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**Beyond the shadow of a doubt:
The effect of consumer knowledge on restaurant evaluation**

ABSTRACT

This paper investigates the effect of consumer knowledge about the type of restaurant on perceived restaurant quality on seven dimensions: food quality, healthiness, ambience, food variety, value, contextual, and social. Existing studies comparing chain restaurants with independent restaurants have yielded mixed results. The findings of the present investigation show that both types of restaurants are equally likely to do well and their success or failure depends on what consumers know about a restaurant and how they evaluate it. In contrast, not having a clear identity and position in consumers' minds does not help the restaurant to succeed. The implications of these findings are discussed in detail.

Keywords:

Consumer Knowledge; Restaurant Evaluation; Chain Restaurant; Service Quality; Uncertainty

1. Introduction

With an estimated total annual sales of \$800 billion (National Restaurant Association, 2017), the U.S. restaurant market has remained highly competitive (IBISWorld, 2017; Madanoglu, 2008; Young, Clark, and McIntyre, 2007). Every shopping area or gathering place has several competing restaurants, which include both chain restaurants and independent establishments, resulting in abundant and sometimes confusing choices for consumers. According to a recent report published by Pentalllect Inc. (a food industry consulting firm), while the total annual sales of independent restaurants was lower than that of larger chains, from 2017 through 2020, independent restaurants are expected to see annual revenue growth of 4-5%, which is almost double the 2-3% growth expected for chain restaurants (Nation's Restaurant News, 2017). Similarly, while the findings of previous academic studies are mostly favorable towards chain restaurants (Madanoglu, Lee, and Castrogiovanni, 2011, 2013; Parsa et al., 2011), other studies have found that franchise units fared only marginally better, if at all, than independent restaurants (e.g., Castrogiovanni, Justis, and Julian, 1993; Parsa et al., 2005). While such discrepancies could be partially due to lower sales performance of family-owned franchisees compared to nonfamily-owned franchisees (Patel et al. *in press*), other factors such as promotional dollars, atmosphere, food quality, service attributes, satisfaction, and loyalty could also play a significant role (Stassen and Mittelstaedt, 2002; Sulek and Hensley, 2004; Young, Clark, and McIntyre, 2007).

These somewhat mixed findings provide the impetus for our study. We take the stance that both independent and chain restaurants can be successful or unsuccessful, and that their success/failure is determined by how consumers evaluate these restaurants on several dimensions and then patronize them. Further, we argue that consumers will form opinions about a restaurant

and its offering based not only on their knowledge about the type of restaurant—chain or independent—but also by their lack of knowledge about the type of restaurant. As a point of clarification, the term “independent” in this study refers to restaurants that have full authority in all aspects of their operations and management (location, lay out, decoration, menu items, pricing, promotions, branding, sourcing, etc.). In contrast, “chain” restaurants are part of a network of restaurants, either franchised or company-owned, that operate under the same brand name and follow standardized procedures to run their business. Previous research has paid little attention to understanding the effect of knowledge (or lack of knowledge) about the type of restaurant on patrons’ opinion about the restaurant and its offerings. The main objective of this research is to fill this gap by investigating the research proposition that consumers have preconceived notions about chain versus independent restaurants, and this may influence their perceptions about the restaurant and its offerings: for instance, expensive or affordable, unique or standardized cuisine, good or average service, welcoming or business like and cold ambience. In addition, there may be situations where consumers do not know whether it is a chain or an independent restaurant. How does this affect their attitude towards that restaurant?

In our empirical investigation, we focus on fast food and casual dining restaurants and use the shopping/eating market area adjacent to a large comprehensive university [name hidden for blind review] as the research context. This shopping/eating area caters primarily to students and other stakeholders of the focal university. This investigation is important because the success of any restaurant, whether part of a chain or not, is determined by its consumers’ perceptions and acceptance. This is particularly pertinent in the franchise sector because of its unique characteristics, the standardization of offering and procedures, the formalization of offerings and procedures, and its formalized governance and structure. In comparison, independent restaurants

may be different on some of these same dimensions. For both, the findings of this study have important marketing, positioning, and promotional implications. The key may be developing strategies that help position the restaurant in clear and unambiguous terms.

Our next section presents a review of the literature on consumer knowledge and its consumer behavior outcomes, followed by a review of literature on restaurant quality and its dimensions, and the related hypotheses. Then, we present the research method utilized to test the hypothesized relationships, as well as the study's results and discussion. Finally, we present our study's implications and limitations.

2. Conceptual background and hypotheses

2.1. Consumer knowledge

Consumer knowledge has been extensively discussed in consumer behavior literature along with its effects on how people search for information, evaluate alternatives, make consumption decisions, and judge and evaluate their consumption experiences (e.g., Alba and Hutchinson, 1987; Bettman and Park, 1980; Brucks, 1985; Cordell, 1997; Frank and Schvaneveldt, 2016; Johnson and Russo, 1984; Maheswaran and Sternthal, 1990; Nepomuceno, Laroche, Richard, 2014; Qian, Soopramanien, and Daryanto, 2017; Sujan, 1985). The level of prior knowledge enhances or undermines the impact of a brand's message (Alba and Hutchinson, 2000; Bettman and Sujan, 1987; Liao et al., 2015). This process is also supported by attribution theory that establishes that consumers choose specific outcomes to a stimulus through cause and effect (Heider, 1958; Settle et al., 1971). In other words, consumers interpret brand messages and construe an outcome or an action. This interpretation is affected by persuasion knowledge—consumers are aware that the message is trying to influence their perception (Bambauer-Sachse and Mangold, 2013; Issac and Grayson, 2017)—and thus consumers tend to be more persuaded

by information that is more aligned to their prior beliefs (Wood and Lynch, 2002) and underlying moral foundations (Kidwell et al., 2013).

Furthermore, consumers with a high level of prior knowledge are selective in their information search and thus tend to evaluate and make judgments and decisions faster (Bettman and Park, 1980); while those with limited prior knowledge tend to engage in more in-depth information searches and are slower to evaluate and make judgments and decisions (Mitchell and Dacin, 1996; Sujun, 1985). A high level of prior knowledge facilitates consumer retrieval of relevant information regarding the brand message that, in turn, enhances the person's judgments and evaluation of a brand; while consumers with limited prior knowledge exhibit opposite outcomes (Hong and Sternthal, 2010). Hong and Sternthal's (2010) findings additionally suggest that consumers' prior knowledge can influence evaluations, judgments, and decisions when they experience a subjective feeling of processing fluency—"the subjective experience arising from their judgment and decision-making process" (p. 301). In other words, a high level of fit between consumer prior knowledge and the brand information may enhance brand evaluation favorableness due to not only content compatibility, but also ease of the judgment and decision-making experience itself (Hong and Sternthal, 2010). This is a very relevant finding for restaurants, given the fact that most restaurants are service oriented, and great part of the evaluation and judgment process happens while in the locale experiencing the service—high experience quality (Lovelock, 1996; Zeithaml, Parasuraman, and Berry, 1985).

2.2. Restaurant quality attributes

Restaurant quality has been the focus of investigation in the franchising, services, and hospitality literature and this has resulted in a rich description of what constitutes restaurant quality and its dimensions. One common and important factor in the literature is *food quality*,

which has been widely regarded in previous research as an important factor in determining restaurant quality (e.g., Lee, Cho, and Ahn, 2012; Lim and Ya, 1997; Pettijohn, Pettijohn, and Luke, 1997), overall dining experience (Nield, Kozak, and LeGrys, 2000), and customer satisfaction and behavioral intentions (e.g., Bujisic, Hutchinson, and Parsa, 2014; Namkung and Jang, 2007). This dimension, sometimes generally referred to as meal (Liu et al., 2014), includes attributes such as tastiness, presentation, freshness, and serving temperature (Bhuiyan, 2008; Josiam et al., 2014; Kivela, Inbakaran, and Reece, 1999; Liu et al., 2014; Ryu, Lee, and Kim, 2012). As discussed, consumers with more knowledge about the restaurant tend to evaluate and make judgments faster (Bettman and Park, 1980) because higher levels of prior knowledge facilitate retrieval of relevant information regarding the brand message, which in turn enhances a person's evaluation of a brand and its offerings. Therefore, we argue that consumer knowledge positively influences how food quality is perceived:

H1: Consumer knowledge about the type of restaurant positively influences perceptions of restaurant food quality.

Healthiness is the second factor which has been considered as either a subcategory of meal and food quality (e.g. Kivela et al., 1999; Qin and Prybutok, 2008) or a separate factor (e.g., Oyewole, 1999, 2012). This dimension includes attributes such as offering nutritious and healthy food, offering vegetarian items, and preparation of food following health trends (e.g., Knutson, 2000; Liu et al., 2014). While some chains restaurant such as Subway, Panera Bread, and Pita Pit have been offering healthy food options, other names such as McDonald's and KFC have traditionally been associated with unhealthy food offerings. Therefore, being part of a restaurant chain by itself does not seem to be a strong indicator of healthiness. However, standardization of sourcing and food preparation processes may provide consumers with additional confidence and

peace of mind when their favorite restaurant is part of a chain. Therefore, consumer knowledge is expected to have a positive influence on perceptions and evaluations of healthiness only for chain restaurants. More precisely:

H2: Consumer knowledge about the type of restaurant positively influences perceptions of food healthiness only for chain restaurants.

The dimension of *ambiance* has also featured in extant literature as one of the critical factors in evaluating restaurants (e.g., Bujisic et al., 2014; Liu et al., 2014), corresponding to tangibles in SERVQUAL (Parasuraman, Zeithaml, and Berry, 1998) and DINESERV scales (Stevens, Knutson, and Patton, 1995). This factor has been referred to in previous research as comfort (Oyewole, 1999, 2012; Soriano, 2003), atmosphere (Auty, 1992; Johns and Howard, 1998; Kivela et al., 1999; Knutson, 2000; Pettijohn et al., 1997), and physical environment (Kim et al., 2009; Ryu et al., 2012). A variety of atmospheric factors have been categorized under this dimension such as interior design and decoration, comfortable seating, background music and noise, scent, lighting, restaurant's temperature, dining privacy, cleanliness, and staff appearance (Bhuiyan, 2008; Kivela et al., 1999; Liu and Jang, 2009; Liu et al., 2014; Pettijohn et al., 1997; Ryu et al., 2012). Similar to the argument provided for food quality, we expect consumer knowledge to exert a positive influence on how its *ambiance* and other atmospheric attributes are evaluated by its patrons. More specifically, a high level of prior knowledge may enhance brand evaluation favorableness due to ease of the judgment and decision-making experience (Hong and Sternthal, 2010). Therefore:

H3: Consumer knowledge about the type of restaurant positively influences perceptions of restaurant *ambiance*.

Food variety, also known as menu variety (Josiam et al., 2014; Knutson, 2000; Lim and Ya, 1997) or variance of menu (Park, 2004) is another dimension affecting dining experience and restaurant patronage (Nield et al., 2000). Similar to the healthiness dimension, food variety has been researched as a separate dimension (e.g., Park, 2004) and an item within the food quality factor (Qin, Prybutok, and Zhao, 2010; Ryu et al., 2012). Overall, the perception is that restaurant chains, due to their standardization and logistical complexities, typically offer a simple and smaller menu with very few (if any) customizable options. In contrast, independent restaurants, due to their complete independence and local operations, are expected to offer more variety and customization in their menu. Even if the variety of their menu options is similar to those of chain restaurants, independent restaurants' patrons may still perceive food variety to be higher because such restaurants provide a unique and local experience (as opposed to a standard, replicable experience in various locations of a chain restaurant). Thus:

H4: Consumer knowledge about the type of restaurant positively influences perceptions of food variety only for independent restaurants.

The next factor identified in the literature is *value*, which is also referred to as perceived value (Liu and Jang, 2009; Oh, 2000; Qin et al., 2010), value for money (Auty, 1992; Josiam et al., 2014), value for price (Liu et al., 2014), and price (Lee and Ulgado, 1997; Pettijohn et al., 1997). While perceived value may refer to a comprehensive evaluation of food, service, environment, and price (Liu et al., 2014), the specific restaurant attributes examined under this dimension typically include low price, reasonable pricing, economical, offering discount coupons and promotional menu items, offering good value for the price or compared to others (e.g., Knutson, 2000; Liu et al., 2014; Ryu, Han, and Jang, 2010; Ryu et al., 2012). Research shows that perceived price and perceived value are the key factors behind customers' restaurant selection

(Han and Kim, 2009). In the context of this study, eating out is a big portion of college students' daily expenditure on campus. In addition, they usually have a more limited budget and thus price plays an important role in their evaluation of different restaurants. However, such evaluations of perceived value and price are expected to be influenced by knowledge of the restaurant type because, as discussed, prior knowledge leads to experiencing a subjective feeling of processing fluency, which in turn may enhance brand evaluation favorableness. Therefore, we hypothesize:

H5: Consumer knowledge about the type of restaurant positively influences perceptions of value.

In addition, we include two new factors—*contextual* and *social*—in our study. While these two dimensions of restaurant quality have not been widely investigated in previous studies, we believe that most marketplaces (for example, Bourbon Street in New Orleans, Beal Street in Memphis, and Bleecker Street in New York City) have some unique characteristics which distinguish them from other areas, and restaurants in that marketplace generally try to fit in with the local flavor. Examples of such characteristics include the type of restaurants, decor, some unique cuisine, and music, to name a few. These two dimensions were identified in a qualitative study undertaken among the key stakeholders of this eating marketplace (five restaurant managers and 20 patrons). The conversations were unstructured and mainly focused on factors other than focal factors such as food quality, ambience, and price. The words and phrases used by our respondents generally revolved around contextual and social factors (more details are provided later).

Contextual factors may refer to food delivery service, hours of operation, and external environment and location that are important in restaurant choice for the local customers. In Soriano's (2003) study, opening/closing hours and location are considered as two of the items

within “ancillary services” dimension whereas Oyewole (1999) found a dimension of “availability” that includes hours of operation. Although location, sometimes referred to as convenience (Pettijohn et al., 1997) or convenience of location (Lim and Ya, 1997), has been regarded as one of the factors in evaluating restaurants (e.g., Johns and Howard, 1998; Lee and Ulgado, 1997), the role of the external environment has not been investigated in previous research. Similarly, the role of the social factors (i.e., restaurant as a social gathering place) has not been studied in detail, specifically for fast-food restaurants. In her study, Auty (1992) identified some dining out occasions, two of which are celebrations (birthdays or anniversaries) and social occasions. In addition, spacious internal area (Oyewole, 1999), room (i.e., big enough; Soriano, 2003), and spaciousness of establishment (Lim and Ya, 1997) are some of the related items considered in previous studies under other dimensions such as comfort and the physical characteristics of the restaurant.

For these two dimensions, we hypothesize that consumer knowledge about a restaurant—i.e., whether it is part of a chain or not—is likely to play a strong role in consumer evaluations of the restaurant and its offerings. Further, we believe that a lack of knowledge in this context is likely to result in confusion and uncertainty, which may result in a poor evaluation of the restaurant about which consumers know very little. Thus:

H6: Consumer knowledge about the type of restaurant positively influences perceptions of contextual factors.

H7: Consumer knowledge about the type of restaurant positively influences perceptions of social factors.

3. Method

3.1. Context of the study

The context for this study was a comprehensive public university located in a large metropolitan city in the Southwestern United States. Data were collected using self-administered questionnaires. The restaurants are located in an eating area adjacent to the university—[street name is hidden for blind review]. This area caters primarily to the students, faculty, and staff at the university. The population of interest was university students and the sampling frame included students from the focal university.

3.2. Measurement development and pilot test

We followed a two-step process in order to compile the list of items intended to measure how consumers evaluate restaurants. We first reviewed the literature in this domain and included the items measuring the five widely investigated factors in literature: food quality, healthiness, ambiance, food variety and value. Additional items were then generated following a qualitative approach. The qualitative phase included personal interviews with five restaurant managers in the focal marketplace as well as 20 patrons of these restaurants. The interviews with restaurant managers were face-to-face, unstructured, and mainly focused on additional factors that people take into account to choose a restaurant in the area. During the interviews, the interviewer (one of the coauthors) took notes for words and expressions that dealt with factors other than food quality, healthiness, ambiance, food variety and value. Similarly, the 20 restaurant patrons were asked to focus on factors other than the five factors noted above, and then report the first five words that they would associate with their favorite restaurant in that marketplace. The words from patrons and the words and expressions from managers were all put in an Excel spreadsheet and similar words were grouped together to form clusters. A simple frequency count was then used to narrow down the list of new factors. As discussed, the words and phrases used by our respondents generally revolved around two new factors – context and social factors.

The initial set of factors (42 items) was first used in a pretest using a sample of 150 respondents. Specifically, respondents were asked to select their most favorite restaurant from a list of 13 restaurants located near the campus and evaluate their favorite choice on the scale items ranging from 1 (strongly disagree) to 5 (strongly agree). The list included more famous, larger restaurant chains such as Subway, Taco Bell, and Chick-fil-A, smaller chains such as Pita Pit and Chicken Express, and independent restaurants such as [names hidden for blind review]. The initial scale purification process using factor analysis resulted in 35 items, which were then used in the final study.

Further, respondents were asked to indicate whether they saw the restaurant as a franchise chain unit or not. We specifically asked them to indicate the extent to which they agree or disagree with the statement “this restaurant is part of a franchise chain” on Likert-type scales ranging from 1 (strongly disagree) to 5 (strongly agree). Finally, demographic variables were also measured—e.g., gender, age, personal income, class level, marital status, student status, frequency of eating out, and money spent on eating out.

3.3. Final sample and data collection

Data for the final study were collected in two phases (i.e., two academic semesters). The first sample included 795 college students (50.6% female) and the second sample included 1600 respondents (51.2% female) from the same sampling frame. Further assessment of the samples’ characteristics (e.g., gender, age, personal income, class level, marital status, etc.) revealed no significant differences between the two groups. In addition, we measured participants’ frequency of eating out for lunch, dinner, and late night dinner, ranging from 1 (every day) to 6 (never). The two samples were compared and no significant difference was found between the samples (lunch: $M_1 = 2.40$ vs. $M_2 = 2.37$; $p > .7$, dinner: $M_1 = 2.39$ vs. $M_2 = 2.31$; $p > .4$; late night dinner:

$M_1 = 1.79$ vs. $M_2 = 1.92$; $p > .7$). Therefore, the two samples were combined and analyzed together. The majority of participants in the overall sample were full-time (73.6%), senior students (41.8%), and in the 21-25 year-old age category (59.5%). There were slightly more female respondents (51.0%) than males.

4. Analysis and results

In order to examine the internal factor structure and multidimensionality of the scale, the final set of items were subjected to principal components analysis (PCA) with Varimax rotation. The rotated factor structure and inter-item correlations and covariances are shown in Table 1 and Table 2 respectively. As shown in Table 1, the items loaded on seven factors, explaining 59.27 percent of total variance. These were labeled: *Food Quality* (six items), *Healthiness* (six items), *Ambience* (five items), *Food Variety* (four items), *Value* (three items), *Context* (three items), and *Social Factor* (three items). Reliability of each factor was assessed by calculating the Cronbach's alpha. All reliability coefficients were in an acceptable range (i.e., Cronbach's alpha of .6 or higher; Nunnally, 1978), except for the social factor with a Cronbach's alpha of .522. This may in part be attributable to the small number of items comprising this factor (Nunnally, 1978). However, given the exploratory nature of the study, this Cronbach's alpha satisfies the criteria for a reliable scale suggested by Nunnally (1978). In addition, since multiple students rated each restaurant on various attributes, we analyzed intra-class correlations (ICC) as estimates of interrater reliability to examine the extent to which participants (i.e., raters) agreed on their ratings. The guidelines state that, when the reliability estimate is between .40 and .59, the level of practical significance is fair; when it is between .60 and .74, the level of practical significance is good; and when it is between .75 and 1.00, the level of practical significance is excellent (Cicchetti, 1994). These reliability estimates here ranged from fair to excellent (see Table 1),

indicating acceptable intra-class reliability. The final items within each dimension were averaged to create the composite scores which were used to test the hypotheses.

Table 1 and Table 2 about here

In order to test the hypotheses of this study, responses on whether “they see the restaurant as part of a franchise chain” were used to categorize them into three groups: (1) *agree* or *strongly agree*: respondents who know the restaurant *is* part of a chain (i.e., the “Chain” group); (2) *disagree* or *strongly disagree* respondents who know the restaurant *is not* part of a franchise chain (i.e., the “Independent” group); and (3) *neither* or *I don’t know*: respondents who *do not* know whether the restaurant is a part of a chain or not (i.e., the “Uncertain” group). The composite scores for the scale items for the seven restaurant quality dimensions were used in a one-way multivariate analysis of variance (MANOVA) to determine differences in consumers’ evaluation of restaurants (i.e., food quality, healthiness, ambience, food variety, value, context, and social factor) with respect to their prior knowledge about the type of restaurant. The results, summarized in Table 3, indicate that there are significant differences between the three groups on all dependent variables ($p < .01$).

Table 3 about here.

Tukey’s post-hoc procedure was used for pair-wise comparisons between the different groups. The findings show that food quality was rated significantly higher for both chain ($M = 4.201$; $p < .001$) and independent restaurants ($M = 4.111$; $p < .05$) compared to the uncertain group ($M = 3.985$), but the difference between chain and the independent restaurants was not significant ($p > .05$). While healthiness was rated similarly for chain restaurants ($M = 3.307$) and the uncertain group ($M = 3.319$, $p > .5$), their ratings were significantly higher than those of independent restaurants ($M = 2.776$, all $ps < .001$). For the next factor, ambience, the only

significant difference was between chain restaurants ($M = 3.870$) and the uncertain group ($M = 3.756$, $p < .001$) and the other differences were not significant (independent restaurants: $M = 3.823$, all $ps > .1$). Food variety scores of independent restaurants ($M = 3.325$) and the uncertain group ($M = 3.306$) were not significantly different ($p > .5$), but they were both significantly higher than those of chain restaurants ($M = 3.019$; both $ps < .001$). All three groups were significantly different on the value dimension (all $ps < .01$). That is, value was rated significantly higher for independent restaurants ($M = 3.937$) than chain restaurants ($M = 3.794$), which in turn was higher than the uncertain group ($M = 3.667$). For the next dimension, context, chain restaurants had the lowest score ($M = 3.007$) compared to both independent restaurants ($M = 3.324$, $p < .001$) and the uncertain group ($M = 3.343$, $p < .001$), whereas the context ratings did not differ between independent restaurants and the uncertain group ($p > .5$). Finally, social factor ratings differed significantly among the three groups (all $ps < .01$). More specifically, independent restaurants earned the highest score ($M = 3.588$) followed by the uncertain group ($M = 3.419$), while chain restaurants earned the lowest score among them ($M = 3.314$). These findings are shown in Table 3 and Figure 1.

Figure 1 about here

5. Discussion

5.1. Discussion of findings

This research overall revealed that consumer knowledge (or lack thereof) about the type of a restaurant (as being part of a chain or not) plays a significant role in how the restaurant is evaluated on various restaurant quality dimensions. For instance, being known as part of a chain restaurant resulted in more favorable evaluations than being known as an independent restaurant on healthiness dimension. This suggests that the internal controls, policies, and processes of a

chain helps reduce the variability in this key dimension, thus giving the consumers a sense of comfort—i.e., standardization and brand reputation seem to be working for chain restaurants in this case. In contrast, being known as an independent restaurant led to higher ratings than a chain restaurant on food variety, value, context, and social dimensions. A possible explanation could be that standardized policies and procedures may make one restaurant look and feel like any other restaurant in the chain. In other words, too much standardization and formalization may prevent a chain restaurant unit from adapting to the local flavor.

Finally, not having a clear identity and position in consumers' minds could adversely affect the business success in this context. The findings revealed that people who were uncertain about the type of the restaurant (the uncertain group) assigned the lowest ratings to the restaurant on three out of the seven dimensions of restaurant quality examined in this work; that is, food quality, ambience, and value were all rated the lowest by participants who were not sure whether or not the restaurant was part of a chain. For the other four dimensions (healthiness, food variety, context, and social), not having a clear identity in consumers' minds (i.e., lack of knowledge) may not necessarily be harmful, but the evaluation scores could go either way. For example, regarding the social dimension, the uncertain group was in between independent and chain restaurants; regarding the food variety and context dimensions, the uncertain group was on par with independent restaurants whereas on healthiness dimension, the uncertain group was on par with chain restaurants. In other words, consumers who are uncertain about the type of the restaurant seem to be giving the restaurant some benefit of the doubt on the social, food variety, context, and healthiness dimensions, but not on the food quality, ambience, and value dimensions.

5.2. Theoretical implications

From a theoretical perspective, the findings reveal that the applications of Heider's (1958) theory of attribution as well as Jones and Davis' (1965) theory of correspondent inference could be extended to chain/independent businesses, in general, and chain/independent restaurants, in particular. According to attribution theory, individuals explain the causes of behavior and events in two different ways: *external (or situational) attribution*, which refers to interpreting someone's behavior as being caused by the situation that the individual is in; and *internal attribution*, which refers to the process of assigning the cause of behavior to some internal characteristic, rather than to outside forces. Attribution theory was then extended by Jones and Davis' (1965) correspondent inference theory in order to explain why people make internal or external attributions. It describes how people try to find out individual's personal characteristics from the behavioral evidence by reviewing the context of behavior. More precisely, people make inferences on the basis of degree of choice and expectedness of behavior, among other factors.

These theories combined can be used to explain why and under which circumstances potential customers make internal or external attributions, which could eventually influence their inferences about a business (here, a restaurant). The general principle here is that behavior which deviates from the normal, usual, or expected is more informative about a business' disposition than behavior that conforms to the normal, usual, or expected. One type of expectancy is called category-based expectancy, which is derived from knowledge about particular types or groups of businesses (e.g., units of a restaurant chain). In the case of chain restaurants, people with prior knowledge have certain expectations from the restaurant particularly on focal attributes that can be standardized such as food quality, healthiness, and ambience. Therefore, any negative deviations from such *norms* could potentially lead to strong negative reactions from customers

(e.g., Chipotle's food safety issues). Consequently, when a customer's favorite choice is part of a chain, we expect high scores on standardized factors that are mainly attributable to external causes such as brand reputation and quality control procedures implemented by a franchisor. In contrast, there is no pre-established norm for independent establishments, and customers become familiar with such restaurants gradually and over time. Therefore, while food quality, healthiness, and ambience are still important for independent restaurants, they are unlikely to be the main decision criteria for customers whose favorite choice is an independent unit. As a result, peripheral aspects such as food variety as well as social and contextual factors are likely to play a more central role for independent restaurants; hence, such restaurants are rated higher on these dimensions by their loyal customers.

5.3. Practical implications

The findings also have significant practical implications for both chain and independent restaurants in the areas of quality control, standardization and formalization of procedures, branding, brand management, positioning, and promotions. The results suggest that both chain and independent restaurants are seen in a positive light on food quality, ambience, and value dimensions. The main implication for both types of restaurants is to focus on and promote their brand identity and to ensure that their target customers are aware of the nature of their business. In addition, independent restaurants are perceived to offer greater value compared to chain restaurants. Therefore, chain restaurants should do a better job in communicating their value offering by emphasizing on higher food quality, healthiness, or lower prices (if applicable).

When it comes to the other four dimensions, however, the findings raise an interesting dilemma for both chain and independent restaurants. The question for independent restaurants is to what extent they should promote and emphasize their independent identity in their marketing

messages (e.g., *we are a local restaurant proudly serving our community*). As noted, independent restaurants are in a disadvantageous position compared to chain restaurants on how consumers perceive healthiness of their offerings. This group is also in a weaker position even compared to restaurants with no clear identity. This implies that it would be hard for independent restaurants to compete on this dimension, and overemphasizing their independent identity could lower perceived healthiness even further.

On the other hand, the main challenge facing chain restaurants is to find the optimum balance between too much standardization/formalization versus adapting to the local flavors and context of the area in which the restaurant is located. As discussed, chain restaurants are given the least favorable scores on the social, food variety and context dimensions. (They are even lower compared to the uncertain group.) In case of franchise chains, the franchisor could play a crucial role to help its franchisees to succeed. For instance, the franchisor is responsible for menu options and can always expand the food variety. In addition, while maintaining operational consistency across different locations and marketplaces, the franchisor could give its franchisees some degrees of authority and flexibility, thus enabling them to become more competitive in that marketplace. Some localization of establishments can also be made for restaurant chains that are not franchised. For instance, offering pick-up and delivery services, extended working hours (e.g., Friday nights and Saturday nights), and flexible furniture lay-out to serve large gatherings could help chain restaurant improve their ratings and better compete on social and contextual dimensions while protecting the main identity of the brand. All in all, the findings suggest that both chain and independent restaurants have a good chance to succeed. Yet, there are still opportunities for both groups to better position themselves, clarify their brand identity, and make operational improvements in order to increase the likelihood to succeed.

5.4. Limitations and future research directions

This study provides some new insights into the role that consumer knowledge plays in the evaluation of restaurant attributes and quality dimensions. However, as with any study, this research is subject to certain limitations. First, a convenience sample from a certain geographic area, [hidden for blind review], was used in this study, which could limit the generalizability of the findings. The attributes investigated in this study such as healthiness, value, variety, and more importantly, social and contextual factors could be perceived differently in other locations, societies, and cultures. Future studies, therefore, could replicate the findings of our study in different contexts and markets using samples more representative of the general population. Second, this work was a cross-sectional study and thus does not provide a causal inference. It would be interesting to investigate whether and how manipulating consumer knowledge in an experimental setting (either laboratory or field) may change the way participants evaluate a restaurant and its offerings (food and services). Third, while we examined an extensive list of restaurant attributes (35 items) that were identified based on a review of the literature and then a word association test of 150 participants from the same population, this list was not intended to be exhaustive but rather illustrative of the most important restaurant attributes. Future research could extend the findings by including other restaurant attributes and quality dimensions. Fourth, individual factors such as openness, risk attitudes, and lifestyle (e.g., health conscious, socially active) may play a moderating role, and future research could explore such interaction effects. Finally, future research could enrich and extend our findings by exploring the reasons behind the patterns found here. For instance, why lack of knowledge (uncertainty) about a restaurant type negatively impacts only some attributes such as food quality and value, or why consumer knowledge (or lack thereof) exerts similar effects on food variety and context. We hope that this

study provides an impetus for more investigations of the chain versus independent restaurants and the factors of success in the restaurant business.

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Table 1 Restaurant Quality - Factor Structure and Reliabilities

Items	1	2	3	4	5	6	7	
Food Quality	Food at this restaurant is tasty	.836	-.005	.104	.019	.129	-.022	-.013
	Food at this restaurant is delicious	.821	-.014	.096	.071	.130	-.052	.029
	Food at this restaurant is good quality	.724	.225	.189	.049	-.042	.011	.074
	Food at this restaurant is great	.718	.049	.219	.031	.160	.021	.046
	Food at this restaurant is fresh	.693	.325	.179	.072	-.020	.017	.036

Healthiness	This restaurant good service	.520	.092	.396	-.039	.109	.142	.026
	Food at this restaurant is healthy	.258	.749	.059	.221	-.050	-.015	-.002
	Food at this restaurant includes salads and vegetables	.211	.734	.040	.269	-.023	-.115	-.037
	Food at this restaurant is made in front of you	.058	.704	.050	.052	.050	.230	-.064
	Primary food at this restaurant is sandwiches	.053	.689	.048	-.291	.008	.111	.159
Food at this restaurant is often served cold	-.120	.657	.094	-.111	.025	.280	.076	
The menu has lots of options for vegetarians	.167	.639	-.030	.402	.059	.007	-.023	

Ambiance	This restaurant is kept clean	.311	.135	.741	-.024	.004	.089	.060
	This restaurant has friendly employees	.231	.027	.724	.050	.084	.186	.117
	This restaurant has good reputation	.396	.077	.674	-.043	.073	.061	.093
	The music in the restaurant is not too loud	.090	.022	.609	.173	.196	-.160	.059
The restaurant has comfortable seating	.042	-.028	.598	.070	.128	-.132	.399	

Food Variety	The cuisine includes items from different culture	-.077	-.073	-.038	.760	.001	.183	-.078
	Food at this restaurant is different	.136	.089	-.028	.629	-.070	.135	-.009
	This restaurant caters to different tastes	.039	.272	.251	.563	.094	.062	.284
This restaurant has a wide variety on its menu	.038	.175	.318	.519	.144	.065	.229	

Value	Food at this restaurant is affordable	.168	.001	.232	.017	.746	-.003	.062
	Food at this restaurant is inexpensive	-.003	.055	.156	.018	.727	.106	-.092
	My friends often eat at this place	.346	-.005	-.020	-.035	.549	.047	.295

Context	This restaurant delivers food	-.002	.334	-.002	.136	-.080	.694	-.029
	This restaurant is open late	.046	-.006	.040	.144	.351	.680	-.084
	This restaurant has a fry street environment	.004	.119	.037	.191	.028	.675	.230

Social Factor	The restaurant has plenty of room/space to sit-in	-.009	-.057	.247	.040	.097	-.145	.738
	This restaurant caters for large gatherings	.044	.147	.181	.018	-.168	.184	.700
	This is good gathering place for my friends	.174	-.051	-.015	.084	.382	.205	.517

Variance Extracted (59.27%)	12.83	11.25	9.70	6.95	6.28	6.14	6.12	
Cronbach's Alpha	.860	.809	.793	.632	.592	.617	.522	
Intra-Class Correlation (ICC)	.854	.804	.784	.600	.577	.585	.517	
Mean	4.116	3.256	3.826	3.153	3.765	3.168	3.383	
(S.D.)	(.644)	(.981)	(.672)	(.760)	(.701)	(.983)	(.800)	

Table 2 Interitem Correlations and Covariances

	FQ1	FQ2	FQ3	FQ4	FQ5	FQ6	H1	H2	H3	H4	H5	H6	A1	A2	A3	A4	A5	FV1	FV2	FV3	FV4	V1	V2	V3	C1	C2	C3	SF1	SF2	SF3
FQ1	1	.46	.35	.35	.37	.27	.15	.14	.09	.07	-.04	.15	.21	.17	.24	.16	.09	-.05	.06	.09	.08	.17	.10	.20	-.02	.09	.01	.06	.04	.09
FQ2	.75	1	.34	.39	.35	.26	.16	.16	.09	.05	-.06	.18	.22	.18	.26	.17	.12	-.03	.07	.12	.12	.16	.09	.21	-.03	.07	.01	.07	.06	.13
FQ3	.53	.49	1	.37	.51	.31	.42	.32	.22	.20	.10	.23	.28	.23	.28	.17	.15	-.03	.12	.16	.16	.13	.07	.17	.12	.04	.08	.09	.14	.13
FQ4	.56	.58	.50	1	.32	.38	.24	.19	.12	.13	-.01	.15	.26	.23	.28	.21	.17	-.03	.09	.14	.14	.21	.13	.22	.03	.09	.06	.08	.12	.16
FQ5	.55	.49	.66	.44	1	.28	.42	.37	.32	.27	.18	.34	.30	.21	.28	.18	.15	-.04	.15	.21	.16	.13	.08	.15	.16	.07	.08	.06	.11	.13
FQ6	.41	.38	.41	.52	.37	1	.22	.17	.12	.18	.09	.18	.31	.31	.29	.19	.20	-.03	.08	.14	.14	.21	.13	.18	.10	.13	.08	.12	.13	.15
H1	.17	.17	.40	.24	.41	.22	1	.95	.77	.61	.52	.77	.23	.16	.18	.10	.05	.16	.28	.31	.24	.04	.04	.07	.47	.05	.22	-.02	.19	.07
H2	.16	.16	.31	.19	.35	.16	.68	1	.69	.58	.46	.81	.20	.13	.15	.12	.05	.19	.26	.32	.23	.02	.04	.05	.34	.03	.18	-.01	.14	.01
H3	.09	.08	.18	.11	.26	.10	.47	.42	1	.75	.74	.75	.21	.11	.14	.09	-.04	.05	.15	.38	.24	.06	.10	.04	.67	.28	.43	-.13	.20	.01
H4	.07	.05	.16	.11	.22	.15	.37	.35	.38	1	.77	.46	.16	.10	.15	.05	.06	-.36	.02	.17	.09	.03	.07	.07	.49	.07	.23	.07	.31	.02
H5	-.04	-.06	.09	-.01 ^a	.16	.08	.35	.31	.42	.44	1	.52	.13	.09	.09	.02	.07	-.01	.09	.22	.17	.01	.05	.02	.64	.25	.29	.02	.20	.08
H6	.16	.18	.21	.15	.30	.17	.52	.54	.43	.26	.33	1	.15	.09	.11	.10	.03	.35	.34	.44	.31	.06	.06	.08	.47	.17	.31	-.03	.13	.08
A1	.32	.32	.36	.36	.39	.42	.22	.19	.17	.13	.12	.13	1	.45	.45	.31	.31	-.03	.04	.22	.21	.18	.09	.17	.11	.06	.09	.17	.22	.17
A2	.26	.26	.30	.32	.27	.41	.15	.12	.09	.08	.08	.09	.60	1	.38	.28	.31	-.01	.09	.22	.27	.21	.15	.16	.10	.14	.20	.23	.22	.20
A3	.38	.38	.39	.41	.38	.41	.19	.15	.12	.13	.08	.11	.63	.53	1	.32	.30	-.07	.04	.21	.20	.18	.11	.22	.03	.08	.10	.16	.19	.19
A4	.21	.21	.20	.25	.21	.22	.09	.10	.06	.03 ^a	.01 ^a	.08	.35	.33	.39	1	.45	.11	.05	.23	.20	.21	.16	.16	-.02	.04	.04	.20	.15	.16
A5	.13	.16	.18	.21	.17	.24	.04	.04	-.03 ^a	.05	.05	.02 ^a	.37	.37	.38	.47	1	.04	.03	.20	.21	.19	.13	.13	-.05	.01	.06	.43	.28	.27
FV1	-.05	-.03 ^a	-.03 ^a	-.03 ^a	-.03 ^a	-.03 ^a	.10	.12	.03 ^a	-.20	-.01 ^a	.21	-.03 ^a	-.01 ^a	-.07	.09	.03 ^a	1	.49	.34	.28	-.01	.06	-.02	.41	.26	.30	-.04	.03	.13
FV2	.08	.08	.13	.10	.16	.08	.22	.21	.10	.02 ^a	.07	.25	.04	.10	.05	.05	.03 ^a	.36	1	.26	.22	.03	.03	.01	.31	.13	.21	.01	.04	.12
FV3	.12	.14	.17	.16	.23	.15	.26	.26	.26	.12	.17	.34	.24	.25	.24	.23	.20	.26	.23	1	.57	.14	.09	.10	.25	.20	.33	.24	.28	.19
FV4	.10	.15	.19	.17	.19	.17	.21	.20	.18	.07	.13	.25	.25	.32	.24	.20	.22	.22	.21	.56	1	.16	.12	.14	.17	.21	.26	.22	.25	.14
V1	.25	.23	.18	.28	.17	.28	.04	.02 ^a	.05	.03 ^a	.01 ^a	.05	.24	.28	.25	.24	.22	-.01 ^a	.03 ^a	.16	.19	1	.41	.28	-.06	.21	.09	.16	.06	.27
V2	.13	.11	.08	.15	.09	.15	.03	.03 ^a	.07	.05	.04 ^a	.05	.10	.17	.13	.16	.13	.05	.03 ^a	.09	.12	.46	1	.18	.09	.31	.17	.12	.02	.15
V3	.28	.28	.21	.28	.18	.23	.07	.05	.03 ^a	.06	.02 ^a	.06	.21	.20	.28	.17	.15	-.01 ^a	.01 ^a	.11	.15	.34	.19	1	.013	.17	.08	.13	.09	.44
C1	-.02	-.03 ^a	.10	.02 ^a	.13	.08	.28	.20	.33	.24	.35	.26	.09	.08	.02 ^a	-.01 ^a	-.04 ^a	.22	.20	.17	.12	-.04	.06	.01 ^a	1	.58	.66	-.17	.23	.19
C2	.10	.08	.04 ^a	.09	.07	.13	.04 ^a	.02 ^a	.17	.04	.17	.12	.06	.14	.08	.04 ^a	.01 ^a	.17	.10	.16	.19	.21	.27	.16	.34	1	.54	-.01	.05	.21
C3	.01 ^a	.01 ^a	.07	.05	.07	.07	.14	.12	.24	.13	.18	.19	.08	.18	.09	.03 ^a	.05	.18	.15	.25	.20	.08	.13	.06	.35	.36	1	.11	.39	.29
SF1	.07	.08	.10	.09	.07	.14	-.02 ^a	-.01 ^a	-.08	.05	.02 ^a	-.02 ^a	.19	.25	.19	.19	.43	-.03 ^a	.01 ^a	.22	.21	.18	.11	.14	-.11	-.01 ^a	.08	1	.49	.29
SF2	.05	.06	.14	.12	.11	.13	.14	.10	.12	.19	.13	.09	.21	.22	.20	.13	.25	.02 ^a	.03 ^a	.24	.21	.06	.02 ^a	.08	.14	.04 ^a	.26	.40	1	.22
SF3	.11	.14	.13	.17	.13	.15	.05	.01 ^a	.02 ^a	.06	.06	.06	.17	.20	.21	.15	.25	.09	.10	.16	.13	.28	.13	.42	.12	.16	.2	.24	.16	1

Note: The lower diagonal elements are interitem correlations and the upper diagonal elements (bold) represent the covariance matrix. a Correlation is not significant. All other correlations are significant at least at the 0.05 level.

Table 3 MANOVA: Restaurant Evaluation and Consumer knowledge about the Type of Restaurant

	Chain (C) (n = 1240)		Uncertain (U) (n = 824)		Independent (I) (n = 256)		Leven's Test	F test	p	Post-hoc
	Mean	SD	Mean	SD	Mean	SD				
Food Quality	4.201	0.589	3.985	0.686	4.111	0.692	.001	28.557	< .001	C > U ; I > U
Healthiness	3.307	0.972	3.319	0.822	2.776	0.756	< .001	40.401	< .001	C > I ; U > I
Ambiance	3.870	0.643	3.756	0.674	3.823	0.755	.008	7.115	.001	C > U
Food Variety	3.019	0.762	3.306	0.690	3.325	0.797	.005	44.697	< .001	I > C ; U > C
Value	3.794	0.693	3.667	0.702	3.937	0.689	.728	17.139	< .001	I > C > U
Context	3.007	1.062	3.343	0.859	3.324	0.787	< .001	33.957	< .001	I > C ; U > C
Social Factor	3.314	0.806	3.419	0.758	3.588	0.842	.241	14.164	< .001	I > U > C

Box's M: $F = 7.175$; $p < .001$

Pillai's Trace: $F = 29.307$; $p < .001$

Hotelling's Trace: $F = 29.662$; $p < .001$

Figure 1

Restaurant Evaluation and Consumer knowledge about the Type of Restaurant

