

A FINER EVALUATION OF CUSTOMER SATISFACTION IN THE SERVICE CONTEXT

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Recent research on the composition of the satisfaction structure in the context of services marketing not only supports a multidimensional-multiobject model to explain the satisfaction construct but also calls for further research at a micro unit of analysis. In an effort to answer this call, the authors report the findings from analysis of data collected at a large health and fitness center. Results support the multidimensional-multiobject model and clearly indicate that both dimensions and objects must be considered if the satisfaction construct is to be represented comprehensively. Implications of the findings for the measurement of customer satisfaction are discussed.

INTRODUCTION

It is now well known that a comprehensive understanding of customer satisfaction is fundamental to the success of contemporary marketing practices. Nevertheless, research on satisfaction has traditionally focused on understanding the *process* (i.e., antecedents and consequences) of customer satisfaction without much emphasis on understanding the *structure* (i.e., content and dimensions) of the satisfaction construct (e.g., Fisk et al. 1990; Klein and Roth 1993; Oliver and DeSarbo 1988; Rogers, Peyton and Berl 1992; Singh 1990, 1991; Westbrook and Oliver 1981). Understanding the structure of the customer satisfaction construct is particularly important in the context of services marketing. Unlike products, services are characterized by features such as intangibility, heterogeneity, inseparability of production and consumption, etc.; thus the measurement of customer satisfaction with services becomes a more complex and challenging task.

Further, because quality in general and service quality in particular is an elusive and fuzzy construct, it is more difficult to define and measure this

construct (Brown and Swartz 1989; Carman 1990; Parasuraman, Zeithaml, and Berry 1985, 1988). The current debate in the marketing literature regarding the nature and direction of causal relationships between customer satisfaction, service quality, and purchase intentions (e.g., Brown, Churchill and Peter 1992; Cronin and Taylor 1992, 1994; Elliott 1994; Parasuraman, Zeithaml, and Berry 1994; Teas 1994) has further underscored the need to accurately measure the satisfaction construct in the service context.

Relatively recently, Singh (1991) has instilled clarity in the understanding of the structure of the satisfaction construct, particularly in the context of services. He has, however, called for further research in this regard. Accordingly, in this paper, we address that issue.

Since the present research springs from the Singh (1991) study, a brief review of that study may be in order. On the basis of an extensive review of relevant literature, Singh concluded that relatively little attention in satisfaction evaluations had been given to the question, "What is the customer satisfied with?" as far as the objects involved in performing the service were concerned. Furthermore, he proposed and tested three models of patient satisfaction in the context of health care delivery on the basis of a tripartite taxonomy provided by Smith,

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Bloom, and Davis (1986). This taxonomy essentially classifies a large set of relevant attributes into a set of three unique "dimensions," consisting of: (1) *expressive* (personal qualities, notions of art and care, friendliness), (2) *instrumental* (professional competence, quality of care, efficacy of treatment), and (3) *access/convenience/cost* (perceptions of accessibility, convenience, availability and cost).

The three models referred to above included either dimensions (expressive, instrumental and access/convenience/cost), or objects (physicians, hospitals, and the insurance provider), or both, to evaluate the structure of the satisfaction construct. Singh (1991) chose physicians, hospitals, and insurance companies as the objects in his study of the multiorganizational health care delivery system. His analysis of data collected from four major metropolitan areas revealed that the multidimensional-multiobject model was the configuration that best represented the satisfaction construct. In other words, the satisfaction construct was effectively captured by measuring customers' satisfaction with the three dimensions (expressive, instrumental and access/convenience/cost) of the chosen macro-level objects (physicians, hospitals, and the insurance provider) in the health care delivery system. Although the dimensions constituted a necessary ingredient, the objects explained the bulk of the variance in satisfaction. In view of this finding, it is imperative to identify specific object(s) in any macro level service system researched if effective operational measures for the satisfaction construct are to be developed. In line with this, Singh (1991) called for further research into the satisfaction structure at a micro unit of analysis (e.g., within a hospital), in order to render better insights into customer satisfaction issues.

This paper essentially answers this call and attempts to sustain the momentum in customer satisfaction research. The study reported herein investigates whether the multidimensional-multiobject model is the best configuration to capture the satisfaction construct even within an object in a service system. To serve the dual purpose of making an initial assessment of the external validity of this model and further strengthening the base of this area of

research, we decided to conduct this study in a setting that is related to but different from the one employed by Singh (1991). In line with this, the preventive health care service system was chosen as the setting. Specifically, several alternative structures were compared within one particular health and fitness center in the preventive health care service system.

THE MULTIDIMENSIONAL-MULTIOBJECT STRUCTURE

Despite the void in the marketing literature, medical sociology and community health researchers over the past two decades have made significant progress in exploring the structure of customers' satisfaction with health care delivery (e.g., Hulka and Zyzanski 1982; Locker and Dunt 1978; Pascoe 1983; Shore and Franks 1986; Ware, Davies-Avery, and Stewart 1978; Ware and Hays 1988). A prominent aspect of such advances has been in proposing and developing a taxonomical base for understanding patient satisfaction. A taxonomy facilitates classifying a comprehensive list of satisfaction attributes into a set of clusters called "dimensions" such that attributes are perceived as homogeneous within a dimension, but not across dimensions. For example, Hulka et al. (1970) proposed a taxonomy consisting of three dimensions, viz. professional competence, personal qualities, and cost/convenience. Ware, Davies-Avery, and Stewart (1978) proposed an eight-dimensional alternative taxonomy comprised of: (1) art of care--the manner or mode of health care, (2) technical quality of care--professional competence, (3) accessibility/convenience--time and effort involved in obtaining medical care, (4) finances--cost and benefits of health care, (5) physical environment--cleanliness and other environmental factors, (6) availability--number of care providers, (7) continuity of care--dependability of the health care provider, (8) efficacy/outcomes--improvement in health because of care received.

An integrated tripartite taxonomy was put forth by Smith, Bloom, and Davis (1986) comprised of: (1) the expressive dimension--notions of art of care, (2) the instrumental dimension--implying quality of care, efficacy of treatment, and (3) the access/cost dimension--including aspects of accessibility,

convenience, and cost. This taxonomy has received wide acceptance in the health care literature (e.g., Singh 1990; Taylor 1994) because it contains the taxonomy proposed by Hulka et al. (1970) and incorporates two dimensions (i.e., instrumental and access/cost) found by Ware, Davies-Avery, and Stewart (1978). Thus, there appears to be a growing consensus within the health care literature that patient satisfaction is a multidimensional evaluation of various aspects of health care received (Singh 1991).

There are, of course, several studies of patient satisfaction that have focused primarily on either overall, global satisfaction or on a single facet, thereby ignoring relationships among satisfaction evaluations of different objects in the system (e.g., Gochman, Stukenborg, and Feler 1986; Scotti, Bonner, and Wiman 1986; Woodside and Shinn 1988). For example, some studies have measured overall satisfaction with hospital services (e.g., Woodside and Shinn 1988), or satisfaction with insurance providers (e.g., Scotti, Bonner, and Wiman 1986), or with the physicians in the health care system (e.g., Gochman, Stukenborg, and Feler 1986). However, more recently, Singh (1990, p. 18) examined patient satisfaction concurrently for all of these facets (e.g., the hospital, the insurance provider and the physician) and concluded that "the multifacet view of patient satisfaction is a valid portrayal of patients' evaluations and warrants the serious attention of researchers." The efficacy of this multifaceted (or multiobject) view, combined with the multidimensional view of the structure of the satisfaction construct at a micro level of analysis, is the focus of our study.

THE STUDY

As mentioned above, the unit of analysis for the present study was a large health and fitness center located in the Midwest. Informal questioning of staff members revealed that almost all members of the center used the "Aerobic Program," the "Aquatic Program," and the "Exercise/Weight Program," and these were therefore chosen as the three major service areas (objects).

The research instrument was a questionnaire with satisfaction measurement scales designed along the same lines as in Singh (1991) and Ware, Davies-Avery, and Stewart (1978). Essentially, the respondents were asked to think of their recent experiences with the three service objects under study and indicate their level of satisfaction on each of the items shown in Table 1. The satisfaction items were measured utilizing a six-point rating scale in which the alternatives were "very dissatisfied," "dissatisfied," "somewhat dissatisfied," "somewhat satisfied," "satisfied," and "very satisfied." Specifically, four satisfaction items were used with each of the three service objects (in all twelve items): (1) Aerobic Program, (2) Aquatic Program, and (3) Exercise/Weight Program. With respect to each object, the twelve items in effect measured member satisfaction on the three dimensions--instrumental (four items), expressive (five items), and access/convenience (three items). The cover letter and the questionnaire were pretested for clarity and comprehension using a convenience sample of thirty-five members. These people, however, were excluded from the sampling frame for the survey.

A sample of 600 households was randomly chosen from the metropolitan membership list (total membership exceeding 4,500) of the fitness center. Members were prenotified of the impending arrival of the questionnaire in order to increase the response rate (Duhan and Wilson 1990; Taylor and Richard 1992). In the cover letter enclosed with the questionnaire, members were requested to complete the questionnaire and return it in a self-addressed, stamped envelope also enclosed. One reminder card was sent a week after the initial mailing to encourage participation.

ANALYSIS AND RESULTS

A total of 338 usable responses were received yielding a response rate of 56 percent.¹ As mentioned earlier, the models proposed by Singh (1991) were hypothesized to study the structure of satisfaction evaluations. These models posit the following: (1) *there are no underlying constructs* (the null model); (2) *all intercorrelations among the 12 satisfaction*

TABLE 1

Operational Measures used to Study the Structure of Customer Satisfaction

Object	Dimension	Mean [@]	Indicator Variables
Aerobic Program	Instrumental	5.44 (.54)	With my aerobic instructor's capabilities, I feel...(X1)
Aerobic Program	Expressive	5.26 (.67)	With my aerobic instructor's friendliness, I feel...(X2)
Aerobic Program	Expressive	5.30 (.65)	With my aerobic instructor's willingness to answer questions, I feel...(X3)
Aerobic Program	Access/Convenience	4.86 (.72)	With the schedule of the aerobic program, I feel...(X4)
Aquatic Program	Instrumental	5.14 (.52)	With my aquatic instructor's capabilities, I feel...(X5)
Aquatic Program	Expressive	5.27 (.53)	With my aquatic instructor's friendliness, I feel...(X6)
Aquatic Program	Expressive	5.24 (.51)	With my aquatic instructor's willingness to answer questions, I feel...(X7)
Aquatic Program	Access/Convenience	4.87 (.63)	With the schedule of the aquatic program, I feel...(X8)
Exercise/Weight Program	Instrumental	4.63 (1.21)	With the capabilities of my instructor in the cardiovascular and weight area, I feel...(X9)
Exercise/Weight Program	Instrumental	5.10 (1.0)	With the capabilities of the staff in the exercise and weight area, I feel...(X10)
Exercise/Weight Program	Expressive	4.75 (1.17)	With friendliness of the staff in the exercise and weight area, I feel...(X11)
Exercise/Weight Program	Access/Convenience	5.32 (.91)	With the availability of equipment in the exercise and weight area, I feel...(X12)

[@] Standard deviation is shown in parenthesis. For all satisfaction items, the means are based on a six point scale as follows: 1=Very Dissatisfied, 2=Dissatisfied, 3=Somewhat Dissatisfied, 4=Somewhat Satisfied, 5= Satisfied, 6=Very Satisfied.

items are adequately explained by the three dimensions--instrumental, expressive, and access/convenience (the multidimensional model); (3) all intercorrelations among the 12 satisfaction items are adequately explained by the three service objects--aerobic, aquatic, and exercise/weight programs (the multiobject model); and (4) both dimensions and objects are needed to comprehensively represent satisfaction (the multidimensional-multiobject model).

Confirmatory factor analysis using LISREL 8 (Jöreskog and Sörbom 1993) was employed to estimate these models. In confirmatory factor analysis, the overall model fit portrays the degree to which the specified indicators represent the hypothesized constructs. As there were no categorical or ordinal level indicator variables, the Maximum Likelihood (ML) method was initially considered appropriate for parameter estimation. However, since researchers have recently questioned the interval level properties of the Likert-type satisfaction scales used in this area of research, we decided in favor of the Weighted Least Squares (WLS) method as the estimating technique. WLS requires estimates of the asymptotic variances and covariances or correlations

of the sample being analyzed, which were obtained through PRELIS 2 (Jöreskog and Sörbom 1993).

Table 2 shows the results of the model fit for all competing models using WLS. The output was examined for common anomalies (e.g., negative error variances, extremely large parameter estimates), and no such anomalies were noted. It is now well known that many researchers (e.g., Bagozzi and Yi 1988; Bentler and Bonnet 1980) have discussed the problems with the overall χ^2 test even in moderately large samples (e.g., $n > 200$). Unlike the χ^2 statistic, the Goodness-of-Fit Index (GFI), Adjusted Goodness-of-Fit Index (AGFI), Root Mean Square Residual (RMR), and Root Mean Square Error of Approximation (RMSEA) indicators of fit are less sensitive to sample size and are therefore given greater importance in model testing. Accordingly, the multidimensional-multiobject model provided the best fit statistics ($\chi^2 = 27$, $df = 27$, $p = 0.46$, $GFI = 1.0$, $AGFI = 0.99$, $RMR = 0.02$, and $RMSEA = 0.00$) indicating that the sample covariance (correlation) matrix nearly equalled the fitted covariance (correlation) matrix in this model (Bagozzi and Yi 1988; Browne and Cudeck 1992; Jöreskog and Sörbom 1993; Steiger 1990). This result was

TABLE 2
Results of Alternative Model Tests^a

Model	χ^2	df	GFI	AGFI	RMR	RMSEA
Null Model	8790	66	0.19	0.17	0.34	0.63
Multidimensional Model	481	51	0.96	0.93	0.39	0.16
Multiobject Model	103	51	0.99	0.95	0.06	0.06
Multidimensional-multiobject Model	27	27	1.00	0.99	0.02	0.00

^aAll models were estimated by the method of Weighted Least Squares (WLS) using LISREL 8. The matrix of polychronic correlations along with the asymptotic covariance matrix of the correlation matrix obtained from PRELIS 2 were the input for this method.

followed by that of the multiobject model ($\chi^2 = 103$, $df = 51$, $p = 0.00$, $GFI = 0.99$, $AGFI = 0.95$, $RMR = 0.06$, and $RMSEA = 0.06$), and then the multidimensional model ($\chi^2 = 481$, $df = 51$, $p = 0.00$, $GFI = 0.96$, $AGFI = 0.93$, $RMR = 0.39$, and $RMSEA = 0.16$). As expected, the null model positing that there were no underlying constructs yielded the poorest fit statistics (i.e., $\chi^2 = 8790$, $df = 66$, $p = 0.00$, $GFI = 0.19$, $AGFI = 0.17$, $RMR = 0.34$, and $RMSEA = 0.63$). Figure 1 shows the multidimensional-multiobject model.

Further, model comparisons were conducted to measure improvements in model fit. As seen in Table 3, the multidimensional-multiobject model, in comparison with the null, multidimensional, and the multiobject models, yields significant improvement in the Normed Fit Index (NFI) based on Bentler and Bonnet (1980) and in the Tucker-Lewis Index (TLI) based on Tucker and Lewis (1973). Hence, the multidimensional-multiobject model is clearly the best in comprehensively presenting and explaining the satisfaction structure compared to all other competing models.

In addition, we analyzed the sources of variation in satisfaction ratings to ascertain whether the major

source(s) of variation was "dimensions" or "objects" or both. Table 4 presents the results in this regard. It is seen that objects are the major source of variation compared to dimensions for 10 of the 12 satisfaction indicators with an average contribution of 51 percent. However, except for variables X2 and X3 (both related to the "expressive" dimension of the aerobic instructors, see Table 1), dimensions in general appeared to explain much lower variations than objects in the satisfaction construct, with an average contribution of only 13 percent.

DISCUSSION

In recent years, services have assumed a greater role in the economy than ever before, and to say that services marketing has taken a quantum leap would be an understatement. This trend is global and not confined just to the advanced countries. Given the importance of services in the national economies, it is not surprising that they are becoming increasingly important in world trade (e.g., Feketekuty 1988; Aronson and Cowhey 1988). The unique characteristics of services make customer satisfaction in services marketing absolutely indispensable. The importance of customer satisfaction stems from the realization that satisfaction with a service often leads

Figure 1

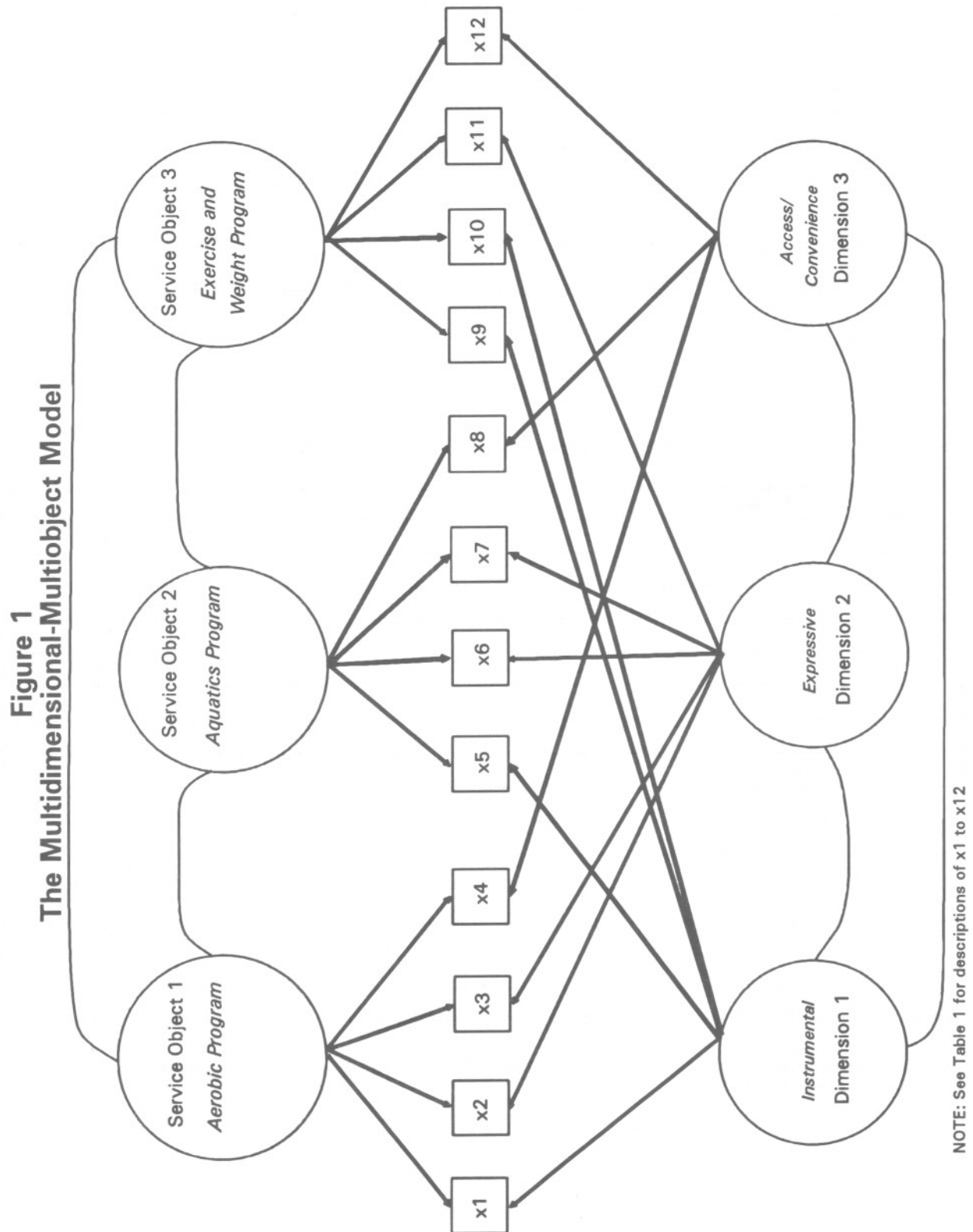


TABLE 3

Comparisons of the Alternative Models of the Customer Satisfaction Construct

Models Compared	Difference in Chi-square values	Difference in degrees of freedom	NFI ^a	TLI ^b
Null versus Multidimensional	8309	15	0.9452	0.9362
Null versus Multiobject	687	15	0.9880	0.9923
Null versus Multidimensional-multiobject	8763	39	0.9969	1.0000
Multidimensional versus Multidimensional-multiobject	454	24	0.0516	0.0638
Multiobject versus Multidimensional-multiobject	76	24	0.0091	0.0077

a. Normed Fit Index (NFI) is based on Bentler and Bonnet (1980).

b. Tucker-Lewis Index (TLI) is based on Tucker and Lewis (1973).

TABLE 4

Sources of Variation in Satisfaction Evaluations^a

Indicator Variables	Sources ^b		
Aerobic Items ^c	Objects	Dimensions	Error
X1	62	10	28
X2	2	74	24
X3	20	31	49
X4	21	4	75
Aquatic Items			
X5	86	0	14
X6	76	1	23
X7	92	1	7
X8	24	7	69
Exercise & Weight Items			
X9	53	12	35
X10	77	7	16
X11	74	1	25
X12	28	10	62

a. All values are percentages.

b. Sources of variation for objects and dimensions were computed as the square of the corresponding WLS parameter estimate (factor loading).

c. For descriptions of these items, see Table 1.

to repeat usage, acceptance of other offerings in the service line and favorable word-of-mouth, and possibly contributes to the development of customer loyalty. Managers are also concerned with customer satisfaction because of the many adverse effects that can result from customer dissatisfaction and complaints.

It follows, therefore, that a comprehensive understanding of the process and structure of customer satisfaction is fundamental to success in the marketing of services. Yet, as discussed earlier, although considerable attention has been devoted, over the past two decades, in discerning customers' judgments of satisfaction through attempting to understand the process of satisfaction, relatively little attention has been given to understanding the structure of the satisfaction construct. Most of the discussion has revolved around measurement issues (e.g., type of scales used) or has focused on the question, "What is customer satisfaction?" in terms of identifying antecedents and consequences of satisfaction. However, relatively little attention has been paid to the question, "What is the customer satisfied *with*?" in terms of identifying the specific object(s) in the service system in order to develop effective operational measures for the satisfaction construct.

In this research, we have endeavored to determine whether the multidimensional-multiobject model is the best configuration to comprehensively capture the satisfaction construct even within a service object. The findings clearly point toward the overall superiority of this model compared to other representations. In essence, therefore, this study not only answers the call for finer evaluations in the context of satisfaction research but also reinforces the effectiveness of the multidimensional-multiobject model of the satisfaction construct. Further, the fact that our testing has taken place in a context related to but different from the one employed by Singh (1991) provides an initial positive assessment of the external validity of the multidimensional-multiobject model.

Woodside, Frey and Daly (1989) discussed the concept of "service scripts" for service encounters, wherein they explore a detailed step-by-step method

called service scripts to track a customer's movement through the service process. As such, Oliva, Oliver and MacMillan (1992, p. 91) observe, "Every interaction, however brief, between the firm and the customer is a service encounter—an opportunity to distinguish the firm from its competitors by providing some facet of superior service." The results of our study further underscore the need for such finer distinctions within a service organization. For instance, based on the finding that objects explained, on average, nearly four times more variance than the dimensions did, it is important to develop a thorough understanding of each service object or service encounter in terms of what the customer actually seeks. In other words, customer satisfaction can be accurately understood as a collection of multiple satisfactions with various objects or encounters that comprise the service unit. It is emphasized, however, that for a comprehensive picture of customer satisfaction, marketing researchers must develop operational measures that assess the unique dimensions for each object or service encounter identified in the service unit.

Managerial Implications

In this study, we have attempted to provide a greater understanding of the satisfaction construct so as to establish managerial relevance at a more operational level. *First*, since the results indicate that objects explain, on average, nearly four times as much variance as dimensions, managers of multiobject services need to recognize the importance of explicitly delineating distinct objects in their service organizations and developing effective operational measures that assess the unique characteristics associated with each service object. *Second*, because the multidimensional-multiobject model is supported as the best representation of satisfaction evaluations, customer satisfaction must be measured with each and every service object with respect to the three dimensions to comprehensively capture the satisfaction construct. Such measurements can provide insights into the service objects that need attention. In other words, such measurements can provide greater diagnostic information regarding what specifically can be done to enhance customer satisfaction.

Future Research

The above notwithstanding, further research is clearly needed in this area. The fact that many companies, including service firms, are going global points toward the need for further assessment of the external validity of the multidimensional-multiobject model in terms of generalizability across other cultural settings. There is also a need to replicate such studies in other service contexts, such as banking, communications, travel and tourism, retail trade, recreation and entertainment, hotel and restaurant management, and legal services. Also, given the burgeoning research on service quality and satisfaction in education (e.g., Ruben 1995), it would be timely to test the multidimensional-multiobject model in educational settings. Finally, although recent efforts, including this research, have been conducted in a service context, the multidimensional-multiobject model may be just as viable in the product context. This, however, requires empirical validation.

FOOTNOTE

1. To discern possible response bias, associations between the time of response and several global questions were tested using the Chi-square test (Armstrong and Overton 1977); for this purpose, respondents were classified as "early" or "late" based on the postmark date. The chi-square tests were all non-significant, clearly showing that there was no response bias.

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