Exploring the comparative salience of restaurant attributes: A conjoint analysis approach

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ABSTRACT

This study explores how travelers select a restaurant for dining out, given that restaurant customers consider diverse attributes in making a selection. By applying a conjoint analysis, an exploratory multiple-case study is conducted for three restaurants in New York City. Findings from Study 1 (an overall travelers group) and Study 2 (two different country-of-residence groups: foreign and domestic travelers) show that food, value, atmosphere, and service are considered as substantially important criteria in selecting restaurants, in that order. However, results from Study 3 examining different restaurant types (low-priced food stand, low-priced indoor, and high-priced indoor) reveal that the food attribute is the most important factor, regardless of restaurant types, whereas the other attributes' rankings vary. Results from Study 4 dividing the sample by both traveler origin and restaurant type demonstrate a total disparity in the importance ranking for all attributes. This study suggests that a conjoint analysis is an appropriate method for restaurant sector research in predicting the most important determinants consumers perceive among restaurant attributes. The findings may help restaurant managers develop specific strategies that fit the needs and expectations of different customer groups in terms of their type of restaurant.

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1. Introduction

People worldwide enjoy eating out, regardless whether it is with family members or friends. Food aficionados conduct extensive information searches to find a great place to eat while sightseeing and shopping, as travelers or tourists are inclined to stop by famous eateries. Consumers use the Internet to take advantage of a variety of information about eateries, including professional and peer reviews. When customers shop online, however, they often need to make purchase decisions with incomplete information. To reduce this perceived risk, they tend to obtain information from online search engine advertising, product descriptions, and recommendation systems. Consumers now rely on online product reviews (OPRs) or discussions in online forums to help them make purchase decisions, since their helpfulness is of particular importance as consumers are likely to consider online reviews as more credible and informative than other online information, thereby facilitating consumers' purchasing behavior (Chatterjee, 2001; Chen & Xie, 2008).

Travel review websites such as "TripAdvisor" are becoming more popular because they provide travelers with useful information related to hotel and restaurant selection, thereby saving them time and reducing expected risks. As online consumers share their experiences after purchasing and using products (Park, Lee, & Han, 2007), travelers also tend to express their experiences with hotels or restaurants in written phrases or rating scores (Rhee & Yang, 2015a). As many restaurants in Manhattan of New York City (NYC) compete to meet consumers' basic needs, understanding how consumers select a restaurant is an urgent strategic requirement for restaurants to survive. Tourists to Manhattan may search for the most preferential restaurants to enjoy a particular type of dining experience before their visit, given that restaurants in Manhattan provide various types of cuisines. Tourists compare online information about restaurants' attributes to narrow their selection and eventually choose the restaurant with the most attractive attribute. Given that online consumer reviews on travel review websites may positively or negatively affect restaurant reservations, restaurant managers should understand how to carefully interpret the reviews, including the information about key attributes such as value, service, atmosphere, and food, and incorporate this into the restaurant's strategic management.

A conjoint analysis is a relevant tool in understanding how consumers make decisions about restaurant selections and to measure

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an attribute's importance (Baek, Ham, & Yang, 2006; Park, 2004). Koo, Tao, and Yeung (1999) argued that a conjoint analysis helps restaurant managers to segment customer groups and meet that group's specific needs. Accordingly, this study applies a conjoint analysis to explore the importance of the key four attributes in evaluating restaurants: *value*, *service*, *atmosphere*, and *food* from the perspectives of domestic and foreign travelers. Particularly, this study focuses on the three sample cases: "Shake Shack" (SS, a low-priced food stand), "Burger Joint" (BJ, a low-priced indoor), and "The Spotted Pig" (TSP, a high-priced indoor). These restaurants are selected for three reasons. First, these restaurants serve a more standard and typical hamburger with mass appeal, regardless of customer groups of country-of-residence. Second, burger restaurants in Manhattan are open 24-hours and have high volumes of domestic and foreign travelers, providing a convenient sample to compare restaurant attributes. Third, three restaurants were carefully selected by considering the number of online review counts on the target website of the study (i.e., TripAdvisor); when the keyword of "burger" on TripAdvisor was searched, three restaurants were ranked with high levels of online reviews. Given that the number of online reviews may indicate the intensity of underlying word-of-mouth (Duan, Gu, & Whinston, 2008), each of three selected restaurants (i.e., SS, BJ, and TSP) is more appropriate to represent a low-priced food stand, a low-priced indoor, and a high-priced indoor burger restaurant, respectively. Although including a high-priced food stand restaurant in the sample may provide the highest-quality external validity, the main data source, the travel review web site of TripAdvisor, does not have reviews of this category of restaurants. Hence, exploring three restaurant types may represent each category, leading to a high external validity for a conjoint analysis in this exploratory multiple-case study.

The purpose of this study is to explore how travelers select a restaurant, given that restaurant customers consider diverse attributes in selecting a restaurant. More specifically, by applying a conjoint analysis, this study attempts to identify and compare the importance of attributes customers perceive while choosing a burger restaurant in diverse contexts of restaurant types as well as traveler types. The findings may help restaurant managers develop specific strategies that fit the needs and expectations of different customer groups in terms of their type of restaurant.

This study consists of the following four separate studies. The first study (Study 1) evaluates the importance of all four attributes (i.e., *value*, *service*, *atmosphere*, and *food*) using a complete customer group that includes both domestic and foreign travelers for each restaurant (i.e., SS, BJ, and TSP). In the second study (Study 2), the importance scores of each attribute are compared between foreign and domestic travelers of all eateries, and in the third study (Study 3), the attributes are compared for each restaurant separately for the combined customer group. Lastly, the fourth study (Study 4) compares each eatery's attributes for domestic and foreign traveler groups separately. Finally, some meaningful propositions are suggested for future empirical studies based on the conjoint analysis results of the four combined studies and their related discussions.

2. Literature review

2.1. Restaurant research employing a conjoint analysis

As the tourism market becomes globalized and the Internet serves as a more critical information source, consumers are likely to easily search for and compare restaurants, employing product or service attributes as selection criteria to simplify the selection process. Travelers tend to select restaurants depending on their own preferences or purposes for eating-out. As travelers increasingly depend on online review websites to find information about restaurants, earlier studies have recommended applying a conjoint analysis because this analytic method is useful for precisely analyzing the relative importance of restaurant attributes (Baek et al., 2006; Becker-Suttle, Weaver, & Crawford-Welch, 1994; Dube, Renaghan, & Miller, 1994; Koo et al., 1999; Park, 2004; Tse, 2001). A conjoint analysis is a useful tool in understanding and addressing the combined effects of multiple product attributes on product selection by customers (Green and Srinivasan, 1978; Wong & Chi-Yung, 2001). In addition, this analysis is more relevant in predicting overall consumer preferences by considering the aggregated utility scores of a product (Levy, 1995). Therefore, it is commonly used as a powerful marketing research tool to predict consumer choices among multiple product attributes (Baek et al., 2006).

Compared to ample studies on the selection of hotels, a conjoint analysis has been little employed to predict overall consumer preferences in the selection of restaurants although there is a similar pattern of selection between them (Koo et al., 1999). Accordingly, it is worth applying the same analytic technique to the restaurant sector to recognize the relative importance of multiple restaurants' attributes. That is, customers tend to select a restaurant by considering the whole range of restaurant attributes in totality rather than each attribute separately (Baek et al., 2006). For example, online customers are likely to evaluate value, food, price, and atmosphere after experiencing restaurants, and then prioritize attributes based on their own satisfaction in its relative importance ratings. Consequently, knowing the relative importance of multiple attributes may help both online customers and restaurant managers respond to changes in attributes' rankings. Customers are likely to consider the relative rank of attributes to select a restaurant, whereas restaurant managers are likely to implement effective restaurant operation strategies in response to changing customers' satisfaction in product or service attributes. The following studies provide reasonable evidence to support applying a conjoint analysis in the restaurant sector.

First, Becker-Suttle et al. (1994) conducted a pilot study with two different age segments (senior citizens and non-senior citizens) into customer expectations of full service restaurant dining experiences. They found differences between the two age groups in some, but not all, attributes.

Second, Dube et al. (1994) developed 16 restaurant dining scenarios consisting of seven attributes and two levels for each attribute. The authors investigated the relative importance of restaurant service attributes that impact consumers' repeat purchase intention, finding that pleasure and business purpose experiences generate different preferences. For both groups, food quality and attentive service are the most important factors for their revisit intentions. However, for pleasure occasions, helpful servers, atmosphere, and consistent food are the next important factors. For business occasions, atmosphere, consistent food, and then helpful servers are the three most important factors. Moreover, the authors converted the actual scores of one particular restaurant under investigation into utility scores to compare these with the ideal utility scores. Among the seven characteristics, the largest differences are found on food quality and staff attentiveness, with practically no difference for waiting time.

Third, Koo et al. (1999) generated a focus group consisting of 30 respondents with plenty of overseas travel experience (i.e., dining and business entertainment experiences) to answer a questionnaire. The respondents were asked to complete 27 profiles for three different eating-out purposes such as "family meal," "business entertainment," and "tourism" in Hong Kong. The authors found that food price affects consumers' choice of restaurants differently depending on the purpose; consumers are price-sensitive for family meals while they are less concerned about price for business entertainment, given that business meals are usually paid by their employer. Customers prioritize service when they are select-