



A Study of Constructing Indices for Establishing Successful Restaurant Atmosphere

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Authors' contributions

This work was carried out in collaboration between all authors. Author YCC designed the study, wrote the protocol and wrote the first draft of the manuscript. Authors PLT and HIC managed the literature searches, analyses of the study performed the Delphi analysis. Author SHK managed the research process. All authors read and approved the final manuscript.

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ABSTRACT

Restaurant operation has always been an essential profit source for international hotels. Although food is the core element for a restaurant, there are other clues for attracting customers according to past research, such as store atmosphere. Store atmospheres significantly influence customers' purchase intention, satisfaction and loyalty. Though literatures indicated directly influences on atmospheres on restaurant operation and customers' impression, a lack of study towards the essential atmosphere factors for restaurant. This study aims to construct the essential atmosphere factors for restaurant operation. Delphi method was employed in study to collect experts' opinions, including professors in related fields, managers of hotel restaurants, and experienced VIP customers of famous international hotels. Overall, there were four rounds of questionnaires processed. The results of this study provide restaurant managers and operators a set of factors towards establishing positive restaurant atmosphere in a hotel, which would help to increase customer satisfaction and purchase intention.

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1. INTRODUCTION

Throughout history, a place, whatever it was called, for people to eat, drink, chat and relaxes always has plenty of businesses. However, not until 1765 in France, the first real restaurant was opened to serve various meals on a menu for customers to choose. Since then, restaurants played important role in human society and culture despite geographical region and nations. Eating is the most basic need for a human to survive, and since we divided our labor that each man and woman may not be proficient in cooking, or have the time to cooking, the demand for good restaurants is always booming [1]. As more and more restaurants emerged from the market competing to earn more customers and profits, restaurants have to diversify themselves in whether food, staff or environment [2]. Customer satisfaction, food type and food quality are the primary variables of restaurant choice, and once a choice set appropriate to the occasion and segment has been identified, a restaurant's style and atmosphere become the deciding factors [3]. Food taste and quality are always prime subjects to improve for a restaurant, while restaurant style and atmosphere were less focused on and discussed about. Research has discovered the key factor of store atmosphere plays in term of increasing customer satisfaction and purchase intention [4-6]. Store atmosphere can be defined as store design, layout, location, light, scent, temperature, environment, music, attitude and costume of service personnel [7-9]. Atmosphere is a critical factor explaining customer satisfaction among hotel guests no matter the geographic area, nationality and hotel type [10]. For instance, a study of restaurant atmosphere found the types of music could affect the atmosphere and patronage purchase intention [11], while the atmosphere has been described as 'core service component' of a restaurant [12]. The atmosphere can also influence both ways to customers and to staffs, which is perceived as the single most positive characteristic of restaurants rated even more important than the food. Other studies examined the use of atmospherics to escalate the atmosphere [13-16] which are frequently seen in hospitality industry. The functional and aesthetic designs of architecture, style and layout are also crucial determinants of atmosphere in hospitality context [17-19]. Therefore, this study focused on summarizing the important atmosphere factors of restaurant by implementing Delphi method in a

group of experts. The result is able to provide a clear view on how owners and managers treat their restaurant atmosphere.

2. METHODS

The Delphi method, also referred to as a process, technique or study, is a form of consensus survey [20]. It is a mechanism of communication between experts and is used to establish agreement between a panel of 'experts' focusing on a single, specified issue [21]. In Delphi decision groups, a series of questionnaires, surveys, etc. are sent to selected respondents through a facilitator who oversees responses of their panel of experts. The group does not meet face-to-face. All communication is normally in writing. Members of the groups are selected because they are experts or they have relevant information [21].

It is used by many disciplines to support planning, decision making and policy research [22] and is utilised extensively to advance and inform changes to curricula and education [23-25] [26,27]. The Delphi method exposes a panel of experts to multiple iterations of datasets, often learning outcomes, for the purpose of refining the content and reaching some level of agreement among its members. As members of the Delphi panel work independently from one another, each member has equal status within the group.

To identify the important atmosphere dimensions and factors of restaurants, we gathered consensus opinions from a group of experts including professors specialized in restaurant management, owners and managers of restaurants, food and beverage managers in international hotels, and several VIP guests of restaurants and hotels. The process we implemented to collect, summarize and conclude consensus information is called Delphi method. Theoretically, the Delphi process can be continuously iterated until consensus is determined to have been reached. However, literature pointed out that three iterations are often sufficient to collect the needed information and to reach a consensus in most cases [28-32].

Round 1: In the first round, the Delphi process traditionally begins with an open-ended questionnaire. The open-ended questionnaire serves as the cornerstone of soliciting specific information about a content area from the Delphi subjects [29]. In this study, for instance, this

question would be to ask experts to provide all atmosphere dimensions and positive factors they could think of after receiving subjects' responses, researchers need to convert the collected information into a well-structured questionnaire. This questionnaire is used as the survey instrument for the second round of data collection. It should be noted that it is both an acceptable and a common modification of the Delphi process format to use a structured questionnaire in Round 1 that is based upon an extensive review of the literature. The use of a modified Delphi process is appropriate if basic information concerning the target issue is available and usable [33].

Round 2: In the second round, each Delphi participant receives a second questionnaire and is asked to review the items summarized by the researchers based on the information collected in the first round. Accordingly, Delphi panelists may be required to rank orders of items to decide the priorities and preservations of them. In some cases, Delphi panelists are asked to state the rationale behind ranking priorities among items [35]. In this round, consensus begins forming and the actual outcomes can be presented among the participants' responses [34].

Round 3: In the third round, each Delphi panelist receives a questionnaire that includes the items and ratings summarized by the researchers in the previous round and are asked to revise his/her judgments or to justify the reason he/she should remain outside of the consensus. This round gives Delphi panelists an opportunity to make further clarifications of both the information and their judgments of the relative importance of the items. However, only a slight increase in the degree of consensus can be expected compared to the previous round [24,35].

Round 4: In the fourth and often final round, researchers distribute the list of remaining items, their ratings, minority opinions, and items achieving consensus to the panelists. This round provides a final opportunity for participants to revise their judgments. It should be highlighted that the number of Delphi iterations depends largely on the degree of consensus sought by the investigators and can vary from three to five [36].

3. RESULTS

The investigation result shows there are five atmosphere dimensions important for restaurants to attract and impress customers: Decorating style, personnel, music, scent and light. The

result also lists many positive factors under each dimension, which managers or owners of restaurants should pursue. For example, there four factors under the decorating style dimension: hospitality, refinement, relaxation, distinctive. These are the fundamental elements that experts considered appropriate and beneficial to attracting customers to restaurants. Because there are so many types of materials, methods, concepts and styles, we cannot present all of them. Instead, we provide only a direction where the decorating style should commence. This stands for the rest of four atmosphere dimensions. Table 1 presents these atmosphere dimensions and factors collected and summarized by our study.

4. DISCUSSION

The five main criteria listed from highest priority to lowest are: decorating style, personnel, music, scent and light. The restaurant among the professional staff, smell, decor and background music design, light the use of indicators and other unique atmosphere, has been subjected to all restaurant operators and academia attention. Developed according to this study these facets are also consistent with the literature [37-40].

Managers and researchers recognize the atmosphere of restaurant that strongly relates to customer satisfaction, loyalty and purchase intention. Atmosphere is a major factor influencing the image of restaurant.

Table 1. Atmosphere dimensions and factors

Atmosphere dimension	Factor
Decorating style	Hospitability, refinement, relaxation, distinctive
Personnel	Hospitable, professional, experienced, flexible, communicating, well-mannered, effective, welcoming
Music	Soft, gentle, romantic, melodious, raucous, strong, rhythmic, mellow, rounded, full, warm, resonant, light
Scent	Airy, clean, crisp, earthy, faint, feminine, fresh, floral, light
Light	Aureate, crepuscular, glimmering, lustrous, lucent, shimmering

While modifying atmosphere is an efficient method to strengthen core competence of

restaurants, it takes a lot of effort and resources to make such change. It is important for managers to understand which features or traits in the atmosphere are valued most from the perspectives of various experts in the field.

This research finds a gap in the literature in which studies building evaluation model for successful restaurant atmosphere are relatively few. Therefore, we proposed a four-step Delphi method to tackle successful selection of international hotel atmosphere problem. After a series calculation, this study acquires a set of comprehensible weights and ranks, and some significance in the result.

5. CONCLUSION

Literature has pointed out the competition of restaurants lies in mainly three facts: Food, style and atmosphere [3,41]. Improving the taste and quality of food is a most critical objective sought out by every cook and chef. However, this task requires years of experience and hardworking, creativity and even a little bit of gift. For restaurants which have average food compared with competitors, concentrating on restaurant style and atmosphere is more substantial and attainable through scientific endeavors. This study contributes in such way that we identified several restaurant atmosphere dimensions, along with many factors, which were deemed, welcomed to customers by a group of experts. Although this study is constrained by the relatively few opinions surveyed from only a group of experts, that these opinions may not hold true in different circumstances, there are still some consensus in these opinions. For future studies, researchers can build more detailed models to identify as which factor holds more weight than others do, and which should be prioritized to attracting more customers and thus more profit.

This study provides an evaluation model which was developed by applying Delphi method for restaurant managers and decisions makers. This evaluation model helps decision makers to understand the priorities of various criteria, so that they can decide where to devote their resources. In actual application, restaurant managers can reference our proposed five dimensions, scientific rigor and accurate method, designed with a unique style and atmosphere of the restaurant.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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