quality when it achieves its purpose: to satisfy the needs of customers, now and in the future. The quality of

services is considered efficient when the results exceed the customer's previous expectations when using the service.

D. SERVQUAL Model

The SERVQUAL model is a commercial research technique, which allows to measure service quality, to know the customers' expectations and how they appreciate the service. This model allows to analyze quantitative and qualitative aspects of customers. It allows to know uncontrollable and unpredictable factors of customers (Bustamante, Zerda, Obando, & Tello, 2020).

SERVQUAL provides detailed information about, customer opinions about the service of the companies, comments and suggestions from customers for improvements in certain factors, employees' impressions regarding customer expectations and perceptions. This model is also an instrument for improvement and comparison with other organizations.

E. Dimensions of the SERVQUAL model

The SERVQUAL model groups five dimensions to measure service quality (Parasuraman, Berry, & Valerie, 1988):

- Reliability: refers to the ability to execute the promised service reliably and carefully. That is, that the company keeps its promises, on deliveries, service provision, problem solving, and pricing.

- Responsiveness: This is the willingness to help users and to provide them with prompt and adequate service.

and to provide them with prompt and adequate service. It refers to attentiveness and promptness in dealing with requests, answering customer questions and complaints, and solving problems.

- Assurance: It is the knowledge and attentiveness of employees and their ability to inspire credibility and trust.

- Empathy: Refers to the level of individualized attention offered by companies to their customers. It should be conveyed through personalized service or service tailored to the customer's taste

- Tangible elements: It is the physical appearance, physical facilities, such as infrastructure, equipment, materials, personnel.

F. Cronbach's Alpha

In the specific case of the reliability coefficient linked to homogeneity or internal consistency, the coefficient (Alpha), proposed by Lee J. Cronbach (1916-2001) in 1951, is available. It has been shown that this coefficient represents a generalization of the popular KR-20 and KR-21 formulas (formulas for establishing test reliability) of internal consistency, developed in 1937 by Kuder and Richardson (Kerlinger & Howard, 2002), which were only applicable to binary rating or response formats (dichotomous). Therefore, with the creation of Cronbach's, researchers were able to evaluate the reliability or internal consistency of an instrument consisting of a Likert scale, or any multiple-choice scale.

To determine the Cronbach's coefficient the researcher calculates the correlation of each item with each of the others, resulting in a large number of correlation coefficients. The value of is the average of all the correlation coefficients (Cozby, 2005). Viewed from another perspective, the Cronbach coefficient can be considered as the average of all possible split-half correlations (Cohen & Swerdlik, 2001).

G. Kaiser Meyer Olkin (KMO)

The Kaiser-Meyer-Olkin Measure of sampling adequacy is a statistic that indicates the proportion of variance in variables that can be caused by underlying factors. High values (close to 1.0) generally indicate that a factor analysis may be useful with the data. If the value is less than 0.50, the results of the factor analysis will probably not be very useful (IBM, 2022).

H. Bartlett's test

Contrasts the hypothesis that the correlation matrix is an identity matrix, which would indicate that the variables are unrelated and therefore not suitable for structure detection. Small values (less than 0.05) of the significance level indicate that a factor analysis may be useful with the data (IBM, 2022).

I. Exploratory factor analysis (EFA)

A statistical technique that allows one to explore more precisely the underlying dimensions, constructs, or latent variables of the observed variables, i.e., those observed and measured by the researcher. If, for example, for the purposes of a study a battery of tests is developed or adapted (tests measuring cognitive constructs, questionnaires of affective variables), EFA is applied with the aim of testing to what extent these instruments or the items that comprise them adequately represent the latent constructs of interest or different dimensions of the same construct (Huang et al., 2018).

IV. METHODOLOGY

The methodology used in the present study was taken as the basis for the implementation of the

SERVQUAL Model by conducting a survey to customers to subsequently analyze the results obtained, the design of the questionnaire is presented below (see Table 1).

The structure of the SERVQUAL Model questionnaire is based on 5 dimensions, from which 22 questions arise (Zeithaml, Parasuraman, & Berry, 2004). For the relevance of each question, a Likert scale from 1 to 7 was used. With 1 being total disagreement and 7 representing total agreement.

TABLE I. THE STRUCTURE OF THE SERVQUAL MODEL

Reliability Dimension								
1.-	When you promise to do something in a certain amount of time, the restaurant must deliver.	1	2	3	4	5	6	7
2.-	When the customer has a problem, the restaurant must show a sincere interest in solving it.	1	2	3	4	5	6	7
3.-	The restaurant must perform the service well for the first time.	1	2	3	4	5	6	7
4.-	The restaurant must provide its service at the time it promises to do so.	1	2	3	4	5	6	7
5.-	The restaurant should insist on error-free records.	1	2	3	4	5	6	7
Sensitivity Dimension								
1.-	The restaurant must keep customers informed as to when services will be performed.	1	2	3	4	5	6	7
2.-	Restaurant employees must provide prompt service.	1	2	3	4	5	6	7
3.-	Employees must be willing to help them.	1	2	3	4	5	6	7
4.-	Restaurant employees should never be too busy to help you.	1	2	3	4	5	6	7
Security Dimension								
1.-	The behavior of your employees should instill confidence in you.	1	2	3	4	5	6	7
2.-	The customer must feel secure in transactions with the restaurant.	1	2	3	4	5	6	7
3.-	Employees should be consistently courteous to you.	1	2	3	4	5	6	7
4.-	Restaurant employees must have the knowledge to answer customers' questions.	1	2	3	4	5	6	7
Empathy Dimension								
1.-	The restaurant must provide individualized attention to customers.	1	2	3	4	5	6	7
2.-	The restaurant must have employees who give personal attention to each customer.	1	2	3	4	5	6	7
3.-	The restaurant should have your best interests at heart.	1	2	3	4	5	6	7
4.-	Employees must understand your specific needs.	1	2	3	4	5	6	7
5.-	The restaurant must have convenient hours of operation for all its customers.	1	2	3	4	5	6	7
Tangible Elements Dimension								
1.-	The restaurant should have modern-looking equipment.	1	2	3	4	5	6	7
2.-	The physical facilities of the restaurant must be attractive.	1	2	3	4	5	6	7
3.-	Restaurant employees should look neat (clean and careful).	1	2	3	4	5	6	7
4.-	Materials associated with the service should be visually appealing to the restaurant.	1	2	3	4	5	6	7

The data were obtained by conducting a survey of customers of "La Casona Café Restaurant". The questionnaires were administered and carried out using the Google Forms platform to collect the information. This test was carried out on 105 customers to obtain the necessary sample and subsequently apply the exploratory factor analysis.

In order to categorize and analyze in a more organized manner, the 22 variables of the SERVQUAL model instrument, divided by dimensions, as well as an assigned key, were attached in a table for a better understanding of the variables:

TABLE 2. DIMENSIONS AND VARIABLES WITH THEIR KEYS

Reliability Dimension	
Key	Question
F1	When you promise to do something in a certain amount of time, the restaurant must deliver.
F2	When the customer has a problem, the restaurant must show a sincere interest in solving it.
F3	The restaurant must perform the service well for the first time.
F4	The restaurant must provide its service at the time it promises to do so.
F5	The restaurant should insist on error-free records.
Sensitivity Dimension	
SEN1	The restaurant must keep customers informed as to when services will be performed.
SEN2	Restaurant employees must provide fast service.
SEN3	Employees must be willing to help them.
SEN4	Restaurant employees should never be too busy to help you.
Security Dimension	
SEG1	The behavior of your employees should influence confidence in you.
SEG2	The customer must feel secure in transactions with the restaurant.
SEG3	Employees should be consistently courteous to you.
SEG4	Restaurant employees must have the knowledge to answer customers' questions.
Empathy Dimension	
EM1	The restaurant must provide individualized attention to customers.
EM2	The restaurant must have employees that give personal attention to each customer.
EM3	The restaurant should look out for your best interests.
EM4	Employees must understand your specific needs.
EM5	The restaurant must have convenient hours of operation for all its customers.
Tangible Elements Dimension	
ET1	The restaurant should have modern-looking equipment.
ET2	The physical facilities of the restaurant must be attractive.
ET3	Restaurant employees should look neat (clean and careful).
ET4	Materials associated with the service should be visually appealing to the restaurant.

V. RESULTS

It was possible to verify that the instrument used from the SERVQUAL model to measure the service quality of "La Casona Café Restaurant", according to (Frias, 2022) allowed estimating the reliability of the 22 questions of the measuring instrument, for the consistency of the data, which gave a significant value of 0.921 (See table 3) considered an acceptable Cronbach's Alpha coefficient, within the established parameters (Mallery P., 2003).

TABLE 3. RELIABILITY STATISTIC. RESULTS OBTAINED FROM THE SPSS

Reliability Statistic		
Cronbach's alpha	Cronbach's alpha (typed items)	N of elements
0.921	0.927	22

The exploratory factor analysis (EFA) of the data obtained was carried out considering the contribution of (López, 2019). The valuation of the Kaiser, Meyer and Olkin coefficient whose measure was 0.867 (See Table 4), an index that allows determining that it is feasible to continue with the factorial analysis, due to the fact that the correlation between the variables could be verified through Bartlett's test of sphericity, with a significant estimate of Chi-square of 0.000 demonstrating a value well below the limit.

TABLE 4. KMO AND BARTLETT'S TEST. RESULTS OBTAINED

KMO and Bartlett's test	
Kaiser-Meyer-Olkin sample adequacy measure	0.867
Approximate Chi-square	1175.235
Bartlett's test for sphericity	gl 190
Sig	0.000

According to the values of the communalities matrix, 4 factors are shown as a result (See table 5 and 6 respectively). Using the extraction method with the principal components analysis, whose results of the SPSS program of the principal components gave an eigenvalue greater than 1 in such a way that it allowed extracting the main ones according to what was indicated.

TABLE 5. COMMUNALITIES. RESULTS OBTAINED FROM THE SPSS PROGRAM

	Communalities	
	Initial	Extraction
F1	1	0.725
F2	1	0.791
F3	1	0.789
F4	1	0.644
F5	1	0.624
SEN1	1	0.643
SEN2	1	0.642
SEN3	1	0.526
SEN4	1	0.703
SEG1	1	0.636
SEG2	1	0.643
SEG3	1	0.524
SEG4	1	0.654
EM2	1	0.597
EM3	1	0.603
EM4	1	0.746
EM5	1	0.618
ET1	1	0.601
ET2	1	0.633
ET3	1	0.581

Extraction method: Principal component analysis.

TABLE 6. COMPONENT MATRIX. RESULTS OBTAINED FROM THE SPSS PROGRAM

	Component matrix			
	Component			
	1	2	3	4
SEN4	0.793	0.201	0.072	0.172
SEG2	0.751	0.058	-0.222	-0.164
F1	0.737	-0.378	0.198	0
SEN2	0.734	-0.106	0.238	0.19
SEG1	0.714	0.002	-0.345	-0.088
SEN3	0.692	0.069	-0.153	-0.135
SEN1	0.69	-0.301	-0.271	0.054
F4	0.684	-0.387	-0.108	-0.119
F3	0.682	-0.399	0.233	-0.332
SEG4	0.665	0.276	0.318	0.187
SEG3	0.661	0.114	0.139	0.233
ET1	0.66	0.27	0.188	-0.239
EM5	0.643	0.123	-0.374	0.224
F2	0.618	-0.585	0.14	-0.218
ET3	0.537	0.067	-0.536	0.023
ET2	0.531	0.255	-0.483	0.231
EM3	0.501	0.346	0.384	0.292
EM2	0.495	0.44	0.275	-0.286
F5	0.489	-0.315	0.284	0.453
EM4	0.533	0.536	0.089	-0.409

Extraction method: Principal component analysis. a) four components extracted.

Taking into account the results of the SPSS program in the explained factorial study of the community matrix and rotated component matrix (see Table 7), we can observe the application of the Varimax method with Kaiser normality for the factorial extraction with maximum likelihood, determining that the rotation has converged in 7 iterations, guaranteeing the statistical validation of the most important components, based on the extraction method and the principal component analysis, where the most important questions in each component have the highest numbers.

TABLE 7. MATRIX OF ROTATED COMPONENTS. RESULTS OBTAINED FROM THE SPSS PROGRAM

	Matrix of rotated components			
	Component			
	1	2	3	4
F2	0.874	0.1	0.123	0.055
F3	0.823	0.07	0.146	0.293
F1	0.722	0.189	0.392	0.12
F4	0.688	0.383	0.128	0.08
ET2	-0.054	0.759	0.207	0.108
ET3	0.15	0.74	0.008	0.102
EM5	0.127	0.712	0.291	0.105
SEG1	0.364	0.655	0.1	0.254
SEG2	0.388	0.573	0.134	0.383
SEN1	0.543	0.561	0.183	-0.012
SEN3	0.35	0.492	0.164	0.367
EM3	-0.016	0.072	0.687	0.354
F5	0.402	0.072	0.649	-0.191
SEG4	0.15	0.187	0.647	0.422
SEN2	0.46	0.231	0.585	0.187
SEG3	0.225	0.311	0.564	0.242
SEN4	0.241	0.44	0.561	0.369
EM4	0.043	0.234	0.085	0.826
EM2	0.083	0.07	0.234	0.728
ET1	0.272	0.213	0.276	0.637

Extraction method: Principal component analysis. Rotation method: Varimax normalization with Kaiser. a) Rotation has converged in 7 iterations.

VI. Discussion of Results

It is demonstrated that the SERVQUAL model instrument, helps to measure the service quality of "La Casona Café Restaurant" of Guanajuato, Mexico, with a reliability coefficient of Cronbach's Alpha of 0.921, whose sample of valuation of the Kaiser, Meyer and Olkin coefficient was 0.867 in the Bartlett's test of sphericity gave an approximate estimate in the Chi-square a significant value $p < 0.05$ of 0.000. Having good reliability of the instrument, as well as that the AFE, was the best choice for this case study.

And in the Varimax rotation it tries that the factors have a few high saturations and many almost null in the variables. This means that there are factors with high correlations with a small number of variables and null correlations in the rest. In this case, 4 components were obtained. The first component had variables F2, F3, F1 and F4, corresponding to the Reliability dimension. For component two, variables ET2 and ET3, from the Tangible elements dimension, EM5 from the Empathy dimension, SEG1, SEG2 from the Security dimension and SEN1, from the Sensitivity dimension. Element three concentrated the variables EM3, Empathy dimension, F5 from the Reliability dimension, SEG4, SEG3, from the Security dimension and SEN2, SEN4 from the Sensitivity dimension. The last component concentrated the variables EM4, EM2, from the Empathy dimension, and ET1, from the Tangible elements dimension. Each of these variables with their keys corresponds to a question of the instrument, which can be seen in the table above (see Table 2).

VII. CONCLUSIONS

It was possible to verify through the present research study that the variables and dimensions of the SERVQUAL model instrument help notably in the measurement of the service quality of "La Casona Café Restaurant", where they were represented through significant and acceptable values. For example, the Cronbach's Alpha coefficient with a value of (0.921), the coefficient of the Kaiser, Meyer and Olkin tests was 0.867 in the Bartlett's test of sphericity gave an approximate estimate in the Chi-square with a significant value $p < 0.05$ of 0.000. Also, with a result in conjunction with the exploratory factor analysis of principal components under the Varimax-Kaiser method whose rotation converged in 7 iterations with 4 significant components.

Given the projections of the results, we can determine that the general objective of this research was achieved by determining the reliability of the instrument used to measure the quality of service of the case study, as well as to observe which variables have more correlations, and in this way the restaurant can consider the results obtained, to continue improving and offer a higher quality service to customers.

In addition, as future work we intend to strengthen this study, applying other analyses, and thus, to have an even more significant panorama and results.

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