

# Impact of Ambiance Conditions on Customer Satisfaction in the Restaurant Industry; Case Study of Debonairs Pizza Outlets in Botswana

Douglas Chiguvi (Marketing Management Lecturer & PhD Candidate)

Department of Entrepreneurship, Ba isago University, P. Bag 149, Gaborone, Botswana

**Abstract:** *This paper presents a study of the impact of ambient conditions on customer satisfaction at Debonairs Pizza outlets in Gaborone Botswana. Managers at Debonairs Pizza outlets are continually changing the design of restaurants, which are the colour, layout, lighting, scent, temperature and decor. However, the effect of this changed design is not fully understood whether it causes customer satisfaction or not. The objectives of the study was to establish the relationship between the scent in Debonairs Pizza outlets and customer satisfaction, to determine the relationship level between customer satisfaction and lighting at Debonairs Pizza outlets and lastly was to determine the relationship between temperature levels and customer satisfaction at Debonairs Pizza outlets. Casual research design was employed and simple random sampling was used during the study. A sample size of 81 customers was used. Data was obtained from three Debonairs Pizza outlets in Riverwalk, Main Mall and Pula Spar Mall in Gaborone, Botswana. The instrument for data collection was through personally administered closed ended questionnaires. Furthermore, SPSS software was used for regression analysis to analyse the relationship between dependent (customer satisfaction) and independent (ambient conditions) variable. Results indicated that there is a significant impact of ambient conditions on customer satisfaction at Debonairs Pizza outlets in Gaborone Botswana. Ambient scent was having a value of 0.805, lighting 0.771 and temperature 0.662 respectively. Hence it was recommended that Debonairs Pizza outlets managers should engage more into enhancing their ambient conditions as they cause customer satisfaction.*

**Keywords:** Ambient conditions, Customer Satisfaction, Restaurants

## 1. Background of the Study

Customers are gradually eating out in restaurants as a matter of simplifying their lives and seeking convenience and variety (Kasapila, 2006). Regardless of this, studies on satisfaction of customers with the dining experience offered by restaurants have remained limited in many countries (Kasapila, 2006). Recent studies were concerned with customer satisfaction and service quality in the restaurants sector (e.g. Agbor, 2011; Mosahab, Mahamad and Ramajah, 2010 and Mohammad, Mushchah and Abdulraham, 2012) rather than the customer satisfaction caused by ambient conditions. Ambient conditions include the background characteristics of the restaurants which are the exterior appearance interior décor, lighting, tempo, music as well as odors/aromas (Zeithaml and Bitner, 2003). They comprise of everything that impresses the customers. This is usually of paramount importance to service providers such as restaurants, banks, hotels and saloons. They allow the customers to have a positive impression of the kind of service quality to be received.

A number of writers (e.g. Kivela, Karan and Reece 1999; Withiam 1999; Spinelli and Canavas 2000; Choi and Chu 2001; Jordaan and Prinsloo 2001; Park 2004) agree that customer satisfaction is vital in restaurants because it is closely related with repeat patronage, loyalty and of word of mouth recommendations. There has been an increasingly competitive world of business hence satisfying or even delighting one's customers has become an essential ingredient for success (Kasapila, 2006). Customer satisfaction is a predecessor of repurchase intent, word of mouth, customer loyalty, and eventually long-term profitability of a firm (Oliver and Swan 1989). Hence, it is essential for firms to effectively manage customer

satisfaction. Managers are continually changing the design or layout of the restaurants this includes colours, lighting, temperature, and employee's uniforms to mention but a few. However, frequently the impact of the changed design or specific design on ultimate users is not fully understood (Khan, Hussain and Yaqoob, 2012). Due to the availability of many restaurants and fast foods outlets in Gaborone Botswana, the researcher tried to find out if ambient conditions of Debonairs Pizza outlets has an impact on customer satisfaction so that the Debonairs Pizza managers does not rely only on the food quality but also on the ambient conditions as well.

## 2. Literature Review

Ambient conditions affect the five senses of the customers mind (Zeithaml and Bitner, 2003). The dimensions of ambient conditions (lighting, scent and temperature) are going to be studied separately. This will allow the researcher to clearly explore effects caused by ambient conditions dimensions one by one. Should there be a chance that either one dimension has a positive relationship with customer satisfaction and the other one does not have, this can be elaborated clearly by studying each dimension on its own. Hence generalization of effects of ambient conditions on customer satisfaction is minimised since each dimension is measured on its own. However, this is not in line with Gestalt approach. The closest translation of Gestalt is a whole (Holahan, 1982). The Gestalt approach has the sense that, meaning cannot be found from breaking things down into parts, but comes from appreciation of the whole, in other words, holistic (Davis and Joseph, 2010). However for the reasons stated above this research is going to study each dimension on its own. The following section discusses the

theoretical framework of ambient conditions dimensions linking them to customer satisfaction.

## 2.1 Customer satisfaction and ambient conditions

Customer satisfaction, a business term is a measure of how products and services supplied by a company meet or surpass customer expectation (Evans, 2003). Basically customer satisfaction is the act of just doing enough to be acceptable to a customer. It is simply meeting basic expectations (Mudie and Pirrie, 2006). Customer satisfaction can be defined in terms of meeting the expectations of the customers in terms of parameters associated with satisfaction (Malik and Ghaffor, 2012). Gaining high level of customer satisfaction is very important to businesses because satisfied customers are most likely to be loyal and to make repeated orders and to use a wide range of service offered by a business (Rust and Zohoric, 1993). Customers are the sole reason for the existence of commercial establishments (Varey, 1995). In other words customer satisfaction is goods or services which fulfil the customer expectation in terms of quality and service for which he paid.

Lim (2010) proposes that, customers' final satisfaction may have significant effect connected with atmosphere. Ambient conditions within the dining places have either a positive or negative effect on customer satisfaction. Several authors have identified ambient conditions as a factor that affects perceptions of human responses to the environment (e.g. Baker, 1987; Baker, Berry, and Parasuraman, 1988; Becker, 1981; Darley and Gilbert, 1985). Ambient conditions encompass an array of background characteristics of the environment such as temperature, lighting, noise, music, and scent (Zeithaml and Bitner, 2003). As a general rule ambient conditions affect five senses. Some authors relate ambient conditions to atmospherics. Atmosphere of the firm can be strongly affected by scents and services managers should be aware of this. Of all the human senses, the olfactory sense which is the sense of smell has the greatest impact on people's emotions (Spangenberg, Crowley and Henderson, 1996). Some scent provokes basic emotional reactions because the olfactory lobe is actually part of the limbic system (Hirsch, 1995). The nose is directly connected to the olfactory lobe and the limbic system (Hirsch, 1995). More than any other sense, scent taps into the feeling marketers want to research (Wilkie, 1995).

Researchers have generally differentiated scents along three different dimensions in order to see their effects on consumer behaviour (Spangenberg et al, 1996). The dimensions include the affective quality of the scent (for example how pleasant it is), its arousing nature (for example how likely is it to evoke a physiological response), and its intensity (for example how strong is it). Ambient scent is to be distinguished from non-ambient scent. The former refers to scent that does not emanate from any particular object but its present in the environment (Spangenberg et al, 1996). Scents appeals also known as olfactory cues are appeals often associated with scents (Hoffman, Bateson, Wood and Kenyon, 2009). Experts in scent creation note that a firm should smell like what it's supposed to, according to target market expectations. This is in line with Fiore, Yah and Yoh (2000) assumption. They said that to be effective, odours

should be constituent with whatever product is presently under evaluation by the customer. Having pleasant scent in restaurants has got many benefits. For example scents can boost sales (Bradford and Desrochers, 2009). A pleasant scent can cause customers to spend more time in a restaurant, thus increasing sales opportunities (Bradford and Desrochers, 2009). To add on, customers perceive scented areas as more luxurious and products/services found in those areas as more valuable (Hirsch, 1995). In addition to adding character to themed environment and supporting themed promotions, scent can forge unique, positive associations with a product, service or place of business hence ambient scent has the ability to differentiate one service provider from another (Mattila and Wirtz, 2001).

### 2.1.1 The Stimulus-Organism Response (S-O-R) Paradigm

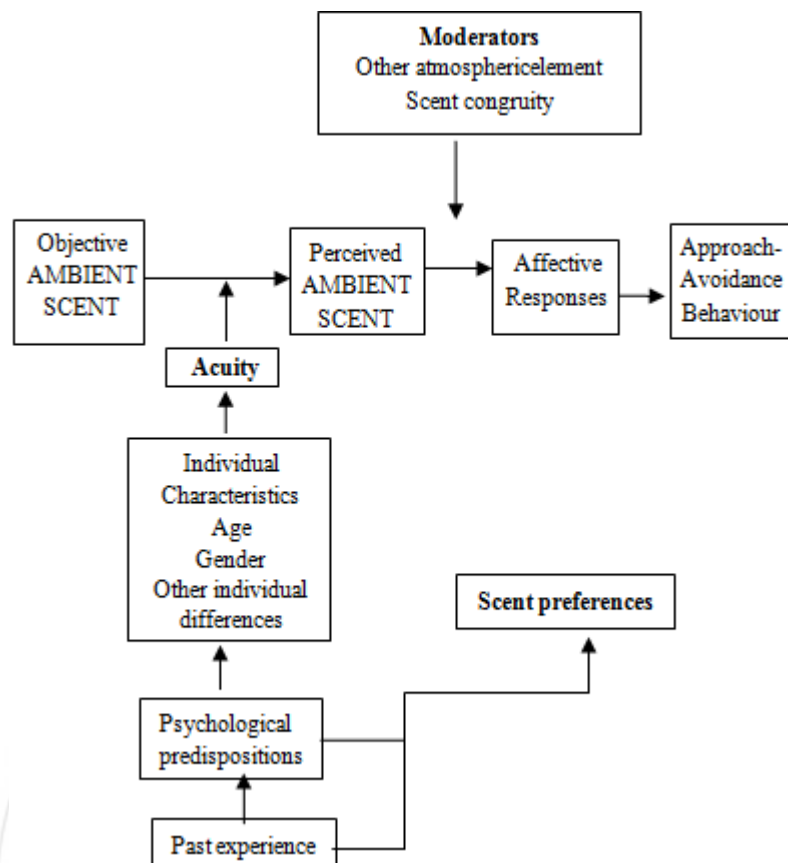
The most common theoretical basis for studying the effects of scent on the restaurant environment is drawn from environmental psychology which employs the stimulus-organism response (S-O-R) paradigm (Mehrabian and Russell, 1974). The S-O-R paradigm posits that the environment is a stimulus (S) containing cues that combine to affect people's internal evaluations (O), which in turn create approach – avoidance responses (R) (e.g. Craik, 1973; Mehrabian and Russell, 1974; Russell and Pratt, 1980; Stokols, 1978). Approach behaviors include all positive behaviors that might be directed at the environment; for example, a desire to remain in a restaurant and explore its offerings could be construed as an approach response. Therefore if a restaurant has appetizing scent customers may show approach behaviour by extending their dining time. This shows that they are satisfied. Avoidance behaviors reflect contrasting responses; that is, a desire to leave a restaurant or not to browse represents avoidance behavior. If the scent or odor is provoking customers might not even stay in a restaurant even for few minutes to just to see the menu.

### 2.1.2 Olfaction Model

Gulas and Bloch (1995) develop a model known as the olfaction model on the influence of ambient scent specifically as an environmental cue on emotional responses and dining behaviors. Based on the literature from several disciplines, scent was demonstrated to be relevant to consumer behaviour in two forms: on the one hand scent can be directly associated with an evaluation object while on the other hand scent is part of the overall ambient environment. The model proposed by the authors is congruent with other models of environmental effects developed earlier on the work of environmental psychologist (Mehrabian and Russell, 1974; Bitner, 1992). Scent preferences in combination with consumers' perceptions of ambient scent influence affective responses. Between perceived ambient scent and affective responses can be seen potentially significant moderators. Affective responses to ambient scent are expected to result in approach or avoidance reactions relevant to the consumption situation. Therefore if the customers are satisfied with the scented environment then will show approach behaviour. Gulas and Bloch (1995) model is one of the first step in developing and understanding a specific consideration of ambient scent perception. Figure 2.1 was adapted from the model by Gulas and Bloch (1995) and provides the model for how ambient scents influence approach – avoidance

behaviors. In the beginning, the ability to recognize a scent is dependent on its acuity and, in the end, the ultimate response

is derived from an effective response. The olfactory model is shown below:



**Figure 2.1:** The model of the influence of ambient scent on consumer responses(Source: Bloch and Gulas, 1995:90)

## 2.2 Ambient lighting and customer satisfaction

Within a restaurant environment, customers should be able to experience excitement, pleasure, and a sense of personal well-being ((Ryu and Hang, 2010). A dining establishment should be able to provide both physical and culinary services (Ciani, 2010). Within a restaurant, good lighting is essential in order for a customer to view the food in its best possible light. This shows that lighting has either a satisfaction or dissatisfaction effect to consumers. Therefore in a restaurant, each table should have its own atmosphere (Ciani, 2010). It enhances the presentation of the food. This idea of creating smaller spaces within a bigger space is one of the goals of lighting design within a restaurant (Ciani, 2010). Since customers are paying for a certain type of experience the owner must invest in this aspect of the design process. Another reason why lighting is such a crucial element within restaurant design is because incorrect lighting can prevent the effectiveness of all other elements of the dining experiment (Baraban and Durocher, 2001). Physiological effects on lighting on consumer behaviour are particularly intriguing. Customer's response to light may have started when their parents put them to bed, turned out the light and told them to be quiet and to sleep (Hoffmann, et.al, 2007). The environment in which one has to eat has long been recognized as a key factor in consumption behaviour (Hoffman et.al, 2009). Lighting can be one of the most powerful physical stimuli in restaurants. This is so due to the effects light have on consumer behaviour leading to either satisfaction or dissatisfaction.

When a customer is engaging in an environment within a restaurant, other aspects contribute to the experience besides lighting. Among these are menu options, staff, waiter, and building layout and organization (Ciani, 2010). But lighting plays a significant role in a customer's overall experience because it creates a specific ambience desired by the restaurant owner and designer (Ciani, 2010). This ambience allows the guest to have a unique experience that he or she may not be able to find anywhere else. For individual tables, higher levels of well-balanced lighting are usually desired because they allow for a strong sense of well-being and security (Baraban and Durocher, 2001). Within a restaurant environment, the physical act of eating is the same, but the variety of methods used in order to meet the emotional needs of each individual is infinitely varied (Ryu and Hang, 2010). Therefore restaurant managers must effectively manage the environment.

Baron (1990) in his study showed that subjects had more positive affect in conditions of low levels of lighting compared to high levels of lighting. The level of comfort was increased at relatively low levels of light, while comfort decreased with high levels of light (Hopkinson, Petherbridge, and Longmore, 1966). Therefore this study shows that customers had comfort thus satisfaction in low levels of lighting.

Flynn, Spencer, Martyniuk, Hendrick (1973) investigated the effect of environmental lighting as a mediator that affects user impressions and behaviour. They suggested that lighting



variables induce some consistent and shared impressions for the users. More so the results showed that users' impressions in interior environments may be manipulated by changing the combination of these dimensions of lighting (Steffy, 2008). Therefore this study showed that manipulation of lighting levels has an effect on customer satisfaction, hence the reason why the researcher chose this study.

### **2.2.1 Temperature levels and customer satisfaction in restaurants**

The challenge of running a business that involves different temperature zones and people's differing needs have to be managed well (Huang, Zhang, Hui, and Wyer, 2013). Restaurants have many demands for heating, cooling, ventilation, hot water and refrigeration, but nothing should distract diners from enjoying the perfect ambience (Bry-Air, 2012). Customers have no identical physical and emotional signatures; therefore restaurant managers should find a common ground where the majority is content (Huang, Zhang, Hui, and Wyer, 2013). This level can only be consistently achieved, and maintained through a balance of cooling and humidity (Bry-Air, 2012). Whenever customers find themselves in public places, crowded or not, the combination of excessive air moisture and warm temperatures can be extremely uncomfortable. These conditions cause customers to seek out a new comfort zone that is areas with air conditioning and lower humidity levels (Bry-air, 2014). If the temperature level in a restaurant is not satisfying customers are likely to change the dining place and look for another restaurant. Restaurants attempt to provide uniform indoor temperatures and humidity levels, through air conditioning (Huang, Zhang, Hui, and Wyer, 2013). The air conditioner will automatically turn off when the temperature set-point is reached. When this happens, there is no control of humidity until the air again becomes warm enough for the units to restart. In order to satisfy the customers, they only have the option of raising or lowering the thermostat (Bry-Air, 2012). Restaurants that cause discomfort from temperatures that are too warm or uncomfortably cold may be disastrous, annoying employees and driving away customers (Huang, Zhang, Hui, and Wyer, 2013). This results in lost revenue. Therefore, the balance must be achieved through air conditioning.

Sherman, Mathur, Smith, 1997 also studied the mediating role of consumer emotions in the influence of store temperature on consumer purchase behavior. Their results suggested that although cognitive factors may largely account for store selection and for most planned purchases within the store, the temperature in the store and the emotional state of consumers may be important determinants of certain purchase behaviors, such as impulse buying. This study however did not show exactly how temperature in the store determined the purchasing behaviour as well as impulse buying. One would need to know if the effect was positive or negative. However, the researcher chose this study because it showed temperature within the store affected customer behaviour which may lead to customer satisfaction.

Hung et al, 2013 researched on the effects of ambient temperature on product preferences and financial decision making. Results highlighted that comfortable ambient temperatures influence consumer preferences for conformity

and enhanced their financial decision making. Comfortable ambient temperatures satisfied the customers, thus showing that there is a relationship between ambient temperature and customer satisfaction.

### **2.3 Ambient scent and customer satisfaction**

In a study conducted by Spangenberg et.al, (1996) they tested the effect of adding a pleasant ambient scent to a simulated retail environment. The authors wanted to find whether the presence of ambient scent versus no scent affects evaluations, influence approach/avoidance behaviors in a retail environment and whether this impact varies according to the affective nature and intensity of the ambient scent. The results of the study demonstrated that the presence or absence of a scent significantly affected evaluation of the environment and subjects evaluations of the products but weaker effects to product judgment. Customers evaluated the environment as a satisfying environment as they showed approach behaviour. Therefore the study showed that presence of scent in a retail shop satisfies the customers. The author chose this study to act as empirical evidence because only customers who were satisfied with the scent positively evaluated the retail environment and showed approach behaviour.

Morrin and Ratneshwar (2003) investigated the effects of ambient scent on evaluation, attention and memory for familiar and unfamiliar brand; they exposed respondents to familiar and unfamiliar brand names, in a pleasantly scented environment or no scented environment and evaluated how much time respondents spend to evaluate each brand through a computer recorded. They demonstrated that a pleasant ambient scent for unfamiliar brand names increased attention and memory also improved evaluations primarily rather than for familiar brand names. Therefore, the researcher chose this study to act as empirical evidence because a positive evaluation of a brand name only came after the customer was satisfied with the scent.

## **3. Research Methodology**

Berry (2000) propounded that a casual research is used mainly for purposes of predicting and testing hypothesis. To a lesser extent, it can be used for discovery and explanatory purposes (Berry, 2000). Causal research design was employed in this study in order to determine the cause and effect relationship of ambience conditions on customer satisfaction. Casual research design has the capacity to explain things and not just reporting, hence allowing the researcher to develop a perceptual picture of the topic under study (Kumar, 2009). The targeted population size was infinite because it includes all adult customers at Debonairs Pizza's three outlets in Gaborone Botswana. The researcher targeted all adults' customers because they have the ability to understand customer satisfaction and ambient conditions. To give a best representative the simple random sampling procedure was used. There was a random selection of customers at three Debonairs Pizza outlets at Riverwalk, Main Mall and Pula Spar. A formula was developed to calculate the sample size with unknown population by Cooper and Schindler (2003). A 30% of the population proportion (p) was used. A 95% confidence level and the

level of precision ( $P$ ) = 5% was applied. The standard error ( $\sigma_p$ ) of the proportion which is sometimes called sampling error of 0.05 was used. This resulted in a sample size of 81. In this study, the researcher used questionnaires to collect primary data. The questionnaire was adopted from Syed, Andaleeb and Conway (2006). Five point Likert scales were used to measure constructs (customer satisfaction, lighting, temperature and scent). Each dimension had at least three to four items asked. Data analysis mainly regression was done using Statistical Package for Social Sciences (SPSS) Version 16. Presentation of the research findings of primary data was done in a tabular way as a method to enhance easy interpretation. The coefficient of variation ( $R^2$ ) was used to analyze the variability of customer satisfaction on the level of ambient conditions.

## 4. Data Analysis and Interpretations

### 4.1 Reliability and validity test

The reliability of the measurement scale was assessed by Cronbach's alpha coefficient. Validity was ensured through construct validity. The latter is made up of convergent validity and discriminant validity (Fornell and Lacker, 1981). The alpha values for the four constructs (customer satisfaction, scent, lighting and temperature) ranged from 0.720 to 0.857. Each construct surpassed the minimum requirement of 0.7, ensuring adequate reliability (Nunnally, 1978). See in table 4.1:

**Table 4.1: Reliability coefficients**

Constructs	Cronbach's coefficient
Customer satisfaction	0.791
Scent	0.857
Lighting	0.720
Temperature	0.759

Source: Primary Data

### 4.2 Validity test

Construct validity was also satisfied in this study, in that there was convergent and discriminant validity. The average variance extracted (AVE) from all constructs shown in Table 4.2 exceeded the minimum criterion of 0.50, hence ensuring convergent validity (Fornell and Lacker, 1981). Formula to calculate average variance extracted was taken from Hair et al, (1998).

**Table 4.2: Average variance extracted.**

Variable	Average variance Extracted
Customer Satisfaction	0.835
Scent	0.813
Lighting	0.792
Temperature	0.708

Source: Primary Data

To see if the measurement scales have discriminant validity, AVE for two constructs should exceed the  $R$  square of two constructs (Fornell and Lacker, 1981). The  $R$  square values are shown in table 4.3:

**Table 4.3: Correlation matrix table showing  $R$  square values**

Variables	Customer satisfaction	Ambient scent	Ambient lighting	Ambient temperature
Customer satisfaction	1			
Ambient scent	0.805	1		
Ambient lighting	0.771	0.459	1	
Ambient temperature	0.662	0.457	0.299	1

Source: Primary Data

The average variance extracted for customer satisfaction and scent is 0.835 and 0.813 respectively, this is greater than the  $R$  square value of these two constructs of 0.805. Customer satisfaction and lighting has an AVE of 0.835 and 0.792 this is greater than the  $R$  square of 0.771. Customer satisfaction and ambient temperature has an AVE of 0.835 and 0.708 this is greater than the  $R$  square of the two variables which is 0.662. Scent and lighting have an AVE of 0.813 and 0.792 this is greater than the  $R$  square of 0.459. To add on, the  $R$  square of scent and temperature of 0.457 is less than the AVE of the two variables at a value of 0.813 and 0.708 respectively. Lastly the AVE of temperature and lighting at a value of 0.792 and 0.708 respectively is exceeding the  $R$  square value of the two which has the value of 0.299. In all the variables AVE of two variables is greater than the  $R$  square of the two variables hence discriminant validity is available.

### H1: The impact of ambient scent on customer satisfaction at Debonairs Pizza

The first hypothesis ( $H_1$ ) stated that, there is a positive relationship between scent and customer satisfaction. Table 4.4 shows regression coefficients of the two constructs.

**Table 4.4: Regression Coefficients of ambient scent and customer satisfaction**

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1	(Constant)	.055	.050	1.100	.000
	Scent	.977	.038	.950	25.860 .000
a. Dependent Variable: Customer Satisfaction					

Table 4.4 shows that there is a significant relationship between customer satisfaction and ambient scent which is indicated by a beta weight of .950 as well as the unstandardized coefficient of .977 at  $p$  of .000. These results indicate that there is a positive relationship between ambient

scent and customer satisfaction. Table 4.5 shows the R square of the relationship.

**Table 4.5:** R square value of scent and customer satisfaction

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.950 <sup>a</sup>	.805	.900	.163
a. Predictors: (Constant), Scent				

Table 4.5 shows the R square coefficient of ambient scent and customer satisfaction. The predictive power of the model is shown by a moderate R Square value of 0.805; hence the

model is a good fit. The model summary shows that 80% of the variation in customer satisfaction is caused by ambient scent.

## H2: The impact of ambient lighting on customer satisfaction at Debonairs Pizza

The second hypothesis (H<sub>2</sub>) stated that there is a positive relationship between customer satisfaction and ambient lighting. Table 4.6 shows the value of the regression coefficient of the relationship.

**Table 4.6:** Regression Coefficients of lighting and customer satisfaction

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.460	.266		1.729	.000
	Ambient Lighting	.521	.100	.654	3.000	.004
a. Dependent Variable: Customer Satisfaction						

From the table above ambient lighting is significantly related to customer satisfaction. This is shown by the standardized coefficients. It is evident that ambient lighting causes customer satisfaction at Debonairs Pizza with beta weight of 0.654,  $\beta = .521$  at significant value of .004. This shows that there is a moderate relationship between ambient lighting and customer satisfaction. Therefore the researcher should accept H<sub>2</sub> which states that there is a positive relationship between customer satisfaction and lighting at Debonairs Pizza.

**Table 4.7:** R square value of lighting and customer satisfaction

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.654 <sup>a</sup>	.771	.098	.490
a. Predictors: (Constant), Ambient Lighting				

There is a strong positive relationship between ambient lighting and customer satisfaction. This is indicated by the R Square value of 0.771. According to Burns and Bush, (2010) they stated that a higher R square value shows a stronger association between two variables. The model summary shows that 77% of the variation in customer satisfaction is caused by lighting.

## H3: Impact of temperature on customer satisfaction at Debonairs Pizza

The third hypothesis (H<sub>3</sub>) stated that there is a positive relationship between customer satisfaction and temperature levels at Debonairs Pizza. Table 4.8 shows the results which can be used in order to accept or reject the stated hypothesis.

**Table 4.8:** Regression Coefficients of temperature and customer satisfaction

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.397	.079		5.058	.000
	Temperature	.522	.044	.814	11.969	.000
a. Dependent Variable: Customer Satisfaction						

As shown in the table, temperature is significantly related to customer satisfaction. Using the standardized coefficients it is evident that temperature is responsible for customer satisfaction as this is represented by a beta weight of 0.814 at significant value (0.000). Therefore the researcher should accept H<sub>3</sub> which states that there is a positive relationship between customer satisfaction and temperature levels at Debonairs Pizza. Table 4.9 shows the R square value of temperature and customer satisfaction.

**Table 4.9:** R square value of temperature and customer satisfaction

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.814 <sup>a</sup>	.662	.658	.302
a. Predictors: (Constant), Temperature				

The R-square in the table shows that the dependent variable, (customer satisfaction) is affected 66% variation of independent variable (temperature levels). According to Burns and Bush, (2010) R-square ranges from 0-1. The range shows how much of the dependent variable is explained by independent variable and the higher the R square the stronger the association between the independent and the dependent variable (Burns and Bush, 2010). The R-square value shows that there is a moderate relationship between temperature level and customer satisfaction represented by 0.662.



#### 4.3 Discussion

This study tested the impact of ambient conditions on customer satisfaction in the restaurant industry. In order to test hypothesis ambient conditions were split into three dimensions which are scent, lighting and temperature. The overall results showed that there is a positive relationship between ambient conditions and customer satisfaction.

The impact of scent on customer satisfaction was tested. The findings reveal that there is a positive relationship between the two variables. When positively handled, as a source of customer satisfaction, ambient scent is most likely to moderate consumers' cognition that is the perception of the environment rather than emotions (Michon, Chebat and Turley, 2003). This positive relationship is in line with other researcher's findings, Chebat and Michon (2003), Lazarus (1991), Spangenberg et al (1996) and Bone and Ellen (1999). They all find that scent affects consumer behaviour in a positive way, which would then lead to customer satisfaction. These results imply that management at Debonairs Pizza should engage more into practices that add relevant scent within their outlet as this leads to customer satisfaction.

Results for H<sub>2</sub> showed that there is a positive relationship between customer satisfaction and lighting. Flynn et al., (1973), Biner et al., (1989) and Baron, (1990) also had the same results. They found out that ambient lighting positively affected the customers' emotions, behaviour and satisfaction. These results imply that Debonairs Pizza should manage lighting level in the outlet. Lighting as shown in literature is taken as most important ambient factor as it allows the customers' ability to view the food in its best possible way. Therefore management should ensure that when designing the restaurant lighting, each table should have its own atmosphere in terms of the lighting as this leads to customer satisfaction.

Results of H<sub>3</sub> displays that there is a positive relationship between ambient temperature and customer satisfaction. This is in line with other researchers findings. Sherman et al., (1997), Machleit and Eroglu, (1990) and Hung et al., (2013) concluded that ambient temperature positively affects customer satisfaction. If the restaurant is not at its full capacity there is need for adjusting the temperature to warmer levels as there will be many open spaces. Open space tend to be colder than crowded space. Crowded areas need enough air circulation and cool temperatures so as to satisfy the customers. Therefore these results imply that managers should study the crowding level of the restaurant well. For example if the restaurant is at its full capacity then there is need to adjust the air conditioner to cooler levels.

As a general factor, it is known that good food causes customer satisfaction in the restaurant industry. However, this research finding implies that restaurant managers can rely on ambient conditions also as a cause of customer satisfaction. This study contributed much to the board of literature. Many past researchers as illustrated in literature review mainly focused on ambient conditions effects on consumer behaviour. This study adds literature to the effects of ambient conditions on customer satisfaction.

#### 5. Conclusions and Recommendations

The research was done so as to see the impact of ambient conditions on customer satisfaction at Debonairs Pizza outlets in Gaborone, Botswana. The study was done under the following objectives: to establish the relationship between ambient scent and customer satisfaction, to determine the relationship level between customer satisfaction and lighting and to determine the relationship between customer satisfaction and temperature levels in the restaurant. The study showed that ambient conditions have an impact on customer satisfaction. The aim of this study was to judge if restaurants should rely on food quality as the sole cause for customer satisfaction only. Accordingly, this study provides appropriate and useful knowledge for restaurant managers to better serve customers and suggesting them to focus not only on providing functional service quality, but also to make sure that the environment provides high levels of positive effects and pleasures. In addition, the study looked on ambient conditions dimensions such as light, temperature and scent. The results above show that ambient conditions also cause customer satisfaction. At the end it could be concluded that, there is a significant positive relationship between the ambient conditions and customer satisfaction.

This study provides evidence that improving a restaurant ambient condition enhances customer satisfaction in the restaurant experience. Therefore the researcher recommends that there should be manipulation of the environment's arousing qualities via scents, lighting and temperature. This helps Debonairs Pizza to differentiate itself from otherwise similar competitors such as Nandos, Wimpy, Spurs and many more. From the results of the study, the researcher recommends Debonairs Pizza to focus more on ambient conditions as a way to differentiate themselves from competitors. This is vital as it is also a factor that causes customer satisfaction. This helps rather to depend on food quality as the sole cause for customer satisfaction as its competitors provide the same quality food. In line with the above suggestions, it is recommended that Debonairs Pizza should engage more into activities such as enhancing or adjusting the lighting in order to brighten the space more. This will allow the customers to be able to view their food in its best possible light. Moreover, the researcher recommends that the outlet should have appropriate aroma as this encourages customers to engage in impulse buying. However, great care is needed to ensure that the effects of different environmental stimuli match. Thus at Debonairs Pizza the ambient scent should be of Pizza which is being cooked. Temperature levels should be controlled in order to reach the adequate level. For example if the area is too crowded, the restaurant might result in having high temperatures. Therefore the researcher recommends that temperature levels should be adjusted so as to reach the desired level through air conditioning.

##### 5.1 Areas for further research

Many researchers (Johnson, Mayer and Champaner, (2003); Han and Ryu, (2009); Jang and Namkung, (2009); Liu and Jang, (2009); Ryu and Jang, (2007)) have researched on the effects physical environment on customer satisfaction in the

hospitality sector that is hotels and restaurants but not enough has been done to show the effect of physical environment on employee satisfaction. Therefore the researcher suggests this area to be of future research.

## References

- [1] Almanza, B. A., Jaffe, W., and Lin, L. (1994). Use of the service attribute matrix to measure consumer satisfaction. *Journal of Hospitality and Tourism Research*; Volume 17(2):63-75.
- [2] Anderson, E.W., Fornell, C., and, Lehmann, D.R., (1994). Customer satisfaction, market share and profitability: Findings from Sweden. *Journal of Marketing*; Volume 58(3):53-66.
- [3] Aubert-Gamet, V. (1997). Servicescapes: From modern non-places to postmodern common places. *Journal of Business Research*; Volume 44(1):37-45.
- [4] Baker, J., Berry, L.L., and Parasuraman, A., (1988). The marketing impact of branch facility design; *Journal of Retail Banking*; Volume 10(2):33-42.
- [5] Baraban, R.S. and Durocher, J.F. (2001). *Successful Restaurant Design*, New York.
- [6] Barsky, J., and Labagh, N., (1992). Customer satisfaction: Applying concepts to industry-wide measures. *Cornell Hotel and Restaurant Administration Quarterly*; Volume 44(5/6):173-183.
- [7] Biner, P. M., Bulter, D. L., Fischer, A. R., and Westergren, A. J. (1989). An arousal optimization model of lighting level preferences; An interaction of social situation and task demands. *Environmental and Behavior Journal*; Volume 21:3-16.
- [8] Bitner, M.J. (1992). Servicescapes: The impact of physical surroundings on customers and employees. *Journal of Marketing*; Volume 56(2):57-71.
- [9] Chebat, J.C., and Michon, R., (2003) Impact of ambient odors on mall shoppers' emotions, cognition, and spending: a test of competitive causal theories.
- [10] Choi, T.Y., and, Chu, R., (2001). Determinants of hotel guests satisfaction and repeat patronage in the Hong Kong Hotel industry; *International Journal of Hospitality Management*; Volume 3(20): 234-244
- [11] Churchill, G.A. and Surprenant, C. (1982). An Investigation into the determinants of Customer Satisfaction: *Journal of Marketing Research*, Volume 21: 491-504.
- [12] Donovan, R.J., and Rossiter, J.R. (1982). Store atmosphere: An environmental psychology approach. *Journal of Retailing*; Volume 58(1):34-57.
- [13] Fiore, A. M., Yah, X., and Yoh, E. (2000). Effects of a product display and environmental fragrancing on approach responses and pleasurable experiences; *Psychology and Marketing*; Volume 17(1): 27-54.
- [14] Gifford, R. (1988). Light, decor, arousal, comfort and communication; *Journal of Environmental Psychology*; Volume 8(3):177-189.
- [15] Gulas, C.S. and Bloch, P.H., (1995), "Right Under Our Noses. Ambient Scent and Human Behaviour; *Journal of Environmental Psychology*; Volume 10(4):177-189.
- [16] Ha, J., and Jang, S. (2010). Effects of service quality and food quality: The moderating role of atmospherics in an ethnic restaurant segment. *International Journal of Hospitality Management*; Volume 29(3):520-529.
- [17] Hair, J. F., Anderson, R. E., Tatham, R. L., and Black, W. C. (1998). *Multivariate data analysis* (5th ed.). UK: Prentice Hall International.
- [18] Hirsch, A.R. (1995). Effect of ambient odors on slot-machine usage in a Las Vegas casino; *Psychology and Marketing*; Volume 12(7): 585-594.
- [19] Hoffman, K., D., Bateson, J. E. G., Wood, E.H., and Kenyan, A. J., (2009). *Service Marketing Concepts Strategies and Cases*, (3<sup>rd</sup> Edition), Cengage Learning, North Way.
- [20] Hui, M.K. and Bateson, J.E.G. (1991), "Perceived control and the effects of crowding and consumer choice on the service experience", *Journal of Consumer Research*, volume 18(2): 174-184.
- [21] Hutton, J.D. and Richardson, L.D. (1995), "Healthscapes: the role of the facility and physical environment on consumer attitudes, satisfaction, quality assessments, and behaviors.", *Health Care Management Review*. Volume 20(2):48-61.
- [22] Kasapila, W. (2006). Young adult's satisfaction regarding dining experience in casual dining restaurant in Hatfield, Pretoria.
- [23] Khan, S., Hussain, S.M and Yaqoob, F. (2012). Determinants of customer satisfaction in fast food industry; *International Journal of Management and Strategy*; Volume 3(4): 78-88
- [24] Kivela, J., Inbakaran, R., and Reece, J. (2000). Consumer research in the restaurant Part 2: A conceptual model of dining satisfaction and return patronage, *International Journal of Contemporary Hospitality Management*; Volume 11(5):205-222.
- [25] Kivela, J., Inbakaran, R. and, Reece, J. (1999). Consumer research in the restaurant environment, Part 1: A conceptual model of dining satisfaction and return patronage, *International Journal of Contemporary Hospitality Management*; Volume 11(5):205-222.
- [26] Knutson, B. J. (1988). "Ten laws of customer satisfaction", *The Cornell Hotel and Restaurant Administration Quarterly*; Volume 29(1):14-17.
- [27] Lazarus, R.S. (1991). *Emotion and Adaptation*: New York: Oxford University Press.
- [28] Lim, H. (2010). Understanding American customer perceptions on Japanese food and services in the U.S. Unpublished master's thesis, University of Nevada, Las Vegas
- [29] Liu, Y., and Jang, S. (2009). Perceptions of Chinese restaurants in the U.S.: What affects customer satisfaction and behavioral intentions? *International Journal of Hospitality Management*; Volume 28: 338-348.
- [30] Luo, X. and Homburg, C. (2007). Neglected Outcomes of Customer Satisfaction; *Journal of Marketing*; Volume 71(2):133-149.
- [31] Machleit, K.A. and Eroglu, S.A. (2000), "Describing and measuring emotional response to shopping experience" *Journal of Business Research*; Volume 49(2):101-111.
- [32] Malik, E., and Ghaffor, M. (2012). Impact of brand image, service quality and price on customer satisfaction in Pakistan telecommunication Sector; *International*



- Journal of Business and Social Science; Volume 3(2), 123-29
- [33] Mattila, A.S., and Wirtz, J. (2001). Congruency of scent and music as a driver of in-store evaluations and behavior; *Journal of Retailing*; Volume 77(2): 273–289.
- [34] Mayer, K., Champner, L. (2003). A customer- based assessment of casino atmospherics. *Journal of Retailing*; Volume 78 (5): 275–289.
- [35] McNully, Brendan. (2004) “Illuminating Ideas.” *Restaurants and Institutions*; Volume 8 (2004): 94-95. Print.
- [36] Mehrabian, A. and Russell, J.A. (1974). *An approach to environmental Psychology*; Cambridge, MA: MIT Press
- [37] Mitchell, D.J. Kahn, B.E., and Knasko, S.C. (1995) “There’s something in the Air: Effects of Congruent or Incongruent Ambient Odor on Consumer Decision Making”, *Journal of model of lighting level preferences*; An interaction of social situation and task demands.
- [38] Morrin, M., and Ratneshwar, S. (2003). The Impact of Ambient Scent on Evaluation, Attention, and Memory for Familiar and Unfamiliar Brands, *Journal of Business Research*; Volume 49(2), 157-165.
- [39] Mosahab, R., Mohammad, O., and Ramah, T. (2010). Service quality, Customer satisfaction and Loyalty: A test of the mediation. *International Business Research*, Volume 3(4): 67-78
- [40] Nunnally, J. (1978). *Psychometric Theory*; 2nd Edition, New York: McGraw-Hill. Purchasing behavior.
- [41] Pae, J.Y., (2009). The effects of hotel guestroom lighting on consumers emotional states and preferences and behavioral intentions.
- [42] Park, C., (2004) Efficient or Enjoyable. Consumer value of eating out and fast food restaurant consumption in Korea; *International Journal of Hospitality Management*; Volume 1(23)
- [43] Pettijohn, L. S., Pettijohn, C. E., and Luke, R. H. (1997). An evaluation of fast food restaurant satisfaction: Determinants, competitive comparisons and impact on future patronage. *Journal of Restaurant and Foodservice Marketing*; Volume 2(3):3-20.
- [44] Qu, H. (1997). Determinant factors and choice intention for Chinese restaurant dining: A multivariate approach. *Journal of Restaurant and Foodservice Marketing*; Volume 2(2):35-49.
- [45] Russell, J.A., and Pratt, G., (1980). A description of the affective quality attributed to environments. *Journal of Personality and Social Psychology*; Volume 38(2), 311–322.
- [46] Rust, R., T., and Zohoric, A., J. (1993), Customer satisfaction, customer retention and market share, *Journal of Retailing*.
- [47] Ryu, K.S., Chebat, S.J., and Michon, R. (2003). Impact of ambient odors on mall shoppers’ emotions, cognition, and spending; *Journal of Business Research*; Volume 56(7): 529–539.
- [48] Ryu, K., and Jang, S. (2007). The effect of environmental perceptions on behavioral intentions through emotions: The case of upscale restaurants. *Journal of Hospitality of Tourism Research*, Volume (56) :72.79
- [49] Saunders, M., Lewis, P., and Thornhill, A., (2005). *Research Methods for Business Students*, (3rd Edition), Pearson Education, New Delhi
- [50] Sherman, .E., Mathur, A., and Smith R (1997), *Store Environment and Consumer Purchase Behavior: Mediating Role of Consumer Emotions, Psychology and Marketing*. Volume 14 (4): 361-378.
- [51] Spangenberg, E.R., Crowley, E and., Henderson, P.W., (1996). Improving the Store Environment: Do Olfactory Cues Affect Evaluations and Behaviors? *Journal of Marketing*; Volume 60(2):67-80.
- [52] Spinnelli, M.A., and Canavos, C.G. (2000). Investigating the relationship between employee satisfaction and guest satisfaction; *Cornell Hotel and Restaurant Administration Quarterly*, 6(41)
- [53] Steffy, G. R. (2008). *Architectural Lighting Design* (3rd Ed.). New York, NY: J. Wiley and Sons.
- [54] Stokols, D. (1978). On the Distinction between Density and Crowding, *Psychological Review*, 79 (3), 275-277.
- [55] Syed, S.A and Conway C. (2006). Customer satisfaction in the restaurant industry: An exam of the transaction specific model. *Journal of Services Marketing; UNLV Gaming Research and Review Journal*, 7(1):21-31.
- [56] Varey, R., J., (1995), A model of internal marketing for building and sustaining a competitive advantage: *Journal of Marketing Management*.
- [57] Wilkie, M., (1995), Scent of a Market, *American Demographics*, August: 40-47.
- [58] Zeithaml, V., and Bitner, J., (2003), *Services Marketing*, McGraw- Hill, New York
- [59] Zeithaml, V.A., Berry, L.L., and Parasuraman, A. (1996). The behavioral consequences of service quality; *Journal of Marketing*, 60(2), 31–46.
- [60] Zikmund, W. G. (1996). *Business Research Methods*; Ohio: Thomson South-Western.

### Author Profile

**Douglas Chiguvu** is a D. Tech student of Technology in Public Administration at Durban University of Technology (SA) (2015-2018) and Marketing Management Lecturer at Ba isago University in Botswana. Holder of Masters in Business Administration (MBA) with Zimbabwe Open university (2012), and Masters of Commerce in Marketing Strategy (M. Comm) (2013) and B. Comm „Hons“ Degree in Marketing Management (2008) with Midlands State University respectively, Adv Grad Diploma in Marketing (ICM) UK (1999), Diploma in Salesmanship (1998), Certificate in Accounting (ZAAT) (2003), Certificate in Banking and Finance (IOBZ) (2005), and Certificate in Vocational Training Education (2016-Ba isago University).