

# DETERMINANTS OF CUSTOMER-PERCEIVED SERVICE QUALITY IN FAST-FOOD RESTAURANTS (FFRS)

Hong Qin, Email: [QinH@unt.edu](mailto:QinH@unt.edu); Tel: 940-565-3174;  
Victor R. Prybutok, Email: [Prybutok@unt.edu](mailto:Prybutok@unt.edu); Tel: 940-565-4767;  
Michael Knipper, Email: [KnipperM@unt.edu](mailto:KnipperM@unt.edu); Tel: 940-565-4787;  
Muhammad M. Hossain, Email: [HossainM@unt.edu](mailto:HossainM@unt.edu); Tel: 940-565-3174;  
University of North Texas, P.O. Box 305249, Denton, TX 76201, USA

## ABSTRACT

This study extends the underlying dimensions of service quality in the context of FFRs. The original 22-item SERVPERF scale is modified, and another potential dimension, recovery, is empirically examined. An online survey was administered to college students in a large southwestern university. Findings from EFA and CFA indicate that the dominant dimensions of service quality in FFRs are: tangibles, assurance, empathy, COM, and recovery. All the four items measuring recovery in this study are significant. These results suggest that service managers in FFRs should develop their managerial strategies according to these dominant dimensions of service quality. Future research will investigate the relationship between service quality, customer satisfaction, and behavioral intentions.

**Keywords:** Fast-food restaurants, Recovery, Service quality, SERVPERF.

## INTRODUCTION

Fast-food restaurants (FFRs), as providers of both products and services, have been attempting to find ways to continuously improve service quality [5] [11]. Superior service can lead to loyal and satisfied customers whose continued patronage is essential to the growth of sales and profit for FFRs. Conversely, poor service quality leads to dissatisfied customers who may dine at competitor FFRs [4]. It is important for service managers to understand how customers perceive their service, and what kind of factors might determine the nature of the perceived service quality in FFRs.

The overriding objective of this study is to develop a measurement scale for the perceived service quality of FFRs. This paper is presented in another four sections. First, the theoretical foundation of the perceived service quality and its potential dimensions are reviewed. Second, the research methodology is identified, and data analysis is presented. Third, conclusions and practical implications are provided. Finally, limitations and future research are addressed.

## THEORETICAL FOUNDATION

### Measurement of Service Quality

The widely used SERVPERF instrument by Cronin and Taylor [3] was employed to measure service quality in this study. The 22 items in that scale were mostly preserved but adapted to FFRs.

Five items refer to the tangibles dimension. The first item of cleanliness of dining area is from “clean”, “clean table/ware” [6]. The second item concerning well-dressed employees is from the SERVPERF model. The third item is modified from “neat employees” based on the characteristics of the restaurant industry that the employees in fast-food restaurants use sanitary gloves and hair nets; the fourth item on seats availability is based on “queue for seats” [6] and “seat capacity” [7]; the last item about parking availability is revised based on “no parking” [6], and adds the drive-through as an item of importance for FFRs, shown as following:

- Clean dining area
- Well-dressed employees
- Employees wearing disposable gloves and hair net
- Available seat
- Ample parking/drive-through

All the five items associated with reliability are adapted from the SERVPERF model.

- Providing service as promised
- Sympathetic and reassuring
- Accurate charge
- On-schedule service
- Dependability

The four items measuring responsiveness stem from the SERVPERF model as well..

- Telling customers exactly when services will be performed
- Employees available to respond to customer requests promptly
- Prompt service
- Employees willing to help customers

All four items measuring assurance are adapted from the SERVPERF model.

- Trust employees
- Feel safe in the transactions
- Employees friendly and courteous
- Employees knowledgeable

For the four items of empathy, the first two are from the SERVPERF model; and the last two are adapted from the “items forgotten” [6].

- Convenient operating hours
- Convenient locations
- Availability of sauces, utensils, napkins, etc...
- Food packaged completely

In addition to these original five dimensions of service quality, the construct of recovery was added and identified as a substitute dimension for the perceived service quality in FFRs. Olurunniwo et al. [9] tested six potential dimensions of the service quality: tangibles, responsiveness, knowledge, reliability and trust, accessibility and flexibility, and recovery. The SEM analysis contained in [9] suggests that there are four dimensions of the service quality that affect customer satisfaction, and ultimately, behavioral intentions in the context of service factory. These dimensions include: tangibles, recovery, responsiveness, and knowledge. However, when recovery was tested in mass services like retail banking [10], it was insignificant. This was the impetus for examining the significance of recovery in the context of FFRs. Four items of recovery used in [9] were modified in this study:

- Apology of mistakes

- Care about customer complaints
- Skills to deal with complaints
- Compensation for inaccurate service

The sources for the items used in this study are listed in Table 1.

**Table 1**  
**Sources of Questionnaire Items**

<b>Constructs</b>	<b>Items</b>	<b>Sources</b>
Tangibles	Seating availability Parking availability Clean dining area Well-dressed employees Using disposable gloves and hair net	[3] [6] [7]
Recovery	Employees quickly apologize for mistakes Cares about customer's complaints Skills and ability to deal with complains Employees empowered to provide compensation	[9]
Reliability	Providing service as promised Sympathetic and reassuring Accurate charge On-schedule service Dependable	[3]
Assurance	Trust employees Feel safe for financial transactions Knowledgeable employees Friendly employees	[3]
Responsiveness	Telling exact service time Employees available to requests Prompt service Employees willing to help	[3]
Empathy	Convenient locations Convenient operating hours Completely packaged food Availability of sauces, etc.	[3] [6]

## **RESEARCH METHODOLOGY AND DATA ANALYSIS**

A modified SERVPERF scale, including 26 items totally, was employed in an online survey to college students at a large southwestern university. A seven-point Likert-type response format was applied in the survey.

Of the usable responses, 45.7% were completed by male respondents. More than 55.7% of the respondents were between 21 and 25 years old. Each of the respondents surveyed had dined in FFRs at least once in the last month, and around 60% of respondents had dined in a FFR more than five times in the last month. This suggests that the respondents were qualified to rate the service quality of FFRs.

## Assessing Reliability and Validity of Constructs

The reliability and validity of the modified SERVPERF scale were tested. This was necessary by the addition of the new construct of recovery and some modified items that were included into the SERVPERF model. Principle component analysis with a varimax rotation was used to test the discriminant and convergent validity of the instrument. Factor analysis was employed for each construct and then for all dimensions of service quality. The items with a loading less than .55 on any factor were deleted. The results of principal components factor analysis on the performance of service quality indicate that most of the factor loadings are above .5 with cross loadings less than .4 after rotation. The 22 remaining items were loaded into 5 factors, and the original items for reliability and responsiveness were loaded onto one construct, named COM in this paper. All items used to measure the added factor, recovery, loaded together; however, there were some cross-loadings in this construct. Overall, the exploratory factor analysis supported our main modification of the SERVPERF instrument. Some of the discrepancies that we experienced were also consistent with previous criticisms of the SERVPERF scale which suggest that items do not load on the supposed factors, and that there are cross-loadings among dimensions [2] [13].

Cronbach's alpha was used to test internal consistency reliability. All of the Cronbach's alpha values were higher than .7 [8], which indicates a satisfactory internal consistency for those items within each identified dimension.

The dimensions of the service quality were assessed using confirmatory factor analysis. The first-order Measurement Model A and the second-order Measurement Model B were both analyzed in a confirmatory factor analysis using Structural Equation Modeling (SEM) and the LISREL application. The goodness-of-fit indices of the two models (Measurement Model A and Structural Model B) are reported in Table 2.

**Table 2**  
**Goodness-of-fit for the Measurement Models**

Models	df	$\chi^2/df$	GFI	AGFI	PGFI	RMSR
Model A	199.00	2.89	0.84	0.80	0.66	0.058
Model B	204.00	2.97	0.84	0.80	0.67	0.061

Table 2 shows that both Models A and B have an acceptable  $\chi^2/df$  ration at 2.89 and 2.97 respectively because these ratios are lower than cutoff value of 3.00 (Simon and Paper, 2007). The RMSR values also support the posited constructs because the values of 0.058 and 0.061 are both less than 0.1 [12]. Using these goodness-of-fit indices criteria, Model A and B are both acceptable.

## **CONCLUSIONS AND PRACTICAL IMPLICATIONS**

Many of the problems that we encountered underscore the challenges of the SERVPERF model. As mentioned previously, studies examining the SERVPERF model have resulted in poor predictive and convergent validity, and unstable dimensionality. Our study within the FFR industry indicates that there are five dimensions for the perceived service quality that should be measured: 1) tangibles, 2) recovery, 3) COM (responsibility and responsiveness), 4) empathy, and 5) assurance. Our findings support the need to modify the SERVPERF model when applied to a specific industry [9]. In the FFR industry, managers may want to increase the amount of attention that they give to the service quality and decrease the amount of resources that are directed at increasing customer satisfaction.

The FFR model developed in this study was a modified version of the SERVPERF scale, that allowed us to examine the significance of the new construct “recovery”. Within the FFR industry, recovery is an important dimension of the perceived service quality, and is worthy of inclusion in future studies that attempt to measure FFR service quality. Our findings support the idea that it is worthwhile to empower and are train employees on how to recover from a mistake. For example, if a mistake were made at the drive-thru, the window clerk should be able to compensate a customer by either refunding their purchase or correcting their order. If this is done properly, then the consumer’s intentions to return to the FFR may not be altered. In addition, a comprehensive investigation of the failures encountered when handling customer complaints would be helpful in improving the service quality of FFRs.

## **LIMITATIONS AND FUTURE RESEARCH**

The findings obtained in this research should be used cautiously in attempting to make generalizations towards a broader population. One of the limitations of our research is based on the selection of college students as our sample. In order to infer broader generalizability, an on-site survey should be conducted, and a larger and more randomized sample should be obtained.

Secondly, the low GFI, and AGFI values that were reported in this study do not meet the cut-off values as suggested by the structural equation modeling literature [1]. Further research is needed to test additional models that are also based on theory to determine if a better fit can be obtained.

Thirdly, the relationship between service quality and behavioral intentions is not examined in this study. The mediating role of customer satisfaction is also not tested either. These constructs and these relationships are worthy of further investigation in future research.

Finally, further research is also merited on the determinants of service quality in FFRs across multi-national settings (e.g., different countries). With a rapidly increasing global economy, many FFRs have extended their business “footprint” to include global markets. Consequently, a direct comparison of the service quality factors across different countries and/or cultures is needed.

## REFERENCES

- [1] Bagozzi, R. P. & Yi, Y. *On the Evaluation of Structural Equation Models*. Journal of the Academy of Marketing Science, 1988, 16 (1), 074-094.
- [2] Buttle, F. *SERVQUAL: Review, Critique, Research Agenda*. European Journal of Marketing, 1996, 30 (1), 8-32.
- [3] Cronin, J. J. & Taylor, S. A. *Measuring Service Quality: A Reexamination and Extension*. Journal of Marketing, 1992, 56 (3), 55-68.
- [4] Gilbert, G. R., Veloutsou, C., Goode Mark, M.H. & Moutinho, L. *Measuring Customer Satisfaction in the Fast Food Industry: A Cross-national Approach*. The Journal of Services Marketing, 2004, 18 (5), 371-383.
- [5] Gregory, S. R., Smith, K. D. & Lenk, M. M. *Factors Contributing to Internal Customer Satisfaction and Commitment in Quick Service Restaurant*. Journal of Restaurant & Foodservice Marketing, 1997, 2 (4), 21-47.
- [6] Johns, N. & Howard, A. *Customer Expectations versus Perceptions of Service Performance in the Food Service Industry*. International Journal of Service Industry Management, 1998, 9 (3), 248-256.
- [7] Kara, A., Kaynak, E. & Kucukemiroglu, O. *Marketing Strategies for Fast-food Restaurants: A Customer View*. International Journal of Contemporary Hospitality Management, 1995, 7 (4), 16-22.
- [8] Nunnally, J. *Psychometric theory*. New York: McGraw-Hill, 1978.
- [9] Olorunniwo, F., Hsu, M. K. & Udo, G. J. *Service Quality, Customer Satisfaction, and Behavioral Intentions in the Service Factory*. Journal of Services Marketing, 2006, 20 (1), 59-72.
- [10] Olorunniwo, F. & Hsu, M. K. *A Typology Analysis of Service Quality, Customer Satisfaction and Behavioral Intentions in Mass Services*. Managing Service Quality, 2006, 16 (2), 106-123.
- [11] Pun, K. F. & Ho, K. Y. *Identification of Service Quality Attributes for Restaurant Operations: A Hong Kong Case*. Managing Service Quality, 2001, 11 (4), 233-240.
- [12] Simon, S. J. & Paper, D. *User Acceptance of Voice Recognition Technology: An Empirical Extension of the Technological Acceptance Model*. Journal of Organizational and End User Computing, 2007, 19 (1), 24-50.
- [13] Szmigin, M. & Bourne H. *Customer Equity in Relationship Marketing*, Journal of Consumer Marketing 1998, 15 (6), 544-557.
- [14] Van Dyke, T. P., Prybutok, V. R. & Kappelman, L. A. *Cautions on the Use of the SERVQUAL Measures to Assess the Quality of Information Systems Services*. Decision Sciences, 1999, 30 (3), 877-891.