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Research Article

The Importance of Restaurant Physical Environment For Turkish Customers

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Abstract

This study empirically analyzes the degree of importance of a restaurant's physical environmental elements for Turkish customers in Turkey and examines the relationship between restaurant physical environmental elements and customer characteristics. Five different types of restaurants were selected for the survey conducted in Istanbul, Turkey. Questionnaires were used to collect data from 384 restaurant customers between December 2014 and March 2015. Factor analysis, *t*-test and ANOVA methods were used to analyze data. Study results indicate that effective factor groups regarding restaurant physical environment for Turkish customers in Istanbul are respectively service staff, facility aesthetics, layout, ambience, table setting and lighting. Furthermore, the study portrays that physical environmental factors differentiate depending on the demographic characteristics of customers.

Keywords

Restaurant; Physical environment elements; Dining environment; Different types of restaurants; Turkey

Introduction

The influence of restaurant physical environments on customer behavior has long been studied by scientists in various countries (such as Weaterterp-Platenga) [1-8]. Also, Kucukergin and Dedeoglu [9] were tested effect of the physical environment factor on price perception and then the effect of the price perception on repurchase intention in the area of the fast food restaurants. However, as a restaurant's physical environment is the first element to be perceived upon entering a restaurant, it forms a key factor for customers. Second, customers want to dine out at a restaurant not only for nutritional needs, but also to form a memorable experience, to be together with others and get away from problems and the routine of life. For these reasons, restaurant physical environments need to provide customers with attractive elements. The physical environment is an important determinant of consumer psychology and behavior when a service is consumed primarily for hedonic purposes and when customers spend moderate to long periods of time immersed in a particular physical environment [5,10,11]. Physical environment can either enhance or suppress customers' emotions, which may influence customer satisfaction and subsequent behaviors [12-14]. According to Milliman [15], in some cases the interior or more specifically the physical environment is more influential on the purchase decision than the product itself. If consumers perceive negative or less-inviting cues, they may choose another – in their view – more pleasing venue to dine Riley and Canny [16,17] states that physical environment has positively influence on customer satisfaction, and customer satisfaction positively influence on behavioral intentions. Therefore, as Chishti [18] points that, restaurants managers need to improve their standards of service quality and physical environment in order to maximize customer satisfaction because the only way to keep customers and to remain competitive. Another important issue about restaurant physical environment is perceived restaurant quality. Several studies have identified that the physical environment of a service setting provide details that can shape our expectations and underlie our judgments regarding the quality of a restaurant, suggesting that the restaurant physical environment has a major influence on customer inferences about quality [19-21], Wall and Berry [4]. These abovementioned studies suggest that environmental components are the most important factors to influence perception of restaurant quality. Additionally, Baker [21], indicate that environmental factors provide information from which customers infer quality and restaurant image. Furthermore, several other studies have demonstrated that physical environment plays a role in creating a customer's pre-consumption mood before the actual service is delivered, suggesting that atmospherics can positively or negatively influence mood [22,23]. A customer's mood, which is triggered by the physical environment, influences quality expectations and impression formation regarding the specific consumption experience. Hence, the effects of actual service quality or food quality on satisfaction and loyalty could vary depending on the psychological state evoked by the physical environment. Other studies have shown that restaurant physical environment is a key factor in both attracting and satisfying customers and in increasing financial performance by maximizing income and market share of restaurants [24-31]. Due to these reasons, it is not only beneficial but rather crucial that restaurant managers know how physical environment factors influence customers and how customer characteristics shape their restaurant preferences. Even though various studies have been conducted on the influence of restaurant physical environment; there has not been a study conducted on the attitudes of Turkish customers despite the recent rise both in the number of restaurants and the number of people who prefer dining out. Since many Turkish people travel abroad during holiday and vacation times and experience a variety of restaurants, it is important to know which restaurant physical environment factors are more effective than others and how they differ for various groups of Turkish customers, thus, making this study important for literature on a wider scale than just within Turkish borders. This study identifies the restaurant physical factors important for Turkish people and analyzes the relationships between customer characteristics and their restaurant physical environment preferences. This paper specifically aims (1) to analyze the degree of importance regarding restaurant physical environmental elements for Turkish customers, (2) to examine the relationships among restaurant physical environmental elements and customer characteristics, (3) and to contribute to the restaurant management system by making suggestions about restaurant physical environment.

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Theoretical Framework

The first studies about physical environment were conducted by Kotler [32], who noted that conscious designing of space to produce specific emotional effects in the buyer to enhance their probability and atmosphere could be divided on the basis of the five human senses; namely, sight, sound, scent, touch, and taste. Bitner [11] examined the physical atmosphere and identified three dimensions of atmospherics, or the SERVICESCAPE as she names: ambient conditions [33] (such as temperature, lighting, noise, music, and scent), spatial layout (such as machinery, equipment, and furnishings, the size and shape of those items, the spatial relationships among them and functionality (the ability of these items to facilitate performance and the accomplishment of goals) and signs, symbols, and artifacts. Although Berman and Evans [34], studied the same subject in 1995, their research contained the exterior factors in the atmospherics dimension. In 2000, further research was conducted by Turley and Milliman [33], who observed that the effects of human variables on atmospheric perceptions should be considered as well, and defined the human variable category as comprising of the consumer (customer characteristics, customer crowding, density), the employee (personnel characteristics, employee uniform), and privacy. In 2008, Ryu and Jang proposed DINESCAPE as a measurement scale for the physical environment of upscale restaurants, where DINESCAPE was defined as the man-made physical and human surroundings in the dining area of upscale restaurants. Ryu and Jang's DINESCAPE included six dimensions: facility aesthetics, lighting, ambience, layout, table settings, and service staff. These component aspects are further detailed in the paragraphs that follow:

Facility aesthetics

Facility aesthetics refer to architectural design, interior design and decor that contribute to the attractiveness of the dining environment [10]. Facility aesthetics have a profound effect in the revenue of a restaurant; a lot of dining establishments recognize and utilize facility aesthetics to create specific restaurant themes [34,35]. Ryu and Jang [7] claim that facility aesthetics a resignificant antecedents of customer pleasure, arousal and behavioral intention in an upscale restaurant context. Another element that relates to the physical environment of restaurants is the particular restaurant's architectural style. Physical design and decor can be critical in attracting and retaining restaurant customers [36] and have an impact on the success of restaurants. Other aspects of interior design, such as furniture, pictures/paintings, plants/flowers, or wall decorations may also serve to enhance the perceived quality of dining environments, creating emotions (pleasure and arousal) as customer influence [35]. Mitchell [37] states that just as a painting is enhanced by a proper frame, an artful meal is made more enjoyable by appropriate decor. Gregoire [38] consider restaurant decor as one of the most intimate core of attributes on which patrons make selections. The mental effects of color choices are also important to consider for the interior design of a restaurant Rahmatabadi [39] and customers may be influenced by the color schemes of the dining area. Different colors lead to different moods, feelings or emotional associations [40-43].

Ambient factors

Ambient factors refer to temperature, noise, scent and music. Temperature is a very important detail for customers in restaurants, and customers get chilly at certain temperatures. Psychology scholars such as Bell and Baron [44] suggest that certain temperatures are associated with negative emotions. At certain temperatures customers think of the restaurant negatively and in return, this renders a return visit unlikely. Scent (odor) can influence food consumption through taste enhancement, emotions or suppression [45,46]. Retailers know that scent can have an impact on a consumer's mood, emotion or desire on purchasing [47]. Unsurprisingly, unpleasant ambient odors are likely to shorten the duration of a meal and suppress food consumption. Noise and sound of music also affect customers' emotions in restaurants; when music or ambient noise is loud, fast, or discomforting, people are likely to spend less time in a restaurant [48]. Whereas if music is soft, people eat slowly, spend longer time at a restaurant, and eat or drink more [49].

Lighting

Lighting can be one of the most salient physical stimuli in restaurants. According to Kumari and Venkatramaiah [50,51] and Kurtich and Eakin [52] lighting level preferences have an impact on individuals' emotional responses. Correct lighting increases both eating duration and comfort. It has been widely reported that harsh or bright illumination decreases the time during which people stay in a restaurant, while soft or warm lighting (including candlelight) generally tempts people to linger and enjoy an unplanned dessert or an extra drink [52]. The effect of lighting may be particularly strong when dining with others. Kumari and Venkatramaiah [50] report that illumination is directly associated with the changes in physiological arousal.

Layout

Layout refers to the way in which objects (e.g., machinery, equipment, and furnishings) are arranged within the environment. A constricted layout has a direct effect on customer quality perceptions, excitement levels, and, indirectly, on their desire to return [10]. The location of tables in restaurants has a tremendous impact on the overall experience of a customer. Table placement has the ability to transmit a sense of privacy, portray the functionality desired, and operate as a boundary for the customer [53]. Materials affect a restaurant's physical environment, as well. Raajpoot [1] states that the service product is one of the most important tangible qualities of restaurant services.

Table setting

Restaurant tables and chairs should be inviting, durable and easy to keep clean. Booth seating is popular among customers, because it provides privacy and intimacy, protects customers from being in a traffic area and being bumped by other customers or employees. On the other hand, texture and pattern are important elements for restaurant physical environment as well since the texture of the curtains, tables, and floors inspire imagination. Curtains must be functional and decorative. Window treatments come in many textures, patterns or colors, and should be combined to create a warm and cozy atmosphere. They can blend with or contrast the architectural design of the restaurant and can relieve the monotony of the shape of the room [54]. Dining equipment is presumed to influence diners' emotional states and is eventually connected to customer behavioral intention.

Service staff

Service staff includes employee appearance, number of employees, and gender of employees. It is important to note that actual service staff interactions differ from the physical presence of service staff. A professional employee uniform effectively conveys an organization's

image and core values in a very up-close and personal way [7]. Baker [21] reveals that social cues (e.g., number/appearance of employees) positively influence customer emotions. Tombs and McColl-Kennedy [55] claim that service staffs are related to the desired social density, which affects customers' affective and cognitive responses as well as repurchase intentions [56,57].

Methodology

This study is based on data provided by the Turkish Statistical Institute (TUIK) (www.tuik.gov.tr) regarding the population of Istanbul and is focused on this specific city as it is the most densely populated city in Turkey. TUIK identified that 13.857.740 people were living in Istanbul in 2012(www.tuik.gov.tr). According to Yazıcıoğlu and Erdoğan, if the population of the universe is between1 million and 100 million, the sample size must be at least 384 (α= 0.05, d = ± 0.05; p= 0.05, q=0.05). As the population in Istanbul is over 13 million, the data sample size was determined as 384. Five different types of restaurants (upscale restaurant, first class restaurant, second class restaurant, night club, convention center) were selected for the survey and 384 surveys were distributed from December 2014 to March 2015. The restaurants where diners were surveyed were selected for their different service items and physical environments. The survey was conducted during meal times. Customers were selected via convenience sampling method and requested to participate in the study and respond to the questionnaire. At the end of the survey, a total of 384 questionnaires were collected. Survey method was used for data collection and the survey was structured based on DINESCAPE and extant literature [5,6,11]. The questionnaire was developed in English and then translated into Turkish by an English language instructor. The questionnaire designed for this study was divided into two parts: The first part of the survey included relevant personal information, such as age, sex, income and education etc. The second part included 21 items regarding restaurant physical environment. In order to ensure the validity and reliability of the measuring instrument, and to pretest the questionnaire, a pilot test (N=25) was conducted in December 2014 prior to the actual survey. The distribution and collection of the questionnaires were completed within a four-month period.

Data Analysis

The quantitative data was analyzed using The Statistical Package for the Social Sciences (SPSS) 15.0. The analysis of the study consisted of three distinct stages: descriptive statistics, factor analysis, ANOVA and t-test. Descriptive statistics were used for demographic characteristics. The mean importance scores of the 21 preference attribute items were calculated, and factor analysis was conducted. Finally, the combined factor means and customer characteristics were compared using the analysis of variance (ANOVA) and a *t*-test.

Results

Females comprised the majority of respondents at 59.6%while 40.4% were male. The majority (35.4%) of respondents were between the ages of 30 and 39. The percentages related to the other age groups were close to this rate; with 28.6% between the ages of 20 and 29 and 24.2% between the ages of 40 and 49. The mean age was 36.3 years. The survey participants were relatively highly educated. In particular, high school graduates had the highest rate (48.9%) followed by university graduates (30.5%) and postgraduates (9.1%). More than half of the respondents (50.8%) claimed to dine at a restaurant 2-3 times a week, 22.4% dined out 4-6 times a week and 13.8% ate

at a restaurant 4-6 times a week. Most of the respondents (32.6%) visited restaurants for nutritional needs while 26.7% of them dined at restaurants for social interaction and 10.2% of respondents ate out for business gatherings. The dimensionality of the 21 restaurant preference attributes obtained from the survey was analyzed using a principle component factor analysis. All factor loadings greater than 0.50 were included in the scale. In order to achieve convergent validity, factor loadings should be greater than 0.50, or ideally greater than 0.70 [56]. The measurement items achieved suitable convergent validity (Table 1). To test the internal consistency of these factors, the study conducted reliability analyses based on the average inter-item correlation. The Kaiser-Meyer-Olk in (KMO) measure of sampling adequacy indicated that 21 items were adequate for factor analysis (KMO measure = 0.786). Six factors with eigenvalue greater than 1 were extracted, and the total variance was explained 60.054% (Table 1). According to the results of the analysis, the factor groups of restaurant physical environment were determined respectively as(first) service staff, (second)facility aesthetics, (third)layout, (fourth) ambience, (fifth) table setting and (sixth) lighting. Internal consistency estimates of reliability were conducted on each of the six factors identified by the factor analysis using Cronbach's alpha. Cronbach's alpha for the physical environment elements was between 0.675 and 0.841. 'Service Staff' was the most important physical environment factor for Turkish customers and this factor accounted for 19.06% of the variance (eigenvalue is 6.569). According to the responses of the participants, neat and well-dressed employees and adequate number of employees composed the most important item for the 'Service Staff' factor. The second most important physical environment factor was 'Facility Aesthetics' for Turkish customers with a variance score of 13.95 (eigenvalue is 3.316). Survey results showed that clean furniture, attractive colors, furniture quality, attractive paintings/pictures and appealing wall decorations were the most important items for 'Facility Aesthetics' factor. 'Layout' followed these items as the third most important physical environment factor for Turkish customers with a variance score of 7.35 (eigenvalue is 2.229). Respondents indicated that adequate space for comfortable seating arrangement, private layout, layout size and shape, along with a proper layout plan that left enough space to move around comfortably were important items of 'Layout' factor for Turkish diners. 'Ambience' was the fourth with a variance score of 6.810 (eigenvalue is 1.423). Respondents reported that temperature comfort, pleasant scent, background music and noise were important items for the 'Ambience' factor. The fifth important physical environment factor was the 'Table Settings' item. It had a variance score of 6.74 (eigenvalue is 1.117). Respondents reported that tableware quality, window shade and attractive linens were significant items followed by 'Lighting' as the final important physical environment factor for participants with a variance score of 6.12 (eigenvalue is 1.101). Respondents reported lighting comfort, emotional effects of lighting and warm lighting as important items. Table 2 displays the restaurant physical environment factor differences by respondent gender. The demographic characteristics of the customers were analyzed using the t-test. According to the t-test, the service staff factor (Factor 1) displays differences on a demographic basis depending on gender. Responses to the 'Service Staff' factor showed significant differences according to the gender of the participants (t= 3.061, p<0.05). When the mean scores were compared using t-test results (t=3.061), it was observed that women attributed more importance (X= 3.98) than men (X= 3.57) to the number of employees and their uniforms. Table 3 displays the restaurant physical environmental factor differences by respondent characteristics. The demographic characteristics of the customers were

Table 1: Factor analysis results with varimax rotation of factors.

Physical Environment Items	Loading	Eigen Value	Variance (%)	Reliability	Mean	S.D.
Service Staff		6.569	19.060	0.841		
Neat and well-dressed employees	0.823				2.66	1.23
An adequate number of employees	0.818				2.70	1.21
Facility Aesthetics		3.316	13.950	0.833		
Clean furniture	0.843				2.81	0.84
Attractive color	0.797				2.33	0.97
Furniture (e.g., dining table, chair) quality	0.619				2.87	0.82
Attractive paintings/pictures	0.772				2.36	0.95
Appealing wall decorations	0.805				1.97	1.21
Layout		2.229	7.358	0.805		
Enough space for comfortable seating arrangement	0.684				2.11	1.23
Private layout	0.695				2.64	1.79
Layout size and shape	0.751				2.35	0.98
Proper layout plan to leave enough space to move around comfortably	0.759				2.49	0.83
Ambience		1.423	6.810	0.762		
Temperature comfort	0.672				2.26	0.95
Pleasant scent	0.690				2.15	1.02
Background music	0.674				2.07	0.97
Background noise	0.635				2.33	1.16
Table Settings		1.117	6.749	0.675		
Tableware (e.g. glass, china, silverware) quality	0.629				2.65	0.88
Window shade	0.671				2.43	0.95
Attractive linens (e.g. table cloths, napkin)	0.683				2.38	0.94
Lighting		1.101	6.127	0.691		
Comfortable lighting	0.735				2.08	1.14
Emotional effects of lighting	0.704				1.94	1.20
Warm lighting	0.655				2.29	1.03
Overall			60.054	.786		

Table 2: The Restaurant Physical Environment Factor Differences by Respondents Gender, t-test.

		Mean	S.D.	t	p
Service Staff	**Men**	3.57	0.91	3.061	0.000*
	Women	3.98	0.82		

*p< 0.05

analyzed using the ANOVA test. According to test, the 'Service Staff' factor (Factor 1) shows differences on a demographic basis depending on the educational status of the respondents and their frequency of dining at restaurants. Responses related to the 'Service Staff' varied depending on the educational status of the participants (F=1.208, p<0.05). Mean scores were compared and university graduates were observed to have shown the highest rate of importance(X=3.79) to the number of employees and the quality of their uniforms. 'Service Staff' factor was also observed to be more important for respondents who dined at restaurants more frequently (F=4.831, p<0.05). Comparing the arithmetic average to understand the reason behind these differences, it was observed that respondents who went to restaurants 4-6 times a week (X=4.06) had a different opinion about the uniforms and the number of employees. For the 'Facility Aesthetics' factor (Factor 2), respondents who dined at restaurants frequently (F=3.458, p<0.05) showed differences in their views about 'Facility Aesthetics' that influenced customers' emotions. The respondents who dined out at a restaurant 7 or more times a week (X= 3.57) had a different opinion about restaurant facility aesthetics. The opinions about the 'Layout' factor (Factor 3), varied according to the educational status of the participants (F=1.197, p<0.05). ANOVA results demonstrated

that university graduates gave more importance (X = 4.25) than other participants to items such as seating arrangement, enough space for comfortable seating arrangement, private layout, layout size, shape and proper layout plan to leave enough space to move around comfortably. For the 'Ambience' factor (Factor 4), respondents at different frequency levels of dining out demonstrated that restaurant ambience was more important than other factors (F=5.186, p<0.05). Examining the arithmetic averages suggests that those who dined at restaurants 4-6 times a week (X= 4.35) had a significantly different opinion about restaurant temperature comfort, pleasant scent, background music and noise. The importance of the 'Table Setting' factor (Factor 5) was similar across customers. In other words, tableware quality, window shades and attractive linens showed the same rate of importance attributed by all customers. As for the 'Lighting' factor (Factor 6) the responses of the participants who were older than 50 showed more notable differences (F=1.156, p<0.05) than other age groups concerning warm lighting and lighting related feelings and comfort. It was confirmed when the arithmetic averages related to those respondents were compared (X=3.73).

Conclusion

The results of this study contribute to understanding which restaurant physical environment elements are most important for Turkish customers. Moreover, this study investigates whether the importance rate of restaurant physical environment varies depending on customer characteristics. Most of the participants were highly educated middle aged (mean was 36.3) females. Half

Table 3: The Restaurant Physical Environment Factor Differences by Respondents Different Characteristics, ANOVA test.

	Education	Mean	S.D.	F	p
	Primary School	2.52	0.410		
	Secondary School	3.24	0.674		
	High School	3.56	0.358	1.208	0.000*
	University Degree	3.79	0.451		
	Post Graduate Degree	2.71	0.543		
Service Staff	**Frequency ofdine in restaurant**				
	<2 times	3.97	0.625		
	2-3 times	4.01	0.797	4.831	0.007*
	4-6 times	4.06	0.724		
	7 and more times	3.62	0.543		
	Frequency of dine in restaurant				
Facility aesthetics	<2 times	3.27	0.591		
	2-3 times	3.11	0.456	3.458	0.031*
	4-6 times	3.18	0.398		
	7 and more times	3.57	0.657		
	Education				
	Primary School	3.23	0.429		
Layout	Secondary School	3.86	0.784		
	High School	3.60	0.667	1.197	.042*
	University Degree	4.25	0.721		
	Post Graduate Degree	3.55	0.642		
	Frequency of dine in restaurant				
	<2 times	4.04	0.728		
Ambience	2-3 times	4.14	0.386	5.186	0.033*
	4-6 times	4.35	0.627		
	7 and more times	3.98	0.380		
	Age				
	<20	2.94	0.481		
Lighting	20-29	3.29	0.425		
	30-39	3.63	0.688	1.156	0.040*
	40-49	3.45	0.550		
	50 and more	3.73	0.532		

of the participants dined at restaurants 2-3 times a week and their three important aims were nutritional needs, social interaction and engagements while dining at restaurants. The most important restaurant physical environmental element for Turkish customers was 'Service Staff' as this constituted the first element to be recognized upon entering a restaurant. The results indicated that there were strong relationships between customer characteristics and restaurant physical environment elements for Turkish customers. Turkish customers' perceptions of restaurant quality and image are deeply influenced by the number of employees and quality of uniforms. Uniforms must be clean, neat and appropriate to the atmosphere. 'Facility Aesthetics' (including clean furniture, inviting colors, nice paintings/pictures, furniture quality and wall decoration) constituted the second most important physical environment element. These factors conveyed information about the restaurant quality and image much like the service staff. It was more important for respondents who dined out 7or more times a week to prefer restaurants not only to satisfy their nutritional needs but also to experience the ambience. Dining out at a restaurant characterizes a pleasure for this group. Thus, first of all, restaurant managers must understand which elements of 'Facility Aesthetics 'are important for their customers and then alter their restaurant aesthetics to fit their customer profile. Alternatively, clean furniture, attractive colors, furniture quality, nice paintings/

pictures, attractiveness and appealing wall decoration were important for the younger respondents who dined out frequently. This group went to restaurants for social interaction and wanted to experience new, cheery and attractive facility aesthetic elements. The third important restaurant physical environment element was the 'Layout' (including enough room for comfortable seating arrangement, private layout, layout size and shape, and proper layout plan). This factor was especially important for the highly educated Turkish customers most of whom visited restaurants for business purposes. Thus, a layout is important for the customers who have university degrees, as restaurants provide them a place where they can arrange business gatherings or socialize to make business contacts. Taking these into consideration, restaurant planners and marketers must arrange a suitable and comfortable layout which provide privacy for the customers and protect them from in-house traffic. 'Ambience' was the fourth important restaurant physical environmental factor for Turkish customers and included temperature, scent, music, and noise. The respondents who dined at restaurants 4-6 times a week had a significantly different opinion about the temperature comfort, scent, background music and noise in restaurants. These elements can be controlled by restaurant managers as stated by Ryu and Jang [8], and thus, in order to enhance positive perception, interior designers must select effective shades of colors, and a soft kind of music must

be playing in the background. An indoor temperature for dining must be maintained as well. The fifth important restaurant physical environmental element for Turkish customers was 'Table Setting' including table ware quality, window shades and attractive table linens. Older participants attributed considerable importance to the 'Lighting' factor. The data can be traced to age-related optical health problems of participants. This can be another data that managers should take into consideration about lighting design and provide enough light in restaurants according to the needs and age profile of their customers. The findings show which restaurant physical environmental elements are important for Turkish customers so that restaurant designers can use these findings as a guide for planning restaurants; it is crucial that restaurant managers and marketers understand how restaurant physical environment elements affect customers' dining experience for successful management. The fact that this study has some limitations should also be noted. It examines a convenience sample including restaurants of five different scales in Istanbul, Turkey; a more comprehensive study that covers a longer observation period may counteract these biases to some degree in the future.

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