An examination of service quality in the fast food industry: The case of Macau

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Abstract

The burgeoning development and the rapid growth of the chain restaurants in the Macau fast food industry have attracted much interest in understanding the success of this market. The purpose of this study is to examine service quality in the fast food industry by developing a conceptual framework and measurement scale. Through using a multi-dimensional and hierarchical model as a framework in this study, service quality in the fast food industry is indicated by four primary dimensions each of which is defined by 14 sub-dimensions. The primary dimensions are (a) interaction quality (including attitude, behavior, expertise and problem-solving), (b) physical environment quality (including ambience, cleanliness, equipment, décor and menu design), (c) outcome quality (including dining experience, food & beverage, and valence), and (d) access quality (including convenience and information). The proposed multi-dimensional and hierarchical model of restaurant service quality would facilitate research into the dynamics of fast food industry and offer guidelines for practitioners as they constantly strive to provide the very best experience for their customers.

Keywords: Multi-dimensional and hierarchical model, Service quality, Fast food industry

Introduction

Fast food is the term given to food that can be prepared and served very quickly. McDonald’s, the world-famous brand that defined American fast food, first appeared on US television during the 1960s (Ko, 2008). McDonald’s with American hamburger as its unique positioning was first set food in Macau in 1986 and then started a new era for the fast food industry in Macau. Until May 1998, the market for the fast food industry is shared by American hamburger. By the end of 2011, there were several fast food restaurants competing in Macau, 11 of which are owned by McDonald’s, two by Pizza Hut, two by Fairwood, one by Cafés de Coral, and other smaller concerns set up by locals (Macao Trade and investment Promotion Institute, 2012).

According to Macao Trade and investment Promotion Institute (2012), it is obvious that fast food restaurants in Macau were mostly set up recently and by internationally well-known fast food chains. They first established their presence in Hong Kong and then expanded to Macau. Although there is a lack of official figures comparing the
revenue of those fast food restaurants and local restaurants, it is observable that the former excelled over the latter. However, it has been found that local youth in Macau were receptive to American or western fast food. In order to maintain a strong and long-term relationship with customers, fast food restaurants are required to provide good service resulting in a high level of customer satisfaction.

It is important not only to understand how customers evaluate the integrated service process, but also to identify the critical primary and sub dimensions with which to measure integrated service quality in the fast food industry. Defining and measuring quality of service is important to fast food service providers. Though service quality has been considered to be profoundly important in the high-contact service encounter, very little attention has been paid to providing practitioners with practical guidelines of the attributes or elements of service quality in the Macau fast food industry. In order to effectively measure service quality in the fast food industry, it is necessary to develop a reliable and valid instrument to determine which aspects of a particular service define its quality. The proposed instrument incorporates performance-based measures on the basis of scales developed by Brady and Cronin (2001), and Dabholkar, Thorpe, and Rentz (1996).

The purpose of this study is to present an alternative approach to measuring the customer perception of service quality in the fast food industry. The contribution of this study is twofold. First, we conceptualize and measure service quality of fast food restaurants by using a multi-dimensional and hierarchical approach. This approach helps to overcome some of the weaknesses of traditional SERVQUAL (a disconfirmation-based measure of service quality), SERVPERF (a performance-based measure of service quality), DINESERV (an assessment of the customer perception of service quality in the restaurant industry), DINESCAPE (a measurement of the customer perception of dining environments in the upscale restaurant setting), and TANGSERV (a measurement of the tangible dimension in the restaurant industry) models as the measurement of restaurant service quality and thus provides a more accurate tool for assessing service quality in the fast food industry. In addition, we identify the key manifestation of service quality from the customers’ point of view. Secondly, we discuss some practical implications for using this type of model for measuring perceived service quality in applied research.

**Conceptualization and operationalization of service quality**

Service quality is a global judgment or an attitude towards the superiority of a service (Wang, 2010). Bitner and Hubbert (1994) refer to service quality as “the customer’s overall impression of the relative inferiority and superiority of the organization and its services” (p.77). Ghobadian, Speller, and Jones (1994) indicate that service quality
has been a prerequisite for success and survival in today’s competitive environment, and interest in service quality has been obviously increased.

Parasuraman, Berry, and Zeithaml (1988) propose that SERVQUAL has been a widely accepted measurement of service quality. This instrument has been designed to measure the gap between what customers expect from a service organization and the service they perceive to have been provided. Despite the popularity of SERVQUAL, this instrument has been highly criticized. Blanchard and Galloway (1994) argue that SERVQUAL confuses outcome, process and expectation. Alternatively, Brown, Churchill, and Peter (1993) report that psychometric problems with the use of the difference scores, suggesting that the five dimensions of SERVQUAL (reliability, assurance, tangibility, empathy, responsiveness) may represent a uni-dimensional construct as recommended by Babakus and Boller (1992). In addition, Bolton and Drew (1991) and Cronin and Taylor (1992) have found that perceptions alone outperform SERVQUAL itself.

Due to the criticisms and disagreements towards the SERVQUAL model, Cronin and Taylor (1992) develop a performance-based model to measure service quality, which is called SERVPERF. The SERVPERF instrument has been identified as one of the important variants of the SERVQUAL instrument. Empirically, SERVPERF represents marked improvement over the SERVQUAL instrument. However, Cronin and Taylor (1994) argue that the SERVPERF instrument should explain more of the variance in an overall measure of service quality than SERVQUAL itself. Alternatively, Babakus and Boller (1992) propose that SERVPERF as a very general instrument cannot adequately assist restaurants in making satisfactory service related decisions as the dimensionality of service quality is dependent on the type of service offered.

Stevens, Knutson, and Patton (1995) propose an instrument called DINESERV, which is used to assess the customer perception of service quality in the restaurant industry. DINESERV has been used to conduct periodical surveys and determine the changes in perceptions as the results of changes in normative expectations and of service quality delivered (Heung, Wong, & Qu, 2000). However, DINESERV demonstrates that the two dimensionality problems are similar to those studies conducted in the literature on SERVQUAL instrument (Parasuraman, Berry, & Zeithaml, 1991). The first problem is a creation of dimensions in the tangibles factor. This factor has been found to be uni-dimensional in the original SERVQUAL, which is divided into two sub-dimensions. In general, DINESERV produces three sub-dimensions: (1) appearance of physical facilities and staff, (2) menu of the restaurant, and (3) comfortableness and cleanness of facilities. The second dimensionality problem
involves the responsiveness factor. Parasuraman et al. (1991) report that responsiveness has been found to be indistinguishable from assurance in the five-factor matrix; however, responsiveness emerges in the six-factor matrix.

Later, Raajpoot (2002) develops an instrument called TANGSERV, only focusing on measuring the tangible dimension in the restaurant industry. However, this instrument has been found to be unacceptable or unreliable because of its unclear methodology (Raajpoot, 2002).

Ryu and Jang (2008) refer to DINESCAPE as man-made physical and human surroundings in the dining area of restaurants. DINESCAPE is considered to be an instrument used to measure the customer perception of dining environments in the upscale restaurant setting (Ryu & Jang, 2008). However, this instrument does not deal with external environments (e.g., parking and external building design) and non-dining internal environments (e.g., restroom and waiting area) in order to provide customers with more useful information exclusively for dining space (Ryu & Jang, 2008).

As aforementioned, several studies have identified that the existing measurement of service quality using the SERVQUAL, SERVPERF, DINESERV, DINESCAPE and TANGSERV scales has been found to be insufficiently comprehensive to capture the service quality construct in the restaurant industry (Babakus & Boller, 1992; Chen et al., 1994; Parasuraman et al., 1991; Raajpoot, 2002; Ryu & Jang, 2008). According to Parasuraman et al. (1988, 1991), different customers will judge the same service differently based upon their differing personal characteristics since service quality has been found to be multi-dimensional. It is therefore important to re-examine the dimensions of service quality within the fast food segment. Several researchers (Brady & Cronin, 2001; Clemes, Gan, & Kao, 2007; Clemes, Gan, & Ren, 2011; Clemes, Wu, Hu, & Gan, 2009, Dabholkar et al., 1996; Ko & Pastore, 2005; Wu, Lin, & Hsu, 2011) suggest that service quality is multi-dimensional and hierarchical in nature. Much of the research in services marketing focuses on understanding services and service quality from customer’s point of view (Brown & Bitner, 2006). However, few efforts have been made to examine the multi-dimensional and hierarchical conceptualization of the service quality construct in the fast food industry on the basis of the customer perception. Thus, in light of the problems associated with those scales, the aim of this study is to develop a scale using a multi-dimensional and hierarchical model which takes the specific characteristics of the fast food industry into account.

**Scale development**

In order to examine the customer perception of service quality of fast food restaurants further, a specific multi-dimensional and hierarchical model of service quality for the
fast food industry is developed. To achieve this target, the procedure for scale development as suggested by Churchill (1979), conducting both qualitative and quantitative studies are followed.

**Qualitative research**

Cox, Higginbotham and Burton (1976) propose that the focus group is an effective qualitative technique for use in the marketing and management research. Cooper and Schindler (2006) recommend that a focus group interview should consist of 6 to 10 respondents. Hair, Bush and Ortinau (2000) suggest that the focus group interviews should be as homogeneous as possible. In this study, therefore, three focus group interviews consisted of participants who were eighteen years or older, and had been to the Macau fast food restaurants during the past 12 months.

Following Brady and Cronin (2001), the respondents were encouraged to list all factors influencing their perceptions according to their dining experiences in the Macau fast food restaurants. The findings generated in those focus group interviews were recorded and transcribed. Thereafter, the findings from focus group interviews and literature review were used to help identify the sub-dimensions in the conceptual research model and to assist with item generation in the questionnaire development process.

**Proposed factor structure**

After combining the findings from the qualitative research with the service quality literature revision in this study, the following model is proposed. Namely, a multi-dimensional and hierarchical model of service quality as a reflective construct is a higher order factor defined by four primary dimensions and 14 sub-dimensions. The primary dimensions comprise interaction quality, physical environment quality, outcome quality and access quality, which are defined by their sub-dimensions: attitude, behavior, expertise, problem-solving, ambience, cleanliness, equipment, décor, menu design, dining experience, food and beverage, valence, convenience, and information (see Figure 1).

**Generation of scale items and scale purification**

The generation of a list of items was developed adapting the items of existing generic scales (e.g., Brady & Cronin, 2001; Dabholkar et al., 1996; Parasuraman et al., 1988) and specific restaurants’ scales (Fu & Parks, 2001; Mamalis, Ness, & Bourlakis, 2005; Manwa, 2011). On the basis of literature review, an initial pool of 65 items using a performance-only measurement was generated. These items were indicators of each theoretical sub-dimension. A seven-point Likert scale was applied to measure the different items anchored, from strongly disagree to strongly agree. The purification of
the scale was conducted through two steps: the first step consisted of an assessment of content and face validity through a panel of experts and a field test as suggested by Brady and Cronin (2001). The panel members were six executives from fast food restaurants in Macau. As a result of this panel, 17 items were dropped; in the second step, a questionnaire containing the 48 remaining items was developed. This questionnaire was pilot-tested with 50 respondents who had been to the Macau fast food restaurants during the past 12 months. The aim was to study the correlation
structure of the items of each sub-dimension. To accomplish this end, Cronbach’s alpha together with item-to-total correlation and exploratory factor analysis for each one of 14 sub-dimensions were achieved (Parasuraman et al., 1988). These patterns of correlations are relevant information for selecting the final model, which will be shown later.

Based on the results of the pilot-test, some items were removed and others were reworded to avoid confusion. The final instrument had a total of 42 items reflecting 14 sub-dimensions of service quality in the fast food industry.

Data collection

A sample size of at least 382 respondents will be considered adequate as this provides a 95% confidence level. After pre-testing procedures were conducted, a personalized cover letter explaining the purpose of the study, the voluntary nature of participation, and an assurance about the confidentiality of the responses and questionnaire were distributed to 555 customers who had been to the Macau fast food restaurants between March 1 and May 1, 2012. The data was collected from a convenience sample of individuals, with restrictions that respondents who had experienced service quality of fast food restaurants during the past 12 months prior to the data collection period and aged 18 years and above. According to Singh (1990), a period of 12 months was chosen to provide a common time frame as well as to limit the time frame within the recall ability of most respondents.

Model testing

The efficacy of the proposed model and the psychometric properties of the scale will be analyzed using the Statistical Package for Social Science (SPSS) 15.0 for exploratory factor analysis and the Analysis of Moment Structure (AMOS) 18.0 for confirmatory factor analysis. The conceptualization depicted in Figure 1 is described as a third-order factor model, which comprises not only the direct primary dimensions, but also the 14 sub-dimensions, defining service quality through the customers’ perception of the four primary factors. We will then examine the efficacy of the proposed model by testing a measurement model and the overall model.

Limitation and further study

Although this study provides a number of important contributions to marketing theory and for the fast food restaurant management, organizations and individuals wishing to use the results in relation to specific strategic decisions should note several characteristics of the study that may limit their overall generalizability. First, this study developed a conceptual model based on service quality as a reflective construct rather than a formative one. Diamantopoulos (1999) and Diamantopoulos and
Winklhofer (2001) note that a formative measurement is used to examine how dimensions of service quality influence the service quality construct. In contrast, Brady and Cronin (2001) suggest adopting a reflective measurement based on confirmatory factor analysis using a structural equation model (SEM) if researchers intend to examine the influence of the service quality construct on its relevant dimensions. Therefore, modeling service quality of fast food restaurants as a formative construct, rather than in the more traditional reflective way, may place an emphasis on the need for further research examining and comparing those approaches. Second, this research conducts convenience sampling belonging to a non-probability sampling method. Future study can use probability sampling methods in order to make the sample more representative of the population. Finally, in spite of a lot of literature on service quality, it has been difficult to offer a full description of the nature of the service quality construct in the fast food industry. Despite this difficulty, this study conducts in-depth focus group interviews to identify and examine all of the dimensions of the service quality construct for the fast food industry, because focus group interviews are believed to be more useful than relying only on a literature review. However, there may be some other dimensions of service quality that have not been identified in the conceptual framework of this study. Thus, future study may attempt to explore more dimensions influencing the service quality construct for the fast food industry.

**References**


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