

April 1993

## The Importance of Service Quality on Consumer Choice Behavior

Michael D. Richard  
*Mississippi State University*

Arthur W. Allaway  
*University of Alabama*

Follow this and additional works at: <https://digitalcommons.georgiasouthern.edu/sbr>



Part of the [Business Commons](#), and the [Education Commons](#)

---

### Recommended Citation

Richard, Michael D. and Allaway, Arthur W. (1993) "The Importance of Service Quality on Consumer Choice Behavior," *Southern Business Review*. Vol. 19: Iss. 1, Article 7.

Available at: <https://digitalcommons.georgiasouthern.edu/sbr/vol19/iss1/7>

This article is brought to you for free and open access by the Journals at Digital Commons@Georgia Southern. It has been accepted for inclusion in Southern Business Review by an authorized administrator of Digital Commons@Georgia Southern. For more information, please contact [digitalcommons@georgiasouthern.edu](mailto:digitalcommons@georgiasouthern.edu).

# THE IMPORTANCE OF SERVICE QUALITY ON CONSUMER CHOICE BEHAVIOR

*Michael D. Richard*

*Arthur W. Allaway*

## INTRODUCTION

For both tangible product firms and service firms, evidence suggests that quality is a strategic variable influencing market share and profitability (Keiser, 1988; Phillips et al., 1983). At the individual consumer level, evidence also suggests that quality is a critical variable influencing consumers' value perceptions which, in turn, affect intentions to purchase products or services (Zeithaml, 1988).

When evaluating product quality, consumers are able to utilize numerous tangible cues such as taste, feel, package, fit, etc. In addition, product quality can be engineered into products and monitored with sophisticated control practices. As such, researchers have been successful in defining and measuring product quality (Keiser, 1988).

In contrast, the consumer has considerably fewer cues when evaluating service quality. In most cases, tangible cues are limited to the service firm's facilities, equipment, and employees. To complicate matters, there is considerable variability in service delivery and, thus, in evaluations across firms, employees, customers, and time periods (Anderson and Kraus, 1981). As such, service quality is much more variable and difficult to measure (Parasuraman et al., 1988).

Recently, a comprehensive multi-item scale, SERVQUAL, has been developed to measure service quality as perceived by the consumer (Parasuraman et al., 1988). Still, the accumulated empirical research on service quality is relatively small, with the majority devoted to conceptual issues (Parasuraman et al., 1985; Zeithaml, 1988; Zeithamal et al., 1988).

Existing empirical evidence possesses some noticeable shortcomings. First, some empirical studies have used a single indicant of service quality (Anderson and Kraus, 1981; Ippolito, 1981). However, there is agreement that service quality is a multidimensional construct (Parasuraman et al., 1985; Parasuraman et al., 1988). Second, the relationship between service quality and choice behavior has remained understudied. Some models examine the importance of service quality on behavioral intention rather than upon actual choice behavior (Bitner, 1990). Finally, the majority of the empirical research examines the importance of the various dimensions of service quality on an overall evaluation of service quality rather than upon choice behavior itself (Brown and Swartz, 1989; Parasuraman et al., 1988). For the manager, models that utilize a single indicant of service quality and/or behavioral intention as a surrogate for actual choice behavior may possess low predictive validity and questionable diagnostic usefulness (Cote and Umesh, 1988).

The shortcomings of the empirical research, coupled with the growing evidence of the impact of service quality on the financial viability of firms, demonstrate the need for high-quality research in this area. This study is intended to contribute to the growing body of literature on service quality by addressing the aforementioned shortcomings. First, this study empirically investigates the importance of service quality on choice behavior. This is accomplished using a Logit model that predicts choice probability as a function of consumer reaction to the service quality dimensions of the firm. Second, the use of the

SERVQUAL instrument assures that multiple indicators of service quality are employed as independent variables in the Logit model. Finally, rather than utilizing behavioral intention as the dependent variable of interest, actual choice behavior is used.

The modeling approach taken in this study should prove diagnostically useful to the marketing manager. Service quality is a competitive weapon. The challenge is to determine which service quality dimensions have the greatest impact on choice. Once identified, managers can then develop a marketing program that emphasizes the most important dimensions while reasonably containing the cost of those service quality dimensions to which the consumer is indifferent. Specifically, the manager can use the type of model developed here to predict choice as a function of perceived service quality. As such, the manager can assess the impact of a change in service quality on choice.

## SERVICE QUALITY

A landmark synthesis of the literature indicates that the construct of service quality has historically remained understudied (Zeithamal, 1988). Despite the importance of service quality, the accumulated empirical literature is relatively small. The majority of the literature has been devoted to conceptual issues (Parasuraman et al., 1985; Zeithamal, 1988; Zeithamal et al., 1988).

Some empirical studies have used a single indicant of service quality when investigating the importance of service quality on the demand for services (Anderson and Kraus, 1981; Ippolito, 1981). This single-indicant operationalization results in models that are misspecified and have low predictive accuracy. As such, they offer little in the way of diagnostic usefulness to researchers and managers.

The relationship between service quality and choice behavior has remained understudied. Rather than focusing upon the importance of service quality on choice behavior, behavioral intention has been utilized as the dependent variable of interest (Bitner, 1990). Behavioral intention only approximates behavior, it does not predict behavior (Cote and Umesh, 1988). Models that utilize behavioral intention have been demonstrated to exhibit low predictive accuracy when compared to actual choice behavior (Cote and Umesh, 1988). Therefore, the diagnostic usefulness of such models is questionable.

A comprehensive multi-item scale, SERVQUAL, has been developed to measure service quality as perceived by the consumer (Parasuraman et al., 1988). The SERVQUAL scale operationalizes and measures service quality along five distinct dimensions: tangibles, reliability, responsiveness, assurance, and empathy (Parasuraman et al., 1988). Operationally, service quality is defined as a difference score (i.e., gap) which is obtained by subtracting a consumer's expected performance from perceptions of actual performance. Each respondent is presented with a set of expectations items and a set of matching perceptions items. The set of expectations items is intended to measure how much of a service quality attribute there should be. The set of perceptions items is intended to measure how much of an attribute is possessed by the firm. The resulting difference scores are assumed to be viable indicators of service quality (Parasuraman et al., 1988).

SERVQUAL has enjoyed increasing popularity as a means of measuring service quality (Brown and Swartz, 1989; Webster, 1989). However, the majority of the empirical research using SERVQUAL examines the importance of the various dimensions of service quality on an overall evaluation of service quality (Brown and Swartz, 1989; Phillips et al., 1983). While providing useful conceptual and measurement insights, these studies offer little evidence as to the importance of service quality on choice behavior.



## METHODOLOGY

Home-delivered pizza firms are used as the alternatives of interest for several reasons. Home-delivery pizza is a frequently purchased item. As such, customers are assumed to be familiar with the firms and the attributes influencing choice (Kochak, 1987). In addition, home-delivery pizza represents a highly competitive market with service quality being a critical strategic variable for success (Kochak, 1987).

Consumer choice data from the home-delivery pizza market of a small-sized Southeastern town was used to estimate the parameters of the Logit model. The market consisted of only two firms: Pizza Hut and Domino's. As such, a manageable evoked set of alternatives was possible.

The data collection approach was a telephone-administered questionnaire using random digit dialing. This approach generated 270 respondents. Prior to data analysis (i.e., Factor Analysis and Logit parameter estimation), respondents were randomly assigned to either an estimation data set or to a holdout data set. Results of the Factor Analysis and Logit parameter estimation were based on the 206 respondents of the estimation data set for a total of 412 observations (i.e., their evaluation of Pizza Hut and Domino's). The 64 respondents (128 observations) of the holdout data set served to assess the predictive accuracy of the Logit model.

The questionnaire served the dual purpose of estimating purchase frequencies for each pizza firm as well as obtaining expectations and perceptions ratings using the 22-item SERVQUAL scale. Consumers were asked to provide an "ex post allocation" (i.e., how many out of the last ten pizzas were ordered from . . .) of their home-delivery pizza purchases. The SERVQUAL items utilized five-point adjective scales from Strongly Agree to Strongly Disagree.

Purchase frequency was used as the dependent variable in a Logit model algorithm that allows for proportions to be used rather than a binary dependent variable (Greene, 1990). Factor scores from a Factor Analysis of the five *a priori*-defined dimensions of service quality were used as independent variables.

The importance of the five service quality dimensions were then assessed using the Logit model (McFadden, 1986). This model assumes that an individual consumer's probability of purchasing a particular alternative on a given choice occasion is based on his or her overall utility for the alternative relative to the other alternatives under consideration. Consumers are assumed to be utility maximizers, choosing the alternative with the highest level of utility.

## RESULTS

### Reliability And Dimensionality

Recent empirical validation of the SERVQUAL instrument suggests that there are five dimensions of service quality: tangibles, reliability, responsiveness, assurance, and empathy (Parasuraman et al., 1985). Since the SERVQUAL items are purported to measure five service quality dimensions, the reliability and dimensionality of the items require assessment. Factor Analysis was employed to assess the dimensionality using the 206 respondents of the estimation data set for a total of 412 observations. The difference scores of the original 22 items of SERVQUAL were subjected to Factor Analysis and an oblique rotation. Since the items are purported to measure five dimensions of service quality, five factors were extracted. The factor matrix revealed a structure which was not

in accord with a priori expectations of the groupings of the items. Since some of the items did not load in accord with expectations and, thus, exhibit questionable convergent and discriminant validity, item purification was deemed necessary (Churchill, 1979). Specifically, an iterative procedure of item deletion, recomputation of alpha values, and the reexamination of the factor structure of the reduced item pool resulted in 13 retained items. The corresponding factor matrix revealed a structure in accord with a priori expectations. The factor loadings and coefficient alpha values are reported in Table 1. These five dimensions explain essentially 100% of the variance.

TABLE 1  
RESULTS OF PURIFIED SERVQUAL SCALES<sup>a</sup>

Dimension/Item	Coefficient Alpha	Factor Loadings On Dimension To Which Item Belongs
<u>TANGIBLES:</u>	0.8204	
Equipment employed.		0.5723
Physical facilities.		0.7392
Appearance of employees.		0.5462
Physical representation of the service.		0.6982
<u>RELIABILITY:</u>	0.8461	
Keeping promises.		0.7244
Sympathy and reassurance.		0.8662
Keeping records accurately.		0.4590
<u>ASSURANCE:</u>	0.8517	
Trustworthiness of employees.		0.7359
Politeness of employees.		0.7725
<u>RESPONSIVENESS:</u>	0.8167	
Explaining when service will be performed.		0.7268
Giving prompt service.		0.6016
<u>EMPATHY:</u>	0.7179	
Expecting individual attention.		0.5353
Personal attention by employees.		0.6050

<sup>a</sup>= results based on 416 observations of the 206 respondents of the estimation data set.

## Logit Results

Factor scores for each respondent on each of the five dimensions of service quality were calculated using the Sum Scoring Method (Gorsuch, 1974). The resulting five linear combinations of the 13 difference scores derived from Factor Analysis served as independent variables in a Logit model. These five dimensions are hypothesized to exert a positive influence on probability of choice. The parameters of the Logit model were estimated using the data of the 206 estimation data set respondents for a total of 412 observations. The estimation results of the Logit model with the five dimensions as independent variables are given in Table 2.

TABLE 2  
LOGIT RESULTS<sup>a</sup>

Dimension	Parameter Estimates (Asymptotic Standard Errors)
TANGIBLES	0.3701 (0.2400) <sup>d</sup>
RELIABILITY	0.3092 (0.2701)
ASSURANCE	1.0923 (0.3905) <sup>c</sup>
RESPONSIVENESS	-0.1869 (0.1818)
EMPATHY	0.5372 (0.3466) <sup>d</sup>
Log-Likelihood	-155.0200
Restricted (Slopes=0) Log-Likelihood	-142.7900
Likelihood Ratio Test	55.5340 <sup>b</sup>
Rho-Squared	0.1945
Cross Validity Correlation Coefficient	0.7445 <sup>b,c</sup>

<sup>a</sup>= results based on 412 observations of the 206 respondents of the estimation data set.

<sup>b</sup>= significant at less than the .0001 level.

<sup>c</sup>= significant at less than the .05 level (one-tail test).

<sup>d</sup>= significant at less than the .10 level (one-tail test).

<sup>e</sup>= results based on 128 observations of the 64 respondents of the holdout data set.

The Likelihood Ratio Test indicates that the model is statistically significant. In other words, at least one of the dimensions of service quality is important in explaining choice behavior. However, the true test of a model's diagnostic usefulness is evidenced by its predictive accuracy. The parameters of the model estimated from the estimation data set were used to predict choice probabilities in the holdout data set. The predicted choice probabilities are correlated with actual choice probabilities in the holdout data set to obtain a measure called a cross-validity correlation coefficient (Green and Srinivasan, 1978). The cross-validity correlation coefficient is 0.7445 and is significant. This result indicates the usefulness of the service quality dimensions for predicting choice probability utilizing fresh data.



The asymptotic t-test was utilized to test the statistical significance of each of the dimensions of service quality. The model contains three significant dimensions. All three dimensions agree with their a priori signs. It appears that TANGIBLES, ASSURANCE, and EMPATHY are important for explaining choice. These results imply that the trustworthiness and politeness of employees (ASSURANCE), personal attention (EMPATHY), and physical cues (TANGIBLES) are important for consumer choice. The dimensions of RESPONSIVENESS and RELIABILITY are not statistically significant. Marketing managers (of pizza firms) may find these results diagnostically useful when attempting to attract customers. They may wish to emphasize ASSURANCE-, EMPATHY-, and TANGIBLES-related attributes when promoting and/or providing the service. For example, advertisements could emphasize the courtesy of employees, providing the "personal touch," or up-to-date equipment.

This study empirically demonstrated the importance of service quality on choice behavior. Service quality is important for explaining choice probability. In addition, no one dimension of service quality captures the complexities of choice. Consumers utilize multiple dimensions in choice decisions.

### STUDY LIMITATIONS

The purpose of this study is to examine the relationship between service quality and actual choice behavior. It should be noted that the research setting is able to provide the marketing manager with a general understanding of this relationship.

While providing insights concerning the relationship between service quality dimensions and choice behavior, this study possesses some limitations. The use of home-delivery pizza firms as alternatives of interest makes generalization of specific results to other services unwise. In addition, respondents for this study consist of adult, home-delivery pizza consumers in a small-sized Southeastern town. Therefore, the results apply to a limited subset of the population. Due to these limitations, generalizations to other services, markets, and consumers should be done with caution.

### MANAGERIAL IMPLICATIONS AND RECOMMENDATIONS

The overall purpose of this study is to add to the growing body of literature on service quality in several areas. First, this study empirically demonstrates the importance of service quality dimensions on choice behavior. It appears that no one dimension of service quality captures the complexity of choice. In other words, consumers utilize multiple dimensions in choice decisions. Second, this study goes beyond previous research that employed behavioral intention as a surrogate for actual choice. Finally, this study provides support for the use of SERVQUAL dimensions in choice situations. With proper rewording, SERVQUAL can be utilized by most firms to gather quantitative data as to the importance of the dimensions of service quality on choice behavior.

The modeling approach taken in this study should prove diagnostically useful to the marketing manager. Service quality is a competitive weapon. Managers must realize that meeting and/or exceeding customer expectations more efficiently than competition is what ultimately drives consumer choice. The challenge is to determine which specific dimensions have the greatest impact on choice. Once identified, managers can then develop a marketing program that emphasizes the most important dimensions while reasonably containing the cost of those service quality dimensions to which the consumer

is indifferent. Specifically, the manager can use the type of model developed here to predict choice probability as a function of perceived service quality. As such, the manager can assess the impact of a change in service quality on consumer choice probability for their offering. In other words, this model allows the manager to play "what-if" types of games in terms of forecasting.

To the extent that the marketing manager finds this type of model diagnostically useful, four recommendations are offered.

1. Industry-specific analysis. The aforementioned model was estimated for the home-delivery pizza industry. As such, the results should not be generalized to other industries. However, the same methodology can be easily applied to other industries. The manager can then utilize a model specific to a particular industry to gain insight as to the importance of each of the service quality dimensions.
2. Segment-level analysis. The model can be estimated for several segments of consumers. Segment-specific models allow the manager to investigate the differential effects of the various dimensions of service quality across segments. As such, the manager has a better understanding of which dimensions of service quality are most important to each segment. This information would be very useful when targeting those segments of consumers.
3. Competitive analysis. The model can be used to assess service quality performance changes relative to principal competitors. In other words, the effect of a change in one's level of service quality upon a competitor can be determined. Conversely, the effects of competitor actions upon one's own firm can also be assessed.
4. Temporal analysis. The model can be reestimated periodically to track changes in importance of service quality dimensions. There is evidence to suggest that attribute importance changes over time as a result of internal changes in the consumer, the competitive environment, the economy, etc. (Cote and Umesh, 1988).

The impact of service quality on the financial viability of firms suggests a need to better understand the relationship between service quality and consumer choice behavior. In addition, marketing managers need information and tools to make better-informed decisions. It is hoped that this study contributes to both of those needs.

## REFERENCES

- Anderson, James F. and Marvin Kraus. "Quality of Service and the Demand for Air Travel," *The Review of Economics and Statistics* 63 (November 1981): 534-40.
- Bitner, Mary Jo. "Evaluating Service Encounters: The Effects of Physical Surroundings and Employee Responses," *Journal of Marketing* 54 (April 1990): 69-82.
- Brown, Stephen W. and Teresa A. Swartz. "A Gap Analysis of Professional Service Quality," *Journal of Marketing* 53 (April 1989): 92-8.
- Churchill, Gilbert A. "A Paradigm for Developing Better Measures of Marketing Constructs," *Journal of Marketing Research* 16 (March 1979): 64-73.



- Cote, Joseph A. and U. N. Umesh. "Influence of Situational Variables on Brand-Choice Models," **Journal of Business Research** 16 (March 1988): 91-9.
- Gorsuch, Richard L. **Factor Analysis**. Hillsdale, NJ: Lawrence Erlbaum Associates, 1974.
- Green, Paul E. and V. Srinivasan. "Conjoint Analysis in Consumer Research," **Journal of Consumer Research** 5 (September 1978): 103-23.
- Greene, William H. **LIMDEP Version 5.1**. New York, NY: Econometric Software, Inc., 1990.
- Ippolito, Richard A. "Estimating Airline Demand with Quality of Service Variables," **Journal of Transport Economics and Policy** 15 (January 1981): 7-15.
- Keiser, Thomas C. "Strategies for Enhancing Services Quality," **Journal of Services Marketing** 2 (Summer 1988): 65-70.
- Kochak, Jacque W. "Market Segment Report: Pizza," **Restaurant Business** 86 (January 1987): 125-48.
- McFadden, Daniel. "The Choice Theory Approach to Marketing Research," **Marketing Science** 5 (Fall 1986): 275-97.
- Parasuraman, A., Valerie A. Zeithaml, and Leonard Berry. "A Conceptual Model of Service Quality and Its Implications for Future Research," **Journal of Marketing** 49 (Fall 1985): 41-50.
- \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_. "SERVQUAL: A Multi-Item Scale for Measuring Consumer Perceptions of Service Quality," **Journal of Retailing** 64 (Spring 1988): 2-40.
- Phillips, Lynn W., Dae R. Chang, and Robert D. Buzzell. "Product Quality, Cost Position and Business Performance: A Test of Some Key Hypotheses," **Journal of Marketing** 47 (Spring 1983): 26-43.
- Webster, Cynthia. "Can Consumers Be Segmented on the Basis of their Service Quality Expectations?" **Journal of Services Marketing** 3 (Spring 1989): 35-53.
- Zeithaml, Valerie A. "Consumer Perceptions of Price, Quality, and Value: A Means-End Model and Synthesis of Evidence," **Journal of Marketing** 52 (July 1988): 2-22.
- \_\_\_\_\_, Leonard Berry, and A. Parasuraman. "Communication and Control Processes in the Delivery of Services Quality," **Journal of Marketing** 52 (April 1988): 35-48.
- 
- Michael D. Richard is an Assistant Professor of Marketing in the Department of Marketing, Quantitative Analysis, and Business Law at Mississippi State University. Arthur W. Allaway is an Associate Professor of Marketing in the Department of Management and Marketing at the University of Alabama.