# Economic
# development

## ЕКОНОМСКИ РАЗВОЈ

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# SERVICE QUALITY MODEL FOR RESTAURANTS

**Abstract:**

The focus of this research is the creation of a model for service quality measurement in restaurants in R. Macedonia. In order to determine the factors which represent the basic determinants of the concept of service quality it is applied the factor analysis with the method of principal components and varimax rotation.

The research has been conducted in total of 7 restaurants in R. Macedonia. There are 304 processed questionnaires. Moreover, there are six factors identified which best explain the perceptive service quality in restaurants, such as: responsiveness in restaurants, tangibles, reliability, assurance, food quality and empathy. The value of Cronbach alfa coefficient is greater than 0,8 which shows that the model is acceptable and adequate for the evaluation of service quality in restaurants.

**Keywords: service quality, restaurants, factor analysis, quality model**

**JEL Classification: C38, L83, O14**

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## Introduction

One of the most popular multivariate techniques used to research the mutual correlation of greater number of variables where there is no strict separation between dependable and undependable, is the factor analysis. The factor analysis is a technique for interdependence and needs a group of variables which are redundant and have greater interdependency. For its efficient application it is necessary to have minimal quantity of redundant variables, i.e. the meaning of the variables should overlap. A model for variables behavior or factor which links the variables can be detected due to the existence of that redundancy. With the help of factor analysis can be identified the mutual characteristics of more variables and lower the number of variables with similar meaning and behavior in the analysis.

Factor loading is a correlation coefficient between every variable and the factor itself. The bigger the dependency, the better the factor description by the characteristic. The factor analysis has been applied in greater number of papers in order to determine a model for service quality measurement in service industry.

According to Gronroos (1994)[1], the main characteristic of service industry is the indivisibleness of manufacture and consumption of their services which gives the opportunity for the establishment of close customer relationships. Furthermore, Zineldin (1999)[2] adds that since greater number of companies offer similar products and services, the differentiation can be based on the companies' ability to build long-term customer relationships.

That involves new approach of companies' management introducing the management of service quality oriented towards the customers in accordance with the philosophy of total quality management. The service quality management is an approach for business management used in order to provide total customer satisfaction. Moreover, the customers' satisfaction is one of the basic principles of the ISO 9001:2008 standard: "The organization depends from its customers and for that it must understand the current and future

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[1] **Gronroos, C.:** From marketing mix to relationship marketing – towards a paradigm shift in marketing, Journal 2, Australian Marketing, Australia, 1994, pp. 9-29

[2] **Zineldin, M.:** Exploring the common ground of total relationship management (TRM) and total quality management (TQM), Management Decision, 37(9), MCB UP Ltd, England, 1999, pp. 719-730

customer needs, it must satisfy their demands and to strive towards overcoming their expectations"[3].

Service quality and customer satisfaction is a concept that caused great interest and debate in research literature due to the difficulties in its defining and its measurement because of the variability, heterogeneity, abstractness and multidimensionality.

At the beginning of this paper is a short literature review followed by a research methodology, presentation of the results with short discussion and concluding remarks for the determination of the model for service quality in restaurants.

## 1. LITERARY REVIEW

There are numerous models for measurement and evaluation of service quality pointed out in the literature, as well as its effect on the customer satisfaction from the received service. During the last few decades there has been increase in the attention on the development of measurement instruments for certain service industries because of the specificities that apply to them. However, the research suggests that even the instruments adjusted to specific service industries, still have restrictions in some other socio-economic and cultural context.

In the modern research of service industry development, restaurants are seen as its most important segment with a continuous growth. The accelerated pace of living and less free time have led to a growing trend of the increasing visitors in restaurants. Today, restaurants are under a great pressure of the competition as well as the increase of customers' expectations regarding the service quality. The quality of restaurants should be observed from customers' perspective since providing the required service quality and customers' satisfaction secures long-term financial results and stronger competitive advantage in today's dynamic environment.

The work of great number of researchers point to the multidimensionality of service quality. Still, there isn't any general consent for the number of factors which determine the service quality. Stevens at al. (1995) suggest 5 quality factors, John and Tyas (1996) propose 7-dimensional model: tangibles, tangibles2, reliability, responsiveness, empathy, assurance and food. Qin at al.

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[3] International Organization for Standardization, Quality management systems - Requirements https://www.iso.org/standard/46486.html, 15.08.2018

(2010) suggest dimensional model with 6 factors, similar to John and Tyas (1996) which apart: tangibles, assurance, empathy, responsiveness and reliability, but also include the recovery factor. According to many researchers, the main components for the entire quality of restaurant service are the physical environment, food quality, and employees. Tat, Sook-Min, Ai-Chin, Rasli and Hamid (2011), Tabassum and Rahman (2012), Akbar and Alaudeen (2012) point out: environment, food quality, service quality, price, fast service; for Ling, Mun and Ling (2011) is the restaurant look; and for Ibrahim and Vignali (2005) are: object appearance, value for users for eating out.

According to the research results of Olise at al.[4] for the quality in fast food restaurants in Nigeria it is concluded that the major factor which affect the customers' behavior for support of these types of restaurants are service quality, quality of atmosphere, environment, demographic characteristics of customers and modernity. The other quality determinants can be identified among the most important in different cultures and different service industries. In Turkey the researches applied in hospitality point out that the tangibles are the most important determinant for overall evaluation of quality, while in Thailand it is the responsiveness.

## 2. METHODOLOGY OF RESEARCH

The research has been conducted in total of 7 restaurants in R. Macedonia, from which 3 are casual restaurants, 2 are pizza restaurants and 2 are fast food restaurants. There are 304 processed questionnaires. The customers' perception about service has been researched based on 29 attributes presented in table 1[5] given the three models: *SERVQUAL, DINESERV* and *CFFRSERV.* The

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[4] **Olise, M.C., Okoli, M.I., Ekeke, J.N.:** Factors influencing customers patronage of fast food restaurants. International Journal of Economics, Commerce and Management, 3(11), United Kindom, 2015, pp. 686- 701

[5] Adapted by:

- **Parasuraman, A., Zeithaml, V.A., Berry, L.L:** SERVQUAL: a multiple-item scale for measuring consumer perceptions of service quality, The Journal of Retailing, 62 (1), Cambridge, MA, 1988, pp. 12-40

- **Stevens, P., Knutson, B., Patton, M.:** DINESERV: A Tool for Measuring Service Quality in Restaurant, Cornell Hotel Restaurant Administration Quarterly, (36), 1995, England, pp. 56- 60

- **Tan, Q., Oriade, A., Fallon, P.:** Service quality and customer satisfaction in Chinese fast food sector: a proposal for CFFRSERV, Advances in Hospitality and Tourism Research, 2(1), United Kingdom, 2014, pp. 30-53

factor analysis with method of principal components and varimax rotation has been applied in order to determine the key determinants (dimensions) for the concept of service quality in restaurants in which the research has been done. The convenience of factor analysis application is examined with the use of Bartlett's Test of sphericity, and the adequacy of the research sample according to Kaiser-Meyer-Olkin (KMO) indicator.

The KMO values between 0,8 and 1 show that the sample is representative, and the values smaller than 0,6 show that the sample is not representative and there should be corrective measured undertaken. Cronbach alfa coefficient is used to prove the validity of the model for service quality measurement in restaurants in R. Macedonia. For the statistical process of the data is used the software package SPSS version 19.

**Table 1.** Attributes of service quality

| Number of attribute | Attributes of service quality |
|---|---|
| 1 | The restaurant has visually attractive exterior look |
| 2 | The restaurant has attractive interior area for dining |
| 3 | The restaurant has appropriate, decent and well-dressed employees |
| 4 | The restaurant has correctly written and readily food list |
| 5 | The dining area is spacious and comfortable |
| 6 | The restaurant looks clean and neatly |
| 7 | The restaurant provides the service on time |
| 8 | The restaurant quickly corrects any mistake |
| 9 | The restaurant is reliable and consistent in the service |
| 10 | The restaurant offers correct calculations to its guests |
| 11 | The restaurant serves the food as ordered |
| 12 | Food has good taste |
| 13 | Food is served on certain temperature |
| 14 | Food is fresh |
| 15 | Food choice is different |
| 16 | Food is served in good portions |
| 17 | The restaurant delivers the service on time during crowd |
| 18 | The restaurant provides fast service |

- **Saneva, D., Chortoseva, S.:** Service Quality in Restaurants: Customers' Expectation and Customers' Perception, SAR Journal, 2018, pp.47-52

| 19 | The restaurant additionally tries to answer your special requests |
|----|----|
| 20 | Employees are always prepared to help |
| 21 | Staff is loyal and decent |
| 22 | Staff is polite |
| 23 | The restaurant has staff that is capable and ready to provide information for food, its ingredients and preparation |
| 24 | The restaurant has staff that looks educated, competent and experienced |
| 25 | The restaurant has staff with enough time for your individual wishes |
| 26 | The restaurant makes you feel special |
| 27 | The restaurant predicts your individual needs and wants |
| 28 | The restaurant has staff which looks cute and calm when something is not good |
| 29 | The restaurant looks like it does everything in guests' interest |

## 3. DATA ANALYSIS AND RESULTS

After the conducted research and applied factor analysis with the method of principal components and varimax rotation, the high value of Kaiser-Meyer-Olkin (KMO) of 0,843 (close to 1,0) as well as the statistically important value of Bartlett's test of sphericity with a level of importance smaller than 0,05, proving that the variables are interdependent and have mutual factors, it is justified to apply factor analysis for the identification of structure that is basically a set of attributes covered in this research (Table 2).

**Table 2.** Kaiser-Meyer –Olkin (KMO) and Barlett's test for sample adequacy and attributes of service quality

| *Kaiser-Meyer-Olkin Measure of Sampling Adequacy.* | | 0,843 |
|----|----|----|
| *Bartlett's Test of Sphericity* | Approx. Chi-Square | 2459,52 |
| | df  (degree of freedom) | 406 |
| | Sig. | 0,000 |

With the application of factor analysis for the data collected from the customers' perception about service quality in all seven restaurants, 6 factors

were separated, i.e. determinants of quality which have value of characteristic root (eigenvalues) bigger than 1.

The resulting composition of factors explains 51,13% from the total variance of the sample. In Table 3 it is shown the matrix of factor structure for 27 attributes, communalities of individual variables (attributes), their factor loading, characteristic roots (eigenvalues) and communalities of individual dimensions (factors). The seventh factor is separated from the matrix given that it contains only one attribute number 15 – *the food choice is different,* because to be considered as a factor it has to contain more than two attributes. Same is for the attribute number 17 – *the restaurant provides the service on time during crowd*, with a factor loading < 0,500, which also is not important for the researched sample size.

The resulting values of communalities of 27 attributes range from 0,445 to 0,675, which shows high mutual variability of attributes. The communality is variance of every individual variable defined by a number of selected factors. The variable i.e. attribute number 29 – *the restaurant looks like it does everything in guests'interest,* has the highest value of communality 0,675, which further shows that 67,5% from the total variation of the variable is covered by the separate factors. In accordance with the structure, the determinants are named in the following way: factor 1 – *restaurant responsiveness;* factor 2 – *tangibles*; factor 3 – *reliability*; factor 4 – *assurance*; factor 5 – *food quality* and factor 6 – *empathy*.

**Table 3.** Matrix of factor structure with factor loading and communality of separated variables (attributes), communality and characteristic root of distinct factors of service quality

| Attribute number | Attributes of service quality | Factor loading - Factor | | | | | | Communalities |
|---|---|---|---|---|---|---|---|---|
| | | **1** | **2** | **3** | **4** | **5** | **6** | |
| 25 | The restaurant has staff with enough time for your individual wishes | ,712 | | | | | | ,603 |
| 24 | The restaurant has staff that looks educated, competent and experienced | ,694 | | | | | | ,575 |
| 18 | The restaurant provides fast service | ,647 | | | | | | ,486 |
| 19 | The restaurant additionally tries to answer your special requests | ,593 | | | | | | ,511 |
| 26 | The restaurant makes you feel special | ,577 | | | | | | **,445** |
| 5 | The dining area is spacious and comfortable | | ,714 | | | | | ,649 |
| 3 | The restaurant has appropriate, decent, and well-dressed employees. | | ,650 | | | | | ,522 |
| 4 | The restaurant has correctly written and readily food list. | | ,641 | | | | | ,537 |
| 1 | The restaurant has visually attractive exterior look | | ,611 | | | | | ,567 |
| 2 | The restaurant has attractive interior area for dining | | ,583 | | | | | ,539 |
| 6 | The restaurant looks clean and neatly | | ,524 | | | | | ,555 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 10 | The restaurant offers correct calculations to its guests | | | ,713 | | | | ,539 |
| 8 | The restaurant quickly corrects any mistake | | | ,706 | | | | ,584 |
| 9 | The restaurant is reliable and consistent in the service | | | ,679 | | | | ,552 |
| 11 | The restaurant serves the food as ordered | | | ,606 | | | | ,479 |
| 7 | The restaurant provides the service on time | | | ,511 | | | | ,632 |
| 21 | Staff is loyal and decent | | | | ,705 | | | ,600 |
| 20 | Employees are always prepared to help | | | | ,660 | | | ,604 |
| 22 | Staff is polite | | | | ,597 | | | ,489 |
| 23 | The restaurant has staff that is capable and ready to provide information for food, its ingredients and preparation | | | | ,570 | | | ,502 |
| 12 | Food has good taste | | | | | ,751 | | ,591 |
| 16 | Food is served in good portions | | | | | ,691 | | ,522 |
| 14 | Food is fresh | | | | | ,604 | | ,486 |
| 13 | Food is served on certain temperature | | | | | ,573 | | ,486 |
| 28 | The restaurant has staff which looks cute and calm when something is not good | | | | | | ,802 | ,665 |
| 29 | The restaurant looks like it does everything in guests' interest | | | | | | ,767 | <u>,675</u> |
| 27 | The restaurant predicts your individual needs and wants | | | | | | ,699 | ,583 |
| | *Cumulative* | *3,02* | *2,88* | *2,35* | *2,30* | *2,19* | *2,09* | |
| | *% of variance* | *10,41* | *9,95* | *8,09* | *7,92* | *7,55* | *7,21* | <u>*51,13*</u> |
| | *Total Eigenvalues* | *6,17* | *1,54* | *2,92* | *1,01* | *1,89* | *1,35* | |

The first factor "*Restaurant responsiveness*" includes attributes of service quality that apply for responsibility, competency and speed of service. The second factor "*Tangibles*" refers to the physical elements of service quality such as equipment, employee appearance, food list etc. The third factor "*Reliability*" includes attributes that refer to the consistency to provide the service on time and with accuracy. The forth factor "*Assurance*" refers to the ability to gain consumers' reliability, ensure financial security and accuracy. The fifth factor "*Food quality*" includes attributes of service quality that refer to the food freshness and food taste, the temperature on which the food is served and its portion size. The sixth factor "*Empathy*" refers to the satisfaction of customers' individual wants and needs and everything else in their interest. Table 4 presents the coefficient of internal consistency of attribute grouping in the questionnaire given the individual dimensions of service quality. Based on the resulting values for Cronbach alfa coefficient for internal consistency of data grouping within the dimensions (determinants) of service quality in restaurants of 0,753; 0,782; 0,692; 0,737; 0,638 and 0,717 respectively from factor 1 to 6, the validity of the questionnaire is justified. Furthermore, the accuracy of the formed groups of attributes within it, meaning that these dimensions are consisted of different aspects (elements) which refer that the customers perceive the service quality on similar way since all values are above 0,6, as well as the validity of the measurement model with Cronbach alfa coefficient of 0,84.

Table 4. Coefficient of internal consistency of attribute grouping on questionnaire in individual dimensions of service quality

| Factor | Number of attribute | Cronbach alfa test for individual factors | Cronbach alfa test |
|---|---|---|---|
| 1.  Restaurant responsiveness | 18, 19, 24, 25, 26 | 0,753 | |
| 2.  Tangibles | 1, 2, 3, 4, 5, 6 | 0,782 | |
| 3.  Reliability | 7, 8, 9, 10, 11 | 0,692 | *0,84* |
| 4.   Assurance | 20, 21, 22, 23 | 0,737 | |
| 5.  Food quality | 12, 13, 14,16 | 0,638 | |
| 6.  Empathy | 27, 28, 29 | 0,717 | |

## Conclusion

Given the applied exploratory factor analysis with the method of principal components and varimax rotation, the perceived service quality in restaurants is multidimensional concept defined by 6 factors, i.e. determinants of quality such as: factor 1 – *restaurant responsiveness;* factor 2 –*tangibles*; factor 3 – *reliability*; factor 4 – *assurance*; factor 5 – *food quality* and factor 6 – *empathy*; which is in accordance to the findings presented in literature review. The variables/attributes separated in order to measure perception of service quality in restaurants in the research questionnaire are interdependent and have mutual factors, with which it can be justified the value of Kaiser-Mayer-Olkin (KMO) indicator and the statistically important value of Bartlett's test of sphericity. The validity of the measurement model is justified with the Cronbach alfa coefficient of 0,84.

The applied model for service quality measurement in this paper can be applied for monitoring the changes in the level of expectation and perception of customers during certain time, and for comparison of accomplished results regarding the performances of different hospitality facilities. Together with other research methods this instrument gives the opportunity to the company management to determine the relative importance of determinants of service quality from customers' perception and to better understand the customers' behavior and their needs as for service quality given their choice of restaurant.

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