The influence of physical environment factors of multi-cuisine restaurants on overall service quality, satisfaction, and loyalty

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Abstract
The purpose of this study was to investigate the effect of physical environmental factors on overall service quality, satisfaction, and loyalty of consumers towards multi-cuisine restaurants. A sample of 340 consumers was included in this empirical study, in which consumers’ perception on three physical environmental factors: spatial layout, décor and artifacts, and ambience were measured using a pretested scale. Also, this study investigated the role of physical environmental factors on overall service quality of restaurants, student’s satisfaction, and their loyalty towards multi-cuisine restaurants. The ambient conditions of the restaurant emerged as a significant predictor of overall service quality. Managerial implications, limitations, and scope for further studies are discussed.

Keywords: spatial layout, décor and artifacts, ambience, service quality, customer loyalty

Introduction
Understanding the needs and expectations of customers is a major competitive tool, and this has been studied by the market researchers’ extensively in the past. An understanding of factors that are influencing the customers’ service quality will help the managers to develop an appropriate strategy to improve customers satisfaction and loyalty. While models consisting of the brand, price, service offerings, location, security and safety, food quality and service quality contributed for better understanding of customer satisfaction, physical environment of restaurant seems to be one of the important factors responsible for explaining the much of customer satisfaction, thus making it crucial construct worth investigating. Physical environment refers to the physical and spatial features of the environment surrounding a consumer activity such as firm’s interior, layout of furniture, décor, and artifacts, etc. These physical environmental factors can potentially create a sense of stimuli, arousal, pleasure, and emotions, or revisit intention in consumers. It is evident from past research that the influence of physical environment on consumer behavior gained a significant amount of attention from the academicians and researchers (Andreu et al., 2006; Han & Ryu, 2009; Turley & Milliman, 2000; Wakefield & Blodgett 1996). Findings of these studies
suggest that providing innovative and pleasant environment is essential for the success of any firm.

Achieving customer satisfaction is one of the important goals of service industry because of its long term benefits on customer loyalty, word of mouth, and sustainable profitability (Greenwell, Fink & Pastore, 2002; Liu & Jang, 2009). These satisfied customers eventually become loyal customers in the future (Schirmer et al., 2018). These loyal customers will increase the customer base for the company. In the marketing literature, customer satisfaction has been studied as unidimensional factor by the researchers (Yang & Peterson, 2004; Chen Ching Fu & Tsai Dung Chun, 2007). The present study also conceptualizes customer satisfaction as a unidimensional factor that measures the customer’s evaluation of experience in restaurants. Further, the positive relationship between customer satisfaction and loyalty is well established in the restaurant industry (Kandampully & Suhartanto, 2000). Customer loyalty refers to a situation where customer develops long term relationship with product or service. It reflects in repeated purchase, recommendation to others of the products or service. Customer loyalty helps to market the product or service to customers, friends and family members. This study considers the customer loyalty as outcome variable of customer satisfaction. Thus, this study aims to investigate the influence of physical environments on overall service quality as perceived by customers of multi-cuisine restaurants and their impact on customer satisfaction and loyalty.

Background and hypotheses

Physical environment

Kotler (1974) suggests that in some circumstances, the physical environment of the place is as important as the product itself in decision making. Customers sense the physical surroundings of the restaurant such as décor, artifacts, layout, music, paintings, before, during, and after the meal when dining out. This may determine their behavior and level of satisfaction. The past studies demonstrated enough evidence for the role of physical environment on customers’ ratings of their meals (King et al., 2004; Meiselman et al., 2000; Meiselman, 2003); the role of lighting and music on consumers’ purchase decision and length of the stay (Milliman, 1986; Wansink, 2004); the influence of ambient scent on customer’s involvement (Marie, Zemke, & Shoemaker, 2007); food usage behavior (Hansen, 2003); customer satisfaction (Mahalingam et al., 2016) and customer emotions (Ali & Amin, 2014, Ali & Amin, 2016). Interestingly, few studies demonstrated that identical foods had performed differently in different settings, i.e., people rated them higher in home or restaurant versus a laboratory or institutional cafeteria (Gardello, Bell & Kramer, 1996; Meiselman et al., 2000).

On the contrary, Voon et al., (2009) found that servicescape, (the environments in which services are delivered) had a small effect on consumer satisfaction and loyalty of restaurant customers. Similarly, Ali and his colleagues (2016) demonstrate a non-significant association between the physical environment and customer satisfaction. Recently, Boo (2017) in his study indicated that the servicescape does not have any significant influence on youth satisfaction for fine dining and food court, whereas it had a smaller impact for fast food restaurants. This study was conducted to capture the perception of youth consumers in Malaysia. Therefore, to address this gap in the literature, this study aims to investigate the role of physical environment on overall service quality as perceived by consumers and its impact on customer satisfaction and loyalty.

It is evident from the literature that the physical environment dimension is multidimensional. Bitner (1992), in her study, presented a model for understanding the role of a physical environmental factor on customer behaviors. The physical environment dimensions included in her study are space and function (layout, furniture, and equipment); ambient conditions (such as temperature, noise, music, scent lighting, and atmosphere) and signs and symbols (personal artifacts, style of
décor, and signages, etc.). She argued that these physical environmental factors of services might lead consumers to make a cognitive assessment of service quality on the extrinsic stimuli found in the physical surrounding. Further, Wakefield and Blodgett (1996) presented a five-dimensional model to investigate the effect of physical environmental factors on customers’ behavioral intentions in leisure. The dimensions included in their study are layout accessibility, facility aesthetics, seating comfort, electronic equipment/displays, and facility cleanliness. More recently, Han and Ryu (2009) found décor and artifacts, spatial layout, and ambient conditions as three important elements of physical environments that have a strong impact on customers’ perception on price, satisfaction, and loyalty in the context of the restaurant industry. They further demonstrate that these three dimensions of physical environment strongly influence the customer’s loyalty directly or indirectly. Meanwhile, it is evident from the past research that décor and artifacts, ambient conditions, and spatial layout are studied and identified as most adequate dimensions of the physical environment that are pertinent to service industry (Han & Ryu, 2009; Nguyen & Leblanc, 2002; Raajpoot, 2003; Wakefield & Blodgett, 1999). Therefore, this study adopts the physical environment scale developed by Han & Ryu to investigate the influence of the three dimensions of the physical environment on overall perceived service quality satisfaction and loyalty.

Décor and Artifacts

Customers are likely to assess the interiors of the restaurant as well as the materials used in the artwork and decoration of the restaurant when dining. The customer’s evaluation of the restaurant’s interior is influenced by various aspects of design and artifacts (Bitner, 1992). In the same way, the color of the wall, paintings inside the restaurant, cloths used, decorations of the wall, the arrangement of flowers can attribute significantly to the overall service quality of the restaurant. The research conducted by Wakefield and Blodgett (1996) also demonstrates that décor and artifacts play a significant role in the attractiveness of the physical environment. Thus, it can be hypothesized that:

**H1: Décor and artifacts of the restaurant have a positive influence on overall service quality as perceived by students.**

Spatial Layout

Spatial layout alludes to the physical arrangements of objects such as machinery, equipment, size and shape of furniture counters, and floor plan in a service environment (Nguyen & Leblanc, 2002). Efficient layout in any service setting eases the functional need of a customer, and thus provides comfort (Wakefield & Blodgett, 1994). Similarly, a well-designed layout can also facilitate fulfillment of hedonic or pleasurable experience to the customer. An efficient and well-placed table and seating arrangement would be highly prominent to customers in a restaurant, where ample space is essential for moving around and sitting in comfort. Spatial layout is one of the most important aspects of restaurant design for ensuring proper movement of restaurant staff and as well as customer within the restaurant. A layout of the restaurant may have a significant effect on customer quality perception, satisfaction, and the desire to return (Wakefield & Blodgett, 1994). Therefore, the following hypothesis is formulated:

**H2: Spatial layout of the restaurant has a positive influence on overall service quality as perceived by students.**

Ambience

The ambience of a restaurant denotes the intangible background features that generally have a conscious or subconscious effect on customers’ perception and response to the environment (Baker, 1987; Nguyen & Leblanc, 2002). These nontangible characteristics include air quality,
music, scent, and temperature of the service setting (Baker, 1986). The effective ambient conditions of service setting inspire the customer to pursue the service consumptions, and thereby influence their attitude and behavior towards the service providers (Hui, Dube & Chebat 1997; Nguyen & Leblanc, 2002). In other words, ambience of the restaurant is another important dimension of the physical environment that has a significant influence on customer overall service quality of the restaurant. Pleasing background music, pleasant scent, comfortable temperature, low noise, and adequate lighting may result in favorable perception in customer about the restaurant, and thus may result in their experience more positively. Previous studies have found that atmospheric music can influence customer satisfaction (Magnini & Parker, 2009; Oakes, 2003). Further, Kim and Moon (2009) in their study, provide evidence for the strong association between ambience and perceived service quality. Therefore, the following hypothesis is formulated:

H3: Ambience of the restaurant has a positive influence on overall service quality as perceived by students.

Influence of Service Quality on Customer Satisfaction

The research conducted by Cronin and Taylor (1992) suggests that service quality was an antecedent to customer satisfaction. Hurley and Estelami (1998) argue that there is a causal relationship between service quality and satisfaction, where service quality influences customer satisfaction, which further alters future purchase intention. Similarly, Cronin, Baldy and Hult (2000) indicate that the relationship between service quality and behavioral intention is affected by overall value and satisfaction. At the same time, the research conducted by Lee and his colleagues (2000) also provides enough evidence for service quality as an antecedent to customer satisfaction. Further, Ryu and Han (2010) verified the significant association between service quality and customer satisfaction in a quick casual restaurant atmosphere. Thus, we propose here that customers perception of overall service quality of restaurant has a significant influence on their satisfaction. Therefore, it can be hypothesized that:

H4: Overall service quality positively influences the students’ satisfaction in a multi-cuisine restaurant.

Influence of Customer Satisfaction on Customer Loyalty

Attainment of customer satisfaction is considered as one of the most significant aspects of business expansion, reaching higher market share, competitiveness, and enhancing your market abilities. An organization which seeks to increase its profitability, customer satisfaction is of the utmost importance (Barsky, 1992). The past research shows that satisfaction is only linked to loyalty when there is a presence of perceived quality; however, in a service environment, satisfaction can directly influence loyalty (Bitner, 1990). Similarly, (Rust & Zahorik, 1993) also found a positive link between customer satisfaction and loyalty, while testing on retail banks and hotel chains. Ryu and Han (2010), in their study conducted in a quick-casual restaurant setting, demonstrate a significant association between customer satisfaction and their revisit intention. Their study also suggests that satisfied customers are likely to recommend restaurants to others. Based on the evidence discussed above, it can be posited that customer satisfaction has a positive influence on customer loyalty. Thus, we propose the following hypothesis:

H5: Students’ satisfaction positively influences student’s loyalty to the multi-cuisine restaurant.
Research Methodology

Research site

Manipal, popularly known as campus town, is in the district of Udupi, Karnataka, India. Administered by the Udupi city municipality, it is in coastal Karnataka, 8 km east of the Arabian sea. Manipal is home to the prestigious educational group - Manipal Academy of Higher Education. One of the cosmopolitan towns in India, the town attracts students from over 60 countries. The service-driven restaurant industry is becoming more important in generating income for many local restaurant owners in Manipal, and therefore service performance of the restaurants must be well understood and studied. Identifying key predictors of restaurant service quality is essential for an important segment like youth. Hence, this study aims to examine the influence of physical environment factors on overall service quality, satisfaction, and loyalty as perceived by students of the campus town of Manipal. The type of restaurants included in this study were top ten multi-cuisine restaurants ranked by TripAdvisor. Students were chosen as study subjects because these restaurants have a significant number of student customers. This research primarily focuses on the students of Manipal alone due to the availability of multi-cultured student population coming from across the globe which ensures diversification and conclusively a global understanding of next-generation perception to the physical environments in multi-cuisine restaurants, and because of the availability of state-of-the-art multi-cuisine restaurant facilities.

Survey Instrument

This study adopts a previously tested scale for customer perceptions of restaurant's physical environment scale developed by Han and Ryu (2009) to measure the three factors of the physical environment. This scale is adopted because of its construct validity and reliability. The three physical environment factors included in this scale are decor and artifacts (6 items), spatial layout (3 items), and ambience (4 items). The perception of students on overall service quality of multi-cuisine restaurants was measured using two items. Students’ satisfaction and their loyalty to the restaurant were measured using three items each (Ryu, Lee & Kim, 2012). Students were asked to rate their perception on the 5-point Likert scale, where 1 being least satisfied and 5 being highly satisfied with physical environment factors. In the same manner, they were asked rate their level agreement with statements on overall service quality, satisfaction, and loyalty on the 5-point Likert scale, where 1 strongly disagrees, and 5 strongly agrees. The survey instrument also captured the demographic details of the students, such as age and gender.

Sampling method

Only the student population was considered in this study. The total number of students’ population was obtained from the annual reports of various colleges available on the internet. As per that, we found that the total number of students enrolled for the year 2016 was around 30000. This research takes up a field survey approach and a convenient sampling method to collect data from an ascertained sample size of 340 respondents. All the respondents were students from different colleges from Manipal. The total number of respondents in this study were 340, out of which 162 (47.6%) were male respondents, and 178 (52.4%) were female respondents. The minimum aged respondent was 18, and the maximum aged respondent was 30. The average age of respondents being 21.

Research Model

Based on the literature, the following model is proposed:
Results

An exploratory factor analysis was performed to measure the factor structure of 13 items of the physical environment (décor and artifacts, spatial layout, and ambience), and it was found that all the items were loaded onto respective constructs with a recommended value of 0.5 with the total variance of 59%. The first-factor “décor and artifacts” recorded a 38% of the variance, followed by the second factor, i.e., the spatial layout which recorded a 12% of the variance and finally the third-factor ambience recorded 9% of the variance. The KMO Bartlett's test of sampling was above the recommended value of 0.6 (0.89) suggested sample adequacy.

Table 1. Standardized Factor Loadings and construct reliability analysis

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Items</th>
<th>Mean</th>
<th>SDa</th>
<th>Factor Loadings</th>
<th>CRb</th>
<th>AVEc</th>
</tr>
</thead>
<tbody>
<tr>
<td>Décor and artifacts</td>
<td>Paintings/pictures are attractive</td>
<td>3.61</td>
<td>0.97</td>
<td>0.6</td>
<td>0.78</td>
<td>0.38</td>
</tr>
<tr>
<td></td>
<td>Plants/flowers make me feel happy</td>
<td>3.5</td>
<td>1.08</td>
<td>0.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ceiling décor is attractive</td>
<td>3.44</td>
<td>0.95</td>
<td>0.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wall décor is usually appealing</td>
<td>3.66</td>
<td>0.93</td>
<td>0.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Colors used creates a warm atmosphere</td>
<td>3.86</td>
<td>0.92</td>
<td>0.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Furniture is high quality</td>
<td>3.5</td>
<td>1.01</td>
<td>0.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spatial layouts</td>
<td>Overall Layout makes it easy for me to move around</td>
<td>3.77</td>
<td>0.99</td>
<td>0.7</td>
<td>0.83</td>
<td>0.65</td>
</tr>
<tr>
<td></td>
<td>Table/Seating arrangement gives me enough space</td>
<td>3.75</td>
<td>1.00</td>
<td>0.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Seating arrangement makes me feel comfortable</td>
<td>3.8</td>
<td>0.93</td>
<td>0.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambience</td>
<td>Lighting creates a warm atmosphere</td>
<td>3.84</td>
<td>0.99</td>
<td>0.7</td>
<td>0.72</td>
<td>0.39</td>
</tr>
<tr>
<td></td>
<td>Background music is pleasing</td>
<td>3.61</td>
<td>1.17</td>
<td>0.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Temperature is comfortable</td>
<td>3.77</td>
<td>1.03</td>
<td>0.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Aroma is enticing</td>
<td>3.74</td>
<td>0.97</td>
<td>0.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived Service Quality</td>
<td>The overall service quality of this restaurant is good</td>
<td>3.92</td>
<td>0.78</td>
<td>0.8</td>
<td>0.73</td>
<td>0.57</td>
</tr>
<tr>
<td></td>
<td>The overall service quality of this restaurant is better than I expected</td>
<td>3.69</td>
<td>0.88</td>
<td>0.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customer Satisfaction</td>
<td>Overall, I am satisfied with this restaurant</td>
<td>3.93</td>
<td>0.81</td>
<td>0.8</td>
<td>0.84</td>
<td>0.64</td>
</tr>
<tr>
<td></td>
<td>I have really enjoyed myself in this restaurant</td>
<td>3.93</td>
<td>0.81</td>
<td>0.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>The overall feeling, I get from this restaurant puts me in a good mood</td>
<td>3.92</td>
<td>0.81</td>
<td>0.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customer Loyalty</td>
<td>I would like to come back to this restaurant in the future</td>
<td>4.04</td>
<td>0.86</td>
<td>0.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>I would recommend this restaurant to my friends</td>
<td>4.08</td>
<td>0.86</td>
<td>0.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>I am willing to spend more than I planned at this restaurant</td>
<td>3.7</td>
<td>0.95</td>
<td>0.6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

aStandard Deviation, bComposite reliability Score, cAverage variant extracted Source: Authors’ own compilation

The model of measurement was further tested to ascertain the convergent validity and discriminant validity. Convergent validity was measured by values of composite reliability (CR)
and that of the average variance extracted (AVE) (Fornell & Larcker 1981). It can be seen from the above table that all CR values vary between 0.72 and 0.84, which is well beyond the ascertained limit of 0.7 (Nunnally & Bernstein, 2010). But, while calculating the AVE values, it has been seen that two values of “décor and artifacts” and “ambient conditions” fell below the suggested limit of minimum 0.5 (Hair, 2010). However, according to (Fornell & Larcker, 1981), AVE values can sometimes fall short of suggested cutoffs if their CR values qualify for its respective limit of 0.7. Thus, based on such theory, also due to all remaining AVE values, meeting the threshold >0.5 convergent validity has been assumed to exist within measurement model.

To test the discriminant validity, it is suggested that AVE constructs should show greater values when compared to bivariate co-relations (Fornell & Larcker, 1981).

Table 2. Average Variance Extracted Matrix

<table>
<thead>
<tr>
<th>Factors</th>
<th>Décor and artifacts</th>
<th>Spatial layout</th>
<th>Ambient condition</th>
<th>Service quality</th>
<th>Satisfaction</th>
<th>Loyalty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Décor and artifacts</td>
<td>0.379</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spatial layout</td>
<td>0.28</td>
<td>0.645</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambient condition</td>
<td>0.62</td>
<td>0.29</td>
<td>0.387</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service quality</td>
<td>0.51</td>
<td>0.25</td>
<td>0.60</td>
<td>0.572</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satisfaction</td>
<td>0.33</td>
<td>0.25</td>
<td>0.51</td>
<td>0.72</td>
<td>0.64</td>
<td></td>
</tr>
<tr>
<td>Loyalty</td>
<td>0.22</td>
<td>0.19</td>
<td>0.38</td>
<td>0.52</td>
<td>0.79</td>
<td>0.618</td>
</tr>
</tbody>
</table>

Source: Authors’ own compilation

Further, a confirmatory factor analysis (CFA) was conducted to test the factor structure, and it was found that the factor loadings of all 21 items were recorded the minimum cut-off value of 0.5 (Anderson & Gerbing, 1988), and thus no items were removed from further analysis. Also, we found that the Cronbach alpha (CA) values were between 0.72 to 0.84, which is higher than the cut-off value of 0.7 (Nunnally & Bernstein, 1994). A model fit was also tested based on multiple indices. The ratio of chi-square/df was 2.0, which was well within the recommended parameter of 5 (Wheaton et al., 1977), a comparative fit index (CFI) of 0.94, incremental fit index (IFI) of 0.94 and a Tucker-Lewis Index (TLI) of 0.92; thus, it can be seen that all values satisfy (Bentler & Bonett, 1980) threshold of being greater than 0.9. RMSEA or root mean square error value has been .057, which is also less than the suggested threshold of 0.08, as quoted by (Browne & Cudeck, 1992).

Hypothesis testing

Structured equation modeling was used to test the proposed hypotheses. The model indices for the structural fit of the model were as follows: chi-square values were 562.30, degree of freedom 181 p<.001. Other model fit indices were as follows: CMIN/DF 3.107, RMSEA .079, CFI 0.880, IFI 0.881, TLI 0.861. An acceptable fit was considered as all values wholly met the criterions as stated by (Bentler & Bonett, 1980). The acceptable fit of the model indicated further grounds to test the hypotheses paths, therefore Hypothesis 1, 2, 3 comprised of tests between all the physical environment factors (décor and artifacts, spatial layout, ambient conditions), to its overall perceived service quality. Hypothesis 4 was tested in a relationship with customer satisfaction to the overall perceived service quality. And lastly, Hypothesis 5 was tested about customer loyalty to customer satisfaction.
Furthermore, the above tests resulted in Weighted regression values ($R^2$) of 0.54 for all aspects of the physical environment on overall perceived service quality, which meant that there exists a 54% variance in overall perceived service quality to the physical environment. Similarly, a value of 0.67 ($R^2$) for overall satisfaction predicted by overall perceived service quality was recorded, which means that there exists a 67% variance in customer satisfaction to overall perceived service quality. Lastly, 0.74 ($R^2$) for customer loyalty predicted by overall customer satisfaction, which means that there exists a 74% variance in customer loyalty to customer satisfaction (Fig 2).

**Discussions and Conclusions**

Achieving a high level of customer satisfaction for probable customer loyalty is highly important for the success of any type of restaurants. In this regard, it is important for the restaurant owners to understand the predictors that are likely to influence customer satisfaction. Therefore, this study intends to investigate the role of three factors of the physical environment on overall service quality, satisfaction, and loyalty. This study develops and tests five hypotheses using a structured equation modeling technique. It was found that, out of the three factors of the physical environment dimension (décor and artifacts, spatial layout, ambient conditions), ambient conditions were seen to record the most significant influence on overall service quality of multi-cuisine restaurants in Manipal ($\beta$: 0.57 t value: 6.82 p <0.001). In other words, the background music played, the temperature in a restaurant, decent aroma, and lighting had a significant effect on overall perceived service quality of the students in this campus town. This finding is in line with the study conducted by Mahalingam and his colleagues (2016). The lightings and ambience emerged as predictors of customer patronage. Their findings also suggest that customers are 12% more likely to revisit the restaurant if they perceive the physical surrounding of the restaurant is esthetic.

Additionally, past literature also provides evidence for the role of design and ambient in generating excitement in consumers (Harris & Ezeh, 2008). Similarly, Aksu and Bozok (2012) demonstrate that non-tangible variables like scent, music, temperature, cleanliness, and illumination have a significant role in the service atmosphere. It is evident from the past research that music is one such environmental factor with the power to affect consumers’ time perception, product price, amount of purchase, and purchase behavior (Cameron et al. 2003; McDonnell, 2007; Spangenberg, Grohmann & Sprott, 2005). Another ambient factor studied at in this study is the aroma. A study by Hoffman and Bateson (2001) illustrate that the hotel atmosphere is greatly influenced by scent. Similarly, the study conducted by Emir (2016) demonstrates that scent is a significant component in establishing customer loyalty. Therefore, the restaurant owners need to
understand the fact that the non-tangible factors of a restaurant play a significant role in the perception of overall service quality of the restaurant. Along with food quality, they need to pay attention to the ambience aspects of the restaurant to attract youth consumers like students.

The findings of this study also suggest that, the décor and artifacts (β: 0.39 t value: 4.85 p <0.001), i.e., ceiling décor, plants and flowers, paintings, furniture, etc., emerged as the second most significant predictor of service quality. This finding is in line with studies conducted by Celikoz (2001) that demonstrate that color plays a significant role in consumers’ emotions. Similarly, a study conducted by Emir (2016) demonstrates that color is one of the internal factors that influenced customer loyalty. Moreover, the psycho-physiology studies conducted suggest that warm colors like red, orange, and yellow have different physiological effects from the cool colors like blue, green, and white (Chebat & Morrin, 2000).

Finally, spatial layout factor (β: 0.26 t value: 4.46 p <0.001) which are table and seating arrangement and the overall layout in a restaurant, provides us with effective evidence that variables of ambience have more influence on ascertaining the behavioral intentions of students as compared to its counterparts. This finding is in line with the study conducted by Han and Hyun (2017). Further, restaurants that aim to provide excitement to the consumer should make sure that the spatial layout and functionality of service set up are appropriate (Ryu & Jang, 2007).

The findings of this research also aim to understand the relationship between overall service quality, customer satisfaction, and customer loyalty and emphasize its significance with physical environment factors. It is evident from the findings of this study that the overall service quality has a significant impact on satisfaction, which is in line with a studies conducted in the past (Ryu, Lee, & Kim, 2012; Petzer & Mackay, 2014, Supanun & Sornsaruht, 2019, Tefera & Govende, 2017, Dhum & Mokoena, 2017). Furthermore, this study provides evidence for the significant relationship between customer satisfaction and loyalty. These findings are in consistency with studies done in the past that identified the role of the environmental atmosphere on quality (Parasuraman et al. 1988; Reimer & Kuehn, 2005; Wall & Berry 2007).

To sum up, the perception of the physical environment and overall service quality of the restaurant may be important for consumer satisfaction, and consequently resulting in a repeat visit to the restaurant. Students expect and consider physical environment factors of décor and artifacts, spatial layouts, and ambient conditions of the restaurant as important predictors of satisfaction. These factors make them spend more time in the restaurant. Also, they revisit the restaurant because of these factors to seek pleasure. These factors also inspire them to give a positive word of mouth feedback about the restaurant. Restaurant owners should consider these factors of the physical environment to attract the students and to retain their customer in contemporary times. Findings of this study suggest that restaurant owners should give equal importance to the physical environmental factors in addition to food quality. Presentation of physical environment factors should be taken into consideration to provide a memorable dining experience to restaurant patronage.

**Implications**

The most important implication of this study is that multi-cuisine restaurants should pay attention to the physical surroundings in the dining environment. Appropriate ambient conditions, décor, and spatial layout in a restaurant may contribute positively to the perception of overall service quality and thus affect consumers to revisit the restaurant. Such atmospheric factors could improve consumers’ evaluations and judgments of food being served in the restaurants (Derbaix & Pham 1991). The results of this research, therefore, aim to help restaurant managers, industry scholars, and academicians in further understanding the role of physical environmental factors of the restaurant. It can be noted from the results that ambient conditions have great impact on
overall perceived service quality of students in this campus town, and therefore to attract them and ensure loyalty, restaurant must prioritize aspects like background music, aroma, lighting, etc., then focus on aspects like ceiling décor, plants and flower placement in restaurants, paintings, furniture, seating arrangement, etc.

Conversely, the student perception of popular restaurants in Manipal, highly co-relate to its ambience, leading to greater quality of perception score, thus higher levels of satisfaction and more willingness to return or revisit a restaurant where they believe the ambience is good. From a managerial point of view, the elements of ambience are more likely to distinguish a restaurant from its competitors. An innovative restaurant manager should easily be encouraged by the findings of this study and make use of it in good practices.

Limitations

It must be noted that this research employs a pre-established measurement model which incorporates only three factors for testing the perception of the physical environment of students of Manipal. Therefore, the researchers of this study recommend that any future study can investigate other tangible factors of restaurants such as signages, interior design, equipment, cutleries used, seating comfort, etc. Another limitation of this study is convenience sampling. Thus, the generalization of the findings of this study needs to be cautiously conducted.

References


