Decision Rules Applying based on Fast-food Restaurant

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Abstract. The number of Fast-food restaurants increases dramatically in recent years due to the demands of customers. Almost every city holds McDonald's, Sunway, Burger King, Pizza Hut, and Starbucks. Except these super popular fast-food restaurants, there are still some local small fast-food restaurants. When facing all kinds of fast-food restaurants, how to choose an appropriate one for oneself becomes a problem. This article is gonging to apply Schiffman's decision rules based on Fast-food Restaurant, and help guide consumer to choose an appropriate fast-food restaurant for oneself.

Introduction

Fast-food industry in global market continually increased during 2007 to 2009 (Keynotes, 2010). The UK fast-food market generated total revenues of $2.2 billion in 2008 (Data-monitor, 2009) and represented a compound annual growth rate of 4.4% between 2004 and 2008 (Data-monitor, 2009). This intense competitive market attracted more new entrants reaching 63,420 in UK in 2009 (Keynotes, 2010), and predicated annual growth rate is 3.5% in the period of 2010-2013 (Data-monitor, 2009).

Facing a huge number of choices, consumers buying power is increasing, which results in changing consumers' buying behaviour. They not only satisfy with the basic needs for hunger, but emphasize on more factors as well. Additionally, the economic recession has made consumers generally more cautious in their fast food spending (Mintel, 2009) and hard to select which fast-food restaurant to dine.

In order to reduce the burden of complex decision making to select an appropriate fast food restaurant to dine, this report is going to apply Schiffman's (2010) consumer decision rules (compensatory combined with non-compensatory) to make a choice among the five leading and well known international fast food chains (Burger King, McDonald's, Starbucks, Subway and Pizza Hut) in UK (Keynotes, 2010), the process includes criteria selecting and decision rules applying.

Criteria Selection

To investigate which is the most welcomed fast-food restaurant, a conjoint of several attributes is useful (Beak, Ham and Yang, 2006). In this report, ten attributes have been chosen to be the criteria.

Value – Price and Quantity

Recent years, consumers are more cautious about their food shopping, and they emphasize much more on value for money (Mintel, 2009). As for price, it becomes the increasingly significant factor, which influences the selection of fast-food restaurant, especially when the economic recession occurs recently (Mintel, 2010). Consumers are more sensitive about price than before since their wage is decreasing (Fougere, Gantier and Bihan, 2010). As for quantity, consumers prefer to get more products with less money. Therefore, these two factors can be considered as another two important criteria.

Service

Service of a fast-food restaurant consists of two main important parts, which are speed and quality of service. Speed is the major element for fast-food restaurant, while the quality of service

related to staffs' behaviours also plays a significant role.

Cleanliness and Atmosphere

These two factors are concluded as physical environmental factors, and it is a part of restaurant offerings (Sullivan and Dennis, 2004). Turley and Milliman (2000) reckon that these factors will lead to a wide variety of consumer evaluations and behaviours.

Food Quality

Food quality is made up of food taste and food hygiene. Food taste can be regarded as the most basic motivation for a fast-food restaurant, and the food hygiene can keep the food high quality as well as good taste, which also affect consumer's choice a lot. As a result, food quality is one of the most important factors in choosing fast-food restaurants (Beak, Ham and Yang, 2006).

Health

With the rapid development of living standard, people tend to focus on not only the taste of the food but also the nutrition. Meanwhile, increasing the number of people is getting to know that 'fast food causes obesity and half knew of the link to the heart disease' (Seubsman, Kelly, Yuthapornpinit and Sleigh, 2009). Therefore, health is considered as another important factor to select fast-food restaurant.

Variety

Harry Balzer (2006) illustrates that menu variety is a key element for consumer to decide which fast-food restaurant is going to be chosen. A wider variety of food and beverage selection will attract a wider range of consumers.

Convenience

Cranage and Page (1995) indicate that convenience of fast-food restaurant can be used as one of the important marketing strategy. It is referred to the location as well as the infrastructure around the restaurant, such as coverage rate of restaurants and car parks.

Brand Image

The competitive nature of the market continues to make it difficult for various brands to differentiate themselves (Mintel, 2007). Meanwhile, due to the economic recession, consumers are more likely to looking for big brands for guarantees, rather than taking risks for adventures (Mintel, 2009). Therefore, brand image of the fast-food restaurant highly influences consumer's behaviours. According to the attributes selected, the next step of this report is to choose the best restaurant among the five options by applying decision rule.

Decision Rules Applying (Schiffman, 2010)

Non-compensatory Decision Rules

Schiffman (2010) demonstrated that there are two main classifications of decision rules - compensatory and non-compensatory. Among them, compensatory decision rule is used to evaluate all factors, and then choose the one with the highest score. In contrast, non-compensatory decision rules, including conjunctive, disjunctive and lexicographic models, help people to reject alternatives which do not meet the requirements.

In order to get a more convincible result, a conjunctive-disjunctive-compensatory decision rule is used in this article. To begin with, every brand was scored in terms of 10 criteria. The scores range from 1 to 10, with 1 representing the worst performance, and 10 considered as the best performance. The marks are listed in Table 1.

Table 1: Ranking for Fast Food Restaurants

	McDonald's	Burger King	Subway	Pizza Hut	Starbucks
Price	8	6	7	6	6
Service	9	8	5	4	6
Atmosphere	8	7	6	6	8
Cleanliness	9	6	5	5	7
Quality	9	10	7	6	7
Variety	8	7	10	8	6
Brand Personality	9	8	6	6	7
Convenience	9	8	10	8	7
Health	6	6	9	5	6
Quantity	10	9	8	7	5

After that, a conjunctive decision rule is applied. In this part, a minimal acceptable line is established for all criteria, and any brand has feature does not exceed this line will be eliminated (Schiffman, Kanuk and Wisenblit, 2010). In order to choose the brand performing above average in every aspect, the minimal score is decided to be 5. Therefore, it is clear Pizza Hut is eliminated because it does not achieve this line in the service part for its slow service speed and unfriendly attitudes.

Then, the disjunctive decision rule is applied in order to choose brands with at lest one excellent part. This decision rule only allows brands with at least one mark over the established minimal cut-off level to be selected (Schiffman, Kanuk and Wisenblit, 2010), and the minimal score is 10. It is showed from the table that although Starbucks performances well in all aspects, it is deleted because it does not has any outstanding part.

In contrast, McDonald's, Burger King and Subway are selected because all of them have at least one excellent attribute scored 10. For Subway, its large variety of food is quite famous and welcomed by customers. For example, customers can select ingredients from 50 different choices to make their own sandwich (Subway Official Website). Moreover, as Subway has more than 1,500 outlets in the UK, and it makes it the largest fast food chain in the UK (Key Note, 2010). There is no doubt that it can be marked as 10 in the convenience part. By contrast, Burger King is selected for its quality, as the company has a rigorous quality control procedure and strict policies to select suppliers (Burger King Commitments, 2010). McDonald's is performing excellent in almost every aspect, while its best part is the quantity, as it is well known that the Big Mac can be said as one of the biggest burgers in the world with relatively low price.

Compensatory Decision Rules

After non-compensatory decision rules have been used during the former process, compensatory decision rule is needed to apply to make the final decision. Compared with the non-compensatory decision rule, the feature of the compensatory one accepts a positive evaluation of an alternative on one attribute to balance out a negative evaluation on some other attribute (Schiffman, Kanuk and Wisenblit, 2010). In following the compensatory decision rule, three options left, which are McDonald's, Burger King, and Subway, will be evaluated. Based on each attribute and a weighted score for each brand (Schiffman, Kanuk and Wisenblit, 2010), the one has the highest weighted score should be the final purchasing option.

Firstly, ten criteria judging fast-food restaurants are going to be ranked based on their importance and preference. The attributes are set the weighting coefficient from one to ten, and the interval between each other is the same. Meanwhile, coefficient of ten represents the most important or preferred while coefficient of one is considered the most unimportant or unvalued. For the quantity of food is generally recognised as the most important factor during consideration process, "quantity" should be assigned the weighting coefficient of ten. Additionally, consumers pay more attention to healthy factors such as low-calorie and organic during the process of food selection even in fast-food restaurants. Therefore, "health" can be selected as the second-highest ranked attribute and

given the coefficient of nine. What's more, "atmosphere" factor is regarded as the least important criterion while choosing fast-food restaurants, so it gains the bottom coefficient of one. Details are shown in following Table 2.

Table 2: Weighting Coefficient of Each Attribute

Criteria	Weighting Coefficient
Quantity	10
Health	9
Price	8
Quality	7
Service	6
Brand Personality	5
Cleanliness	4
Variety	3
Convenience	2
Atmosphere	1

Three brands are compared and scored in each attribute. The scores range from one to ten, with one representing the worst performance, and ten considered as the best performance in the specific factor. The following Table 3 shows the result of evaluating scores for three brands.

Table 3: Scores of 10 Criteria for Each Brand

Brand / Criteria	McDonald's	Burger King	Subway
Quantity	10	9	8
Health	6	6	9
Price	8	6	7
Quality	9	10	7
Service	9	8	5
Brand Personality	9	8	6
Cleanliness	9	6	5
Variety	8	7	10
Convenience	9	8	10
Atmosphere	8	7	6

Weighted scoring rule is used to simply combine a set of rankings to achieve an overall ranking on the alternatives (Gehrlein, 1986). The weighted score for each brand can be computed by the weighting coefficient and score of each attribute in the form of a weighted average. First, multiply value of each attribute by its weighting coefficient and sum these values to get the total value. Then, divide the total value by the sum of weighting coefficient. The result is the weighted average. For every brand, the score of each separate criterion can be set as Xi, and Yi stands for the weighting coefficient of each criterion (i=1, 2, 3…., 10). The result of weighted score S can be indicated as

$$S = \frac{\sum (Xi * Yi)}{\sum Yi} \quad (i=1, 2, 3…., 10)$$

Therefore, the weighted scores of three restaurants are shown in Table 4,

<div align="center">Table 4 Weighted Scores of Three Restaurants</div>

Restaurant	Score
McDonald's	$S_{MC} = \dfrac{10*10+6*9+8*8+9*7+9*6+9*5+9*4+8*3+9*2+8*1}{10+9+8+7+6+5+4+3+2+1} = 8.5$
Burger King	$S_{BK} = \dfrac{9*10+6*9+6*8+10*7+8*6+8*5+6*4+7*3+8*2+7*1}{10+9+8+7+6+5+4+3+2+1} = 7.6$
Subway	$S_{SW} = \dfrac{8*10+9*9+7*8+7*7+5*6+6*5+5*4+10*3+10*2+6*1}{10+9+8+7+6+5+4+3+2+1} = 7.3$

These are the final results of all three brands. According to the assumption that the consumer will select the brand that scores highest among the alternatives (Schiffman, Kanuk and Wisenblit, 2010), McDonald is determined to be the final purchase choice.

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