

## THE EFFECT OF LEAN MANAGEMENT PRACTICES ON THE PERCEPTION OF SERVICE QUALITY AND CUSTOMER SATISFACTION: AN INVESTIGATION IN HOTEL BUSINESS

### *O EFEITO DAS PRÁTICAS DE GESTÃO ENXUTA NA PERCEPÇÃO DA QUALIDADE DO SERVIÇO E NA SATISFAÇÃO DO CLIENTE: UMA INVESTIGAÇÃO NO SETOR HOTELEIRO*

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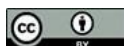
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#### Abstract

Hotels are faced with the challenge of reducing costs and increasing customer satisfaction. Additionally, sustaining their earnings has become more challenging in recent years. The lean management approach, which has been implemented in the industrial sector for years, has not been considered in the internal processes of hotel businesses. This study aims to determine the practical effects of lean management practices on customer satisfaction in hotel businesses and to discuss whether it is appropriate to switch to lean management in hotel management based on the determination of these effects. The data of the study were collected through a questionnaire. A total of 302 responses were used in the analysis. The sample of this study consisted of 302 tourists who preferred to stay in hotels which are in the most intense tourism areas in Türkiye and adopt lean management practices. According to the results of the study, a significant positive correlation was found between customer satisfaction with the perception of service quality ( $\beta=0.82$ ,

#### Resumo

*Os hotéis enfrentam o desafio de reduzir custos e aumentar a satisfação do cliente. Além disso, manter seus lucros tornou-se mais difícil nos últimos anos. A abordagem de gestão enxuta, que vem sendo implementada no setor industrial há anos, ainda não foi considerada nos processos internos das empresas hoteleiras. Este estudo tem como objetivo determinar os efeitos práticos das práticas de gestão enxuta na satisfação do cliente em empresas hoteleiras e discutir se é apropriado adotar a gestão enxuta na gestão hoteleira com base na determinação desses efeitos. Os dados do estudo foram coletados por meio de um questionário. Um total de 302 respostas foi utilizado na análise. A amostra deste estudo consistiu em 302 turistas que preferiram se hospedar em hotéis localizados nas áreas de turismo mais intensas da Turquia e que adotam práticas de gestão enxuta. De acordo com os resultados do estudo, foi encontrada uma correlação positiva significativa entre a satisfação do cliente e a percepção da qualidade do serviço ( $\beta=0,82$ ,*



$p < 0.01$ ), the sub dimensions of service quality including tangibles ( $\beta = 0.69$ ,  $p < 0.01$ ), reliability ( $\beta = 0.70$ ,  $p < 0.01$ ), responsiveness ( $\beta = 0.72$ ,  $p < 0.01$ ), assurance ( $\beta = 0.76$ ,  $p < 0.01$ ), and empathy ( $\beta = 0.75$ ,  $p < 0.01$ ). This study has important, practical, and original results that reveal the effect of lean management practices on customer satisfaction in hotel businesses.

**Keywords:** Management. Hotel Management. Lean Management. Service Quality Perception. Customer Satisfaction.

$p < 0,01$ ), bem como com as subdimensões da qualidade do serviço, incluindo aspectos tangíveis ( $\beta = 0,69$ ,  $p < 0,01$ ), confiabilidade ( $\beta = 0,70$ ,  $p < 0,01$ ), capacidade de resposta ( $\beta = 0,72$ ,  $p < 0,01$ ), garantia ( $\beta = 0,76$ ,  $p < 0,01$ ) e empatia ( $\beta = 0,75$ ,  $p < 0,01$ ). Este estudo apresenta resultados importantes, práticos e originais que revelam o efeito das práticas de gestão enxuta na satisfação do cliente em empresas hoteleiras.

**Palavras-chave:** Gestão. Gestão Hoteleira. Gestão Enxuta. Percepção da Qualidade do Serviço. Satisfação do Cliente.

## 1 INTRODUCTION

The popularity of lean management practices, which focus on customer requests and satisfaction by reducing applications not creating added value and increasing waste in business processes, make all work customer-oriented, and a management approach based on continuous improvement philosophy, has greatly increased in recent years. It is also seen that this management approach, practiced in many sectors, has gained importance in the service sector recently. It can be said that hotel businesses have undergone many changes in terms of management and content in the historical process. In hotel businesses that provide many needs such as temporary accommodation, eating and drinking, entertainment for people traveling for various reasons other than their places of residence, the increase in costs has brought about a decrease in the quality of products and services. In Türkiye, the increase in the cases of poisoning and mortality due to the poor quality of food and drink in some hotels are examples of this situation. The tendency to do more work with fewer personnel due to increasing costs and the desire to avoid waste cause new searches in management. As in every business, one of the main purposes of hotel businesses is the survival. Therefore, businesses must be able to gain competitive advantage and high profits. The realization of profitability is possible primarily through a healthy and sustainable relationship with customers. This can only be achieved through the ability to meet the wishes and expectations of the customer, i.e. customer satisfaction. This study was carried out to determine the effect of service quality perception on customer satisfaction in tourism businesses that practice the lean management

philosophy, which is one of the new management approaches. The problems of this study are that the production costs of quality goods and services are increasing day by day, that customer expectations and needs cannot be met by businesses without sacrificing quality, and that new management approaches are not put into practice to increase profitability. This study is the first study aiming at identifying the effect of lean management practices of hotel business in Türkiye on customer satisfaction. There is no study investigating the effects of lean management practices on customer satisfaction in hotel businesses in the literature. This situation adds a unique value to the study. This study which was conducted with 302 tourists staying in the hotels implementing lean management in different regions In Türkiye should be supported with other studies including larger samples and different sectors.

## 2 CONCEPTUAL FRAMEWORK

Literature section includes hotel management, lean management, service quality perception, customer satisfaction and **the relationship between the perception service quality and customer satisfaction.**

### 2.1 Hotel management

The history of accommodation is as old as human history. In his study contributing to the modern hotel literature, O'Gorman (2008: 2) investigated the origins of hospitality associated the foundation of modern hospitality with the classical age. The concept of accommodation, which has developed over the centuries and gained new functions, has survived to the present day and has turned into an important sector that brings income to both businesses and economies. Accommodation management, which has become global due to the development of industry and trade and the increase in per capita national income and leisure time, is rapidly developing within the service sector. However, the accommodation industry is in a constant struggle due to the intense competition resulting from the construction of new hotels worldwide, the rapid changes and developments in technology, the changes in customer demands and expectations, and the necessity of higher performance of hotel businesses (Sürücü *et al.*, 2020: 1).

Hotels are service businesses established with large capitals to meet the needs of people such as accommodation, food and entertainment that arises from temporary travels outside their place of residence. Due to the intensive production of service in hotel businesses, it differs from other businesses in management-related issues. Hotel businesses should be based on providing a service that will meet the demands and expectations of the customers while determining goals. The concept of quality, which is related to customer expectations and perceptions, has been defined in many ways so far. In some of these definitions, quality is explained as the conformity of the product or service to the specifications of the customers and the level of meeting the customer needs, the ability of a good or service to meet the needs and expectations, and all of the characteristics that reveal the ability of a good or service to meet a certain need. According to these definitions, the basic feature of the concept of quality is the fact that a good or service gathers some important features for customer satisfaction (Öztürk & Kırac, 2019: 402; Aydoğdu *et al.*, 2019: 158). However, as the requests, needs and expectations of customers may change over time, appropriate marketing strategies should be developed and activities should be arranged accordingly. Employees who are in a one-to-one relationship with the customer are the main determinant in the formation of customer satisfaction or meeting customer expectations. Therefore, they should be provided with training regarding these issues and be familiar with how the service quality can be improved according to the expectations of the customers and how this can be made permanent (Emir, 2007: 2; Shengelbayeva, 2009: 12).

## **2.2 Lean management**

Lean management is a system that has been widely used for decades in manufacturing firms (Crema & Chiara, 2021: 448). The system was first implemented in Hungary to do more work with fewer employees. The lean management originated from the practices of Toyota firm in Japan. Today, many firms are using this technique and transforming into lean production. This process, which started with Toyota, is also preferred by large businesses such as Nissan and General Motors. It is an application that greatly reduces the costs of businesses and increases their productivity. The basic idea of the lean management is to reduce waste sources and maximize customer value (Meng,

2019: 3784). Firms with lean management try to eliminate elements with no added value by looking at the timeline when the customer orders in the production system and thus, they aim to shorten the production process (Parkhi, 2019: 1276).

The lean management is based on the philosophy of continuous improvement by reducing activities that are not beneficial to implementation processes and by meeting customer requests, expectations and needs at the center of organizations. It also depends on the principle of reducing and eliminating costs that cause waste in businesses (Çilhoroz & Arslan, 2018: 156). At the basis of the lean management concept, the idea of focusing on production with the least resources and prioritizing quality production comes to the fore. Businesses can maintain their existence, compete against their competitors, expand their market shares, and ensure customer satisfaction with lean management practices (Bayar, 2020: 1986). The lean production system covers applications such as making lean design, precise and clear definition of the value of the produced goods, active and systematic participation of customers, maximizing the produced goods and services, determining the needs and goals of stakeholders involved, and realizing product designs simultaneously (Çanakçıoğlu, 2019: 272). Businesses need to increase loyalty by ensuring continuity of customers in order to meet their expectations, needs and requests. Accordingly, the attitude of the management is important in realizing the plans by improving the processes. Although lean management practices started in the production sector, they have become widespread in many businesses in the service sector in recent years (Şantaş, 2020: 324).

Businesses that organize the systematic of the lean management process should be careful about the production of quality goods and services at the lowest cost, reasonable prices, and efficient and effective use of resources. Additionally, they should carry out their activities in harmony by taking customer satisfaction to the center. All useless steps that do not add value to the production of goods and services and customer satisfaction should be removed from the business process and all applications that cause waste should be eliminated (Ertürk & Özçelik, 2008: 43).

### 2.3 Service quality perception

With the development of industrialization, the number and size of the businesses have increased. The fastest growing businesses are in service sector. This distinction between sectors is related to the economic structure of the countries, the level of economic development and development trends (Mucuk, 2011: 42). In this context, it is useful to refer to the perception of the service, the features of the service, and the service quality. Service means performing a work that benefits someone (Koç, 2017: 21). When the literature is examined, it is seen that the concept of service is explained with its features. Services have the characteristics of being *abstract*, *inseparable (simultaneous)*, *heterogeneous (variable)*, and *non-durable (non-compensated)*. Unlike concrete products, the abstraction feature of the services is about having properties which cannot be seen, tasted, felt, touched, and smelled before purchasing. Unlike the production, stocking, and distribution of concrete products, the inseparability feature of services is related to simultaneous production and consumption of services. The heterogeneity (variability) feature of services is related to the fact that the service (quality, etc.) can vary according to the place, time, and person receiving the service. The feature of the services being non-durable (being non-compensated) is about the lack of features such as stocking and selling as in concrete products and its being non-stored for later sale or use (Parasuraman *et al.*, 1985: 42; Kotler & Armstrong, 2011: 237). Although the concept of service first emerged in 1941, it dates back to an earlier time (Koç, 2017: 21). According to Öztürk (1998), Physiocrats (1750) define the concept of service as all activities apart from agricultural production. Adam Smith (1723-1790) explains it as all activities that do not result in a concrete product. In addition, J. B. Say (1767-1832) states that services include all non-manufacturing activities that add benefits to products. Alfred Marshall (1842-1924) mentions the concept as goods (services) that exist when they are created (Dalgıç, 2013: 4).

The perception of service quality can be expressed as "the consumer's evaluation of the superiority or excellence of a service" (Zeithaml, 1988: 35). According to Ghobadian *et al.* (1994: 49), the perception of service quality is the subjective evaluation of the service recipient's expectation from the service and the result of the comparison of the service received. In addition, it can be said that the perception of service quality

consists of not only the end result of the service but also the process of receiving service. Namely, perceived service quality consists of pre-service expectations, perceived service quality during the service process, and perceived service quality as a result of the service. However, the perception of service quality may vary within different dimensions. Accordingly, it is useful to mention the dimensions of service quality. When the literature is examined, the dimensions of service quality have been studied by many scientists and classified in different ways.

According to Grönroos (1984: 40), service quality consists of technical quality, functional quality and corporate image dimensions. While technical quality is a dimension related to "what (result)" the customer gets, functional quality is related to "how (about process)" they take it. In addition, he states that the corporate image will also affect the quality perception. According to Lehtinen & Lehtinen (1991: 288), service quality consists of physical quality, interaction quality and corporate quality dimensions. Physical quality refers to physical elements such as tools, equipment, and materials used during service. Interaction quality is related to the interactions (verbal, written, etc.) of the parties receiving and providing the service in the process. Institutional quality, on the other hand, can be expressed as the image for the institution from which the service is received. According to Parasuraman *et al.* (1991a: 338), service quality includes *tangibles, reliability, responsiveness, assurance* and *empathy* dimensions. Tangibles are explained as physical facilities of the service provider, the tools and equipment used, the physical appearance of the personnel. Reliability is defined as the ability to perform the service accurately and reliably. Responsiveness can be expressed as being voluntary and eager while serving customers. The dimension of assurance is related to the fact that the service providers are knowledgeable, experienced, courteous, and reassuring. Finally, empathy can be expressed as the firms' providing the service, showing personal interest in its customers and trying to be empathetic.

## **2.4 Customer satisfaction**

Satisfaction, originally an Arabic word, is an attitude or evaluation in which the purchased products meet the expectations, the feelings of rejoicing come to the fore, and their subjective perceptions are compared (Rao & Sahu, 2013: 40). When the values

created by the goods and services offered by the businesses meet the customer expectations, they are seen as the most valuable and important output of the businesses (Yanık, 2016: 103).

Customer satisfaction is a concept used to express the positive emotion and reaction that occurs when the expectations and requests of customers are met during the consumption process. In this respect, satisfaction occurs when the benefit provided by the purchased good or service and the expectations and wishes of the customer receiving the service match. Accordingly, customer satisfaction is a psychological condition that occurs when a product or service meets expectations and results in the guest's well-being and satisfaction (Özgür & Günaydın, 2010: 129). At this point, satisfaction is the sum of the feelings of the guests based on their experiences with the business. Customer satisfaction is defined as the level of satisfaction about consumption of a good or service (Duman, 2003: 47). The satisfaction level of the customers is a result of the comparison of the prices they pay to meet their expectations and the effects, experiences and reactions of the purchased goods and services (Serçek & Serçek, 2016: 143). According to Eroğlu (2005), the customer is satisfied when the product offers the desired benefits and meets the expectations. The customer with high satisfaction directs the next purchasing action to the same business. In this case, it is important to recognize, anticipate and satisfy customers' needs in order to ensure customer satisfaction. Businesses that can understand and meet customer needs are more successful (Dominici & Guzzo, 2010: 3; Serçek & Serçek, 2016: 141). With the increase in satisfaction, the guest's desire to establish and maintain a good relationship with the business increases, which affects the level of loyalty positively. Additionally, the customers share their experiences and it becomes a positive reference to the business. They also provide contributions to the business with their feedback. This situation increases the number of guests and thus the profitability and performance of the business (Emir *et al.*, 2010: 293; Ayaz & Sorgun, 2020: 329). Increased customer satisfaction is related to the service quality in the tourism sector. Quality of service is defined as a standardized, continuous and consistent presentation by pre-determining suitable touristic goods and services that can meet the expectations of customers according to their requests and needs. The service quality is determined by the service perceived by the customers and the resulting experience. Perceived service quality is the feelings that occur at the end of the service offered to the guests, and these feelings

determine their satisfaction. However, the perceived service quality varies due to the subjective nature of the service (Davras & Bilgiç, 2019: 1094).

Today, one of the most challenging issues for hotel businesses is to gain customer satisfaction. Long-lasting relationships thrive with a high level of satisfaction. High customer satisfaction has yields for businesses such as increased brand reputation, customer loyalty, low price flexibility, and positive word of mouth advertising. Customer satisfaction should be associated with business performance as a basic marketing concept and should be set as the primary goal by managers (Rather & Sharma, 2017: 41).

## **2.5 The relationship between the perception service quality and customer satisfaction**

The relationship between the perception of service quality and customer satisfaction can be explained by the service quality perception model of Parasuraman *et al.* (1985). According to the model, the satisfaction of the people receiving the service is determined by their expectations from the service and the evaluations about the service they perceive. That is, the comparison of the expectations of people from the service and the service they perceive will determine their level of satisfaction. In this comparison, if the perceived service is higher than the expected service, then a high degree of satisfaction occurs. When expected service equals perceived service, satisfaction happens. However, if the expected service is higher than the perceived service, dissatisfaction will occur (Parasuraman *et al.*, 1985: 44; Zeithaml *et al.*, 1990: 25). When empirical studies are investigated, in the study conducted by Jaroensrisomboon (2009: 28) with 400 customers of an electric company ( $\beta=0.24$ ,  $p<0.01$ ) and in the study of Karadeniz and Ünver (2014: 63), a significantly positive correlation was found between customer satisfaction with tangibles ( $\beta=0.31$ ,  $p<0.001$ ), responsiveness ( $\beta=0.31$ ,  $p<0.01$ ) and reliability ( $\beta=0.31$ ,  $p<0.01$ ). According to the study of Şirin & Aksu (2016: 539) with 387 tourism business customers, there was a positive correlation between customer satisfaction with tangibles ( $\beta=0.19$ ,  $p<0.01$ ), assurance ( $\beta=0.19$ ,  $p<0.01$ ) and empathy ( $\beta=0.25$ ,  $p<0.001$ ). In addition, in their study with 261 bank customers, Minh and Nguyen (2016: 110) found significant and positive correlation between customer satisfaction and service quality perception ( $\beta=0.90$ ,  $p<0.01$ ). According to the study of Şahin & Şen (2017: 1181), there

was a positive correlation between customer satisfaction with general service perception ( $\beta=0.76, p<0.05$ ), tangibles ( $\beta=0.20, p<0.05$ ) and reliability ( $\beta=0.29, p<0.05$ ). In the study of Mhasnah *et al.* (2018: 1418) with 350 patients, a significantly positive correlation was found between customer satisfaction and service quality perception ( $\beta=0.90, p<0.001$ ). In their study with 170 participants, Afthanorhan *et al.* (2019: 20) found a significant correlation between customer satisfaction and service quality perception ( $\beta=0.61, p<0.001$ ). Finally, in their study with 384 participants, Othman *et al.* (2019: 1770) indicated a significant and positive correlation between customer satisfaction and service quality perception ( $\beta=0.30, p<0.001$ ). In this context, the following main hypotheses and sub-hypotheses can be developed:

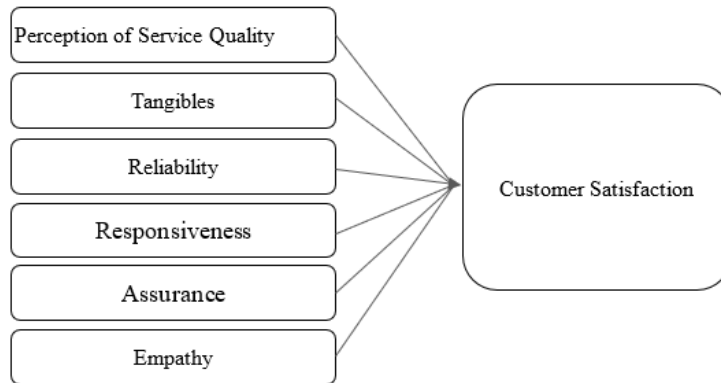
- **Hypothesis 1:** Perception of service quality has a statistically significant effect on customer satisfaction.
- **Hypothesis 1a:** Tangibles have a statistically significant effect on customer satisfaction.
- **Hypothesis 1b:** Reliability has a statistically significant effect on customer satisfaction.
- **Hypothesis 1c:** Responsiveness has a statistically significant effect on customer satisfaction.
- **Hypothesis 1d:** Assurance has a statistically significant effect on customer satisfaction.
- **Hypothesis 1e:** Empathy has a statistically significant effect on customer satisfaction.

### 3 METHOD

Method section includes research model, **population and sample**, data collection tools and techniques, Data analysis.

#### 3.1 Research model

The research model of this study is as shown in the figure 1.

**Figure 1***Symbolic Model***3.2 Population and sample**

The population of the study consists of 700 people staying in 35 hotels operating in the Mediterranean, Aegean and Marmara regions, where Turkish tourism is most intense. The sample size was determined by using the sample size calculation formula with known universe (Baş, 2001; Bolat, 2017: 133). The sample size was calculated as 248, considering the 50% incidence, 5% margin of error and 95% confidence interval. The research was designed in a descriptive type and the convenience sampling method was used in the application of the questionnaire. The questionnaire was applied by sharing links on the web between January 1 and January 28, 2024, reaching 500 participants staying at the hotels. The study was conducted on a voluntary basis and 315 questionnaires were filled out. The return rate of the questionnaires is 63%. It was determined that 13 of the 315 questionnaires obtained were filled inappropriately and these were removed from the data set. In this case, the final number of questionnaires included in the analysis was 302. The survey application was conducted on the <https://forms.office.com> website within the framework of the survey privacy policy. The variables in the questionnaire were measured with Likert type scales such as 1 = Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree. Of the 302 people in the sample, the rate of females was 55.3% (n = 167) while the rate of males was 44.7% (n = 135). 28.8% (n = 87) of the people aged 20 and under, 44.4% (n = 134) aged 21-30, 11.9% (n = 36) aged 31-40, 8.6% (n = 26) were between the ages of 41-50 and 6.3% (n =

19) were 51 and over. The rate of married people was 23.8% (n = 72) while the rate of singles was 76.2% (n = 230); The rate of primary school graduates was 1.3% (n = 4), the rate of high school graduates was 7% (n = 21), the rate of associate degree graduates was 21.9% (n = 66), the rate of undergraduates was 57.6% (n = 174), and the rate of graduates was 12.3% (n = 37).

### 3.3 Data collection tools and techniques

The *Perception of Service Quality Scale*: in the study, the twenty-two-item service quality scale adapted from the study of Parasuraman *et al.* (1991b) was used. The scale consists of tangibles, reliability, responsiveness, assurance and empathy dimensions. Tangibles include four statements, reliability includes five statements, responsiveness includes four statements, assurance involves four statements, and empathy consists of five statements. An example to the tangibles dimension is "the hotel I am staying in has a modern-looking equipment", an example for the reliability dimension is "the hotel I accommodate will fulfill when it promises to do something to its customer", an example of the responsiveness dimension is "the hotel where I stay informs its customers about when the service will be fulfilled", an example of the dimension of assurance is "employees in the hotel I stay give confidence to customers", and an example of empathy dimension can be given as "the hotel where I stay protects the interests of the customers". The Cronbach alpha value of the scale was measured as 0.95.

*Customer Satisfaction Scale*: in the study, four-item customer satisfaction scale adapted from Westbrook & Oliver's (1991) study was used to measure customer satisfaction. The scale consists of one dimension. As an example, "I am generally satisfied with hotel services" can be given. The Cronbach alpha value of the scale was 0.90.

### 3.4 Data analysis

Before analyzing, "*kurtosis and skewness values*" (Kline, 2010: 62; Kalaycı, 2010: 212) were examined in order to determine whether the data were normally distributed or not. If the kurtosis and skewness values of the variables are between -3 and +3, it can be accepted that the data are normally distributed (DeCarlo, 1997: 292; Field, 2009: 139).

Kurtosis and skewness values of the variables of service quality perception (kurtosis 1.04; skewness -0.46) and customer satisfaction (kurtosis 1.06; skewness -0.75) were found to be within normal ranges.

### 3.4.1 Confirmatory factor analysis

In the study, confirmatory factor analysis was used to test previously determined and tested factors (Pallant, 2007: 179). Within the framework of confirmatory factor analysis, standardized analysis values should not be above 1 and below 0.50 and t values should not be less than 1.96. In addition, the goodness of fit indexes should be at the desired level (Akgündüz & Çakıcı (2015: 33) as cited Hair *et al.*, (2010). In this context, confirmatory factor analysis was performed separately for the scales used in the study to test the measurement model. In the measurement model, five factors (tangibles, reliability, responsiveness, assurance and empathy) were used to measure the perception of service quality, and a single factor was used to measure customer satisfaction. The goodness of fit values of the service quality perception scale was calculated as chi-square ( $X^2$ ) value of 456.03, degrees of freedom ( $df$ ) 199, chi-square degrees of freedom ratio ( $X^2/df$ ) 2.29, root mean square error approach (RMSEA) 0.06, comparative fit index (CFI) 0.98, normed fit index (NFI) 0.97 and adjusted goodness of fit index (AGFI) 0.85. On the other hand, the goodness of fit values of the customer satisfaction scale was calculated as chi-square ( $X^2$ ) value of 8.37, degrees of freedom ( $df$ ) 2, chi-square degrees of freedom ratio ( $X^2/df$ ) 4.18, root mean square error approach (RMSEA) 0.10, comparative fit index (CFI) 0.99, normed fit index (NFI) 0.99 and adjusted goodness of fit index (AGFI) 0.93.

**Table 1**

*Goodness of Fit Values Regarding the Measurement Model*

• Goodness of Fit	• Goodness of Fit Values	• Accepted Goodness of Fit Values	• Goodness of Fit Values of the Scales Used in the Study	
			• Perception of Service Quality	• Customer Satisfaction
• $X^2/df$	• $0 \leq X^2/df \leq 2$	• $2 \leq X^2/df \leq 3$	• 2.29	• 4.18
• RMSEA	• $0 \leq RMSEA \leq 0.05$	• $0.05 \leq RMSEA \leq 0.08$	• 0.06	• 0.10
• CFI	• $0.95 \leq CFI \leq 1$	• $0.90 \leq CFI \leq 0.95$	• 0.98	• 0.99

• NFI	• $0.95 \leq \text{NFI} \leq 1$	• $0.90 \leq \text{NFI} \leq 0.95$	• 0.97	• 0.99
• AGFI	• $0.90 \leq \text{AGFI} \leq 1$	• $0.85 \leq \text{AGFI} \leq 0.90$	• 0.85	• 0.93

Sources: Bentler & Bonett, (1980: 603-604); Schermelleh-Engel *et al.*, (2003: 40-44); Bolat, (2017: 145).

### 3.4.2 Descriptive statistics and correlation analysis findings

The dimensions of the perception of service quality (tangibles, reliability, responsiveness, assurance and empathy), the relationships between the perception of service quality in general and customer satisfaction, as well as the means, standard deviations and reliability values for these variables are shown in Table 2.

**Table 2**

*Means, Standard Deviations, Reliability Coefficients and Correlation Coefficients for the Variables*

• Variables	• Mean	• SD	• Reliability	• Perception of Service Quality	• Tangibles	• Reliability	• Responsiveness	• Assurance	• Empathy	• Customer Satisfaction
• Perception of Service Quality	• .04	• .55	• (0.95)	•	•	•	•	•	•	•
• Tangibles	• .08	• .62	• (.78**)	• (0.81)	•	•	•	•	•	•
• Reliability	• .09	• .60	• (.90**)	• (.61**)	• (0.87)	•	•	•	•	•
• Responsiveness	• .02	• .60	• (.90**)	• (.63**)	• (.81**)	• (0.80)	•	•	•	•
• Assurance	• .15	• .62	• (.91**)	• (.64**)	• (.81**)	• (.82**)	• (0.87)	•	•	•
• Empathy	• .92	• .68	• (.88**)	• (.60**)	• (.71**)	• (.74**)	• (.75**)	• (0.87)	•	•
• Customer Satisfaction	• .11	• .65	• (.82**)	• (.69**)	• (.70**)	• (.72**)	• (.76**)	• (.75**)	• (0.90)	•

N=302, \*\*  $p < 0.01$ , Cronbach Alpha values are given in parentheses.

### 3.4.3 Regression analysis findings

Table 3 shows the results of simple linear regression analysis regarding the effect of service quality perception (with its dimensions) level on customer satisfaction in tourism businesses.

**Table 3***The Effect of Perception of Service Quality and Its Dimensions on Customer Satisfaction*

• Variables	• Customer Satisfaction					
	• $\beta$	• $\beta$	• $\beta$	• $\beta$	• $\beta$	• $\beta$
• Regression Constant	• 1.1 64	• 1.3 71	• 1.4 11	• 1.2 74	• 1.1 56	• 0.6 72
• Perception of Service Quality	• 0.8 2**	•	•	•	•	•
• Tangibles	•	• 0.6 9**	•	•	•	•
• Reliability	•	•	• 0.7 0**	•	•	•
• Responsiveness	•	•	•	• 0.7 2**	•	•
• Assurance	•	•	•	•	• 0.7 6**	•
• Empathy	•	•	•	•	•	• 0.7 5**
• F	• 648 .72	• 275 .286	• 294 .06	• 332 .49	• 410 .38	• 394 .24
• R	• 0.8 27	• 0.6 92	• 0.7 04	• 0.7 25	• 0.7 60	• 0.7 54
• R <sup>2</sup>	• 0.6 84	• 0.4 79	• 0.4 95	• 0.5 26	• 0.5 78	• 0.5 68

N=302, \*\*  $p < 0.01$ .

According to the regression analysis results, a significant and positive correlation was found between customer satisfaction with the perception of service quality ( $\beta=0.82$ ,  $p < 0.01$ ), the dimensions of service quality including tangibles ( $\beta=0.69$ ,  $p < 0.01$ ), reliability ( $\beta=0.70$ ,  $p < 0.01$ ), responsiveness ( $\beta=0.72$ ,  $p < 0.01$ ), assurance ( $\beta=0.76$ ,  $p < 0.01$ ), and empathy ( $\beta=0.75$ ,  $p < 0.01$ ). When the results of this analysis were examined, *hypothesis 1*, *hypothesis 1a*, *hypothesis 1b*, *hypothesis 1c*, *hypothesis 1d* and *hypothesis 1e* were accepted.

#### 4 CONCLUSION AND DISCUSSION

In this study, the effect of service quality perception and dimensions on customer satisfaction in tourism businesses that apply lean management was explained with the service quality perception model of Parasuraman *et al.* (1985). According to the results of the study, a significant and positive correlation was determined between customer satisfaction with the perception of service quality and its dimensions (tangibles,

reliability, responsiveness, assurance and empathy). It has been observed that as the perception of service quality increases, customer satisfaction increases. Additionally, it has been found that perceived service quality explains 68% of customer satisfaction. In terms of the dimensions of the perception of service quality, it has been determined that the most influential dimensions affecting customer satisfaction are assurance, empathy, responsiveness, reliability and tangibles respectively. Therefore, the most important dimension for customer satisfaction is the "assurance" that is expressed as service providers being knowledgeable, experienced, courteous and reassuring. Considering the results of the study, *hypothesis 1*, *hypothesis 1a*, *hypothesis 1b*, *hypothesis 1c*, *hypothesis 1d* and *hypothesis 1* were accepted.

The place of tourism in the economies of countries is important. In the literature, subjects such as tourism businesses, service in tourism businesses, service quality and service quality perception, and customer satisfaction have been the subject of many conceptual-empirical studies and are still being investigated. When those studies are examined, it is observed that customers who are satisfied with the service they receive want to buy the service again and tell others about their good experiences. Dissatisfied customers often turn to competitors and disdain their previous service to others (Kotler & Armstrong, 2011: 7). Considering the results of the study, it can be said that as the perception of service quality increases, customer satisfaction is affected positively. For this reason, tangibles, reliability, responsiveness, assurance and empathy dimensions, which are dimensions of service quality perception in tourism businesses, should be considered with great importance. Within the scope of tangibles, attention should be paid to make the building and physical equipment of the hotel modern looking and attractive, the appearance of the hotel staff to be clean and well-maintained, and the equipment and materials used in the hotel to be useful, clean and visually attractive. In terms of tangibles, planning, organizing, conducting and controlling especially housekeeping services are very important and should be done carefully. In summary, housekeeping services can be expressed as the fulfillment of hygienic and aesthetic cleaning, maintenance and ordering of facilities and equipment in accordance with the targeted service and quality standards within the framework of management functions (Seymen, *et al.*, 2014: 3). On the other hand, to increase the reliability of hotel businesses, they should carefully consider

informing the target audiences about advertising, image, social responsibility and references by using the right communication channels.

According to Berry *et al.* (1994), service-oriented services come to the fore for service businesses that want to increase service quality, provide customer satisfaction, gain competitive advantage, and improve business performance (Bolat, 2017: 20). That is, important organizational outcomes such as profit, growth, customer satisfaction and loyalty are directly related to the service tendency of the company (Lytle *et al.*, 1998: 456). According to Gonzalez & Garazo (2006), in order to achieve this, business management should activate the understanding of service within the organization and effectively manage organizational practices that will affect the attitudes and behaviors of employees in providing service quality (Bolat, 2017: 20). Additionally, when service tendency is evaluated as a personality trait, it can be said that staff who are willing to meet customer needs and eager to provide good service can increase service sales and service quality perception (Saxe & Weitz, 1982: 344). Accordingly, it can be said that preferring people with high tendency to provide services during the selection of people who want to be employed in tourism businesses can positively affect the responsiveness dimension of the service quality perception.

The sample of this study consists of tourism businesses. However, the service sector includes many types of services such as education, health, transportation, building and construction, and communication. For this reason, it will be useful to conduct studies on different service sectors. Expectations of people belonging to different cultures from services and their satisfaction levels may change (Reisinger & Turner, 1998: 79). Thus, the variables need to be discussed in terms of different cultures and different cultural expectations in future studies.

The relationship between the perception of service quality and customer satisfaction can be considered as a categorical variable in terms of income and generations. People with different income levels may differ in terms of expectations from the service. Depending on this situation, they may differ in terms of customer satisfaction. The group of people who have been affected by the same events or situations for a certain period of time and have acquired similar habits, attitudes, preferences, tendencies, thinking styles depending on these events, and have a collective memory can be expressed as generation. (Eyerman & Turner, 1998: 93). Based on this definition, the expectations

of people belonging to different generations (X, Y, Z etc.) from the services and their satisfaction levels may change accordingly. In future studies, it will be useful to investigate whether the relationship between variables differs in terms of different generations. On the other hand, this study was conducted in small hotel businesses that apply lean management. In future studies, it will be beneficial to support the results with different studies to be carried out in medium and/or large businesses.

As in every study, there are some limitations. First, the study is limited to the regions where data is collected (Mediterranean, Aegean, Marmara). The variables (service quality perception and customer satisfaction) discussed in the study are limited to the reliability and validity of the scales used in practice. In addition, the sample of the study consisted of 302 participants due to time and cost constraints. In order to make generalizability more valid in future studies, it will be beneficial to keep the sample larger and to conduct the study in different service sector areas. In addition, the socially desirable principle was ignored in the study. Supporting future studies with socially desirable scales may provide better results.

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### **Authors' Contribution**

All authors contributed equally to the development of this article.

### **Data availability**

All datasets relevant to this study's findings are fully available within the article.

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