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Service quality and satisfaction – the moderating role of value

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Abstract *The constructs of service quality, satisfaction and value are discussed. Instruments are identified and exploratory research is undertaken among customers of an audit firm to determine whether value plays a moderating role between service quality and satisfaction. Results from a moderated regression confirming such a role for value are reported. Implications are drawn and opportunities for further research are highlighted.*

Introduction

Service quality, customer satisfaction and value are three elements that many managers in service firms would gladly profess to be striving to provide to their customers. Service quality in particular has been relentlessly expounded by consultants of various shades, the popular business press, as well as business schools. Most would agree without any prompting on the importance of offering their customers service quality. A look in this direction will show that many practitioners fail to distinguish between the three concepts of service quality, customer satisfaction and value and often use the terms interchangeably.

Recent research indicates that these three concepts are quite distinct. Customer satisfaction or dissatisfaction results from experiencing a service quality encounter and comparing that encounter with what was expected (Oliver, 1980). Perceived service quality can be defined as the customer's judgement about the superiority or excellence of a product while perceived value is the customer's overall assessment of the utility of a product based on perceptions of what is received and what is given (Zeithaml, 1988). The dimensions underlying quality are fairly specific while satisfaction judgements have a broader range of dimensions that also include quality aspects (Oliver, 1993). Moreover, satisfaction assessments require customer experience while quality does not (Bolton and Drew, 1991a; Boulding *et al.*, 1993; Cronin and

Taylor, 1994; Oliver, 1980; Parasuraman *et al.*, 1988). Value is seen to be more individualistic and personal than quality and involves both a get and a give component (Zeithaml, 1988).

Research provides some support for a link between service quality and satisfaction (cf. Bitner and Hubbert, 1994; Cronin and Taylor, 1992, 1994; Oliver, 1993). However, value can be said to be a rather neglected aspect in the discussion of customers' evaluation of services. As a result its possible role as a moderating variable between quality and satisfaction appears to have received even less attention. A deeper understanding of the interactions among service quality, satisfaction and value should go a long way in enabling more effective management in the service sector. Although subjective, these constructs play a significant role in determining customer choices, their decisions to deepen or terminate a relationship and therefore customer retention and long-term profitability.

This paper reviews the literature for service quality, satisfaction and value, develops a model and hypotheses of the interrelationships, identifies measures and seeks to test the model with a sample of customers of an auditing firm. Results are reported and discussed and directions for future research indicated.

Service quality

Definitions of service quality revolve around the idea that it is the result of the comparison that customers make between their expectations about a service and their perception of the way the service has been performed (Lewis and Booms, 1983; Lehtinen and Lehtinen, 1982; Grönroos, 1984; Parasuraman *et al.*, 1985, 1988, 1991, 1994). Lehtinen and Lehtinen (1982) give a three-dimensional view of service quality. They see it as consisting of what they term "interaction", "physical" and "corporate" quality. At a higher level, and essentially from a customer's perspective, they see quality as being two-dimensional, consisting of "process" and "output" quality. This is not too dissimilar from the conceptualisation by Grönroos (1984) who emphasises two main dimensions of service quality in his model. He calls the first "technical" quality or "what" is received by the customer and the other "functional" quality or "how" a service is provided. The latter is the most critical aspect and is concerned with the psychological interaction taking place during the exchange transaction. It is based on the customer's perception and is therefore extremely subjective and encompasses all the cues that the customer picks up during the transaction. These are by no means limited to cues emanating from the server but also from the entire service environment. The importance of both technical and functional quality in the health-care sector has been recognised at an early stage with Donabedian (1980) identifying a number of dimensions of service quality. Quality care has been identified to include assess, technical management both at an administrative and at a clinical level, interpersonal management and continuity of care. Access refers to such aspects as location, hours, telephone and waiting and appointment times. The administrative side of technical management focuses on general ambience and amenities, meals

and the efficiency of billing. The clinical side of technical management, which among others refers to the technical quality of care provided, has perhaps been one of the more contentious areas with arguments that patients lack the knowledge to accurately assess technical competence (see, for example, Vuori, 1987). Interpersonal management focuses on indicators like staff warmth, time with patient, privacy and explanations of care, while the continuity of care aspect includes the patient's ability to recognise and intention to keep the same provider.

The interest in service quality has been influential in contributing significantly to the growth of the general services marketing field. The reviews in Berry and Parasuraman (1993) and Fisk *et al.* (1993) recognise the contributions made by various academics both in the service quality and in the general area of services marketing. For example, although the research focus of Zeithaml in the 1980s was primarily in the service quality area, she made other important contributions that included highlighting the unique consumer evaluation processes in services (Zeithaml, 1981). The same can be said for Leonard Berry who was one of the earliest writers on services marketing. However, it was the later teaming-up of both Zeithaml and Berry with Parasuraman that was to significantly contribute to the development and expansion of the service quality area as an important research field. In operationalising the service quality construct Parasuraman *et al.* (1985, 1988, 1994) have made use of qualitative and quantitative research following generally accepted psychometric procedures (cf. Churchill, 1979). This resulted in the development of the original 22-item SERVQUAL instrument that represents one of the most widely used operationalisations of service quality. It has provided researchers with the possibility of measuring the performance-expectations gap (Gap 5) ostensibly composed of five determinants, namely:

- (1) reliability;
- (2) responsiveness;
- (3) empathy;
- (4) assurance; and
- (5) tangibles.

The expectations side of the instrument dealt with ideal firms that deliver excellent service quality. Because the developers have held that SERVQUAL can be applied to determine the service quality offering of any service firm, the instrument has been extensively adopted (cf. Dabholkar *et al.*, 1996).

The various replications undertaken have highlighted a number of areas of both theoretical and psychometric concern. This criticism has focused on a number of aspects. First, the conceptualisation and usefulness of the expectations side of the instrument have been questioned (cf. Boulding *et al.*, 1993; Cronin and Taylor, 1992, 1994; Forbes *et al.*, 1986; Tse and Wilton, 1988; Wilton and Nicosia, 1986). Second, the problems which expectation scores pose in terms of variance restriction have been highlighted (cf. Babakus and Boller,

1992; Brown *et al.*, 1993). Third, research has indicated problems associated with difference scores including findings showing that the performance items on their own explain more variance in service quality than difference scores (Babakus and Boller, 1992; Cronin and Taylor, 1992, 1994). Finally, the number of factors extracted has tended to vary from the five dimensions proposed (cf. Bouman and van der Wiele, 1992; Carman, 1990; Cronin and Taylor, 1992, 1994; Gagliano and Hathcote, 1994). In response to the empirical findings that have emerged, Parasuraman *et al.* (1994) have undertaken significant changes. These have included a reconceptualisation and extension of the expectations side distinguishing between desired and minimum expectations and suggesting the use of a three-column format that eliminates the need to re-administer items. The authors also propose a reduction in the number of items to 21, together with the use of nine-point instead of seven-point scales. They also recognise the possibility of the existence of three rather than five dimensions where “responsiveness, assurance and empathy meld into a single factor”.

Satisfaction

Although satisfaction applies to both tangible and intangible goods the emphasis in this study is on the service setting where the concept has been the subject of investigation in many studies (see, for example, Deruyter *et al.*, 1997; Fornell, 1992; Oliver and DeSarbo, 1988; Spreng and Mackoy, 1996). Moreover, many authors make it a point to highlight that service quality and satisfaction are distinct constructs (Bitner, 1990; Bitner and Hubbert, 1994; Boulding *et al.*, 1993; Parasuraman *et al.*, 1988; Taylor and Baker, 1994). The expectancy/disconfirmation paradigm in process theory provides the grounding for the vast majority of satisfaction studies and encompasses four constructs:

- (1) expectations;
- (2) performance;
- (3) disconfirmation; and
- (4) satisfaction.

Disconfirmation arises from discrepancies between prior expectations and actual performance. There are three possibilities: zero disconfirmation can result when a product performs as expected; positive disconfirmation can occur when the product performs better than expected; and negative disconfirmation when the product performs below expectations and dissatisfaction sets in (Churchill and Surprenant, 1982; Oliver, 1980, 1981; Oliver and DeSarbo, 1988; Tse and Wilton, 1988; Yi, 1990). A comparison of the satisfaction model with the Gaps model indicates that the most salient feature is that the latter leaves out the issue of disconfirmation and seeks to represent an entire psychological process by an operationalisation that involves the simple subtraction of expectations from perceptions. However, perhaps the most notable distinction is that the basis of comparison for each construct is different. Expectations in service quality refer to “ideal” or what a customer would expect an excellent

firm to provide, while expectations in service satisfaction refer to what customers believe “will” happen (Bitner, 1990; Parasuraman *et al.*, 1988; Boulding *et al.*, 1993). A number of other distinctions are often made between satisfaction and quality. First, while the original five dimensions (reduced to three factors in Parasuraman *et al.*, 1994) of SERVQUAL are fairly specific, those for satisfaction are broader and can result from a wider set of factors. Second, satisfaction assessments require customer experience, while quality does not (Bolton and Drew, 1991b; Boulding *et al.*, 1993; Cronin and Taylor, 1994; Oliver, 1980, 1993; Parasuraman *et al.*, 1988). Operationally, satisfaction is similar to an attitude, as it can be assessed as the sum of the satisfactions with the various attributes of the product or service (Churchill and Surprenant, 1982). However, while attitude is a pre-decision construct, satisfaction is a post-decision experience construct (LaTour and Peat, 1979). Satisfaction can be considered at two levels: the transaction or encounter level and overall satisfaction (Bitner and Hubbert, 1994).

Initially, Cronin and Taylor hypothesised that satisfaction is an antecedent of service quality. However, their research with a multi-industry sample showed, in a LISREL analysis, an opposite relationship. Quality appears to be only one of the service factors contributing to the customer’s satisfaction judgements (Cronin and Taylor, 1992). Spreng and Mackoy (1996), who test a modified version of a model proposed by Oliver (1993) that sought to integrate the satisfaction and service quality literature, also provide support for service quality as being an antecedent to satisfaction. More recently, this relationship has also been confirmed from a study in a health-care setting by Deruyter *et al.* (1997), who also show that service quality should be treated as an antecedent of service satisfaction.

Value

Zeithaml (1988) has investigated the concept of value and reports findings from a review of literature and exploratory qualitative work. The author identifies four consumer definitions of product value for which supporting literature can be identified. These are:

- (1) value is low price;
- (2) value is whatever I want in a product;
- (3) value is the quality I get for the price I pay; and
- (4) value is what I get for what I give.

These four definitions have been brought together and perceived value has been defined as the consumers’ overall assessment of the utility of a product based on perceptions of what is received and what is given. Utility theory (Lancaster, 1971) provides the theoretical underpinning for the value construct. This approach stresses that very often consumers do not buy services for their own sake. They buy bundles of attributes that together represent a certain level of service quality that is offered by a firm at a certain price level. Customers

will derive value according to the utility provided by the combination of attributes less the disutility represented by the final price paid.

The value construct has received relatively little attention in the services marketing literature. On the assumption that perceived product value and perceived service value are analogous, Bolton and Drew (1991b) also extend the definition by Zeithaml (1988) to the service product. Problems associated with theoretical definitions of the value construct have led to operational definition restraints and difficulties in operationalising the construct. This has often meant the use of a single item measure (cf. Bolton and Drew, 1991b). Rust and Oliver (1994) argue that it is likely that value, like quality, is an encounter specific input to satisfaction.

Model and hypotheses

The expectancy/disconfirmation paradigm provides the theoretical basis for the link between quality and satisfaction (Churchill and Surprenant, 1982; Oliver, 1980, 1981; Oliver and DeSarbo, 1988; Tse and Wilton, 1988; Yi, 1990). Quality can be considered as one component of satisfaction (Cronin and Taylor, 1992; Rust and Oliver, 1994). Empirical evidence for the link is available from a number of studies (cf. Bitner and Hubbert, 1994; Cronin and Taylor, 1992, 1994; Deruyter *et al.*, 1997; Oliver, 1993; Spreng and Mackoy, 1996). Utility theory, which lies at the foundation of modern microeconomic theory, argues for an association between quality and value. Quality provides utility to the customer who in turn must forgo the disutility inherent in price (Lancaster, 1971). Rust and Oliver (1994) observe that the literature does not address the relationship between value and satisfaction but note that it is likely that value, like quality, is an encounter specific input to satisfaction. In discussing the findings from their combined service quality/satisfaction model Deruyter *et al.* (1997) who find that an increase in service quality leads to an increase in service satisfaction point out that:

However, the reverse need not necessarily be the case; low perceived service quality may result in high service satisfaction. Customers may not necessarily buy the highest quality service. That is convenience, price and availability may enhance satisfaction without actually affecting customer perceptions of service quality.

Similarly, there is experiential evidence in the case of holidays and packaged holidays to the same destination. The perceived quality of the packaged holiday offering may be somewhat lower; however, prices are very competitive, the value received is high and good levels of satisfaction can still be achieved. At this stage, it is useful to distinguish between moderation and mediation. Moderation carries with it no connotation of causality, unlike mediation which implies a causal order. A moderator is a qualitative or quantitative variable that affects the direction and/or strength of the relationship between an independent (or predictor) and dependent (or criterion) variable (James and Brett, 1984). A moderator hypothesis is supported if the interaction path (service quality \times value) is significant. There may also be significant main effects for the predictor (service quality) and moderator (value), but these are

not directly relevant conceptually to testing the moderation hypothesis (Baron and Kenney, 1986). Our literature review provides support for a strong direct link between service quality and satisfaction but makes no such claim of a direct causal link of value to satisfaction. We only propose a moderation effect of this variable on the link between service quality and satisfaction. Therefore, this research seeks to explore whether the relationship between service quality and satisfaction is fully or partially moderated by value. To do this the following hypothesis is put forward:

H1: Including the interaction between service quality and value will explain more of the variance in satisfaction than the direct influence of either service quality or value on their own.

The research model is presented in Figure 1.

Construct measures and data collection

To be able to investigate the relationship between service quality, value and satisfaction an exploratory research design was employed that involved personal data collection with a cross-section of senior managers who were clients of a major auditing firm. The final questionnaire was made up of 20 items that consisted of measures for service quality (16 items), satisfaction (three items) and value (one item). A number of classificatory variables were also collected.

The research instrument

We make use of the perception items in SERVQUAL to measure service quality. A number of authors have highlighted the pitfalls of making use of difference scores (cf. Brown *et al.*, 1993; Teas, 1993), while others have

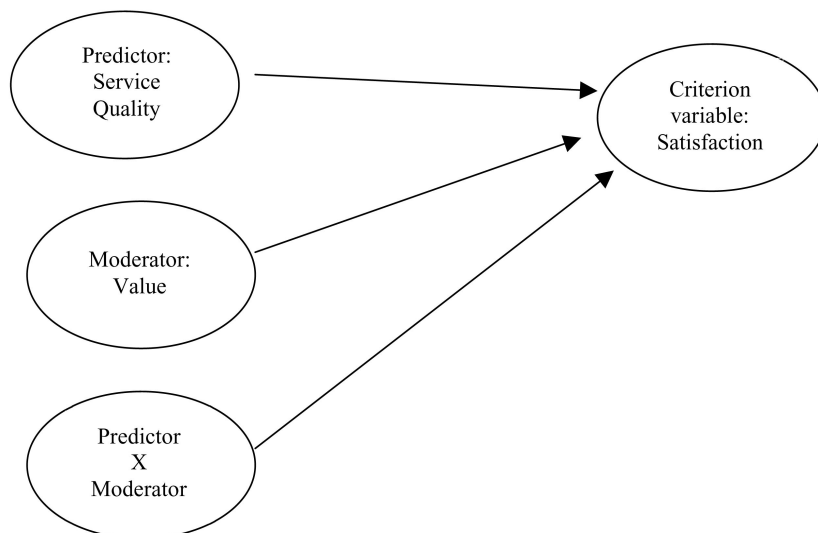


Figure 1.
Research model

suggested that the use of the performance items on their own is more appropriate (cf. Babakus and Boller, 1992). Moreover, it has been shown that when seeking to explain the variance in service quality the performance items do a better job than expectations or difference scores (cf. Brown *et al.*, 1993; Cronin and Taylor, 1992; 1994). In reply to this and other criticism Parasuraman *et al.* (1994) have argued for the diagnostic capabilities that the expectation items provide. They have reduced their original 22-item instrument to 21 items and suggested the simultaneous measurement of desired expectations, minimum expectations and performance without the need for repetition. At first it was intended that service quality be measured using only the 21 performance items in SERVQUAL as reported in Parasuraman *et al.* (1994). However, during the initial interviewing stage it became apparent that the five items dealing with tangibles were proving difficult for respondents. This is quite understandable since generally the service given by audit firms is carried out at the business premises of the customers themselves. In the circumstances these five items were eliminated and the resultant 16-item instrument was used. Although, the scales used in SERVQUAL have recently been extended to nine-point scales, use was made of seven-point scales as nine point scales were intended to overcome the variance restriction problems created by the expectations items which we have opted not to use. Therefore each of the performance items were described by seven-point Likert type scales anchored by 1 = "strongly disagree" to 7 = "strongly agree". Higher scores on this scale indicate higher levels of service quality. Evidence for the scale's reliability and validity has been provided (cf. Parasuraman *et al.*, 1991). Many of the instruments used to measure satisfaction often consist of single item measures (see, for example, Cronin and Taylor, 1992; Spreng and Mackoy, 1996; Taylor and Baker, 1994). The measurement of constructs with single items has been criticised in the marketing literature, as it often cannot capture the richness of a concept (Churchill, 1979; Parasuraman *et al.*, 1994). We could have used the single-item measure of Taylor and Baker (1994) on its own but were able to also identify the multi-item scale for satisfaction used by Oliver (1980) that possessed the necessary psychometric properties. Unfortunately, this latter scale focused on satisfaction with influenza jabs and could not be used in its entirety. Therefore, in our preliminary piloting we opted to ask managers which items from both scales best capture what they understood by satisfaction. This resulted in an overall measure of satisfaction that was made up of three items. Questions 1 and 2 were adapted from Oliver (1980), while question 3 was taken from Taylor and Baker (1994). These asked:

- (1) If I had to choose all over again I would not feel differently about choosing XYZ;
- (2) I think we did the right thing when we decided to use XYZ;
- (3) I believe that purchasing services from XYZ is usually a satisfying experience.

To measure value a single item was used that sought to capture respondents' perception of utility being received. This asked respondents to reply to the question: "For what you get from XYZ the services provided are expensive". Value is difficult to define and researchers often report on unidimensional self-report measures to capture the concept assuming shared meanings among consumers (Zeithaml, 1988). To maintain overall consistency seven-point scales were used throughout, described by 1 = "strongly disagree" to 7 = "strongly agree".

Survey of customers of audit firm

A total of 80 personal interviews were conducted over a period of four weeks. These were chosen from the list of all customers of the audit firm sorted on a descending annual turnover basis. An independent research team interviewed every fifth customer on the list with turnover over £50,000. Appointments were arranged beforehand and it was made clear to respondents that the data would remain confidential.

Analysis

The coefficient alpha (Cronbach, 1951) for the 16 items dealing with service quality perceptions and for the three satisfaction items was calculated. At 0.95 and 0.87 respectively these provided values greater than 0.70 and are therefore acceptable (Nunnally, 1978). All negatively worded items were reverse scored (Table I).

Correlations of the sum of the 16-service quality performance items with the sum of the three satisfaction items and with the single-item measures for value were computed. These show that satisfaction, value and service quality are correlated. Principal components factor analysis followed by an oblique rotation was undertaken concurrently on the three scales in the study to determine the dimensionality of the scale as well as to assess discriminant validity. The results shown in Table II confirm a clear distinction between the three constructs of the study. It also provides results for the loadings of the service quality dimensions that are in line with the more recent work on SERVQUAL (Parasuraman *et al.*, 1994).

The hypothesis of this study suggests that the relationship between service quality and satisfaction may be contingent on the value received by customers. Such relationships can be tested with moderated regression analysis (cf.

	(1)	(2)	No. of items	Mean	Std Dev.	Reliability
(1) Service quality			16	95.70	13.98	0.95
(2) Satisfaction	0.71***		3	18.15	2.59	0.87
(3) Value	0.48***	0.47***	1	2.88	1.44	-

Note: *** = $p < 0.001$

Table I.
Correlations, summary statistics and scale reliabilities

Items	Reliability	Service quality responsiveness/ empathy	Assurance	Satisfaction	Value
1	0.774				
2		0.687			
3	0.408				
4	0.825				
5	0.858				
6	0.813				
7		0.614			
8		0.675			
9	0.390	0.620			
10		0.696			
11		0.369	0.500		
12			0.808		
13			0.415	0.540	
14		0.881			
15		0.779			
16		0.461			
17				0.834	
18				0.606	
19				0.824	
20					0.840

Note: Loadings less than 0.35 have been omitted

Table II.
Factor loading matrix
following oblique
rotation for items in
the measure of this
study

Darrow and Kahl, 1982; Schoonhoven, 1981). This technique offers a “straightforward and the most general method for testing contingency hypothesis in which an interaction is implied” (Arnold, 1982). It consists of fitting a regression equation of the form:

$$y = a + bx + cz + dxz$$

where y = dependent variable

a = intercept term

b, c, and d = regression coefficients

x = the independent variables

z = the moderator variable

xz = independent variable/moderator variable interaction

Moderated regression analysis seeks to determine the change in R^2 that results during a hierarchical test of three regression equations. In the first regression the dependent variable of satisfaction is regressed on service quality as the independent variable. Results indicate that this provides a significant R^2 of 0.51 (Table III, column 2). This is followed by a second regression of satisfaction with both the independent variable of quality and the moderator variable of

value. The results shown in Table III column 3 indicate a higher R^2 of 0.53. To minimise the risk of multicollinearity resulting from the correlation between service quality and value (see Table I) these variables have had their data mean centred (Aiken and West, 1991; [Cronbach, 1987](#)). In the third regression, in addition to the independent and moderator variables, the cross-product term of the independent variable and the moderator is also entered. This results in an improved R^2 to 0.60 (Table III, column 4) and the beta coefficients indicate that there is both a significant direct effect of the independent variable of service quality on satisfaction as well as a moderation effect of value. The increase in R^2 from 0.53 to 0.60 is statistically significant – $F = 13.3$; $p < 0.001$ (Aiken and West, 1994, p. 106).

The results provide partial support for the hypothesis of the study confirming a direct link between service quality and satisfaction and a partial moderating effect of value on satisfaction. What is interesting is that the beta coefficient for the moderating effect is negative. Indeed, in the case of this particular firm despite a relatively high level of service quality, the fact that it is perceived to be relatively expensive results in value having a small negative effect on the overall level of satisfaction.

Discussion and limitations

Although much has been written on the relationship between service quality and satisfaction the possible role of value as a moderating variable appears to have received less attention. The results suggest that the effect of quality on satisfaction is not just direct but is also moderated by value. If this finding from this exploratory research is confirmed in further studies it would represent an important addition in our understanding of the interrelationships between these three constructs. These variables have increasingly played a key role in services marketing generally and are believed to have a significant effect on customer retention and ultimately long-term profitability. The implications for management of the findings concerns the important effect of price and therefore of value. Value does not appear to have a strong independent effect on satisfaction. However, the negative regression coefficient for the interaction between service quality and value implies that this factor can have a negative impact on satisfaction. The results indicate that, although customers may

<i>y</i>	Satisfaction	Satisfaction	Satisfaction
R^2	0.51	0.53	0.60
Adj R^2	0.50	0.52	0.58
F	81.03***	43.44***	37.30***
Service quality	0.13***	0.12***	0.15***
Value	–	0.29	0.11
Interaction	–	–	–0.04***

Table III.
Results of moderated
regression

Notes: Unstandardised beta coefficients are shown for the independent variables;
*** = $p < 0.001$

believe that the service firm provides high levels of service quality, it does not necessarily follow that satisfaction will be high. If prices are perceived to be high this may still result in a negative effect on satisfaction. Satisfaction does not depend on service quality alone and higher levels of quality are worthwhile to the extent that customers believe that value is being enhanced. The results also provide a basis for understanding the role of low price. It can be argued that, although an offering may not be high in terms of quality, the fact that a price is competitive can contribute via value to good levels of satisfaction. Observations made by the owner managers of small firms indicated that they were satisfied with an audit as long as it helped them meet their legal obligations. For many of them one audit provided by one supplier was very much like that provided by another. These respondents indicated that they may be more satisfied with a basic level of quality at a low price with resultant higher value than a high quality audit at a high price. Such a situation can also be noticed with holidays and packaged holidays to the same destination. With package holidays prices are very competitive, perceived quality of the offering may be somewhat lower, but the value received is high and good levels of satisfaction can still be achieved. The findings substantiate the salience of satisfaction in services marketing confirming that ensuring customer satisfaction should be as much a concern in service marketing as obtaining positive service quality judgements (Oliver, 1993).

The study has a number of limitations. First, the research has primarily been of an exploratory nature and has focused on the clients of just one particular service audit firm. The findings need to be confirmed from other service organisations. Second, the measures utilised while providing good reliability and validity have their limitations especially in the case of value where a single-item measure was used that focused on “monetary” price only. The ability to develop a better measure for value, in particular, would go a long way in helping service marketing researchers better understand the relationships involving this construct. Third, the number of respondents is not high. A larger sample would have strengthened the results obtained. Finally, although the constructs of service quality, value, and satisfaction are conceptualised separately, they are related as evidenced by the correlations reported in Table I and, although steps have been taken to reduce multicollinearity, some effects may still be present. As a result, the coefficient of the interaction term for value must be interpreted with caution as the moderator is correlated to both satisfaction and service quality. To provide a clearly interpretable interaction term it is desirable that a moderator variable is uncorrelated to both the predictor and the criterion.

Further research should first concentrate on developing a clearer articulation of the constructs used in this study, particularly that of value. This can in turn result in better measures, after which the interrelationship between the three constructs considered together with other variables such as corporate reputation, service loyalty, purchase intentions and ultimately customer retention can be better understood.

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