

An Analysis Of Physical Comfort Factors Of A Coffee Shop

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Abstract

This research aims to analyse the impact of the physical comfort factors in a coffee shop from two generational perspectives. The rationale behind this study is the need to understand the preferences for selecting a coffee shop based on its physical components. The demographic analysis involved a group of age 18-29-year-olds (121 respondents) and a group of 30-49-year-olds (109 respondents) as a comparative study. International Journal of Advanced Science and Technology

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the cleanliness of the space as the main physical comfort factor. The characteristic attributes for each category were as follows: facility – parking, variety and hygiene; layout – counter and movability; atmosphere – lighting and aroma; decoration – aesthetics and artificial. These findings will help to determine the preferred physical comfort factors when selecting a coffee shop and to create a coffee shop that customers want to visit. In other words, these findings highlight the factors of physical comfort from two generational perspectives, which can potentially inform design considerations.

Keywords: *Coffee shop, comfort factors, innovation design, sustainability*

Introduction

The physical comfort factor is described as a factor that is visibly pleasant and satisfying for customers and users. Sulek and Hansley (2004) conducted a study on factors that provide physical comfort at a restaurant in terms of atmosphere and fair seating procedures. This research selected coffee shops as the subject of the study to examine factors affecting physical comfort from the perspectives of prospective customers of two different age groups. The coffee shop is part of the service sector and is a current trend in the creative industry. The coffee shop was chosen as the subject of service sector research since, nowadays, there is a trend in coffee shop design to provide an alternative space for customers, so that it is more than just a place to drink. This is especially true in South Korea. The coffee industry experienced a rapid growth of more than 260% in five years from 2005, resulting in 12,000 new coffee shops and franchises opened by 2012. Whether it is a local or international coffee brand, coffee has always attracted consumers to consume or at least to try a cup of it. It is not only coffee culture that is currently gaining popularity around the world, but also the type of services offered to customers of all ages such as free Wi-Fi, a spacious venue for socializing, somewhere to hold a meeting or a private space for dating. However, as customers have many coffee shops to choose from, this has resulted in competitive designs and services especially in terms of tangible factors such as the interior (colour, lighting, ventilation etc.). However, if selecting a coffee shop is hard, the ability to attract loyal customers is even harder.

Therefore, it is imperative to understand the factors affecting human preferences and apply them to service design in order to create a significant position in the marketplace and, hence, make the business profitable. The findings of this research will enhance our understanding of the comfort factors in a service business such as a coffee shop. Previous studies on physical elements have been carried out at retail stores and restaurants; however, studies specifically conducted on coffee shops are scarce. The opportunity to conduct a study on the physical comfort factors of a coffee shop will contribute to the design field as well as the innovation field as it analyses prospective customers' points of view. The methodology employed will provide information on consumers' perceptions and give suggestions for applying best practice to many parts of the design components, i.e., universal design, ergonomics, building services, interior design etc. In fact, this research will also contribute to

a theoretical understanding of specific factors and their relationship in creating what consumers expect in a design. It also provides information on the impact of the physical surroundings in enhancing the usability of a coffee shop.

Methodology

Some empirical studies have suggested ways in which the physical environment influences customer satisfaction and predicts post-purchase behaviour (Groove, Fisk, & Bitner, 1992). Taking a restaurant as an example, the dining experience comprises the quality of the food and drinks, while also being heavily manipulated by the atmosphere and comfort value, the behaviour of the staff, the presence of the guests and the flow of the meal, for example, how long diners wait to be served.

The physical environment is an important factor in creating an image that manipulates customer behaviour, especially in the food service industry (Ryu & Jang 2007). The tangible physical environment has a significant impact on customer perceptions of the overall quality of the service encountered, as service is tangible and needs to be present during the process to evaluate its quality (Brady & Cronin, 2001). Furthermore, researchers have argued that there is a direct connection between the physical environment and customer satisfaction (Chebat & Mechan, 2003). Chang (2000) suggested that the perceived physical environment is a direct indicator of customer satisfaction, as associated with positive approach behaviour. In addition, Wakefield and Blodgett (1999) studied the effects of layout accessibility, facility aesthetics, electronic equipment, seating comfort and cleanliness on the service-scape, finding that the physical environment significantly affects customer satisfaction.

A study by Matilla and Wirtz (2001) indicated that the top three reasons why customers patronize their target restaurants in the casual dining sector were food quality, service and atmosphere. Voss and Zomerdijk (2007) proposed an experiential innovation journey for a service process. They found that the physical environment must be located so as to activate the customer's sensory work first of all. Research on prospective customers has looked at emotions, experiences and cognitive findings.

This research has selected two generations of respondents for the conducted survey, i.e., the 18-29 years age group and the 30-49 years age group. The demographic survey and component preferences were designed by referring to the precedents of previous researchers. To achieve the objective of this research, a survey to determine prospective customers' preferences was constructed and the components of the attributes were identified after EFA, along with the use of PCA and hierarchical cluster analysis. The questionnaires were distributed manually and also online via email, engaging 230 respondents consisting of 121 people (36.4% male, 63.6% female) in the group of 18-29-year-olds, while the group of 30-49-year-olds comprises 109 persons (23.9% male, 76.1% female).

Results

The demographic data gained from the survey distribution resulted in an understanding of the pattern of prospective customers in two generational groups in selecting coffee shop according to their expectation and preferences. The results explained that the group of 18-29-year-olds preferred to visit a coffee shop at least once a week (22.2%), while those in the older group were likely to visit more than twice a week (17.8%). Members of both groups have common preferences regarding how much to spend, which was less than USD 10 (28.3% for the 18-29-year-olds and 22.6% for the 30-49-year-olds), and preferring drinks more than other food and drink options (22.6% of the 18-29-year-olds and 14.8% of the 30-49-year-olds).

Both groups also preferred to dine in the coffee shop (26.5% of 18-29-year-olds and 33.5% of 30-49-year-olds) and agreed to choose a local brand over others (25.2% of 18-29-year-olds and 18.7% of 30-49-year-olds). The EFA was then conducted to determine what contributed to the physical comfort factors from both generations' points of view. The hierarchical cluster in Fig. 1 shows the results of the four clusters.

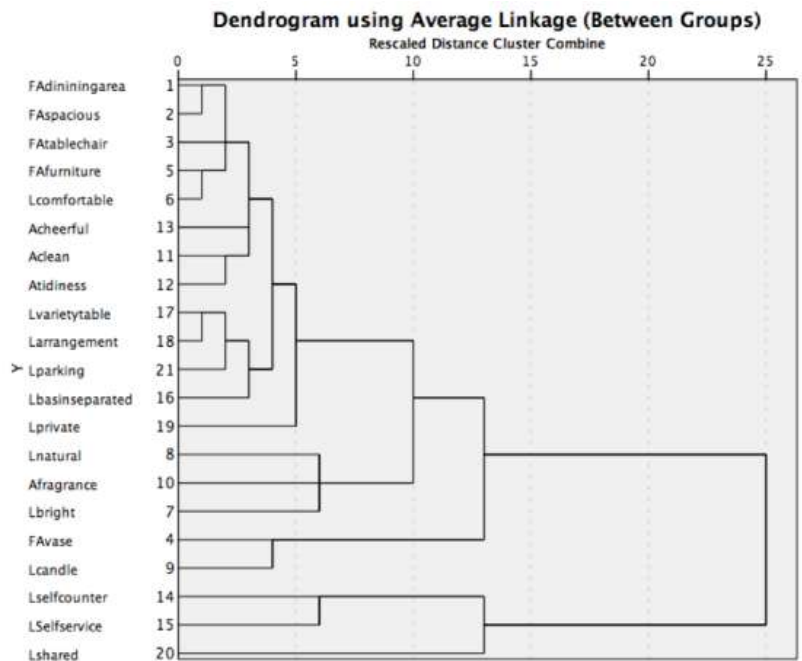


Figure 1: The four clusters from the hierarchical cluster analysis

The value for Bartlett’s test was significant (P-value <0.05), and the measure of sampling adequacy via the Kaiser-Meyer-Olkin (KMO) method was 0.844 for the 18-29-year-olds and 0.635 for the 30-49-year-olds, as shown in Table 1. This was higher than the minimum requirement of 0.6 as argued by Awang (2012).

Table 1: KMO and Bartlett’s test results

No.	Questionnaire	18-29-year-olds (121 respondents; 52.6%)	30-49-year-olds (109 respondents; 47.4%)
1	KMO and Bartlett’s test	.844 Sig. .000	.635 Sig. .000
2	Varimax rotation total variance explained	78.578%	82.956%

Total variance explained from the components was 78.578% for the group aged 18-29 years. The component score explained the contribution of a particular component in measuring the construct. The output showed Factor 1 contributed 26.642%, Factor 2 contributed 26.455%, Factor 3 contributed 14.525%, and Factor 4 contributed 10.956%. The PCA for this group indicated a cluster of the four factors after item deletion, as shown in Table 2. The results for the 30-49-year-old group indicated that the measured items fall into four factors with the total variance explained from the component at 82.956%, where Factor 1 contributed 48.380%, Factor 2 contributed 13.222%. Factor 3 contributed 11.346% and Factor 4 contributed 10.007%. The PCA result of this group indicated four clusters after item deletion, as shown in Table 3.

Table 2 PCA results for the 18-29 years age group

Rotated component matrix ^a	
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	Component			
	1	2	3	4
Tables with different numbers of seats	.911	.265	.120	.043
The furniture arrangement can be easily moved	.876	.266	.135	.041
Parking area is provided	.861	.294	.106	-.023
Basin for washing hands is provided separately from the toilet	.835	.170	-.035	.049
Private seating is provided	.605	.421	.088	.370
Cheerfulness	.601	.595	.014	.341
Comfortable lighting	.385	.787	.090	.211
Enough tables and chairs	.442	.773	-.037	.107
Dining area	.471	.739	.004	.343
Furniture	.447	.729	-.004	.302
Spacious area	.389	.718	-.084	.370
Natural lighting	.188	.686	.504	-.049
Cleanliness	.627	.679	.026	.128
Tidiness	.612	.634	.002	.119
Fragrant aroma	-.124	.630	.515	-.230
Self-service meals from the counter	.035	-.073	.851	-.198
Self-service area for straws, tissues, cups	.125	-.067	.850	-.044

etc. at the counter				
Bright lighting	-.134	.388	.745	.141
Tables can be shared with other customers	.174	.011	.676	.261
Candle lighting	-.036	.122	.041	.851
Vase	.169	.226	-.031	.836

Table 3 PCA results for the 30-49 years age group

Rotated component matrix^{a,b}				
	Component			
	1	2	3	4
Cleanliness	.926	-.181	.058	-.132
Dining area	.924	.075	.076	.181
Tables with various numbers of seats	.918	-.036	.108	.131
Basin for washing hand is provided separately from the toilet	.887	-.144	.039	.042
Spacious area	.880	.136	.039	.199
The furniture arrangement can be easily moved	.865	-.110	.165	.171
Parking area is provided	.857	-.288	.037	-.148
Tidiness	.846	-.207	.053	-.125
Comfortable lighting	.846	.095	.178	.161
Furniture	.833	-.079	.038	.377
Enough tables and chairs	.829	.196	.160	.074
Private seating is provided	.827	-.176	.104	.291
Cheerfulness	.821	.161	-.084	.177
Self-service area for straws, tissues, cups etc. at the counter	.062	.914	-.125	-.192

Tables can be shared with other customers	-.009	.795	-.072	-.103
Self-service meals from the counter	-.254	.763	.254	-.322
Bright lighting	.142	.189	.883	-.012
Fragrant aroma	-.109	-.380	.839	-.015
Natural lighting	.443	.019	.825	.020
Candle lighting	.108	-.237	-.019	.920
Vase	.290	-.405	.009	.798

The scree plot for the 18-29-year-old group, which shows the eigenvalues on the y-axis and the number of factors on the x-axis, is shown in Fig. 2, while the scree plot for the 30-49-year-old is shown in Fig. 3.

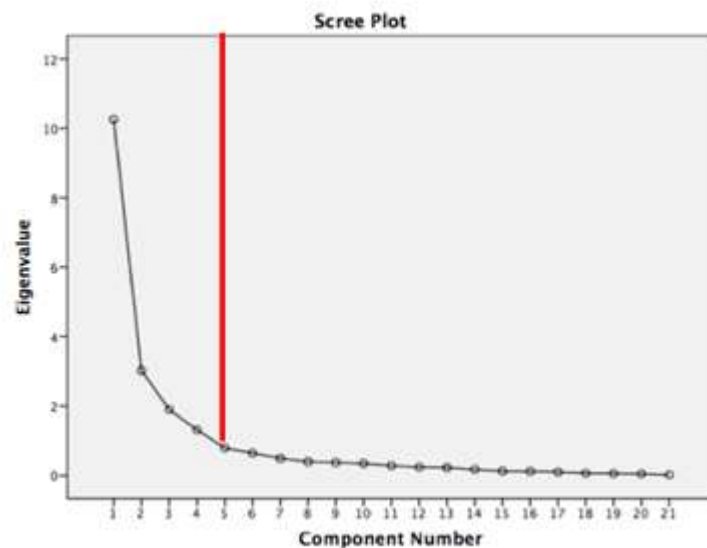


Fig. 2 Scree plot for the 18-29 years age group

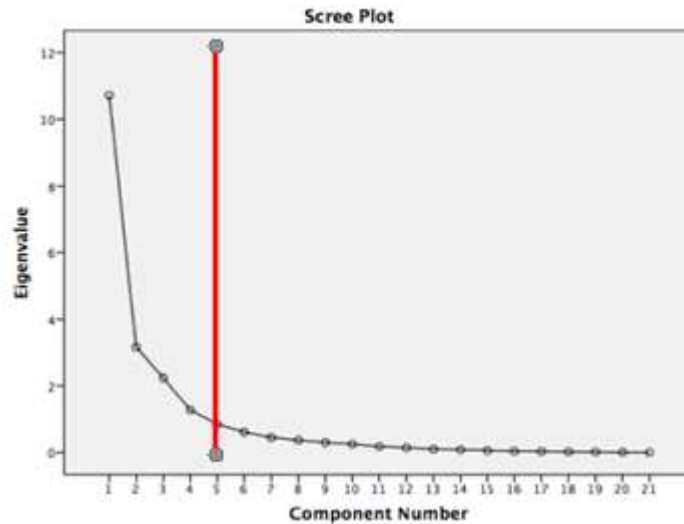


Fig. 3 Scree plot for the 30-49 years age group

The comparison made with both generations indicated that they have both common and different preferences about the physical comfort factors in a coffee shop. The two interchangeable factors for both generations were Factor 2 and Factor 3, as shown in Table 4 and Table 5.

Table 4 Physical comfort factors for the 18-29 years age group

18-29 years old	Factor 1 FACILITY	Factor 2 ATMOSPHERE
	Factor 3 LAYOUT	Factor 4 DECORATION

Table 5 Physical comfort factors for the 30-49 years age group

30-49 years old	Factor 1 FACILITY	Factor 2 LAYOUT
	Factor 2 ATMOSPHERE	Factor 4 DECORATION

Based on the findings, the expectation and preferences from both generations about the components of physical comfort can be categorized into four factors with their own attributes, as shown in Table 6. It was found that coffee shops with a good design were much more preferable than existing premises, as the exterior and interior were well planned, including the entrance, access, parking area, lighting and colour scheme.

The 18-29 years age group was very much satisfied with the variety of seats and tables available as they usually like to socialize and gather in groups; they are also willing to share tables with strangers.

The 30-49 years age group prioritize cleanliness and value coffee shops which are designed to be more hygienic with the placement of amenities such as a small wash basin and a toilet. The findings emphasized the importance of understanding customers' preferences in order to sustain not only the business but also the premises with less renovation.

The four factors of facility, layout, atmosphere and decoration should be the priority considerations when designing a coffee shop, along with building technology and interiors, as well as holistic approaches to product design, sustainable design and service design.

Table 6 The attributes of the physical comfort factors from the EFA results for both generations

Factor	Common attributes
FACILITY	<ul style="list-style-type: none"> • Tables to seat a variety of numbers • The furniture arrangement can be easily moved • Parking area is provided • Basin for washing hands is provided • Private seating is provided • Cheerfulness
LAYOUT	<ul style="list-style-type: none"> • Self-service area for straws, tissues, cups etc. at • Self-service meals from the counter • Tables are shared
ATMOSPHERE	<ul style="list-style-type: none"> • Bright lighting • Natural lighting • Fragrant aroma
DECORATION	<ul style="list-style-type: none"> • Candle lighting • Vase

Table 7 Characteristics of the selected components of physical comfort factors for both generational groups' preferences

Factor	Characteristics of the selected components		
Facility	Parking <ul style="list-style-type: none"> • Both generations preferred a dedicated parking area at the coffee shop 	Variety <ul style="list-style-type: none"> • Both generations preferred seating in a coffee shop to allow customers to sit together in their own groups 	Hygiene <ul style="list-style-type: none"> • Both generations preferred a coffee shop that emphasized hygiene such as providing a small wash basin separately from the toilet and was always clean
Layout	Counter <ul style="list-style-type: none"> • Both generations visualized the counter as the centre of all services in a coffee shop; therefore, the position of the counter must be attractive and visible 	Movable <ul style="list-style-type: none"> • Both generations preferred movable furniture compared to fixed furniture as the former can easily be moved around as well as seating that could be arrange accordingly 	

Atmosphere	Lighting <ul style="list-style-type: none"> • Lighting is considered as part of the atmosphere with both generations preferring sufficiently bright light while enjoying a meal • Both generations preferred the use of natural lighting and brightness 	Aroma <ul style="list-style-type: none"> • Fragrant smells and the natural aroma of coffee are much preferred by both generations 	
Decoration	Aesthetic <ul style="list-style-type: none"> • Aesthetic components such as a vase were agreed as appropriate decorations by both generations 	Artificial <ul style="list-style-type: none"> • Candle lighting is one of the examples of artificial decoration approved by both generations 	

Conclusion

Nowadays, it is a trend in coffee shop design to provide an alternative space for customers so that they feel the space is more than just a place to drink. Understanding the factors that determine customers' preferences may increase the possibility of developing better practice in design. The findings can contribute to an awareness of the physical comfort factors of a coffee shop and help in creating a coffee shop that meets customers' expectations about how they want to be served. As a designer, architect and innovator, these findings have revealed what is meant by physical comfort from the perspectives of two different generational groups, which should inform design considerations. Expectation is usually affected by the senses, reviews, social media and personal experiences, which later become part of the marketing concept. Despite the existence of many components and factors that lead to positive customer impressions, this study categorized physical comfort according to the dimensions of facility, layout, atmosphere and decoration. Studies on coffee shops in many areas also reveal the current tendency of the business, design and marketing industries with regard to food service and design technology. Further research on the coffee shop should be carried out, for instance, on detailing and loyalty factors.

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