RESEARCH ON DECISION MAKING REGARDING HIGH-BUSINESS-STRATEGY CAFÉ MENU SELECTION

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ABSTRACT

In contemporary popular leisure trends, modern restaurants have been innovative regarding all aspects of the restaurant business, such as food, leisure, and consumption, thus evolving into cafés with unique characteristics and styles, which differ greatly from traditional restaurants. In order to meet consumers' preferences of delicious food and beautiful decor, many new cafés have opened, and new café dishes are introduced. The first impression of the menu content alone can determine the success or failure of a café. Although not all newly opened cafés are successful, opening a café is still an entrepreneur dream for many people. In Japan, it is commonly believed that café is equal to gourmet food, which is also often the key to sustainable management of a café. However, how is the menu content decided? As the menu content cannot satisfy all guests, cafés have their own operating strategies to determine the structure of a menu. This study aims to explore the decision making of café operators to create a high-business-strategy menu, and use Analytic Hierarchy Process (AHP) to discuss the selection of café menus to help the cafés achieving sustainable development. The research methods included literature review, expert interview, and AHP. The findings can serve as references to café operators.

KEYWORDS

Business, Strategy, Analytic Hierarchy Process.

1. INTRODUCTION

Most cafés serve coffee, snacks, and beverages; some are eve scenic cafés with unique style or atmosphere. On the whole, in addition to providing guests with food and beverage services, cafés also create an aesthetic environment for quality leisure experiences.

Since the government implemented the two-day weekend policy to stimulate Taiwan's tourism market, venturing outside and getting close to nature has become the mainstream of Taiwan's tourism industry. Thus, cafés with mountain sceneries and natural landscapes have become the ideal locations for the public to spend time on weekends. The primary task in opening a café is to identify the unique features and determine the menu content because the success of a café not only relies on food and decor, but also the unique styles, which requires detailed attention and careful observation.

Generally speaking, cafés in Taiwan have a common feature, which is presenting the style and taste of the operator. The design, music, and taste favored by the operator are fully shown in the

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café. Hence, the cafés can attract consumers, and become a gathering place. As a gathering place, food and beverage are essential services. What kind of menu should be provided? Menu content can change the style of the café. In order to meet the changing demands of customers, new café dishes are continuously introduced. The first impression of the menu content can decide the success or failure of a café.

Most cafés attract customers with their unique styles and friendly services. In addition, food and beverage service of the café is often another reason for consumers to revisit. Regardless of the location, a successful menu can attract and retain consumers.

However, deciding the menu style is difficult, as such items would inevitably cause comments, and the customers' preferences are unknown. This study aims to discuss the high-business-strategy menu, which refers to menus that provide easy-to-prepare dishes and have low waste ratio of raw ingredients. Analytic Hierarchy Process (AHP) is used to discuss the factors under consideration in decision making regarding high-business-strategy menu selection, in order to improve the success rate of café operation and achieve the goal of sustainable development.

2. LITERATURE REVIEW

In order to collect the data on café menus, this stud adopts the following research methods.

2.1. AHP

AHP was first proposed by Saaty. T. L. in the late 1970s [1]. This type of method can be used to deal with complex decision-making problems of social, political, economic, and technical fields, which is a combination of qualitative and quantitative analysis. It can systematize, model, and mathematize the complex decision-making processes of decision-makers, as well as solve multi-goal, multi-level, and multi-criteria decision-making problems. It possesses a certain degree of accuracy in determining the weight factors of individual evaluation indices. The process of AHP is to break down complex problems into each constituent element, divide these elements into groups according to the dominance relationship to form an orderly hierarchical structure, determine the relative importance of the various elements in each level through the method of pairwise comparison, as based on the structure, and then integrates these judgments to determine the weights of the decision-making elements, making it easier for decision-makers to accept the relationships between influencing factors.

Teng and Tseng [2, 3] divided the application of AHP into two parts, the establishment of levels, and the evaluation of levels. A complex problem is handed to experts and scholars to evaluate the preliminary elements, which is represented in a simple hierarchical structure. Pairwise comparison of constituent element weights is based on a scale evaluation. Then, a matrix is constructed, eigenvectors are obtained, the priority of elements of each level is determined and the consistency of the pairwise comparison matrix is determined, errors are checked to verify whether it can be used as a reference. The process of the AHP application is as shown in Figure 1.

AHP uses the hierarchical structure to construct systematic connections of the complex relationships among the influential factors. Since factor comparison is conducted by pairwise comparisons in AHP, the intentions of expert respondents could be reflected in a clear and effective manner.

AHP first analyzes complex decision-making problems and constructs and divides them into several related hierarchical structures, and expands the elements of each level into a tree-like relevance structure. Experts make pairwise comparisons of the elements of the same level to

determine relative importance. Finally, the linear algebraic method is used to calculate and obtain the relative importance (considered as the priority) of the decision-making factors of each level relative to the goals of the previous level and the highest level. By calculating the relative importance (priority) of each element from the top level to the bottom level, the weight of the elements influencing the goal of the decision-making system could be obtained.

AHP is a relatively simple and easily operated theory, which can effectively achieve a common consensus of most experts and decision-makers. Moreover, it can represent the complex factors influencing the evaluation in a relatively simple hierarchical structure, as shown in Figure 2, and more easily allow the decision-makers to accept the relationships between the influencing factors [4-14].
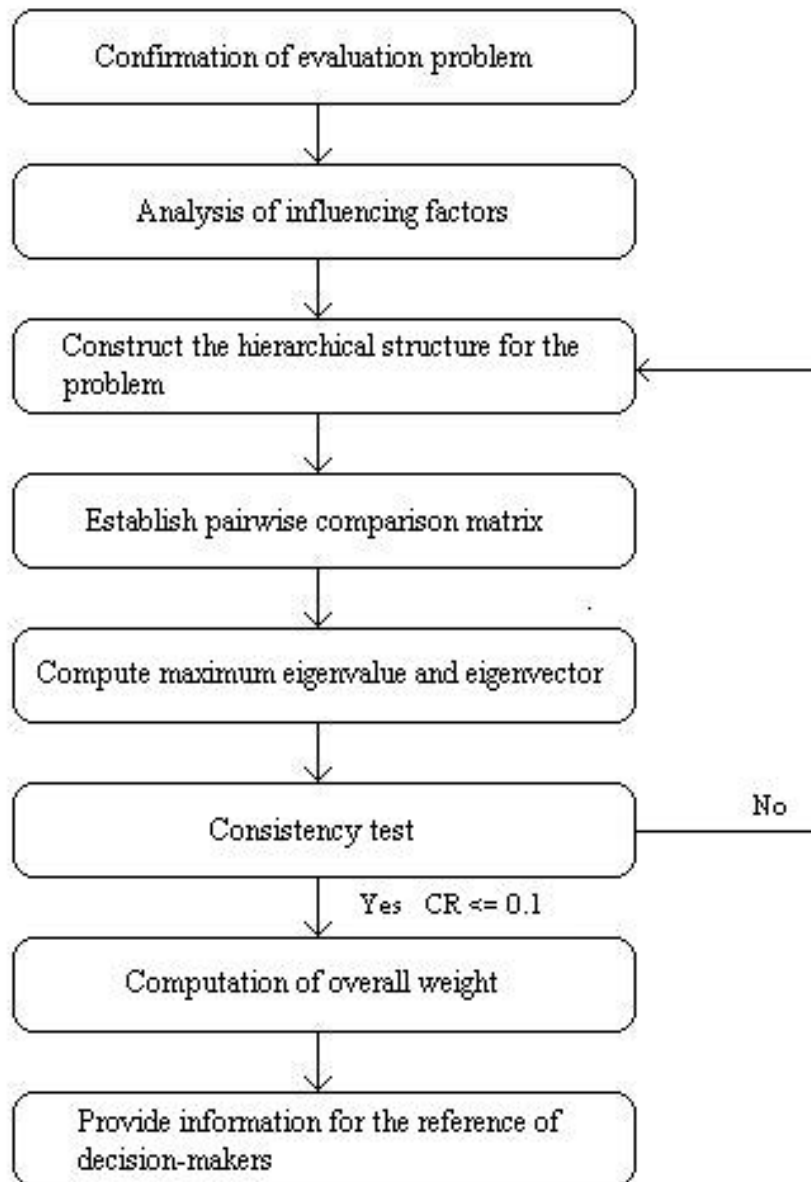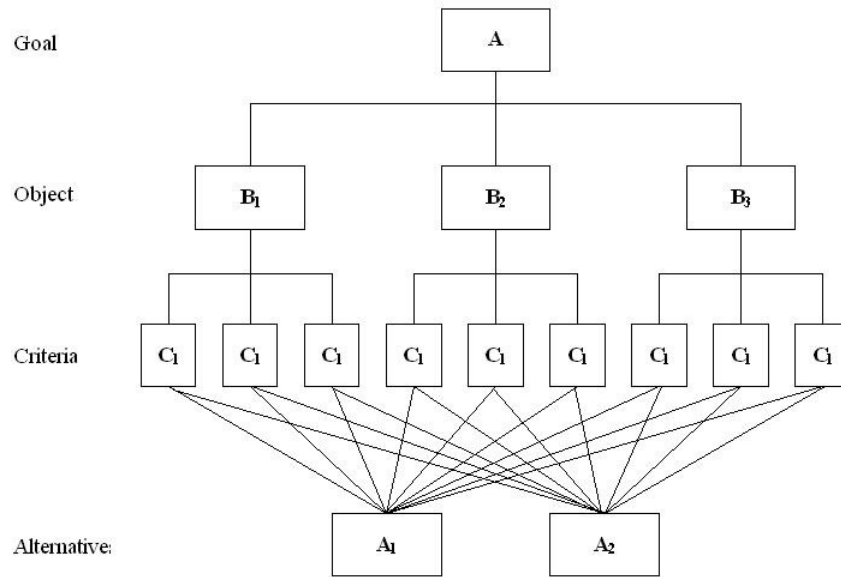

Figure 1. AHP process [2, 3]

Figure 2. AHP Hierarchical Structure [2, 3]

2.2. Interview Survey Method

In addition to the reference literature used in this research, the main interviewees included coffee industry personnel, food and beverage industry personnel, hotel industry personnel, leisure and recreation industry personnel. Extensive conversations were conducted asking about their preferences for the styles of café menus, as well as their personal experiences, in order to obtain more specific data. The data obtained during the interviews were used to design the content of the questionnaire. The results of interviews could be used as important factors in evaluating influence. Moreover, the main process structure of the research is to collect samples for research and analysis through the questionnaire system, further analyze, understand, and design the questionnaire evaluation, and subsequently conduct analysis. This approach intends to gain a deeper understanding of café menu style.

Pairwise comparison of the elements of each level is conducted by taking an element of the upper level as the evaluative criteria. Therefore, a questionnaire is designed specifically for each pairwise comparison to be completed by the members of the surveyed population, according to the 1-9 scale (check each scale for the pairwise comparison of element), establish a pairwise comparison matrix according to the results obtained from the questionnaire survey. A computer is used to obtain the eigenvalues and eigenvectors of each pairwise comparison matrix, and the consistency of the matrix is verified [4-12].

3. RESEARCH METHOD AND PROCEDURES

The implementation process of the research is as shown in Figure 3. The implementation process intends to determine the important factors influencing the views of a café in selecting the menu style, through literature analysis, expert interviews, and questionnaire survey. The research framework consists of questionnaire collection, evaluation, and analysis. Finally, AHP is used to analyze the samples and summarize the factors influencing café menu style selection and weighted relationships. AHP systematizes complex problems by way of hierarchical breakdown, and analyzes the weight of each element, level by level, through quantitative grading and judgment as the basis for overall reference.

All cafés in Taiwan have their unique menus to attract consumers. However, what are the criteria used to make the selection? This study aims to identify the priority points and criteria in the menu style selection of café operators, thus providing references for future café operators in adjusting or strengthening business operation. AHP is used to construct the "Evaluation for Café Menu Style Selection", as shown in Figure 4. A questionnaire is designed to collect data, and conduct critical analysis of the selection of café menu style.
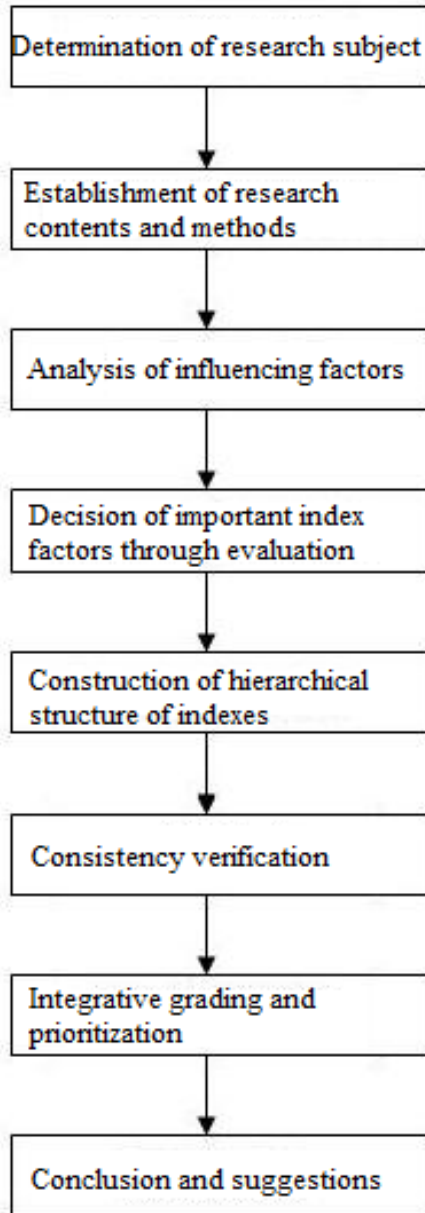
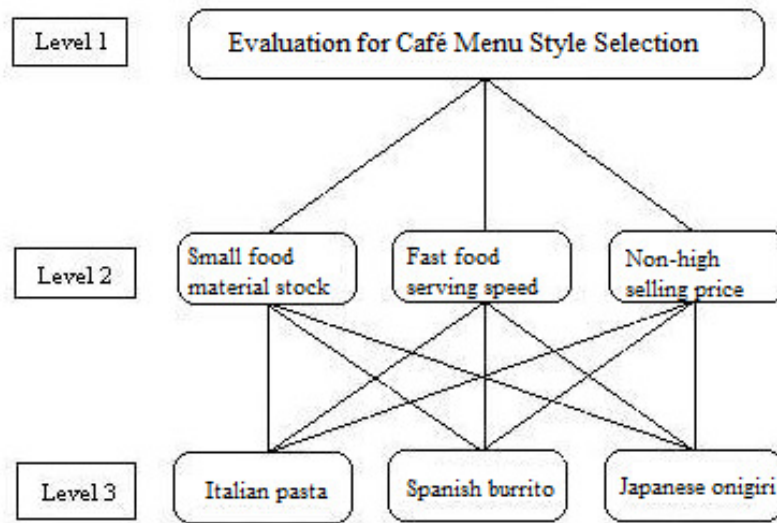

Figure 3. Research Flowchart [7-12]

Figure 4. Diagram of Hierarchical Structure of Evaluation for Café Menu Style Selection

Concerning the selection of café style, the hierarchical structure is divided into three levels: 1) the evaluation for café menu style selection; 2) evaluation factors; 3) the lowest alternative dimension level. Pairwise comparison is conducted on the factors on a 5-point scale (see Table 1), ranging from equally strong, slightly stronger, quite strong, extremely strong, to absolutely strong. The pairwise comparison matrix is constructed through the questionnaire method. The factor evaluation values of each level are calculated through integrated group decision analysis.

Table 1. AHP Evaluation Scale Semantics and Descriptions [2-12]

Scale evaluation	Semantics	Meaning descriptions
1	Equally strong (equally important)	Two factors are equally important
3	Slightly stronger (slightly more important)	According to experience/judgment, one factor is slightly more important than another
5	Quite strong (quite important)	According to experience/judgment, a factor is strongly preferred.
7	Extremely strong (extremely strong)	A factor is extremely preferred.
9	Absolutely strong (absolutely important)	A factor is evidenced as absolutely important.
2, 4, 6, 8	Two adjacent intermediate values	A compromise value between the above descriptions

4. RESEARCH RESULTS

Excel and Expert Choice 2000 were used to analyze data, and AHP was used to calculate the weight of each measured dimension. The analysis and verification process is as follows: The pairwise comparison matrix, as obtained through data analysis using Expert Choice, is as shown in Table 2:

Table 2. Pairwise Comparison Matrix of Influencing Factors of Level 2

Influencing Factor	Small Food Material Stock	Fast Food Serving Speed	Non-high Selling Price
Small food material stock	1	2.2	6.4
Fast food serving speed	0.454545455	1	7.1
Non-high selling price	0.15625	0.14084507	1
Column sum	1.610795455	3.34084507	14.5

The column/straight-type sum of each influencing factor in Table 2 is used to perform standardized numerical value calculation, as shown in Table 3:

Table 3. Standardized Pairwise Comparison Matrix and Weight Values of Influencing Factors of Level 2

Influencing Factor	Small Food Material Stock	Fast Food Serving Speed	Non-high Selling Price	Weight
Small food material stock	0.620811287	0.65851602	0.44137931	0.573569
Fast food serving speed	0.282186949	0.299325464	0.489655172	0.357056
Non-high selling price	0.097001764	0.042158516	0.068965517	0.069375

It complies with the AHP requirements of SAATY with CI <= 0.1 & CR <= 0.1, thus, the consistency of this matrix is satisfactory. The above process applies to other dimensions and indices, and CI <= 0.1 & CR <= 0.1 for the overall analysis. The consistency of the matrix is satisfactory, as shown in Table 4.

Table 4. Weight Value and Consistency Value

Goal Dimension	Evaluation Criteria	Weight Value	Ranking	Consistency Value
Evaluation of Café menu style selection	Small food material stock	0.573569	1	C.I.= 0.045006417 C.R.= 0.07759727 C.I. <= 0.1 & C.R. <= 0.1 Comply with the Requirements of Consistency
	Fast food serving speed	0.357056	2	
	Non-high selling price	0.069375	3	

The weight values and consistency values in Table 5 are obtained through the above calculation method:

Table 5. Table of Weight Value and Consistency Value

Factor Dimension	Evaluation Criteria	Weight Value	Ranking	Consistency Value
Small food material stock	Italian pasta	0.543691	1	C.I.= 0.00178 C.R.= 0.00307
	Spanish burrito	0.251182	2	
	Japanese onigiri	0.205126	3	
Fast food serving speed	Italian pasta	0.687052	1	C.I.= 0.03142 C.R.= 0.05418
	Spanish burrito	0.197548	2	
	Japanese onigiri	0.1154	3	
Non-high selling price	Italian pasta	0.762462	1	C.I.= 0.03719 C.R.= 0.06412
	Spanish burrito	0.137679	2	
	Japanese onigiri	0.09986	3	

According to the consistency results in Table 6, in the evaluation of café menu style selection, "Italian pasta" ranks first, followed by "Spanish burrito", and "Japanese onigiri" in third place, as shown in Figure 5.

Table 6. Table of Comprehensive Weighted Evaluation

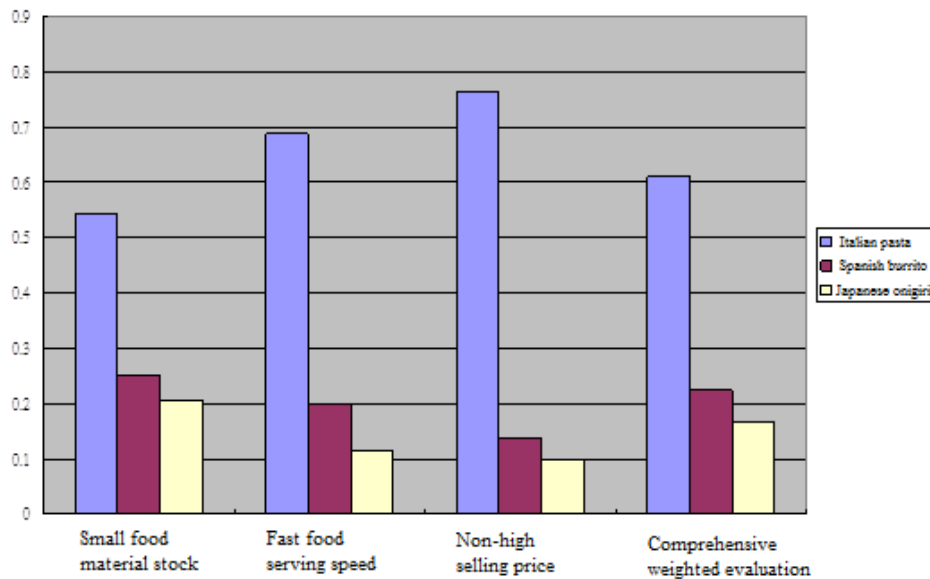| Option	Comprehensive Weighted Evaluation	Ranking
Italian pasta	0.610056608	1
Spanish burrito	0.224157368	2
Japanese onigiri	0.165786024	3

Figure 5. Diagram of Comprehensive Weighted Evaluation

As indicated by the above data, in the evaluation for a café menu style selection, the operators care about "Italian pasta" the most, followed by "Spanish burrito" and "Japanese onigiri", respectively.

5. CONCLUSIONS

To successfully operate a café, unique and personally styled charm is essential to attract consumers. Today's cafés face increasing diversity, especially in the selection of menu style. It is insufficient to select an appropriate style by using mere traditional impressions and maximum profit for analysis. Changes would occur to the basis of judgment in the face of inadequate or incomplete data. This study found that in the current evaluation of café menu style selection, Italian pasta is taken as the main consideration, and Spanish burrito and Japanese onigiri are less popular, which indicates that Italian pasta is preferred. Therefore, café operators should pay particular attention to the cooking of Italian pasta. Our previous study, "Decision Making Concerning Café Business Plan" [12] discussed the selection of the overall café style, and "Location Selection of Landscape Café" discussed the selection site [9].

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