J East Asian Soc Dietary Life
20(2): 328~339 (2010)

Developing a Measure of Service Quality in the United States Fast Food Restaurant Segment

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미국 패스트 푸드 산업에서 '서비스의 질' 평가를 위한 측정 스케일 개발에 관한 연구

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Abstract

This study was conducted to develop a service quality measurement scale suitable for the fast food restaurant segment. After reviewing the relevant literature, it was decided that the current service quality measurement scales (SERVQUAL, SERVPERF, DINESERV) are not appropriate for the fast food restaurant segment. Based on Cronin & Taylor's (1994) argument, perceived service quality is a form of attitude that represents a long-term overall evaluation of the company. Therefore, this study selected SERVPERF items for the initial pool of service quality items. Through a systematic scale development process, the SERVPERF instrument was then refined and a new concise scale was produced. Specifically, a focus group discussion with a group of patrons who are very familiar with fast food restaurants was conducted and the new service quality measure was refined so that it would be more realistic and closely describe service operation in the fast food industry. Moreover, the data collected from 112 college students who visit fast food restaurants frequently were used to statistically evaluate each of the items again via EFA (Exploratory Factor Analysis) and three sub-dimensions were derived: (1) responsiveness, (2) tangibles, and (3) reliability. Additionally, the data collected from 179 fast food restaurant consumers was used to conduct CFA (Confirmatory Factor Analysis). During this process, the convergent validity, discriminant validity, and internal consistency were double-checked. Overall, the newly developed scale achieved validity and reliability on a theoretical and statistical basis. Possible interpretations and managerial implications are also suggested.

Key words : Service quality, fast food, restaurant, SERVPERF, scale development.

INTRODUCTION

Fast food restaurants are a specialized type of dining segment in which patrons order food and make a payment simultaneously before they eat (Austin *et al* 2005). A large amount of revenue of fast food restaurants comes from take-out menus (e.g. sandwiches, French fries, etc.). Fast foods are quickly-made, low-priced, and available at stores conveniently-located in cities or towns (Goyal & Singh 2007). Due to these special characteristics, researchers regard the fast food segment as different from the general food service industry.

The fast food restaurant industry has been growing continuously since the 1970s due to industrialization (Paeratakul *et al* 2003). Specifically, there is now a demand by office workers students, and workers to receive their meals quickly, and many patrons want low cost meals. For these reasons, fast food has become an important part of the everyday diet worldwide, and fast food consumption has increased greatly (Qin & Prybutok 2008). According to a restaurant market analysis conducted in 2008 by the National Restaurant Association, fast food sales in United States in 2008 were 156.8 billion, which is the highest amount in the food service segment. In addition, the fast food segment is now the largest market in the food service segment (Walker JR 2007).

The world fast food restaurant market has long been dominated by major companies such as McDonald's, Burger King, and Wendy's (Walker JR 2007). McDonald's operates over 30,000 outlets in more than 100 countries, while KFC operates over 14,000 outlets in more than 80 countries. Moreover, middle-sized fast food companies such as Subway and Lotteria also compete in this particular industry. For these reasons, the fast food market is growing and competition is dramatically

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increasing in the fast food restaurant industry. Indeed, dining patrons have numerous choices regarding fares and dining experiences when deciding to eat at fast food restaurants.

Due to this hyper-competitive situation, fast food companies have had to develop strategies to attract their customers. Accordingly, a number of studies have been conducted to identify factors that are important to satisfying/attracting customers in the fast food restaurant segment (Baek *et al* 2006, Gilbert *et al* 2004, Law *et al* 2004, Ryu *et al* 2010). Additionally, several academic studies have been conducted to identify the attributes that influence fast food restaurant patrons' behavior/satisfaction, and the results have revealed that low price, speed of food preparation, consistency, convenient location, and service quality are most important (Baek *et al* 2006). Moreover, service quality has been emphasized by researchers because it significantly influences the satisfaction, revisit intention, and loyalty of patrons.

Despite the importance of service quality in the fast food restaurant segment, no previous studies have been conducted to develop a measurement scale that fits the fast food restaurant segment. Cronin & Taylor's (1992) SERVPERF and the SERVQUAL scale developed by Parasuraman *et al* (1988) have provided a basis for measuring service quality, but these scales are relevant to the general service industry. DINESERV (Stevens *et al* 1995) provides a scale for measuring service quality in the restaurant industry; however, this scale is developed based on the general restaurant industry. Due to the unique characteristics of the fast food restaurant segment, the scales mentioned above are not appropriate for measuring service quality in the fast food restaurant segment. Therefore, this study was conducted to create a new measurement scale for service quality in the fast food segment.

OBJECTIVE OF THIS STUDY

Due to the rapid growth of fast food industry, the importance of service quality issues has increased. However, no previous studies have been conducted to create a reliable scale for the measurement of service quality in the fast food segment. Currently, fast food restaurant owners/managers do not have a practical tool for evaluating their service performance. Therefore, this study was conducted to create and validate a measure of service quality in the fast food restaurant industry, thereby providing a practical tool for demonstration of their service performance.

LITERATURE REVIEW

1. Service Quality Research In the Fast Food Restaurant Segment

Relatively few studies have discussed service quality in the fast food restaurant segment, and those that have focused on how fast food patrons' service quality influences other marketing variables, such as satisfaction, revisit intention, loyalty, and other behavioral intentions (Bloemer *et al* 1999, Brady *et al* 2001, Lee *et al* 2004). For example, Brady *et al* (2001) examined how fast food restaurant service quality, service value, and satisfaction are integrated and influence behavioral intentions in different cultures based on data collected from 425 North American and Latin American fast food customers. Specifically, they measured the service quality experience of fast food patrons using SERVQUAL. According to their structural equation modeling analysis, fast food patrons' service quality significantly influences their satisfaction and behavioral intentions, but the effect is different in different cultural settings. Bloemer *et al* (1999) further examined how fast food restaurant patrons' service quality can be upgraded into service loyalty. To accomplish this, they collected data from 200 fast food patrons and measured service quality using 22 SERVPERF items. Based on the data analysis, they concluded that a high quality of service can result in service loyalty, which is composed of four dimensions: purchase intentions, word-of-mouth communications, price sensitivity, and complaining behavior. Integrating previous studies, Lee *et al* (2004) proposed a model of competitive service quality improvement in the fast food industry. Specifically, they measured the service quality of fast food restaurant patrons with SERVQUAL, after which they employed the entropy method to quantify competitiveness. Their data analysis revealed that the current service quality level and other personalized service elements are key determinants of an individual fast food company's competitive advantage.

In previous fast food studies, service quality was measured with SERVQUAL or SERVPERF. However, it is necessary to examine the validity/reliability of these service quality measurement scales in this particular industry due to the unique characteristics of the fast food segment.

2. Service Quality and Its Measurement

Service quality has long been a key research topic in marketing, consumer behavior, and other service research fields

(Babbar S 1992, Beach & Burns 1995, Bitner MJ 1990, Cronin & Taylor 1994, Parasuraman *et al* 1988). Improving service quality and measuring service quality has been continuously emphasized by practitioners and researchers (De Mast J 2004). Two seminal approaches to measuring service quality are SERVQUAL (Parasuraman *et al* 1988) and SERVPERF (Cronin & Taylor 1992).

Parasuraman *et al* (1988) created the SERVQUAL scale for assessment of service quality. SERVQUAL defines service quality as the customer's perceived service quality, which is their judgment regarding the overall excellence or superiority of an entity. According to Parasuraman *et al* (1988), (1) before customers purchase service, they have an initial expectation, (2) customers experience the service and develop perceptions of its performance, and (3) the perceived performance and their expectations are compared. In this sense, SERVQUAL measures service quality based on the perception-minus-expectation approach. The SERVQUAL scale is composed of 22 items and five sub-dimensions: tangibles, reliability, responsiveness, assurance, and empathy. SERVQUAL is widely cited by later studies due to the importance of comparing expectations with actual performance in the service delivery process. However, there have also been a number of recent challenges to SERVQUAL. For example, SERVPERF criticized the validity of SERVQUAL for several reasons.

According to Cronin & Taylor (1994), perceived service quality is a form of attitude that serves as a long-term overall evaluation of the company. However, SERVQUAL is a transaction-specific measure (Bitner MJ 1990, Bolton & Drew 1991, Cronin & Taylor 1994) that evaluates how a service provider meets customer expectations at each service transaction period, thus measuring short-term service quality. For this reason, it has been postulated that SERVQUAL has critical problems in measuring the overall service quality of a company/restaurant/hotel (Cronin & Taylor 1994). Cronin & Taylor (1994) explained that this was due to the fact that SERVQUAL is a short-term transaction-specific measure, while service quality (as measured by their SERVPERF scale) is a long-term attitudinal measure of a brand or company. Following this logic, it is more appropriate to measure the service quality of a company/restaurant/hotel by using SERVPERF than SEVEQUAL.

In 1995, DINESERV (Stevens *et al* 1995) was developed based on the deductive scale development method. DINESERV is a proposed scale that determines how patrons view a restaurant's service quality that is composed of 29 service-quality items that fall into five categories: assurance, empathy, reliability, responsiveness, and tangibles. This measure was developed based on general full-service restaurants.

REASONS THE EXISTING SERVQUAL/ SERVPERF/DINESERV MEASURES ARE NOT APPROPRIATE IN THE FAST FOOD SEGMENT

The SERVQUAL and SERVPERF instruments were created and validated in the boundary of the non-food service industries, such as appliance and maintenance, retail banking, long-distance telephone, securities brokerage, and credit cards companies (Cronin & Taylor 1994, Parasuraman *et al* 1988). As a result, restaurant managers/owners/marketers cannot practically use the items/conclusions derived from these scale development studies because the characteristics of a restaurant are different from those of the non-food service industries mentioned above. The method by which patrons create perceptions toward service quality in the restaurant segment is different from that of customers in the non-food service industry due to the differences between the two segments (Kim *et al* 2004). Recently, patrons have been using restaurants as a place of family gathering, entertainment, celebration, and even business meetings, not simply a place for eating (Walker JR 2007). Accordingly, patrons strongly consider mood/environment/image when they dine out. For this reason, patrons use different evaluation criteria when they evaluate a restaurant from when they evaluate a non-food service company (Kim *et al* 2004). Moreover, while the main item produced by restaurants is food, non-food service companies do not focus on food production. Additionally, safety/cleanliness issues are much more important in the restaurant segment than in other non-food service industries (Knight *et al* 2007). Therefore, service quality measurement items in the food service industries should be different from those in non-food service industries. As a result, neither SERVQUAL nor SERVPERF are appropriate for measuring service quality in the fast food segment.

The other measure, DINESERV, is not appropriate for the fast food restaurant industry for two reasons: (1) methodological issues and (2) industry boundary issues. Methodologically, DINESERV combined SERVQUAL (22 items) and LODSERVE (26 items) to give 40 initial items; however, the creators failed to explain how they drafted the 40 items from the two different scales. Moreover, they did not conduct con-

tent adequacy, so the trustworthiness of the items is likely low. Stevens *et al* (1995) stated that both LODSERVE and DINESERV exhibit low interdimension correlations. However, Stevens *et al* provide no evidence of the validity issue for this in their study. These methodological flaws were criticized by previous studies (Tucci & Talaga 2000). Moreover, LODSERVE was developed in the boundary of the hotel industry, which is very different from the restaurant segment. Nevertheless, Stevens *et al* (1995) combined such heterogeneous items into one item, which resulted in the criterion validity becoming a problematic issue. Regarding the industry boundary issue, when DINESERV was developed in 1995, data were collected from the patrons of general full service restaurants (Stevens *et al* 1995), which are defined as facilities that provide waited table service for customers (Spears & Gregoire 2007). In contrast, fast food restaurants are specialized types of dining segments in which patrons order food and make a payment simultaneously before they eat (Austin *et al* 2005). For this reason, the service measurement scale in full-service restaurants should be different from that of fast food restaurants.

For the reasons mentioned above, none of the existing scales are exactly appropriate for the fast food segment; therefore, this study was conducted to develop a new scale.

METHODOLOGY

This section discusses the methodology and data analyses employed to achieve the goal of this study, which was to develop a measure of service quality for the fast food restaurant industry based on the initial SERVPERF items.

SCALE DEVELOPMENT/REFINEMENT

DeVellis RF (1991) and Hinkin *et al* (1997) have suggested six steps for scale development.

Step 1: Initial item generation (item pool selection)
Step 2: Content adequacy assessment
Step 3: Questionnaire administration
Step 4: Exploratory factor analysis
Step 5: Internal consistency assessment
Step 6: Confirmatory factor analysis (validity and reliability check)

Step 1: Initial Item Generation (Item Pool Selection)

Due to the methodological flaws mentioned in the literature review section, DINESERV was not used as an initial item pool in this study. Rather, the two existing seminal service quality item pools, SERVQUAL and SERVPERF, were used. Among these two sets, SERVQUAL is a transaction-specific measure (Bitner MJ 1990, Bolton & Drew 1991, Cronin & Taylor 1994), while SERVPERF is a long-term measure of attitude toward a company. Service quality is conceptualized as a customers' long-term attitude toward the perceived performance of the specific dimensions of a service (Cohen *et al* 1972, Cronin & Taylor 1992). As the social exchange theory indicates, such long-term attitudes toward service dimensions create overall evaluations about the company's performance (Boulding *et al* 1993). Following this logic, the results of this study postulate that SERVPERF is more relevant for measurement of the quality associated with a fast food company. Therefore, a set of SERVPERF items (22 items) were selected as the initial items for development of the new scale. These 22 initial items will be refined/modified so that they can be more relevant in the fast food restaurant segment.

Step 2: Content Adequacy Assessment

The next step in the scale development process was analysis of the content adequacy (Hinkin *et al* 1997). According to Hinkin *et al* (1997), there are three methods for assessing content adequacy. First, a panel of participants that is familiar with the topic can review the initial items based on their experience. Second, experts can use both sorting and factor analysis to quantitatively assess content adequacy. Third, variance analysis can be employed. Prior to collecting the data, the content adequacy for this study was verified through the first method. Specifically, a focus group discussion was conducted with three consumers that had indicated they had high familiarity with fast food restaurants. Focus group discussion enables participants to discuss their true feelings, anxieties, and frustrations, as well as to express the depth of their convictions in their own words (Zikmund W 2003); therefore, focus group discussion is commonly used for content adequacy assessment during the scale development process.

Three consumers were recruited to participate in the focus group based on their previous experiences with fast food restaurants. These consumers had indicated that they visit a fast food restaurant at least two to three times per week. The initial items were reviewed question by question, and the focus group process was audio-taped. The initial items were re-worded accordingly, so that the new service quality measure was more

realistic and closely described service operation in the fast food industry.

The initial questionnaire was prepared using items refined through content adequacy assessment, after which a pre-test was conducted using eight graduate students and two faculty members at a major university in southwestern Virginia. The purpose of the pre-test was to detect potential problems in the questionnaire design, clarity and wording (Zikmund W 2003). Pre-test respondents suggested several changes in the questionnaires. Through this process, items that were not clear or were not relevant to the fast food industry were re-worded or deleted.

SERVPERF is a multi-dimensional construct composed of five sub-dimensions: tangibles, reliability, responsiveness, assurance, and empathy (Cronin & Taylor 1994). The SERVERF scale was originally developed using data collected from consumers of a credit card company, bank, and a telephone company; therefore, the underlying structure of SERVPERF in the fast food industry can be different from the original SERVPERF. Through the pre-test and focus group discussion, it was decided that five items were not relevant to the fast food restaurant industry. Accordingly, the following five items were deleted:

(1) 'The restaurant keeps its records accurately' (Reliability): Based on pre-test and focus group discussion, it is hard for fast food restaurant patrons to know how the fast food restaurant keeps its records; therefore, this item was deleted.

(2) 'Employees obtain adequate support from the restaurant to do their jobs well' (Assurance): Based on the pre-test and focus group discussion, it is hard for fast food restaurant patrons to know how the restaurant supports its employees; therefore, this item was deleted.

(3) 'You can trust employees of the restaurant' (Assurance): Based on pre-test and focus group discussion, it is hard to say patrons 'trust' the waiter/waitress in fast food restaurants. The focus group interviewees mentioned that they can trust 'food quality' or 'food safety' of the restaurant, but that the 'trustworthiness' of the employee should not be an issue in the fast food restaurant industry.

(4) 'The restaurant does not tell its customers exactly when services will be performed' (Responsiveness): Based on pre-test and focus group discussion, a limited number of fast food restaurants (e.g. Pizza restaurants) tells its customers exactly when services will be performed.

(5) 'The restaurant provides its services at the time it promises to do so' (Reliability): Based on pre-test and focus group discussion, only Pizza restaurants currently do this in the fast food restaurant industry. Therefore, this item was also deleted.

As a result, 17 of the 22 original items were used in the questionnaire.

Step 3: Questionnaire Administration

After obtaining IRB approval, the questionnaires were administered to 148 students registered in a major university in southwestern Virginia. Among them, 114 usable responses were collected (a usable response rate of 77.0%). This study employed a student population because previous studies strongly suggest that college students are very familiar with fast food restaurants (e.g. Knutson BJ 2000). Indeed, students commonly visit fast food restaurants due to their low price and convenience. Moreover, large numbers of fast food restaurants are conveniently located on or near campuses to attract students (Knutson BJ 2000).

Step 4: Exploratory Factor Analysis - Item Evaluation

Hinkin *et al* (1997) stated that "item evaluation through factor analysis is one of the most critical steps in determining the viability of the scale" (p. 108). Factor analysis defines the underlying structure in a data matrix, thus aiding in item evaluation (Hair *et al* 1998). The data collected from the returned questionnaires were subjected to EFA and recommendations regarding sample sizes for factor analysis ranged from a minimum of 50 total observations to 20 cases for each variable. However, the use of 50 observations has generally been recommended as a lower boundary, with a preferable size of 100 or more cases (Hair *et al* 1998). Therefore, there was no problem conducting exploratory factor analysis with regard to sample size.

With regard to the critical assumptions underlying factor analysis, Hair *et al* (1998) stated that they are more conceptual than statistical. However, it is necessary to verify the existence of the underlying structure called for during examination of the data matrix. There are two methods to determine the factorability of an intercorrelation matrix, Bartlett's Test of Sphericity and the Kaiser-Meyer-Olkin (KMO) Measuring Sampling Adequacy (Hair *et al* 1998).

According to Bartlett's Test of Sphericity, the null hypothesis, 'data matrix is an identity matrix' was rejected in this

study. Consequently, it can be assumed that when significant data correlations exist, data factorability is indicated. Using the KMO method of testing, the structural assumption of factor analysis is the KMO (Measuring Sampling Adequacy) test. The KMO measures the sampling adequacy, which should be greater than 0.5 for a satisfactory factor analysis to proceed (Hair *et al* 1998). The KMO value was 0.847, thus indicating that acceptable sampling adequacy had been achieved in the present study.

Exploratory factor analysis with principal components extraction and Varimax rotation of the 17 items were then conducted to reduce these items into three scales accounting for 58.1% of the variance.

The item evaluation standard was adapted from previous statistics literature. According to Hair *et al* (1998), a factor loading of less than 0.40 does not constitute a meaningful contribution; therefore, items with factor loadings lower than 0.40 were eliminated. In addition, cross-loading items negatively influence the validity of the scale; therefore, those items were deleted (Hair *et al* 1998). In total, the following four items were deleted: 'I feel safe in my transactions with the restaurant's employees', 'Employees of the restaurant do not give me personal attention', 'The restaurant's employees are well dressed and appear neat', and 'The restaurant does not have operating hours convenient to all of their customers'.

Based on the factor loadings, the three dimensions were titled "responsiveness", "tangibles", and "reliability". The responsiveness factor includes 'the fast food restaurant does not have my best interests at heart' and 'employees of the fast food restaurant do not know what my needs are'. These two items were originally considered empathy dimensions (Cronin & Taylor 1994); however, based on the brain storming process, these two items were included under the "responsiveness" dimension in this study for the following reasons: (1) in the fast food restaurant segment, these two items reflect how the service provider addresses the customers' needs correctly and quickly, thereby providing immediate service to patrons and (2) the data analysis results revealed that patrons perceive these items as a "responsiveness" concept.

Step 5: Internal Consistency Assessment

The Cronbach's alpha was utilized to examine the internal consistency of the resulting scales. All of the Cronbach's alpha values were greater than 0.7, which is the acceptable threshold (Hair *et al* 1998). It was also discovered that the SERVPERF was composed of three sub-dimensions in the restaurant/hotel segment: responsiveness, tangibles and reliability. In contrast, the original SERVPERF scale was composed of five sub-dimensions. For further validation, these scales were slated to be incorporated into confirmatory factor analysis.

Step 6: Confirmatory Factor Analysis (Validity and Reliability Check)

For confirmatory factor analysis, data were collected from the fast food restaurant patrons. To accomplish this, questionnaires were distributed to 852 fast food restaurant patrons throughout the United States by an online market research company. Of the 852 questionnaires distributed, 179 completed responses were collected, which gave a usable response rate of 21.01%.

Table 1 shows the respondents' demographic profile. Among the respondents, 55.9 percent were male and 44.1 percent were female. The age of the respondents was fairly evenly distributed from 18 to 87 years old, with a mean age of 41.3 years. The majority of the respondents were Caucasian (81.6%), and over 40% of the respondents had bachelors or graduate degrees (26.8% for the former and 17.3% for the latter). The income of the respondents was fairly evenly distributed, with the largest group (26.8%) reporting an income between $25,000 and $39,999 and the smallest group (2.8%) reporting an income between $100,000 and $149,999. Overall, 48.1% reported incomes higher than $40,000.

In step 4 the three dimensions were derived via the EFA and entitled responsiveness, tangibles, and reliability. Table 2 shows the three dimensions and remaining 13 items with their standardized factor loadings.

Through EFA, this research refined the original SERVPERF items into 13 items that were utilized in the CFA. The CFA results indicated a satisfactory model fit, with a Chi-Square value of 128.511, 62 degrees of freedom (p<0.001), CMIN= 128.511, df= 62, CMIN/df=2.07, GFI=0.902, NFI=0.905, CFI= 0.948, IFI=0.948, TLI=0.934, RMR=0.05, and a root mean square error of approximation (RMSEA)=0.07. The GFI, NFI, CFI, IFI, and TLI ranged from 0 to 1, with values close to 1.00 indicating a good fit (Byrne NM 1998). The RMR should be equal to or less than 0.05 and the RMSEA should be less than 0.10; however, ideally it should be between 0.04~0.08 (Turner & Reisinger 2001). Therefore, the overall CFA results show a good model fit. Table 3 shows the specific items and first-order factors of the SERVPERF together with their standar-

Table 1. Sociodemographic profile of respondents

Variables	Frequency (N=179)	Percent (%)
Sex		
Female	70	44.1
Male	100	55.9
Income		
under U$ 25,000	45	25.1
US$25,500~39,999	48	26.8
US$40,000~54,999	31	17.3
US$55,000~69,999	19	10.6
US$70,000~84,999	17	9.5
US$85,500~99,999	8	4.5
US$100,000~149,999	5	2.8
US$150,000 and over	6	3.4
Race		
Caucasian/white	146	81.6
African-American	10	5.6
Asian	10	5.6
Hispanic	10	5.6
Other	3	1.7
Education level		
Less than high school degree	9	5.0
High school degree	31	17.3
Some college, but no degree	73	40.8
Bachelor's degree	39	21.8
Graduate degree	27	15.1

Mean age=41.3 years old.

dized factor loadings.

All factor loadings were equal to or greater than 0.498 and were significant at $p<0.001$. Table 4 shows the descriptive statistics and associated measures for the constructs.

Some scale development studies (Anderson & Gerbing 1988) have recommended that standardized factor loadings be higher than 0.7. However, based on several theoretical backgrounds, this study did not remove three items that had factor loadings lower than 0.7 Specifically, the items "The fast food restaurant is consistent in its food quality" and "The fast food restaurant has comfortable seating" are commonly regarded as important variables for evaluating tangible factors in the fast food restaurant industry. In addition, the item "The fast food restaurant has dependable service" is considered to be an important variable for evaluating the responsiveness factor of service. Moreover, previous scale development studies have adapted items that have factor loadings lower than 0.7. For example, a study conducted by You & Donthu (2001), which is a seminal work in this scale development area, also adapted variables that had loadings lower than 0.7 for the same reasons. It may be necessary to replicate/modify these items using a different data set in future studies.

The average variance extracted (AVE) was greater than the 0.50 cutoff for all constructs (Bagozzi & Yi 1988). Based on the high factor loadings on the intended variables and the AVE estimates, convergent validity for the measurement-scale items was achieved (Fornell & Larcker 1981). All of the squared correlations (R^2) between a pair of constructs were lower than the AVE for each construct, indicating that strong discriminant validity was achieved (Table 4). All composite reliabilities were higher than 0.7, indicating adequate internal consistency.

Summary of CFA in the Fast Food Restaurant Segment

The unidimensionality of SERVPERF was assessed using the fast food restaurant consumer data (n=179). The results confirmed that all of the newly refined SERVPERF constructs were unidimensional constructs that achieved convergent validity, discriminant validity, and internal consistency.

CONCLUSION AND DISCUSSIONS

The purpose of this study was to develop a service quality measurement scale suitable for the fast food restaurant segment. Through a series of systematic scale development processes, the SERVPERF instrument was refined and a new concise scale was produced. Specifically, according to a group of patrons who are very familiar with fast food restaurants, the new service quality measure is realistic and closely describes service operation in the fast food industry. Moreover, evaluation of the items using the data collected from 112 college students who visit fast food restaurant frequently enabled three sub-dimensions to be derived: (1) responsiveness, (2) tangibles, and (3) reliability. Additionally, using the data collected from 179 fast food restaurant consumers enabled the conver-

Table 2. Exploratory factor analysis (n=112)

Factor/items	Factor loading	Factor loading	Factor loading
Factor 1 (Responsiveness)			
The fast food restaurant does not have my best interests at heart.	0.759	0.140	0.159
Employees of the fast food restaurant are not always willing to help customers.	0.735	0.133	0.238
Employees of the fast food restaurant do not know what my needs are.	0.692	0.014	0.309
I do not receive prompt service from the fast food restaurant's employees.	0.658	0.226	0.124
Employees of the fast food restaurant are too busy to respond to customer requests promptly.	0.641	0.244	0.258
Factor 2 (Tangibles)			
The fast food restaurant is consistent in its food quality.	0.084	0.773	0.133
The fast food restaurant has a nicely decorated environment (e.g. decoration, painting).	0.209	0.754	0.156
The fast food restaurant has comfortable seating.	0.058	0.690	0.208
The fast food restaurant's has visually appealing ambiance.	0.329	0.688	0.086
Factor 3 (Reliability)			
When I have problems with its food, the fast food restaurant's managerial staff is sympathetic and reassuring.	0.079	0.054	0.838
When the fast food restaurant promises to do something by a certain time, it does so.	0.082	0.273	0.777
The fast food restaurant has dependable service.	0.254	0.358	0.534
Employees of the fast food restaurant are polite.	0.351	0.306	0.437
Eigenvalue	4.498	1.804	1.251
Variance (%)	34.602	13.876	9.624
Cumulative variance (%)	34.602	48.478	58.103
Reliability (Cronbach's alpha)	0.769	0.774	0.720

Note: Extraction Method: Principal Component Analysis. Rotation Method: Varimax.
KMO (KAiser-Meyser-Olkin measure of sampling adequacy)=0.803 Bartlett's test of sphericity: p<0.01 (Chi-square=473.179)

gent validity, discriminant validity, and internal consistency to be double-checked. Overall, the new scale achieved validity and reliability theoretically and statistically.

This study provides three theoretical and practical contributions: First, the hierarchical structure of the service quality scale provides theoretical implications to the current fast food literature, which heavily focuses on satisfaction and revisit intentions. As shown in the exploratory factor analysis results, fast food restaurant patrons' perceived service quality to be determined by three factors: (1) responsiveness, (2) tangibles, and (3) reliability. Due to the special characteristics of fast food restaurants, it is very important to provide responsive service. Employees in the fast food restaurant should be able to provide prompt service, respond to customers' requests quickly, and to address the needs of the patrons immediately so that they feel that the employees have their best interests at heart. In this sense, it is important to hire enough employees and train them properly.

In addition, data analysis indicates that fast food restaurant tangibles are important to increasing the perceived service quality. Therefore, fast food restaurants must be decorated accordingly. Currently, many fast food restaurants do not have comfortable seats, but our data analysis indicates that this should be changed to attract patrons to fast food restaurants. Moreover, visually appealing ambiance shows high factor loadings, indicating the importance of ambiance. Finally, the reliability indicates the importance of sympathetic and reassuring service in fast food restaurants.

Table 3. Confirmatory factor analysis: items and loadings

Construct and scale item	Standardized loading	*T*-value	Sig.	Ave	Composite reliability
Responsiveness					
The fast food restaurant does not have my best interests at heart.	0.798	(fixed)			
Employees of the fast food restaurant are not always willing to help customers.	0.803	11.804	$p<0.001$		
Employees of the fast food restaurant do not know what my needs are.	0.728	10.410	$p<0.001$	0.66	0.736
I do not receive prompt service from the fast food restaurant's employees.	0.778	11.325	$p<0.001$		
Employees of the fast food restaurant are too busy to respond to customer requests promptly.	0.900	13.585	$p<0.001$		
Tangibles					
The fast food restaurant is consistent in its food quality.	0.593	(fixed)			
The fast food restaurant has a nicely decorated environment (e.g. decoration, painting).	0.926	8.892	$p<0.001$	0.57	0.766
The fast food restaurant has comfortable seating.	0.498	5.802	$p<0.001$		
The fast food restaurant's has visually appealing ambiance.	0.917	8.869	$p<0.001$		
Reliability					
When I have problems with its food, the fast food restaurant's managerial staff is sympathetic and reassuring.	0.746	(fixed)			
When the fast food restaurant promises to do something by a certain time, it does so.	0.856	10.529	$p<0.001$	0.52	0.733
The fast food restaurant has dependable service.	0.584	7.364	$p<0.001$		
Employees of the fast food restaurant are polite.	0.684	8.650	$p<0.001$		

Note: All factors loadings are significant at $p<0.001$. Bold figures represent Cronbach's alpha (reliability coefficient). CMIN=128.511, *df*=62, CMIN/*df*=2.07, GFI=0.902, NFI=0.905, CFI=0.948, IFI=0.948, TLI=0.934, RMR=0.05, RMSEA=0.07.

Table 4. Descriptive statistics and pairwise correlations

	No. of items	Mean	SD	Composite reliability	AVE	(1)	(2)	(3)
(1) Responsiveness	5	3.27	.91	0.736	0.66	1.00		
(2) Tangibles	4	4.38	.82	0.766	0.57	0.282(.080)	1.00	
(3) Reliability	4	3.61	.68	0.733	0.52	0.476(.227)	0.686(.471)	1.00

Note: All correlations are significant at $p<0.01$; S.D.=standard deviation; values in the blanks are squared correlations. AVE= average variance extracted estimate.

The new service quality measure is not only valid and reliable, but also parsimonious. Specifically, it is composed of only 13 items; therefore, it is easy for researchers to conduct quantitative research using this measure. Additionally, studies employing this measure will likely have better response rates due to the conciseness of the questionnaire. Furthermore, because the items were reviewed by a focus group, their clarity should be high. Finally, when fast food restaurant managers utilize the measure as a tool for evaluating service quality over time, they may clearly identify area(s) in which the com-

pany has succeeded or failed. This is another academic contribution of this research from the perspective of methodological issues.

Finally, knowledge of the three dimensions that define service quality can efficiently help fast food company owners/marketers develop and execute more effective marketing programs. The newly developed measure provides 13 specific marketing variables that will provide guidelines for developing marketing strategies for fast food restaurants.

LIMITATIONS

Despite its theoretical/practical implications, this study possesses two limitations. First, the data were collected from fast food restaurant patrons via an online market research company. This research company has sampling pools throughout the United States; thus, regional sampling bias could be minimized. However, more than 80% of the respondents were Caucasian. Therefore, the extent to which the measure is cross-culturally generalizable is somewhat limited. This weakness was revealed following data collection; therefore, the researchers could not control this limitation. Future studies should be conducted using the newly created measure with different study populations and in different cultural settings. This study also validated the newly created measurement scale using 179 fast food restaurant patrons. However, to achieve high reliability/usability, it is necessary for future studies to further verify are replicate the new scale with larger study populations.

FUTURE RESEARCH DIRECTIONS

Given that no previous studies have created service quality measures appropriate for the fast food segment, the new measure developed in this study may serve as a guide for future fast food research. Specifically, two directions for future research are recommended.

First, service quality impacts the behavior of fast food patrons, but is a consequence of marketing actions (Knutson BJ 2000). Therefore, it is necessary to examine which marketing investments maximize service quality in this particular industry, and consequently patrons' behavior. More specifically, it is suggested that the method by which customer pricing strategies, advertising promotion, employee training, or branding strategies maximize service quality in the fast food restaurant industry be evaluated.

Second, brand portfolio is an important issue in the fast food industry. Many fast food companies (e.g. Darden, Yum etc.) have adapted brand portfolio strategies. However, no previous research has examined how these strategies influence the service quality. Therefore, the influence of portfolio strategies on perceived service quality should be examined.

We expect that the new service quality measure verified in this study to serve as a guide in future research that seeks to understand how fast food patrons' satisfaction/revisit intentions are created, and consequently, to contribute to further advancement in the fields of food service research and service area.

국문초록

이 연구의 목적은 패스트 푸드 산업에서 '서비스의 질'(Service Quality)을 측정할 수 있는 신뢰도 높은 측정 스케일을 개발하는 것이다. 선행 연구들은 SERVQUAL, SERVPERF, DINESERV 등의 스케일들을 개발해왔다. 하지만, 이론적 배경과 문헌고찰을 통해서, 이러한 선행 스케일들은 패스트 푸드 산업의 특성과는 적합하지 않다는 주장이 제시되었다. 따라서, 본 연구는 Cronin & Taylor(1992)의 이론적 배경을 바탕으로, '서비스의 질'은 소비자들의 태도이고, 이러한 점에서 그 회사에 대한 거시적 평가라는 부분에 초점을 맞추어, SERVPERF 아이템들을 initial pool로 선택하여 패스트 푸드 산업에 실무적으로 쓰일 수 있는 새로운 스케일을 개발하였다. 6단계에 걸친 체계적인 스케일 개발 과정들을 거쳐서 13개로 구성된 새로운 측정 스케일이 개발되었고, 3가지 하위 요인들(Responsiveness, Tangibles, and Reliability)이 도출되었다. 패스트 푸드 레스토랑에 가는 빈도가 높은 소비자 그룹과의 심층 인터뷰를 통해서 기존의 SERVPERF 아이템들이 수정/보완되었다. 이렇게 수정/보완된 아이템들을 통계적으로 재평가하기 위해서 112명의 대학생 샘플로부터 얻어진 데이터를 이용하여 탐색적 요인 분석이 시행되었고, 아이템들이 통계적으로 재평가되었다. 마지막으로, 179명으로 구성된 패스트 푸드 레스토랑 소비자 그룹 데이터를 이용하여 확인적 요인 분석이 실시되어 convergent validity, discriminant validity, and internal consistency가 검증되었다. 새로 개발된 스케일은 이론적/통계적으로 유의하며, 신뢰도가 높다는 것이 확인되었다. 이를 바탕으로 실무적/이론적 시사점이 논의되었다.

ACKNOWLEDGMENT

This work was supported for two years by Pusan National University Research Grant.

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(2009년 12월 24일 접수, 2010년 1월 21일 채택)