

The relationship between restaurant atmospheric and customer satisfaction: Malaysian restaurants contexts

**Nurul Fathiah Sufiah Mohd Najhan¹, Aslinda Mohd Shahril^{2*}, Chemah Tamby Chik³
and Flora Chang Abdullah⁴**

¹Faculty of Hotel and Tourism Management, Universiti Teknologi Mara, Puncak Alam Campus, Selangor
fathiahsufiah@gmail.com

²Faculty of Hotel and Tourism Management, Universiti Teknologi Mara, Puncak Alam Campus, Selangor
aslinda@uitm.edu.my*

³Faculty of Hotel and Tourism Management, Universiti Teknologi Mara, Puncak Alam Campus, Selangor
chema158@uitm.edu.my

⁴Faculty of Hotel and Tourism Management, Universiti Teknologi Mara, Puncak Alam Campus, Selangor
flora98@uitm.edu.my

Corresponding author (*)

Received: 21 January 2022

Revised from: 24 April 2022

Accepted: 20 May 2022

Published: 31 May 2022

Abstract

Although the literature has established a selection of atmospheric combinations such as restaurant elements, layout, ambience, and space design, restaurant atmospheric studies remain scarce in Malaysia. Limited studies were found to examine the overall relationship of restaurant atmospheric and employee factor as a moderating effect on customer satisfaction. This study examined the restaurant atmospheric attributes and the moderating effect of employee factor on customer satisfaction. This study used the quantitative method and, questionnaires were distributed to 320 respondents dining in the restaurants in the Bukit Bintang area, Kuala Lumpur. The results were then analysed using SPSS and, it was found that the employee factor does not moderate the relationship between restaurant atmospheric and customer satisfaction. However, the study found that physical environment, ambience, and spatial layouts significantly impact customer satisfaction. Next, the limitation, recommendation, and implications of the study were suggested for future research.

Keywords: restaurant atmospheric, physical environment, employee factor, customer satisfaction

1. INTRODUCTION

The global foodservice market size had reached 3.5 trillion U.S. dollars in 2020 (Statista, 2021) and, the size is predicted to grow in the future. In Malaysia, restaurant dining has become a culture, and the restaurant industry is expected to rake in 103 million U.S dollars (Statista, 2021). The restaurant industry is one of the major contributors to Malaysia's economic growth. Jalil et al. (2016) narrated that people have taken a liking to dine out, and they have developed better awareness of their restaurant choices. People are now looking forward to dining in a restaurant that matches their preferred atmosphere to get the best dining experiences. Memorable dining experience and satisfied customer likely to share their experience, return and make a repeat purchase. Customer purchase intention is influence by several factors (Bhatti and Rahman, 2019) related to restaurant selection, and thus, the physical ambience is ultimately essential. If a restaurant seeks sustainability in the brutally competitive

restaurant industry, a customer-favoured restaurant market climate is vital to secure customers' satisfaction. As mentioned by Abdullah et al. (2018) and Jalil et al. (2016), to compete in the current business world, especially in the foodservice industry, business owners must prioritise not only their product but extend it to their restaurant atmosphere and making sure that the atmosphere agrees with their business idea. Hanaysha (2016) specified that the physical environment is the strategic factor favoured by numerous businesses because of its influence in creating a solid first impression to influence their customer's perception of their products. Business performance is measured from sales, business profit and market share (Al Mansour et al., 2016), and by focusing on the physical environment, a restaurant could have better chances to grow their business profit with competitive design and layout advantage.

Similarly, consumers who love dining out can be critical in the restaurant's atmosphere to refine their dining experiences as food and facilities are not the only factors that can entice diners (Han & Hyun, 2017). Song and Noone (2017) suggested that restaurant operators should design a place with optimum decent spatial crowding and facilities that invite a favourable atmosphere. This is critical because customers generate restaurant revenues. For that reason, restaurant operators must look into the customers' preferences in the restaurant atmosphere to ensure that their customer would return to their premises (Jalil et al., 2016).

Voon (2017) mentioned restaurant's physical environment and foods are critical to increasing customer's satisfaction. Although there has been literature on a selection of atmospheric attributes, such as restaurant elements, layout, ambience, space design, of which the research at present is somewhat related, Jalil et al. (2016) argued that studies of restaurant atmospherics in the external environment of the restaurant are scarce in Malaysia. Thus, this study examines the effects of restaurant atmospherics, including ambience, spatial layout, and facility aesthetics, on customer satisfaction.

Besides restaurant atmospherics, the human factor significantly impacted customer's level of satisfaction during dine-in (Soebandhi et al., 2020). Meanwhile, the employee factor is said to have an overall impact on the customer service experience. However, only some studies have included the employee factor that enriches customer dining experience, particularly in casual dining restaurants (Alhelalat et al., 2017). Therefore, to include a holistic perspective of the restaurant atmospheric and customer satisfaction, the element of humans, the employee factor, was chosen to be the moderator in this study.

To date, there have only been limited studies examining the overall relationship of restaurant atmospherics, employee factor and customer satisfaction in the restaurant dining experience. Therefore, the present study investigates the restaurant atmospherics perspective on customer satisfaction and employee moderating effect in casual dining restaurants. This is intensely supported by Guzel and Dincer (2018) suggestion to add employee factor as an important element that also affects customer satisfaction. Furthermore, Alhelalat et al. (2017) argued that minimal attention is given to restaurant service's human characteristics and personality. Thus, part of the focus of this research is to understand the extent of moderating effect of the employee factor on customer satisfaction in restaurants. Therefore, this empirical research was conducted to examine whether employee factor influence customer dining satisfaction in a restaurant.

2. LITERATURE REVIEW

Facility Aesthetics and Customer Satisfaction

A restaurant's physical environment elements have a significant role in differentiating a business from its rivals (Guzel & Dincer, 2018). Facility aesthetics is one of the physical constructs explored in this study which refer to decor, architectural design, or interior design. It has been proven that a man-made environment, just like the physical environment, has led to internal and external reactions to both customers and employees (Guzel & Dincer, 2018). Restaurant owners should invest in decorations, interior designs, floor cleanliness, and other accessories to enhance the physical environment because such investments would likely attract customers (Soebandhi et al., 2020). An attractive physical environment serves as an essential factor to increase customers' satisfaction in the hospitality industry. Previous studies found that the restaurant atmospheric has a positive influence on customer satisfaction. Canny (2014) mentioned that the physical environment is an essential strategy for differentiating a restaurant by offering a substantial customer experience with a relaxed atmosphere. Therefore, the physical environment has a higher result on attracting new ones and maintaining existing customers. Moreover, an elegant physical environment is vital for influencing consumers' pre-purchase decisions and post-purchase, which influences their satisfaction with the quality of products and services (Guzel & Dincer, 2018).

Customer satisfaction is a crucial element for companies because happy clients will affect company earnings (Noor & Omar, 2015). Chua et al. (2015) stated that service quality attributes such as the physical environment are essential drivers to satisfy customers and lead to loyalty. Restaurant executives have strongly emphasised the importance of building a pleasant-looking physical atmosphere as a significant variable in strengthening and improving customer satisfaction in the restaurant sector (Ryu & Han, 2009). It was advisable that to ensure that customers continue to be loyal to one particular restaurant, the physical environment aspect needs to be

accentuated. Ryu and Jang (2008) proposed conceptualisation on dinescape, including ambience, lighting, facility aesthetics, social factors, and layout in a restaurant context. The dinescape ambience is created to add customer satisfaction while enjoying their meal. Therefore, it is assumed that satisfied customers who dine in the restaurant business that benefit from aesthetics and layout will bring more profit to the restaurant. Thus, based on the above argument, hypothesis 1 is formulated:

H₁ There is a positive relationship between facility aesthetics and customer satisfaction.

Ambience and Customer Satisfaction

The ambience is one of the dimensions of restaurant atmospherics. The ambience is related to intangible context characteristics such as scent, music and temperature (Jalil et al., 2016). The ambient contexts address the essence of the environment, such as visibility, temperature, noise, songs, and smell. Other than that, the ambient dimensions include conditions such as the arrangement of furniture and equipment, lighting and temperature, music, scent, a spatial layout which includes directions, signs, symbols such as decor and signage. Additionally, intangible background features might have an essential influence on consumers' perception and their responses towards a service provider's environment.

Such intangible features consist of scent, music, lighting and temperature (Hanaysha, 2016). A well-taken care physical environment in a restaurant should encourage the customer to revisit the restaurant frequently. Ha and Jang (2013) mentioned that restaurant ambience is one sort of nonverbal interaction with customers. Furthermore, the beneficial impact of an excellent tangible business setting could excuse the negative emotions produced by a bad intangible and ruled out the atmosphere that gives rise to behavioural feedback such as presumed service quality, which influences the customer's evaluation of the products and staff there. The physical environment has a significant impact on customers' physical relaxation and movement. Guzel and Dincer (2018) study showed that when the relation between physical environmental elements and perceived value is examined, it was seen that background music playing in the business positively affects hedonic value. In particular, the background music playing in restaurant businesses can be said to be effective for consumers to feel better, in other words, to change their moods.

Besides, a very well-designed physical environment was deemed crucial in affecting customer's post-purchase choices and their following purchase behaviour after measuring satisfaction with the service provider's products and facilities (Canny, 2014). Awareness has developed over the previous two centuries in the relationship between comprehensive ambience characteristics, such as hygienic and cohesive living setting, appropriate design scheme and recognised customer performance.

As demonstrated in previous studies, major researchers suggested that ambience attributes significantly measure customer satisfaction (Namkung & Jang, 2008). Canny (2014) also claimed that ambience is one factor in the successful marketing of a restaurant, especially if the customers get the extraordinary experience enjoying the comfortable environment. Therefore, the physical environment gives a strong factor in retaining old customers and attracting new customers. For the purpose of the current study, the ambience will cover odours in the dining area, background music, temperature and lighting. Therefore, the study proposed that ambience has a significant impact on customer satisfaction. Thus, based on the above argument, hypothesis 2 is formulated:

H₂ There is a positive relationship between ambiances and customer satisfaction.

Spatial Layout and Customer Satisfaction

Spatial layout and its functionality describe the aspects of designing and organising in business environments such as the chairs, aisles, food service lines, hallways and walkways, toilets, entrance and exits (Ryu & Jang, 2007). Moreover, the space layout also includes the symbols, signs, and artefacts consisting of signage, decoration, personal artefacts and other physical features. All of these are arranged and structured in-service settings to act as indicators that communicate with customers. Spatial layout relates to the arrangement of seating structure in the dining section and estimates the psychological elements of the design itself. Ryu and Jang (2007) discovered a strong correlation between spatial layouts and perceived service quality in a high-end restaurant. Guzel and Dincer (2018) also found that the layout, in other words, the space between the tables in a well-groomed atmosphere and comfortable seating area, remarkable paintings, colour and wall decoration contribute to the customer service experience. The authors also added that an adequate amount of staff is the factor that affects the atmospheric value. A well-designed servicescape and the employee service aspects will create a positive service environment for the customers (Voon, 2017).

Similarly, Newman (2007) suggested the impact of space layout on customer satisfaction assessments, while Stokols, as cited in Song and Noone (2017), stated that extremely chaotic environment conditions could contribute to bad views of customers overcrowding, which in turn, makes them think that their personal space is restricted and disturbed. Similarly, Hanaysha (2016) explored the impact of the physical environment and found

that it significantly impacts customer satisfaction. This means that customers have a higher degree of satisfaction when pleased with the restaurant's overall environment.

Some researchers suggested that the physical environment is one of the vital signals that customers would use for evaluating the benefits they receive from a restaurant's offerings (Ali et al., 2013). In order to attract a larger number of customers from various backgrounds, fast food restaurant managers will emphasise the physical environment while designing their marketing strategies. Therefore, based on the above argument, this study assumes that physical layout is a significant factor contributing to customer satisfaction. Thus, the following hypothesis is proposed:

H₃ There is a positive relationship between spatial layouts and customer satisfaction.

Employee Factor and Customer Satisfaction

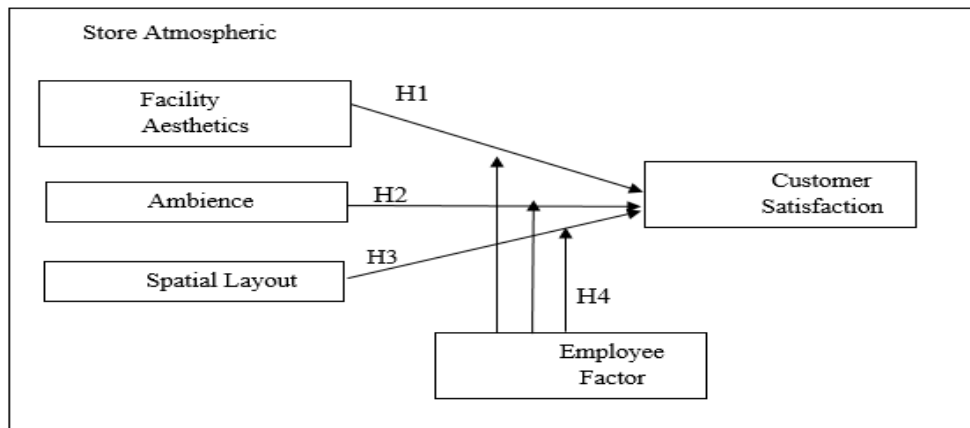
Turley and Milliman, as cited in Guzel et al. (2018), explained that the employee factors could be split into two components, which include the influence of customers and the influence of employee's impact on purchasing behaviour. Even though Tombs and Kennedy (2003) argued that previous research focused on the impacts of physical components and ignored staff variables in in-restaurant atmosphere studies, Ryu and Jang (2008) found the significance of human components in in-restaurant atmosphere research and suggested the conceptualisation of dinescape which include layout, ambience, lighting, facility aesthetics, service product, and human elements as a dimension scale of the physical atmosphere in high-end restaurants. On the other hand, Voon (2017), in his study about the service environment of restaurants, highlighted the assurance dimensions of the employee, factors include well-dressed, neat appearance, polite, knowledgeable, wear sanitary gloves and friendly. Meanwhile, the reliability dimension is seen as service is delivered as promised, being helpful, making the customers feel assured, and charged accurately. Next, the empathy dimension includes caring employees, well-served foods, and responsive employees. As for employee's service behaviour measures, previous research suggested numerous factors, including tidy appearance, neat and personal hygiene (Ko & Su, 2014).

The average results determine whether a client is happy or not with the service provider or organisation provided. The quality of staff and other clients in the business environment impacts whether the client is happy or not. To provide a broad perspective of restaurant atmospherics, this study included individual aspects called employee factors. Pizam and Ellis, as cited in Alhelalat et al. (2017), noted that customers who are satisfied with restaurant facilities reflect on a harmonious mix of components that may include food and drinks, food service, atmosphere and employee attitude. More specifically, customer satisfaction or discontent is influenced by staff behaviour because of the employee-customer communication system. In a similar line, Medeiros and Salay (2013) indicated that workers' behaviour and friendliness are strongly linked to customer satisfaction in service industries. Service experiences rely on interaction, customer orientation, service customisation, staff feelings and worker adaptability. Therefore, it is a good insistence on line staff engagement with customers to enhance the establishment's environmental efficiency and quality. In addition, the physical environmental elements of the staff also have a positive effect on the hedonic consumption of the customers. Guzel and Dincer (2018) suggested that customers care for the well-groomed staff, which creates positive feelings among customers that dine in the restaurant and makes customers feel good in terms of hedonic value.

Harris and Ezeh (2008) suggested that few variables related to the service environment might significantly impact customer satisfaction when moderating factors were included. This proposes moderating factors of service environment, such as employee element might impact customer's overall satisfaction. Thus, the role of potential moderating factors such as employee factors should be considered. Therefore, the following hypothesis is proposed:

H₄ Employee factor moderates the relationship between restaurant atmospherics and customer satisfaction

The Proposed Framework



Source : Adapted from Jalil, Fikry, and Zainuddin (2016)

Figure 1: Study Framework

3. METHODOLOGY

This study was conducted to assess the attributes of restaurant atmospherics on customer satisfaction, and a quantitative research approach with a descriptive research design using a set of questionnaires is considered the most suitable method to be used. This study focuses on gathering information from real customer experiences, using a cross-sectional method to collect data from the target customers who eat in restaurants. The non-contrived setting is used for this field study, where a self-administered survey was conducted with no interference from the researcher. The data collection began in early May 2020 and took about a month to be completed.

3.1 Population

The population of this study are the customers of dining restaurants in Kuala Lumpur, Malaysia. Due to the facts that people who eat at dining restaurants are spread over vast geographical areas in Kuala Lumpur, this study selected the top 10 famous brand restaurants available in Kuala Lumpur nominated by tripadvisor.com 2021. The top 10 suggested brand restaurants are located in Bukit Bintang, Kuala Lumpur, including Jarrod & Rawlins restaurant, Antipodean café, El Cerdo restaurant and Bijan Bar restaurant. Bukit Bintang is Kuala Lumpur's trendiest shopping and entertainment district, offering everything from sleek shopping centres and five-star hotels to various all-day brand of restaurants. Each restaurant has different setting of physical ambience and offer customers various dining experienced. Therefore, the Bukit Bintang area is appropriate for the study to obtain information from potential respondents. Consequently, the population number of Kuala Lumpur residents are 7.2 million (Statistics Malaysia, 2020). However, the accurate number of customers dining in suggested restaurants of the Bukit Bintang area is unknown. Therefore, to reach all potential respondents, the study calculated the sample size based on two scholars' suggestion. Krejcie and Morgan (1970) suggested that a 384 sample is sufficient to represent a population of a million and above statistically. Next, the study followed Hair et al. (2010) suggestion that a sample size of 300 is sufficient with a study employing seven or fewer latent constructs. Since this study employed five constructs, therefore a sample size of 300 is sufficient. However, to ensure a good response rate, the study distributed 320 questionnaires to customers who have dined in the various restaurants Bukit Bintang, Kuala Lumpur.

3.2 Research Instrument

The research instrument was developed based on the investigated variables in the conceptual study framework. The items used in the instrument were taken and adapted from previous research with some alteration to suit the current study. The survey questionnaire was divided into three (3) main sections. The first section (A) dealt with the filter question to ensure that the respondents had experienced dining in the casual dining restaurants in selected Bukit Bintang restaurants. Section (B) covered the socio-demographic profiles of respondents using nominal scale items, such as age, gender, occupation and level of education. This information was needed to identify and measure how these variables affect the respondent's satisfaction. Section (C) focused on the questions for each investigated variables.

Table 1 Summary of the Cronbach's Alpha scores and cited sources for pilot test

Variables/ construct	No. of items	Sources	Cronbach's Alpha
Facility Aesthetic	6	Guzel and Dincer (2018)	0.80
Ambience	5	Guzel and Dincer (2018)	0.86
Spatial layout	5	Mensah and Mensah (2018)	0.76
Employee factor	5	Guzel and Dincer (2018)	0.62
Customer satisfaction	5	Song et.al (2017)	0.96

Pilot Test

After pretesting with the experts, the questionnaires were distributed to actual respondents. This was to evaluate the developed instrument to see if the questions were understandable, the language was proper, and the time required to answer the questions was acceptable. This step was to help identify any possible errors in the questions which might affect the study results later. The pilot test was conducted with 38 respondents who were willing to answer the questionnaires. The researchers approached the respondents soon after they left the restaurants and invited them to participate in the study. The data from the pilot test was entered and analysed for the reliability test by using IBM Statistical Package for the Social Science Software (SPSS) version 22. Hair et al. (2010) stated that a Cronbach Alpha score of more than 0.6 was acceptable for reliability. This was supported by Nunnally (1978) and Taber (2017). Every variable was evaluated separately for reliability tests. The pilot test confirmed that all constructs achieved the suggested value of Cronbach's Alpha of 0.6; facility aesthetics (0.813), ambience (0.864), spatial layout (0.878), employee factor (0.840) and customer satisfaction (0.885).

Sampling Method and Data Collection

The study employed a non-probability sampling technique where the respondents were selected based on non-random criteria, and not every member of the population has a chance of being selected. This study applied convenience sampling, where respondents were sampled based on readily available sources, and they voluntarily participated in the study after being approached. For the study, respondents were selected from those who had dined in the identified top 10 famous brand restaurants in the Bukit Bintang area on that particular day, and they were approached soon after they left the restaurant.

The researchers distributed the questionnaire outside the restaurants because it was easier compared to approach the respondents while they were having their meals inside. The researchers also approached pedestrian in the nearby area to voluntarily participate in the study. However, they must have dined in any of the chosen brand restaurants not later than six months to ensure that they still can recall their dining experience. The researchers distributed the questionnaires only after the respondents confirmed that they could remember their dining experience to ensure the validity of answering the questions.

The respondents had to scan the QR code to answer the questionnaire, and the researchers were present to ensure any ambiguity of the questionnaires were responded to immediately. Most of the respondents took approximately 10 minutes to complete the survey and the researchers managed to collect about ten to fifteen answered questionnaires daily. The data collection process started in May 2020 and the researchers collected the data daily to ensure the survey can reach the target number of respondents and it took approximately a month to complete. A total of 320 respondents were approached and participated in the survey. Since the respondents answered the survey through google form, the researchers have less problems to transfer the data for analysis purposes. All questionnaires were analysed using Statistical Package for Social Science (SPSS) analytical tool.

4. ANALYSIS

All data were analysed using the Statistical Package for Social Science (SPSS) Version 22. The descriptive analysis which is standard deviation and mean was first conducted. Then, regression analysis was conducted to understand how the independent variables of restaurant atmospheric influenced customer satisfaction. Finally, hierarchical multiple regression analysis was used to explain the extent to which employee factors moderate the relationship between the independent and dependent variables.

Response Rate

Data cleaning is a way of separating and fixing erroneous data from a data collection, table or database, which refers to identifying faulty, incomplete or negligible parts of the information. In this study, there is a screening question in the first segment of the questionnaire: *Have you experienced dining in the restaurants listed in the question?* The respondent with ‘yes’ answers would proceed to the next section, but the respondent with ‘no’ answers was set to end the session. The respondents who answered “no” were excluded from the database. The respondents were also needed to confirm that they can recall their dining experience in those restaurants. The researchers managed to obtain 310 useable questionnaires out of 320 received questionnaires; hence, the researchers proceeded with the 310 questionnaires for data analysis.

Demographic Profile

Frequency distribution analysis is a statistical method used to compute the amount and responses associated with a single variable's various values and describe those counts in percentage terms. The corresponding series of tables showed the total measurements of the respondents' profiles dependent on the useable questionnaires.

Table 2 Respondent's Demographic Profile

Demographic Characteristics		Frequency (f)	Percentage %
Gender	Male	106	34.2
	Female	204	65.8
Races	Malay	292	94.2
	Chinese	2	0.6
	Indian	3	1.0
	Others	13	4.2
Age (years)	25 Or Less	85	27.4
	26-35	84	27.1
	36-45	80	25.8
	46-55	37	11.9
	56-65	24	7.7
Occupation	Students	67	21.6
	Professional Workers	48	15.5
	Government Officer	137	44.2
	Entrepreneur	18	5.8
	Others	40	12.9
Education Level	SPM	25	8.1
	Diploma	105	33.9
	Bachelor Degree	103	33.2
	Master	69	22.3
	PhD	8	2.6
Patronage	First Time	126	40.6
	Repeat	184	59.4
Dining Companionship	Alone	8	2.6
	Family	121	39.0
	Friends	19	6.1
	Alone, Family, Friends, Business Colleague and Office Mate	161	51.9
	Others	1	.3
Meal period	Lunch	69	22.3
	Dinner	63	20.3
	Breakfast, Lunch, Dinner	176	56.8
	Others	2	0.6

(N = 310)

Reliability Coefficient

Every section in the instrument was analysed separately to obtain the Cronbach Alpha (Alpha coefficient) result to determine the reliability of each question tested. The results derived from the reliability test was considered important in deciding if all the evidence gathered from the respondents was accurate.

Table 3 Cronbach’s Alpha coefficient for facility aesthetics, ambiance, spatial layout, employee factor, and customer satisfaction.

Variables	Alpha Coefficient Range, α
Facility Aesthetics	0.923
Ambiance	0.863
Spatial layout	0.906
Employee factor	0.878
Customer satisfaction	0.895

Descriptive analysis for all constructs

Every item in each dimension of facility aesthetics, ambiance, spatial layout, employee factor, and customer satisfaction was measured using descriptive analysis, which consists of means and standard deviation based on a five-point Likert-Scale, 1: strongly disagree, 2: disagree, 3: neutral, 4: agree, 5: strongly agree.

Table 4 Mean score and standard deviation for facility aesthetics

Code	Items	N	Mean	Std. Deviation
FA1	The restaurant design visually appealing.	310	4.158	0.699
FA2	The restaurant has appropriate labels and signs.	310	4.196	0.675
FA3	The wall decorations are visually appealing.	310	4.129	0.703
FA4	Paintings of pictures are visually attractive.	310	4.109	0.776
FA5	The restaurant has an attractive dining area.	310	4.116	0.686

Note: Likert Scale (1: strongly disagree, 2: disagree, 3: neutral, 4: agree and 5: strongly agree)

Items adapted from Guzel and Dincer (2018)

Table 5 Mean score and standard deviation for ambiance

Code	Items	N	Mean	Std. Deviation
A1	The temperature in this restaurant is comfortable.	310	4.200	0.686
A2	The restaurant’s lighting creates a sense of mood.	310	4.254	0.684
A3	The lighting of the restaurant creates a warm atmosphere.	310	3.829	0.961
A4	The restaurant has an appropriate colour scheme.	310	4.164	0.716
A5	The restaurant has a nice smell/ scent.	310	4.048	0.759
A6	The aroma in the restaurant is enticing.	310	4.129	0.785

Note: Likert Scale (1: strongly disagree, 2: disagree, 3: neutral, 4: agree and 5: strongly agree)

Items adapted from Guzel and Dincer (2018)

Table 6 Mean score and standard deviation for spatial layout

Code	Items	N	Mean	Std. Deviation
SL1	The furniture of the restaurant (e.g., dining table, chair) is clean.	310	4.138	0.721
SL2	The restaurant has a good layout.	310	4.212	0.687
SL3	The seating arrangements are comfortable.	310	4.135	0.724
SL4	The seating arrangement gives me enough space.	310	4.080	0.765
SL5	This restaurant seemed very spacious.	310	3.954	0.807

Note: Likert Scale (1: strongly disagree, 2: disagree, 3: neutral, 4: agree and 5: strongly agree)

Items adapted from Mensah and Mensah (2018)

Table 7 Mean score and standard deviation for employee factor

Code	Items	N	Mean	Std. Deviation
EF1	Employees are well dressed.	310	4.216	0.702
EF2	An adequate number of employees makes me feel cared for.	310	3.880	0.821
EF3	Attractive employees make me feel good.	310	4.019	0.804
EF4	The employee's nails are clean and neat.	310	4.029	0.764
EF5	The employee clothes appear clean and tidy.	310	4.193	0.683

Note: Likert Scale (1: strongly disagree, 2: disagree, 3: neutral, 4: agree and 5: strongly agree)

.Items adapted from Guzel and Dincer (2018)

Table 8 Mean score and standard deviation for customer satisfaction

Code	Items	N	Mean	Std. Deviation
CS1	I enjoyed the dining experience at this restaurant.	310	4.190	0.672
CS2	This dining experience has worked out as i thought.	310	4.077	0.719
CS3	I am satisfied with my decision to dine at this restaurant.	310	4.129	0.698
CS4	My choice to dine out was a wise one.	310	3.816	0.885
CS5	If i could do it over again, i would have the same dining place.	310	3.900	0.902

Note: Likert Scale (1: strongly disagree, 2: disagree, 3: neutral, 4: agree and 5: strongly agree)

Items adapted from Song et.al (2017)

Next, the study analysed the data using correlation analysis to examine the strength between the two variables.

Table 9: Correlation Analysis between Ambiance and Customer Satisfaction

		Ambiance	Customer Satisfaction
Ambiance	Pearson Correlation	1	.666
	Sig. (2-tailed)		.000
	N	310	310
Customer Satisfaction	Pearson Correlation	.666	1
	Sig. (2-tailed)	.000	
	N	310	310

Based on the result in Table 9, the analysis using Pearson Correlation showed r-value to be 0.666 indicated a positive relationship between ambiance and customer satisfaction. The relationship also significant as the p-value was 0.000; less than 0.05 $p (.000) < .05$

Table 10: Correlation Analysis between Spatial Layout and Customer Satisfaction

		Spatial Layout	Customer Satisfaction
Spatial Layout	Pearson Correlation	1	.703
	Sig. (2-tailed)		.000
	N	310	310
Customer Satisfaction	Pearson Correlation	.703	1
	Sig. (2-tailed)	.000	
	N	310	310

Based on the result in Table 10, the correlation showed r-value to be 0.703 indicated a positive relationship between spatial layout and customer satisfaction. The relationship also significant as the p-value was 0.000 less than 0.05 $p (.000) < .05$.

Table 11: Correlation between Facility Aesthetic and Customer Satisfaction

		Facility Aesthetic	Customer Satisfaction
Facility Aesthetic	Pearson Correlation	1	.663
	Sig. (2-tailed)		.000
	N	310	310
Customer Satisfaction	Pearson Correlation	.663	1
	Sig. (2-tailed)	.000	
	N	310	310

Based on the result in Table 11, the analysis using Pearson Correlation showed r-value to be 0.663 indicated a positive relationship between facility aesthetic and customer satisfaction. The relationship also significant as the p-value was 0.000 less than 0.05 $p (.000) < .05$.

Regression Analysis Results

The study analysed the data using multiple regression to investigate the best prediction from the independent variables.

Relationship between Restaurant Atmospheric (Facility Aesthetic, Ambiance, Spatial Layout) and Customer Satisfaction

Table 12 Model summary for restaurant atmospheric attributes and customer satisfaction

Model Summary ^b				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.754 ^a	.568	.564	.43368

a. Predictors: (Constant), Spatial Layout, Ambiance, Facility Aesthetic

b. Dependent Variable: Customer Satisfaction

Based on Table 12, the model summary showed R² value was 0.568. This indicated that 56.8% of the variation in the dependent variable, which was customer satisfaction, could be explained by the independent variables, which were the restaurant atmosphere consisting of facility aesthetic, ambience and spatial layout. In other words, restaurant atmospheric can predict more than 50 per cent of customer satisfaction. It was also found that restaurant atmospheric and customer satisfaction explain a significant amount of the variance in the value of sales made per week, $F (3,306) = 134.003, p < 0.01, R^2 = 0.568$.

Table 13 Regression analysis for restaurant atmospheric attributes and customer satisfaction

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.391	.184		2.120	.035
	Ambiance	.294	.068	.267	4.346	.000
	Spatial Layout	.416	.060	.401	6.977	.000
	Facility Aesthetic	.173	.070	.163	2.469	.014

Dependent Variable: Customer Satisfaction

The analysis in Table 13 shows that ambience, spatial layout and facility aesthetic significantly predicted the value of customer satisfaction ($\beta = .294, t (309) = 4.35, p < .05$) for ambience, ($\beta = .416, t (309) = 6.98, p < .05$) for spatial layout, and ($\beta = .173, t (309) = 2.47, p < .05$) for facility aesthetic. The coefficient table also shows how

each individual predictor became a significant predictor of customer satisfaction. The statistical readings were significant as the *p*-value was less than 0.05 and $t > 1.645$, with ambience $p (.000) < .05$; $t (4.346) > 1.645$, spatial layout $p (.000) < .05$; $t (6.977) > 1.645$ and facility aesthetic $p (.014) < .05$; $t (2.469) > 1.645$. From these results, it can be clearly seen that each of these three (3) predictors made a significant contribution to the prediction of customer satisfaction. Thus, hypothesis 1, hypothesis 2, and hypothesis 3 were supported. Next, the study analysed the moderating effect of employee factor on the relationship between the restaurant atmosphere and customer satisfaction. In testing the moderating results, a hierarchical multiple regression analysis was conducted, however the results found that employee factor did not moderate the relationship between restaurant atmospheric and customer satisfaction.

Table 14 Hypotheses Testing Results

	Hypotheses	Results
H₁	There is a positive relationship between facility aesthetics and customer satisfaction.	Supported
H₂	There is a positive relationship between ambience and customer satisfaction.	Supported
H₃	There is a positive relationship between spatial layouts and customer satisfaction.	Supported
H₄	Employee factor moderates the relationship between restaurant atmospherics and customer satisfaction.	Not supported

5. DISCUSSION

This study aimed to identify the relationship between all the constructs of restaurant atmosphere and customer satisfaction. Each of the three (3) constructs of restaurant atmospheric were analysed individually, namely facility aesthetics, ambience and spatial layout. The regression analysis results indicated that restaurant atmospheric showed a significant correlational relation with customer satisfaction at dining restaurants. The findings of this study showed that the physical environment had a major effect on customer satisfaction, which is quite similar to other studies (Hanaysha, 2016; Nam et al., 2011; Ryu et al., 2012). It can be concluded that customers who experience a favorable restaurant physical environment will experience higher satisfaction, which should encourage restaurant managers to continuously improve the restaurant's physical environments to enhance their competitive differentiation strategies. Multiple Linear Regression Analysis was used to explain the answers to each research question to validate further the significant effect of the independent predictors on the dependent variable. The results showed that 56.8% of the total variance in customer satisfaction was related to restaurant atmospheric. This means that the independent predictors were able to explain 56.8% of the prediction on customer satisfaction.

On the contrary, some previous studies found restaurant atmospheric to be of no or weak relationship with customer satisfaction. The study of Andaleeb and Conway (2006) found that a restaurant's physical design had minimal effect on customer satisfaction. While some studies only revealed a weak relationship between the tangible constructs of the physical restaurant environment and customer satisfaction at restaurants (Mensah and Mensah, 2018).

Based on the results of regression and correlation analysis, this study confirmed the hypotheses as being supported. The findings from both analyses gave valuable insights into the chosen constructs developed for the restaurant atmosphere. These three (3) constructs, namely spatial layout, ambience, and facility aesthetic, were an essential element in the atmospheric restaurant that affect the satisfaction of restaurant customers. This study revealed that the background music playing in a restaurant could be effective in making consumers feel better, in other words, change their moods. Music can have a powerful effect on customer's perception and influence behaviours in service settings; thus, the restaurant manager has to ensure the correct pace of music in the restaurant. The effective use of music can reduce customer perceived waiting time, which could increase customer satisfaction.

The moderating role of employee factor between restaurant atmospheric and customer satisfaction was verified using hierarchical multiple regression analysis. For employee factor, this study focused on the standardised uniform of staff, well-dressed staff, and the number of staff. The analysis results showed that the "Sig. F Change" column $p (.270) > .005$, which was not significant, and this means that the employee factor did not moderate the relationship between restaurant atmospheric and customer satisfaction. As the results of this study indicated that employee factor did not moderate customer satisfaction, the researcher believed that other underlying components of employee factor could be addressed. Examples such as perceived employee

performance, prompt service of the employee, employee knowledge and skill in terms of responsiveness, empathy, and assurance are worth exploring further.

6. LIMITATIONS OF THE STUDY

There were quite a few limitations that need to be addressed for this study which future researchers can improve in a similar study field. Firstly, this study only provided limited information about the restaurant atmosphere, employee factor, and customer satisfaction. Second, the limited sample size, data collection time constraints, and the Covid-19 pandemic have impacted the way data was collected for this study. Since this study only focused on the dining restaurants in Klang Valley, the future study may include other areas of restaurant customers in Malaysia. This study used a quantitative method of survey questionnaire where future study could apply the mixed method of qualitative and quantitative study to obtain robust findings.

7. FUTURE STUDY RECOMMENDATIONS

Besides fast-casual dining restaurants and medium-end casual dining restaurants, future research can investigate high-end casual dining restaurants as a potential area of study. It is also suggested that gender factors should be addressed to investigate which gender has a more significant effect on the physical environment. In addition, others construct such as the price of the food, brand image of the restaurant can be examined to see their effect on customer satisfaction. There is also a need to use a hybrid tool, both quantitative and qualitative, such as an interview or focus group discussion, for better and more precise observations in the future. Furthermore, Voon (2017) proposed to examine customer's demographic from different cultural settings, such as ethnic group, national or international customers, to make a comparison.

8. CONCLUSION

The study highlighted the importance of physical setting in the restaurant to create customer pleasure dining experience. The findings and discussion of this study can be treasured by the practitioners in the industry, such as managers of dining restaurants, to boost their physical restaurant ambient, which could gain customer satisfaction. On the other hand, customer will have a pleasant dining experience when dine-in a good physical restaurant environment. Although the study did not find a significant relationship between employee factor and customer dining satisfaction, managers have to improve the quality of services to remain competitive.

AUTHORS' BIOGRAPHY

Nurul Fathiah Sufiah Mohd Najhan is a postgraduate student in Faculty Hotel and Tourism Management. She is also a lecturer in Politeknik Sungai Besar, Selangor. Her teaching area is Service Operation and Food and Beverage service.

Aslinda Mohd Shahril is a senior lecturer in Faculty of Hotel and Tourism Management, Universiti Teknologi Mara, Puncak Alam Campus. She obtained her Ph.D from Universiti Putra Malaysia in 2014. Her research interest area including customer service, consumer behavior and service marketing. *She is the corresponding author for this article*.

Chemah Tamby Chik is an associate professor in Faculty of Hotel and Tourism Management, Universiti Teknologi Mara, Puncak Alam Campus. She obtained her Ph.D from Universiti Kebangsaan Malaysia. Her research interest area is sensory marketing, food service management and human health.

Flora Chang Abdullah is a lecturer in Faculty of Hotel and Tourism Management, Universiti Teknologi Mara, Puncak Alam Campus. She has been with the faculty for over 25 years and her specialization area is in managerial accounting and financial analysis.

REFERENCES

- Abdullah, D., Hamir, N.N.M., Krishnaswamy, J., & Rostum, A.M.M. (2018). Food Quality, Service Quality, Price Fairness and Restaurant Re-Patronage Intention: The Mediating Role of Customer Satisfaction. *International Journal of Academic Research in Business and Social Sciences*, 8(17), 211-226.
- AlMansour, Y., Aladwan, A., & Alsaudi, M. (2016). The effect of business process reengineering factors on organisational performance. *International Journal of Management Studies*, 23 (2), 65-81.
- Alhelalat, J. A., Habiballah, M.A., & Twaissi, N.M. (2017). The impact of personal and functional aspects of restaurant employee service behaviour on customer satisfaction. *International Journal of Hospitality Management*, 66 (2017), 46-53.
- Ali, F., Omar, R., & Amin, M. (2013). An examination of the relationships between physical environment, perceived value, image and behavioural intentions: A SEM approach towards Malaysian resort hotels. *Journal of Hotel and Tourism Management*, 27(2), 9-26.
- Andaleeb, S.S., & Conway, C. (2006). Customer satisfaction in the restaurant industry: An examination of the transaction-specific model. *Journal of Services Marketing*, 20(1), 3–11.
- Bhatti, A., & Ur Rahman, S. (2019). Perceived benefits and perceived risks effect on online shopping behavior with the mediating role of consumer purchase intention in Pakistan. *International Journal of Management Studies*, 26(1), 33-54.
- Canny, I.U. (2014). Measuring the mediating role of dining experience attributes on customer satisfaction and its impact on behavioural intentions of casual dining restaurant in Jakarta. *International Journal of Innovation, Management and Technology*, 5(1), 25-29.
- Chua, B., Lee, S., Goh, B., & Han, H. (2015). Impacts of Cruise Service Quality and Price on Vacationers' Cruise Experience: Moderating Role of Price Sensitivity. *International Journal of Hospitality Management*, 44, 131-145.
- Gagić, S., Tešanović, D., & Jovičić, A. (2013). The vital components of restaurant quality that affect guest satisfaction. *Turizam*, 17(4), 166-176.
- Guzel, S.O., & Dinçer, M.Z. (2018). The Effect of Restaurant's Physical Environment on Perceived Value, Customer Satisfaction and Loyalty: Case of Istanbul, *Journal of Tourism and Gastronomy Studies*, 6(4), 626-643.
- Ha, J., & Jang, S.S. (2013). The effects of dining atmospherics on behavioural intentions through quality perception. *Journal of Services Marketing*, 26(3), 204-215.
- Hair, J.F., Black, B., Babin, B., Anderson, R.E. & Tatham, R.L. (2010). *Multivariate Data Analysis: A Global Perspective*. Pearson Education Inc., New Jersey.
- Han, H., & Hyun, S.S. (2017). Impact of hotel restaurant image of physical environment, service and food on satisfaction and intention. *International Journal of Hospitality Management*. 63 (2017), 82-92.
- Hanaysha, J. (2016). Testing the Effects of Food Quality, Price Fairness, and Physical Environment on Customer Satisfaction in Fast Food Restaurant Industry. *Journal of Asian Business Strategy*. 6 (2), 31-40.
- Harris, L.C. & Ezeh, C. (2008). Servicescape and loyalty intentions: An empirical investigation. *European Journal of Marketing*, 42(3/4), 390-422.
- Jalil, N.A.A., Fikry, A., & Zainuddin, A. (2016). The Impact of Store Atmospherics, Perceived Value, and Customer Satisfaction on Behavioural Intention. *Procedia Economics and Finance*. 37. 538-544. 10.1016/S2212-5671(16)30162-9.
- Ko, W., & Su, L. (2014). Foodservice quality: identifying perception indicators of foodservice quality for hospitality students. *Food Nutrition Science*, 5, 132–137.
- Krejcie, R.V., & Morgan, D.W. (1970). Determining Sample Size for Research Activities. *Educational and Psychological Measurement*, 30, 607-610.
- Medeiros, C.O., & Salay, E. (2013). A review of food service selection factors important to the consumer. *Food Public Health*, 3(4), 176-190.
- Mensah, I., & Mensah, R.D. (2018). Effects of service quality and customer satisfaction on repurchase intention in restaurants on University of Cape Coast Campus. *Journal of Tourism, Heritage & Services Marketing*, 4(1), 27-36
- Nam, J., Ekinci, Y., & Whyatt, G. (2011). Brand equity, brand loyalty and consumer satisfaction. *Annals of Tourism Research*, 38(3), 1009-1030.
- Namkung, Y., & Jang, S.C.S. (2008). "Are highly satisfied restaurant customers really different? A quality perception perspective", *International Journal of Contemporary Hospitality Management*, 20(2), 142-55.
- Newman, A.J. (2007). "Uncovering dimensionality in the servicescape: towards legibility", *The Service Industries Journal*, 27(1), 15-28.
- Noor, N.S.D., & Omar, H.H. (2015). The relationship marketing as a determinant of customer satisfaction in islamic banking services management, *International Journal of Management Studies*, 22 (1), 1-22.
- Nunnally, J.C. (1978). *Psychometric Theory* (2nd ed.), McGrawHill, New York.

- Guzel, S.O., & Dincer, M.Z. (2018). The Effect of Restaurant's Physical Environment on Perceived Value, Customer Satisfaction and Loyalty: Case of Istanbul, *Journal of Tourism and Gastronomy Studies*, 6(4) 626-643. doi: 10.21325/jotags.2018.327
- Ryu, K., & Han, H. (2009). Influence of The Quality of Food, Service, and Physical Environment on Customer Satisfaction and Behavioural Intention in Quick-Casual Restaurants: Moderating Role of Perceived Price. *Journal of Hospitality and Tourism Research*, 34 (3), 310-329.
- Ryu, K., & Jang, S.S. (2007). The effect of environmental perceptions on behavioural intentions through emotions: The case of upscale restaurants. *Journal of Hospitality & Tourism Research*, 2007. 31(1), 56-72.
- Ryu, K., & Jang, S. (2008). DINESCAPE: A scale for customers' perception of dining environments. *Journal of Foodservice Business Research*, 11(1), 2-22.
- Ryu, K., Lee, H.R., & Kim, W.G. (2012). The influence of the quality of the physical environment, food, and service on restaurant image, customer perceived value, customer satisfaction, and behavioural intentions. *International Journal of Contemporary Hospitality Management*, 24(2), 200-223.
- Soebandhi, S., Wahid, A., & Darmawanti, I. (2020). Service quality and store atmosphere on customer satisfaction and repurchase intention. *BISMA (Bisnis dan Manajemen)*, 13(1), 26-36. <https://doi.org/10.26740/bisma.v13n1.26-37>.
- Song, M., & Noone, B.F. (2017). The moderating effect of perceived spatial crowding on the relationship between perceived service encounter pace and customer satisfaction. *International Journal of Hospitality Management*, 65(2017), 37-46.
- Statistic Malaysia. (2020). <https://www.dosm.gov.my>
- Statista. (2021). <https://www.statista.com/statistics/1095667/global-food-service-market-size/>
- Taber, S.T. (2017). The use of Cronbach's Alpha when developing and reporting research instruments in science education. *Research in Science Education*, 1-24.
- Tombs, A., & McColl-Kennedy, J.R. (2003). Social-servicescape conceptual model. *Marketing Theory*, 3(4), 447-475.
- Voon, B.H. (2017). Service Environment of Restaurants: Findings from the youth customers. *Journal of Asian Behavioural Studies*, 2(2), 67-77.