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Service quality and marketing performance in business-to-business markets: exploring the mediating role of client satisfaction

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Keywords

Service quality assurance, Product quality, Information systems, Business-to-business marketing, Customer loyalty, Customer satisfaction

Abstract

Drawing on relevant literature, the authors empirically test a model of business loyalty in a sample of 234 clients of information systems suppliers, integrating the concepts of service quality, satisfaction, and loyalty. The study builds on recent advances in services marketing theory and assesses the relationships underlying the identified constructs in the specific industry. A clear pattern of service quality dimensions is established following the Grönroos conceptualisation. Several important findings are reported, including the empirical verification of the mediating role of industrial satisfaction in the formation of loyalty attributes. Industrial satisfaction fully mediates the relationship between accessibility and loyalty and partially mediates latent construct's relationship with technical assistance and delivery service. The results provide robust evidence concerning the direct effect of industrial satisfaction on loyalty, accessibility, delivery, and product reliability as antecedents of industrial satisfaction.

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Introduction

The advent of relationship marketing and the increased competition that has characterised markets over the past 30 years has resulted in consumer satisfaction and related research constructs becoming central topics in the services literature. Particular attention has been given to the conceptualisation and measurement of the variables of quality and satisfaction. These variables are central to modern marketing theory and practice as principal indicators of marketing performance (Babin and Griffin, 1998; Walker, 1995; Jones and Suh, 2000). The importance of studying and understanding these two related variables can be illustrated by their relation with behavioural intentions and loyalty (Newman and Werbel, 1973; LaBarbera and Mazursky, 1983; Cronin and Taylor, 1992; Rust *et al.*, 1995; Singh, 1990; Taylor and Baker, 1994; Zeithaml *et al.*, 1996).

Although numerous studies have made an effort to clarify, conceptualise, and measure these constructs in a business-to-consumer environment, in a business-to-business (B2B) context there continues to be debate regarding: the identification of the variables responsible for external effects; the form and/or strength of the relationships between them; and the presence of interaction or mediational effects between them. There is a large body of contradictory empirical evidence (Schellhase *et al.*, 1999; Parasuraman, 1998). In assessing the effects of perceived quality, many researchers have suggested its positive influence on loyalty (Carman, 1990; Parasuraman *et al.*, 1985, 1988; Boulding *et al.*, 1993). However, recent findings demonstrate that this correlation is either not significant or mediated by satisfaction (Cronin and Taylor, 1992; Spreng and Singh, 1993; Cronin *et al.*, 2000).

The paucity of research assessing quality and satisfaction in B2B markets has created a need for conceptual and empirical research to: establish a pattern of dimensions that formulate the quality perceptions of industrial buyers; define the concept of industrial satisfaction and clarify its role within a B2B services framework; establish theoretical and empirical links between these two constructs (in terms of industrial behavioural intentions and loyalty levels); and identify an appropriate method of measuring the constructs involved.

One of the main objectives of the present research was to clarify the contradictory evidence with respect to the relationships among the concepts of service quality, industrial satisfaction, and loyalty, and to provide evidence of the mediating role of industrial satisfaction.



In particular, the purposes of the present study were: to develop a validated instrument of loyalty measurement using the key constructs of quality perceptions and industrial satisfaction; to create the theoretical basis upon which hypotheses can be formulated concerning the variables of perceived quality, industrial satisfaction, and loyalty; to explore and identify a stable pattern of the dimensions of quality perceptions in an industrial context; and to test the hypotheses and the mediating role of industrial customer satisfaction empirically.

The present paper begins with an examination of the literature pertaining to each of the concepts involved and the presentation of the study's conceptual framework. The methodology employed in this research is then explained and the study results are presented and discussed. Finally, conclusions and managerial implications of the study are provided and a set of future research directions is examined, as are the limitations of this study.

Literature review

Service quality

In the services marketing literature, the service-quality construct is a controversial topic (Brady and Cronin, 2001; Zeithaml, 2000; Zins, 2001; Rust and Oliver, 1994; Lapierre *et al.*, 1996). In the business-to-consumer literature, researchers have adopted three broad conceptualisations. The first, proposed by Grönroos (1982, 1984), defined the dimensions of service quality in global terms as being functional and technical. The second, proposed by Parasuraman *et al.* (1988), identified service-quality dimensions using terms that describe service-encounter characteristics (reliability, responsiveness, empathy, assurances, and tangibles). The third, proposed by Rust and Oliver (1994), considered overall perception of service quality to be based on the customer's evaluation of three dimensions of service encounters: the customer-employee interaction, the service environment, and the service outcome. It is not clear, however, which of these conceptualisations and dimensional patterns are the most appropriate to use (Brady and Cronin, 2001; Rust and Oliver, 1994).

Industrial satisfaction

Although manufacturers and retailers consider satisfaction to be a key variable – indicative of the success or failure of a business relationship – a review of the pertinent literature reveals:

- a lack of a consensus definition for consumer satisfaction – thus posing serious problems for

researchers in terms of conceptualisation, operationalisation, and measurement (Babin and Griffin, 1998; Woodruff and Gardial, 1996; Giese and Cote, 2000); and

- a lack of a comprehensive, theoretically based, empirical research stream (Schellhase *et al.*, 1999).

In B2B markets, the principal differences among end-consumers arise from the decision-making unit evaluating the product or service. When considering the satisfaction of an industrial client, it is necessary to evaluate the satisfaction of the different constituents of the buying centre who are in contact with the industrial supplier (Parasuraman, 1998). Even though the individual members of a buying centre are guided by the company's objectives, they have their own motivations and objectives and evaluate the performance of the product or service according to their own reference standards.

Anderson and Narus (1990), in their effort to model manufacturer-distributor relationships, defined satisfaction as a positive, affective state resulting from the appraisal of all aspects of a firm's working relationship with another firm. This definition posits that satisfaction (understood as affective) can be contrasted with an objective summary assessment of outcomes – thereby forming a target-performance comparison mechanism. If expectations are exceeded by performance, satisfaction is generated (Churchill and Surprenant, 1982; Bearden and Tell, 1983; LaBarbera and Mazursky).

Previous research has used various methods of satisfaction measurement. Objective measures of satisfaction have included the acquisition of data on variables such as market share and loyalty as indicators of client satisfaction (Oliver, 1980; Oliver and Swan, 1989). Due to the suspect validity of objective measures, information on satisfaction can alternatively be collected on a subjective basis. Attribute-oriented procedures acquire data on satisfaction indirectly by using indicators such as complaints figures (Oliver, 1980; Bearden and Tell, 1983).

Explicit approaches have directly measured satisfaction using single (overall) or multidimensional scales. Using these scales, overall satisfaction is an aggregation of all previous transaction-specific evaluations and is updated after each specific transaction – in much the same way as expectations of overall service quality are updated after each transaction in a business-to-consumer environment (Boulding *et al.*, 1993). Transaction-specific satisfaction might not be perfectly correlated with overall satisfaction – because service quality is likely to vary from experience to experience, especially in an

industrial context. Overall satisfaction can be viewed as a moving average that is relatively stable and similar to an overall attitude (Parasuraman *et al.*, 1994).

After thorough interviews with professionals in the area under investigation, it was clear to the present researchers that none of the existing definitions depicted the elements of buying centres and relationship involvement over time. The present researchers therefore decided to adapt the cumulative definition of industrial satisfaction of Chumpitaz (1998):

Industrial satisfaction is an overall evaluation of the total purchase, use and relationships experience with a product or service over time, as expressed by members of the buying decision centre.

This definition provided the basis for conceptualising and measuring effectively the industrial satisfaction construct in the present study.

To conceptualise perceived service quality, Oliver (1993) distinguished between quality and satisfaction by noting that the dimensions underlying quality judgments are rather specific – whether they are cues or attributes (Bolton and Drew, 1991). Satisfaction judgments, in contrast, can result from any dimension – some related to quality, and some not. Expectations of quality are based on ideals or perceptions of excellence, whereas a large number of non-quality issues – including needs (Westbrook and Reilly, 1983) and equity or fairness (Oliver and Swan, 1989) – help in the formation of satisfaction judgments. Rust and Oliver (1994, p. 6) stated that "... quality is one dimension on which satisfaction is based". In making this statement they were in accord with Dick and Basu (1994), Anderson and Fornell (1994), Iacobucci *et al.* (1995), Sivadas and Baker-Prewitt (2000), and Odekerken-Schroder *et al.* (2000). More recently, Cronin *et al.* (2000), in their study of six different service industries, supported and built on the extant literature by indicating that service-quality perceptions are important determinants of satisfaction.

Based on previous evidence concerning the causality of these related constructs, the present study placed service-quality perceptions as antecedents to the formation of industrial satisfaction attributes. Considerable evidence confirms that performance judgments of service-related issues play a significant role in the formation of satisfaction cues (Erevelles and Leavitt, 1992; Oliver, 1980; Kristensen *et al.*, 1999; Martensen *et al.*, 2000). This leads to the following hypothesis being proposed:

H1. In a business-to business context, quality perceptions have a positive influence on industrial satisfaction levels.

Loyalty

The importance of loyalty has been widely recognised in the marketing literature (Oliver, 1999; Samuelson and Sandvik, 1997; Howard and Sheth, 1969). Reichheld and Sasser (1990) have studied the impact on profits of having a loyal customer base, and Aaker (1991) has discussed the role of loyalty in the brand-equity process, observing that brand loyalty reduces marketing costs and that the relative costs of customer retention are substantially less than those of acquisition (Fornell and Wernerfelt, 1987). Another important element of brand loyalty is the intended support of the product or service expressed in communication experiences – with positive word of mouth among loyal consumers leading to greater resistance to competitive strategies (Arndt, 1967; Oliver, 1999; Dick and Basu, 1994).

Despite the clear managerial relevance of brand loyalty, conceptual and empirical gaps remain (Chaudhuri and Holbrook, 2001; Lau and Lee, 1999; Oliver, 1999; Fournier and Yao, 1997). Specifically, the concept of loyalty in a B2B context is not clearly defined and there are numerous ways of defining and measuring this matter on a consumer market basis. Oliver (1999, p. 34) defined brand loyalty as follows:

... a deeply held commitment to re-buy or re-patronize a preferred product/service consistently in the future, thereby causing repetitive same-brand or same brand-set purchasing, despite situational influences and marketing efforts having the potential to cause switching behavior.

This definition emphasises the two principal aspects of brand loyalty that have been studied in previous studies: behavioural and attitudinal (Aaker, 1991; Assael, 1998; Day, 1969; Jacoby and Chestnut, 1978; Jacoby and Kyner, 1973; Oliver, 1999; Tucker, 1964). Behavioural loyalty refers to repeated purchases of the brand, whereas attitudinal brand loyalty includes a degree of dispositional commitment in terms of some distinctive value associated with the brand. The attitude behind the purchase is important because it drives behaviour. Although brand-loyal behaviour is partly determined by situational factors (such as availability), attitudes are more enduring.

Jacoby and Kyner (1973) proposed a definition of loyalty that includes six necessary conditions – that brand loyalty is the biased (that is, non-random), behavioural (that is, purchase) response, expressed over time, by some decision-making unit (a person or group of persons), with respect to one or more alternative brands out of a set of such brands, and is a function of psychological processes (decision-making, evaluative). Bloemer and Kasper (1995) studied the differences between

“true” loyalty and “spurious” loyalty (the latter being due to an inertia effect). These authors found that true loyalty implies (in addition to repetitive purchasing) a true commitment to the brand. Oliver (1997, 1999) also evoked this notion of commitment in his research on satisfaction and brand-loyalty relationship. Numerous studies have established a relationship between service quality and loyalty. Some have posited an indirect influence (Andreassen and Lindestad, 1998; Ostrowski *et al.*, 1993; Patterson and Spreng, 1997; Pritchard and Howard, 1997), whereas others have posited a direct influence (Boulding *et al.*, 1993; De Ruyter *et al.*, 1998). Recent research has indicated a positive and significant relationship between a customer’s perception of service quality and that customer’s loyalty (expressed as willingness to recommend the company and intentions to repurchase) (Parasuraman *et al.*, 1988; Zeithaml *et al.*, 1996; Cronin and Taylor, 1992; Danaher and Rust, 1996a, b; Bitner, 1990; Patterson, 1995). These scholars have suggested that the service perceptions of members of the buying centre directly influence loyalty levels of the buying centre towards the supplier firm. The following second hypothesis is therefore postulated:

H2. In a business-to business context, quality perceptions have a positive influence on loyalty levels.

Satisfaction

The role of satisfaction in predicting behavioural intentions is well established (Anderson *et al.*, 1994; Cronin and Taylor, 1992; Zeithaml *et al.*, 1996). The majority of studies assume transactional customer relationships – with previous experiences as primary determinants of repeated purchasing behaviour. Recent research findings offer robust evidence of this, showing the positive relationship between customer satisfaction and behavioural intentions (Oliver, 1999; Bitner and Hubbert, 1994). Similarly, Anderson and Sullivan (1993) found that stated repurchase intentions are strongly related to stated satisfaction across product categories. Given the characteristics of the B2B environment, the present authors expected this relationship to be even stronger in this environment. Researchers in the professional services area have suggested that customers of business services tend to remain with the same provider if continually satisfied (Davidow and Uttal, 1989; Woodside *et al.*, 1992). Accordingly, the third hypothesis of the present study is postulated as follows:

H3. In a business-to business context, industrial satisfaction has a positive influence on loyalty levels.

The relationship marketing perspective

Relationship marketing has emerged as an exciting area of marketing that focuses on building long-term relationships with customers and other parties involved. As Grönroos (1993) stated:

... establishing a relationship, for example with a customer, can be divided into two parts: to attract the customer and to build the relationship with that customer so that the economic goals of that relationship are achieved.

The fundamental principle of relationship marketing is that the greater the level of customer satisfaction with the relationship – not just with the product or service – the greater the likelihood that the customer will stay with the company providing the service or the product (Payne *et al.*, 1995). The objective of relationship marketing is to achieve high levels of customer satisfaction through collaboration of the parties involved.

Trust and commitment are both very important elements in ensuring a long-term orientation towards a business relationship. It is important that companies select their partners carefully, share common values, and maintain excellent communication during the relationship continuum. Companies should also ensure that they provide superior resources and benefits (superior to the offerings of other companies) and should avoid taking advantage of their partners (thus ensuring a mutually beneficial relationship) (Morgan and Hunt, 1994). The key factors that hold a relationship together are goal compatibility, commitment, trust, satisfaction, investment, social and structural bonding, and the comparison level of alternatives (Wilson and Jantrania, 1994).

Relationship commitment exists when a partner believes the relationship is important enough to warrant maximum effort in maintaining that relationship over the long term. According to Moorman *et al.* (1992), relationship commitment is defined as an enduring desire to maintain a valued relationship. Commitment is considered to be of critical importance in organisational buying behaviour and, in such a context, it can lead to important outcomes – such as decreased turnover (Porter *et al.*, 1974) and higher motivation (Farrell and Rusbult, 1981). Commitment is positively related to loyalty and repeated purchase. When relationship performance becomes critical to the repurchase decision in a relational exchange context, business loyalty becomes increasingly similar to relationship commitment (Morgan and Hunt, 1994). Anderson and Weitz (1992) understood manufacturer-distributor commitment as the adoption of a long-term orientation towards the relationship, and proposed that mutual commitment results in channel members working together to serve end customers’

needs better. This increases mutual profitability beyond what either member could achieve operating independently.

Ganesan (1994) found that long-term orientation is affected by the extent to which customers and vendors trust their channel partners, and found that each partner's ability to provide positive outcomes to the other leads to increased commitment to the relationship. Trust is a major determinant of relationship commitment (Morgan and Hunt, 1994) and exists when there is confidence in the partner's reliability and integrity. Moorman *et al.* (1993) defined trust as a willingness to rely on an exchange partner in whom one has confidence. Garbarino and Johnson (1999) and Sirdeshmukh *et al.* (2002) suggested that trust and value act as critical mediating variables between satisfaction and relational commitment – including future intentions to purchase and continue the relationship.

In parallel with the relational approach, and on the basis of the existing research on relationship marketing, the present study aimed to demonstrate the need to complement trust-commitment relational models with service quality-satisfaction models of business loyalty. Acknowledging the importance of relational benefits associated with trust and commitment, the present authors suggest that customer satisfaction and loyalty strategies can serve as powerful barriers to firms' switching behaviour, thereby providing a crucial competitive advantage.

Industrial satisfaction as a mediator

It is evident that satisfaction often plays a mediating role between perceptions of quality levels and the creation of behavioural intentions (Cronin *et al.*, 2000; Cronin and Taylor, 1992; Gottlieb *et al.*, 1994; Spreng and Singh, 1993). The notion of "mediating" a relationship presupposes the existence of a third variable between a dependent variable and an independent one (Baron and Kenny, 1986). The mediation can be full or partial. There is a lack of evidence concerning the role of satisfaction in the relationship between service-quality perceptions and loyalty – at both the consumer and the business level (Spreng and MacKoy, 1996; Fornell *et al.*, 1996; Fullerton and Taylor, 2002). There is a need to clarify whether satisfaction is capable of mediating the relationship between service quality and loyalty in a B2B setting, thereby making service quality perceptions less significant predictors of behavioural intentions. This leads to the present study's fourth hypothesis being postulated as follows:

H4. In a business-to-business context, industrial satisfaction mediates the relationship

between service quality perceptions and loyalty.

The conceptual model is shown in Figure 1.

Methodology

The research instrument (Table I) was a questionnaire containing 22 items evaluated on a 10-item scale – from 1 (completely unsatisfied) to 10 (completely satisfied). The items evaluated the following constructs: industrial satisfaction (one

Figure 1 Conceptual model

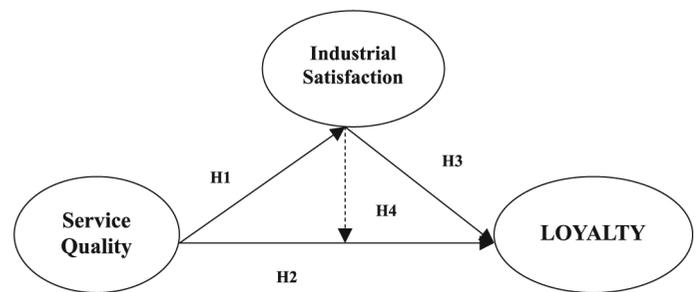


Table I The research instrument

	Items: please indicate your satisfaction with ... or your intention to ...
Accessibility	The duration of the effort to find the liable person in the company The response to a message left
Delivery and installation service	The information provided before the installation of the product The actual delivery process The planning of the delivery and installation procedures The "ease of use" of the product just after installation The quality of coordination during and just after the installation
Technical assistance	The duration of intervention The duration of recovery/solution The quality of recovery/solution
Product and service reliability	The overall reliability of products and services (hardware and software)
Industrial satisfaction	How satisfied are you in general with the products and services offered by the company?
Loyalty	Recommend the supplier firm to a partner when asked Encourage partners and other companies to initiate business with the supplier firm To consider the supplier firm the premium choice as an information systems supplier To continue working in the near future with the supplier firm in the same or increased volume

item), product and service reliability (one item), accessibility (two items), delivery and installation service (five items), technical assistance service (three items), and brand loyalty (four items).

Different lists of service attributes were compiled from various sources in the literature. Several other items not mentioned in previous studies were also incorporated in the present study to give the instrument a character closer to the nature of the information technology (IT) industry. This process resulted in a survey instrument that needed to be refined through an incremental process. To confirm its content validity, colleagues from the purchasing area provided the authors with feedback concerning the relevance of certain criteria. The next step consisted of a number of interviews with several purchasing managers from the IT industry to ensure that the questions included in the survey instrument were readily interpretable. Respondents were asked to focus on the most important IT product in terms of sales volume. This questionnaire was administered by ICMA (an international consulting firm) on a sample of 800 clients of information systems firms that sell hardware and software applications (following a systematic random selection procedure out of a broader list of 3,000 firms). The survey resulted in 234 usable questionnaires. The identification of respondents in each buying centre was made on the basis of the supplier's database, which included the names and the functions of the most influential members of each buying centre. On average, three to four respondents from each firm participated in the survey, each one answering the questions for which he/she was liable as a member of the buying centre. For instance, product users or technical managers filled in the sections of the questionnaire related to technical assistance and product and service reliability, whereas other questions were answered by the managers or the personnel in contact with the supplier's sales service.

Factor analysis

An initial exploratory factor analysis verified that the service-quality indicators fell under the dimensions theoretically proposed: functional (delivery and installation service, and accessibility); and technical (product and service reliability, and technical assistance service) (see Table II). The internal coherence for each latent variable was then evaluated using Cronbach's alpha (see Table II). These ranged from 0.78 to 0.90, thus exceeding Nunnally's (1978) threshold of 0.70. Table II demonstrates the loadings of the two single-item constructs of product or service reliability and industrial satisfaction. It is evident from these loadings that industrial satisfaction is

correlated with loyalty and that product or service reliability apparently correlates with the dimensions of technical assistance and delivery service. After refinement, a final model was developed that demonstrated good measurement properties (see Table III).

Confirmatory factor analysis

To assess the measurement model, three analyses were conducted. First, a confirmatory factor analysis was conducted using LISREL 8.3 in an effort to demonstrate empirically that the hypothesised model fits the data reasonably well. The overall fit of the model was adequate, with a χ^2 of 55.91 ($df = 40$, $p = 0.05$), a goodness-of-fit index of 0.99, an adjusted goodness-of-fit index of 0.99, and a comparative fit index (Bentler, 1990) of 1.00. Second, evidence of convergent validity was obtained by establishing that the measurement factor loadings were all significant (t -values between 15.75 and 35.77). Moreover, the average variance extracted (Fornell and Larcker, 1981) indicated that in each case the variance captured by the construct was greater than the variance due to measurement error. Third, to test for discriminant validity, the procedure described by Fornell and Larcker (1981) was used. As an indication of discriminant validity, the average variance extracted (AVE) for each construct should be higher than the squared correlation between that construct and any other construct. In the present study, in no case was there a squared correlation between two constructs higher than either of the construct's AVEs (Table IV).

Main results

Given that the proposed measurement model was consistent with the data, the first three hypotheses were tested with Lisrel 8.30, using the polychoric correlation matrix as data entry and the weighted least-squared method. With this estimation method, it was possible to liberate the observed variables from the normality condition. However, as a possible disadvantage, this method requires large-sized samples because moments of fourth order must be estimated with reasonable accuracy (Jöreskog and Sörbom, 1996). Figure 2 shows the complete standardised parameters and t -values of this model. The significance of the relationship between the latent variables has been verified ($\chi^2 = 80.96$; $df = 55$; $p = 0.013$; GFI = 0.99; AGFI = 0.99; RMSEA = 0.067; NFI = 0.99; CFI = 0.99).

In the structural model obtained, it is obvious that client satisfaction had a significant direct impact on loyalty ($\beta = 0.64$, $t = 10.15$). *H1* was thus supported. More specifically, client satisfaction and service quality dimensions

Table II Exploratory factor analysis (VARIMAX rotation)

Items	Factor 1	Factor 2	Factor 3	Factor 4
<i>Loyalty</i>				
Recommend the supplier firm to a partner when asked	0.913			
Encourage partners and other companies to initiate business with the supplier firm	0.910			
To consider the supplier firm the premium choice as an information systems supplier	0.810			
<i>Delivery service</i>				
The actual delivery process		0.803		
The planning of the delivery and installation procedures		0.848		
The "ease of use" of the product just after installation		0.755		
<i>Technical assistance</i>				
The duration of intervention			0.862	
The duration of recovery/solution			0.871	
<i>Accessibility</i>				
The duration of the effort to find the liable person in the company				0.893
The response to a message left				0.828
<i>Product and service reliability</i>				
The overall reliability of products and services (hardware and software)	0.349	0.450	0.467	0.184
<i>Industrial satisfaction</i>				
How satisfied are you in general with the products and services offered by the company?	0.585	0.236	0.306	0.461
Cronbach Alpha	0.900	0.779	0.863	0.864

explained 41 per cent of loyalty. The service quality dimensions had a significant effect on overall client satisfaction, which supported *H2*. The direct impact of service quality perceptions on brand loyalty was not significant; accordingly *H3* was not supported.

Analysing the results in greater detail, it can be observed that the functional quality dimension (as measured by accessibility and delivery service) had a greater impact on overall client satisfaction ($\beta = 0.42, 0.36$ and $t = 05.47, 4.68$) than the technical quality dimension (as measured by technical assistance and product and service reliability) ($\beta = 0.20, t = 2.72$).

By focusing on the indirect impact of technical assistance on overall client satisfaction, it is clear that the effect of this construct is mediated through product and service reliability. To demonstrate that product and service reliability mediates the effect of technical assistance on overall client satisfaction, it is necessary to show that its value has a significant bivariate relationship with overall client satisfaction, and that this effect is not significant when these constructs are linked to overall client satisfaction through product and service reliability (Baron and Kenny, 1986). The results confirm the mediating role of product or service reliability on the impact of technical assistance perceptions on client satisfaction. Both variables – technical assistance and product or

service reliability – have a positive impact on industrial satisfaction ($\beta_{1,2} = 0.286$). Measuring them in the same equation, the beta-coefficient of technical assistance β_3 is lower than β_1 , indicating mediation. However, because the coefficient of product or service reliability β_4 is lower than β_2 , it can be concluded that product or service reliability partially mediates the relationship between technical assistance and satisfaction (Baron and Kenny, 1986) (see Table V).

Mediating role of client satisfaction

To explore the mediating role of client satisfaction in the formation of loyalty attributes, all possible mediating tests were undertaken, involving all variables of the structural model (Table V). The results indicate a total mediation of satisfaction between the accessibility dimension of service quality and loyalty. This relationship is less significant with the introduction of satisfaction. Both variables (accessibility and satisfaction) have a positive impact on loyalty (see Table V). However, in the same equation, satisfaction absorbs the impact of accessibility – reducing its beta to non-significant levels ($\beta = 0.126, t = 1.108$). On the contrary, the mediating role of satisfaction between product or service reliability and loyalty was not verified – with this relationship being not significant ($\beta = 0.046, t = 0.571$). Finally, satisfaction was found to mediate partially the

Table III Measurement model

Items	λ	t-value
Industrial satisfaction		
The global satisfaction with the products and services of the supplier firm	1.00	20.49
Accessibility		
The duration of the effort to find the liable person in the company	0.83	34.97
The response to a message left	0.84	27.48
Delivery service		
The actual delivery process	0.87	24.59
The planning of the delivery and installation procedures	0.92	28.34
The "ease of use" of the product just after installation	0.69	15.75
Product and service reliability		
The overall reliability of products and services (hardware and software)	1.00	20.49
Technical assistance		
The duration of intervention	0.95	30.13
The duration of recovery/solution	0.88	30.25
Loyalty		
Recommend the supplier firm to a partner when asked	0.91	35.77
Encourage partners and other companies to initiate business with the firm	0.89	31.54
To consider the supplier firm the premium choice as an information systems supplier	0.87	24.82
Goodness of fit statistics		
Chi-squared	55.91	
Df	40	
p-value	0.049	
GFI	0.99	
AGFI	0.99	
RMSEA	0.062	
CFI	1.00	
NFI	1.00	

relationship between delivery service and loyalty. The relationship between these two constructs was significant ($\beta = 0.328$, $t = 3.299$) and became less significant with the introduction of satisfaction ($\beta = 0.252$, $t = 2.611$). Thus $H4$ was partially supported. Satisfaction fully mediated the relationship of loyalty with the constructs of delivery and accessibility. However, the study failed to identify any mediation in the relationship between product or service reliability and loyalty.

Discussion

The results of this survey provide strong empirical support for two of the hypothesised relationships between the service or product quality dimensions: overall client satisfaction and loyalty. The model of the present study explains 69 per cent of global satisfaction – thus providing robust evidence of the role of the service or product quality dimensions as antecedents of satisfaction in this business setting. However, only 41 per cent of loyalty was explained – which, in this case, might be due to a lack of relational variables in the research model. It would be of particular interest to incorporate a relational aspect in such a model to provide evidence concerning the existence of links between relationship marketing variables – such as trust, commitment, and dependence on the one hand, and service or product quality, satisfaction, and loyalty on the other.

From a conceptual perspective, the authors propose an industrial satisfaction definition that

Table IV Discriminant and convergent validity tests

Items	Factor loading (λ)	Rho Jöreskog ($\rho_{(\gamma)}$)	Reliability for the construct (ρ_{η})	Average variance extracted ($\rho_{v(\eta)}$)
Loyalty				
Recommend the supplier firm to a partner when asked	0.91	0.83	0.92	0.79
Encourage partners and other companies to initiate business with the firm	0.89	0.79		
To consider the supplier firm the premium choice as an information systems supplier	0.87	0.76		
Delivery service				
The actual delivery process	0.87	0.76	0.87	0.70
The planning of the delivery and installation procedures	0.92	0.85		
The "ease of use" of the product just after installation	0.69	0.58		
Technical assistance				
The duration of intervention	0.95	0.91	0.91	0.84
The duration of recovery/solution	0.88	0.77		
Accessibility				
The duration of the effort to find the liable person in the company	0.87	0.75	0.84	0.73
The response to a message left	0.84	0.71		

Notes: Range of correlation between constructs: 0.43-0.66

Source: Fornell and Larcker (1981)

Figure 2 Structural model

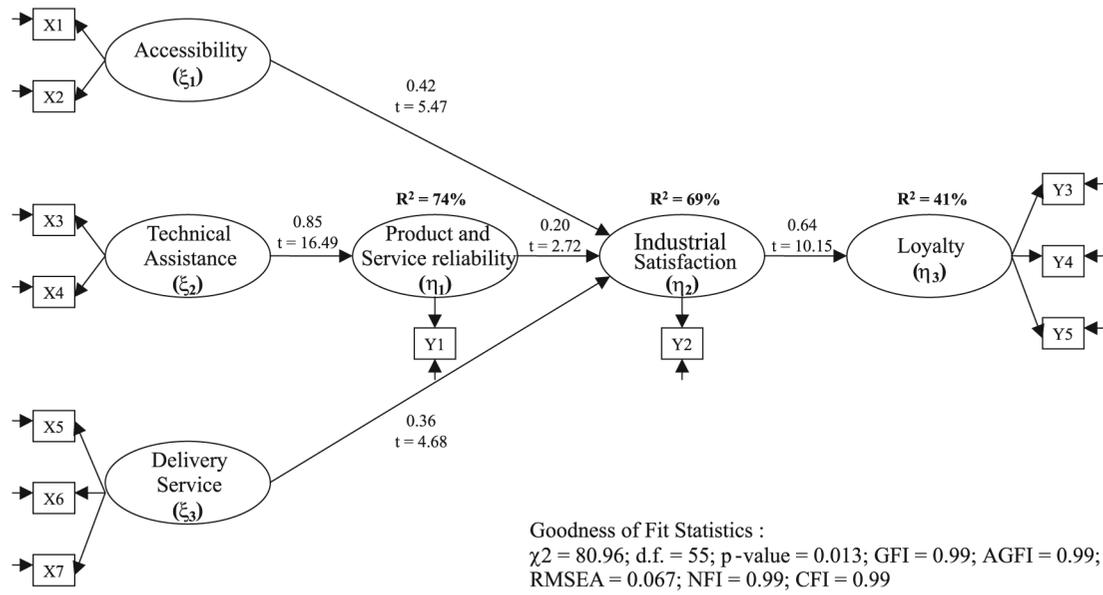


Table V Exploring the mediating role of industrial satisfaction

Independent variable	Mediator	Dependent variable	β_1 significant?	β_2 significant?	β_3 and β_4 significant? and $\beta_3 < \beta_1$?	Mediator?
Technical assistance	Product and service reliability	Industrial satisfaction	t = 4.234 $\beta_1 = 0.286$ ✓	t = 3.263 $\beta_2 = 0.286$ ✓	t ₃ = 3.727 $\beta_3 = 0.252$ t ₄ = 2.139 $\beta_4 = 0.114$ $\beta_3 < \beta_1$ ✓	Yes (partial mediator)
Accessibility	Industrial satisfaction	Loyalty	t = 3.277 $\beta_1 = 0.339$ ✓	t = 8.095 $\beta_2 = 0.464$ ✓	t ₃ = 1.108 $\beta_3 = 0.126$ t ₄ = 3.768 $\beta_4 = 0.473$ $\beta_3 < \beta_1$ ✓	Yes (total mediator)
Product and service reliability	Industrial satisfaction	Loyalty	t = 0.571 $\beta_1 = 0.046$ ✗	t = 2.474 $\beta_2 = 0.122$ ✓	t ₃ = 0.165 $\beta_3 = 0.012$ t ₄ = 4.479 $\beta_4 = 0.506$ $\beta_3 < \beta_1$ ✗	No
Delivery service	Industrial satisfaction	Loyalty	t = 3.299 $\beta_1 = 0.328$ ✓	t = 2.281 $\beta_2 = 0.144$ ✓	t ₃ = 2.611 $\beta_3 = 0.252$ t ₄ = 3.655 $\beta_4 = 0.430$ $\beta_3 < \beta_1$ ✓	Yes (partial mediator)

considers the buying centre as a unit of analysis. This definition allows the research instrument to be allocated to different posts inside the same firm. If the concept of satisfaction is approached from the perspective of the buying centre, the service performance evaluations of each member of the buying centre are captured, thus providing

evidence that partially fills this lacuna of knowledge (Parasuraman, 1998; Schellhase *et al.*, 1999). Although this approach was difficult methodologically (because firms were reluctant to allow all members of the buying centre to participate in the survey), the results depict with relative accuracy the whole buying process and the

various crucial aspects that influence the buying centre's decisions.

Another important objective of this survey was to explore the mediating role of satisfaction in a model measuring loyalty attributes. The results partially support the mediating role of satisfaction and raise some important issues concerning this matter. The fact that satisfaction mediates fully the relationship between accessibility and loyalty demonstrates that, without satisfaction, the advantages of accessibility in the business context cannot significantly influence any future buying behaviour. Satisfaction not only mediates the impact of accessibility as a service-quality dimension on loyalty, but also limits its power to influence buying centres' future decisions. This is of particular interest for practitioners trying to formulate strategies capable of generating loyal business customers. It is clear that it is not enough to focus on one service-quality dimension to achieve high rates of repeated purchases. Rather, it is vital to generate globally satisfied customers in this direction.

Similarly, satisfaction plays a partial mediating role in the relationship between delivery service and loyalty. It seems that delivery service has a greater impact on the formation of loyalty attributes because it is directly linked to the buying centre and has a strategic role in the achievement of various objectives – very often related to suppliers' performances. This shows clearly that, although satisfaction is needed to generate loyal business customers, errors and delays during the delivery service phase of the exchange can cause problems and disappointment in the client's buying decision centre.

On the other hand, satisfaction has no influence in the relationship between product or service reliability and loyalty. This can be explained, at least in part, in a B2B context. Service or product reliability is extremely important for the business client, and business centres usually choose their suppliers on the basis of quality excellence. It can therefore be assumed that, in today's competitive business environment, core product or service reliability is the absolute prerequisite for a business relationship to exist. If the supplier firm fails to meet buyer's requirements, this will dramatically change the status of the business relationship.

The results also provide evidence in support of a multidimensional approach to the service-quality construct. Moreover, although the specific industrial set (information technology) might appear to be unsuited to service-related research, it proved to be "services-oriented". It is evident that buying centres show significant sensitivity to service issues associated with a core product or service offering. From this perspective, the present

authors argue that services surrounding the core product or service offering – in this case hardware and software applications – have a greater influence on the creation of satisfaction than the actual product or service offering.

Managerial implications

Although researchers in the service quality area have often discussed the competitive advantages that could be gained from an improvement in the quality of the service offering, very few have clearly demonstrated which of the service-quality dimensions might provide significant competitive advantages. Various studies have presented one dimension as being more important than another – without necessarily connecting the improvement in a given dimension with improvement in satisfaction ratings and behavioural intentions. The present research has demonstrated that the most crucial elements in industrial satisfaction (at least in the information technology sector) are accessibility and delivery. Those two service-quality dimensions directly influence the formation of industrial satisfaction in the buying decision centre – thus providing managers with strategic areas in which to enhance satisfaction levels. For example, two critical issues on which managers could focus their efforts are the time required to find the responsible person in the supplier's firm, and the response of the firm to a message left by a potential buyer. Similarly, the delivery process of the core product or service offering demonstrates clearly that modern organisations need to offer consistently accurate and reliable delivery, in addition to superior product or service reliability and quality.

In any B2B environment, relational aspects are always important. It is necessary to identify these relationship aspects and to improve the quality of the relationship with business partners. The present findings suggest that buying centres need to identify business partners who will be able to offer an answer to their needs in the event of a service failure. A good response is not limited to the nature of the solution at a technical level. Of particular importance is the promptness of intervention in identifying the problem and promptness in the actual problem solving.

A major contribution of the present study is the mediating role of industrial satisfaction. Because service-quality perceptions fail to influence loyalty directly, industrial satisfaction exerts a partial mediational influence. This result confirms the findings of Cronin and Taylor (1992) and those of Taylor and Baker (1994) in supporting a significant interaction effect between service

quality and satisfaction. From this perspective, service quality is an antecedent of industrial satisfaction, and exerts a stronger influence on loyalty. Thus, managers might need to emphasise total customer satisfaction programs – rather than strategies that focus solely on service quality. As stated above, it is important to identify crucial service-quality dimensions because of their capacity to assist firms to improve their service offering. In contrast, focusing solely on service quality can lead to myopic management with catastrophic results. Industrial satisfaction is the crucial element that drives longer-term client relationships, and managers therefore need to monitor satisfaction levels and understand clients' perceptions of their total service or product offering.

It is also obvious that service-quality perceptions exert a greater influence on the formation of industrial satisfaction than do core product reliability perceptions. Surprisingly enough, the service aspect in a manufacturing environment seems to be more important for buying centres. This fact emphasises the need for firms to evaluate further services associated with a product offering and establish clear quality standards. Moreover, distinguishing between service and product quality will help managers to implement more flexible strategies – because improvement plans of product quality differ significantly from those of service quality. On this basis, a means to achieve flexibility and increase significantly buyers' satisfaction ratings would be to involve the buying centre in different phases of the transactional continuum before actually delivering the core product or service. This will give buying firms an opportunity to express their needs and establish a communication link on the basis of openness, mutual understanding, and fairness. This link will enhance the interaction aspects of the relationship – such as trust and relationship commitment.

Conclusion

The model presented in this study is an exploratory effort to identify antecedents of satisfaction and loyalty in a B2B setting. As such, it is subject to some limitations. First, the conclusions cannot be easily generalised because there is a lack of homogeneity in business markets. Second, there are other antecedents that were not considered in the present study. This is due to the secondary nature of the data with regard to the operationalisation of specific constructs. Finally, the single-item measurement of satisfaction ignores the existence of different phases of

satisfaction in a relationship according to the complexity of the service or product offering. The present model therefore fails to identify the existence of any turbulent incidents that might damage or improve the relationship between the buying firm and the supplier.

Further research is necessary in the following areas. First, research is required to ascertain how customer satisfaction is created in a B2B environment and within the buying centre context. Of particular interest are potential relational interaction effects within the buying decision centre. It would be very useful to identify the way in which personnel holding key positions and roles influence the rest of the buying personnel. Psychological metrics, such as leader-member exchanges (LMXs) and group cohesion, could help practitioners to understand how their buying centres operate and to identify the key persons who influence the creation of quality and satisfaction standards. Moreover, suppliers could target these persons, resulting in enhanced satisfaction ratings.

Second, there is the need for research on different product categories and services (such as e-commerce and e-banking). In addition, samples from different countries and industrial settings would help to ascertain the generalisability of the present findings.

Third, future research could use different measurement scales to capture the constructs of industrial satisfaction and loyalty in the buying decision situation. The single-item constructs of industrial satisfaction and product or service reliability could be replaced with multi-item scales – thus providing alternative ways of validating the present results.

Finally, relational variables (such as trust and commitment) could be used in quality-satisfaction-loyalty models, thereby increasing the possibility of achieving greater percentages of explanation of loyalty cues.

References

- Aaker, D.A. (1991), *Managing Brand Equity*, The Free Press, New York, NY.
- Anderson, E. and Sullivan, M. (1993), "The antecedents and consequences of customer satisfaction for firms", *Marketing Science*, Vol. 12, pp. 125-43.
- Anderson, E. and Weitz, B. (1992), "The use of pledges to build and sustain commitment in distribution channels", *Journal of Marketing Research*, Vol. 29, February, pp. 18-34.
- Anderson, E.W. and Fornell, C. (1994), "Customer satisfaction prospectus", in Rust, R.T. and Oliver, R.L. (Eds), *Service Quality: New Directions in Theory and Practice*, Sage, London, pp. 241-68.
- Anderson, E., Fornell, C. and Lehman, D. (1994), "Customer satisfaction, marketing share and profitability: findings

- from Sweden", *Journal of Marketing*, Vol. 58 No. 3, pp. 63-6.
- Anderson, J.C. and Narus, J.A. (1990), "A model of distributor firm and manufacturer firm working partnerships", *Journal of Marketing Research*, Vol. 54, pp. 42-58.
- Andreassen, T.W. and Lindestad, B. (1998), "Customer loyalty and complex services", *International Journal of Service Industry Management*, Vol. 9 No. 1, pp. 7-23.
- Arndt, J. (1967), "Role of product-related conversations in the diffusion of a new product", *Journal of Marketing Research*, Vol. 4 No. 3, pp. 291-6.
- Assael, H. (1998), *Consumer Behavior and Marketing Action*, South-Western, Cincinnati, OH.
- Babin, B.J. and Griffin, M. (1998), "The nature of satisfaction: an updated examination and analysis", *Journal of Business Research*, Vol. 41, pp. 127-36.
- Baron, R.M. and Kenny, D.A. (1986), "The moderator-mediator variable distinction in social psychological research: conceptual, strategic and statistical considerations", *Journal of Personality and Social Psychology*, Vol. 51 No. 6, pp. 1173-82.
- Bearden, W.O. and Tell, J.E. (1983), "Selected determinants of consumer satisfaction and complaints reports", *Journal of Marketing Research*, Vol. 20 No. 1, pp. 21-8.
- Bentler, P.M. (1990), "Comparative fit indices in structural models", *Psychological Bulletin*, Vol. 107, pp. 238-46.
- Bitner, M.J. (1990), "Evaluating service encounters: the effects of physical surroundings and employee responsibility", *Journal of Marketing*, Vol. 54, pp. 69-82.
- Bitner, M.J. and Hubbert, A.R. (1994), "Encounter satisfaction versus overall satisfaction versus quality", in Rust, R.T. and Oliver, R.L. (Eds), *Service Quality: New Directions in Theory and Practice*, Sage Publications, Thousand Oaks, CA, pp. 72-94.
- Bloemer, J.M. and Kasper, H. (1995), "The complex relationship between consumer satisfaction and brand loyalty", *Journal of Economic Psychology*, Vol. 16, pp. 311-29.
- Bolton, R.N. and Drew, J.H. (1991), "A multi-stage model of customers' assessments of service quality and value", *Journal of Consumer Research*, Vol. 17, March, pp. 375-84.
- Boulding, W., Kalra, A., Staelin, R. and Zeithaml, V.A. (1993), "A dynamic process model of service quality: from expectations to behavioural intentions", *Journal of Marketing Research*, Vol. 30, February, pp. 7-27.
- Brady, M.K. and Cronin, J.J. Jr (2001), "Some new thoughts on conceptualizing perceived service quality: a hierarchical approach", *Journal of Marketing*, Vol. 65, pp. 34-49.
- Carman, J.M. (1990), "Consumer perceptions of service quality: an assessment of the SERVQUAL dimensions", *Journal of Retailing*, Vol. 66 No. 1, pp. 33-55.
- Chaudhuri, A. and Holbrook, M.B. (2001), "The chain of effects from brand trust and brand affect to brand performance: the role of brand loyalty", *Journal of Marketing*, Vol. 65, April, pp. 81-93.
- Chumpitaz, R.C. (1998), "La relation entre la satisfaction et la fidélité à la marque en business-to-business: application à deux produits et deux services", PhD dissertation No. 325, CIACO, Louvain-la-Neuve.
- Churchill, G.R. and Surprenant, C. (1982), "An investigation into determinants of customer satisfaction", *Journal of Marketing Research*, Vol. 19, pp. 491-504.
- Cronin, J.J. Jr and Taylor, S.A. (1992), "Measuring service quality: a re-examination and extension", *Journal of Marketing*, Vol. 56, pp. 55-68.
- Cronin, J., Brady, M. and Hult, G.T. (2000), "Assessing the effects of quality, value and customer satisfaction on consumer behavioral intentions in service environments", *Journal of Retailing*, Vol. 76 No. 2, pp. 193-218.
- Danaher, P.J. and Rust, R.T. (1996a), "Determining the optimal return on investment for an advertising campaign", *European Journal of Operational Research*, Vol. 95 No. 3, pp. 511-21.
- Danaher, P.J. and Rust, R.T. (1996b), "Indirect financial benefits from service quality", *Quality Management Journal*, Vol. 3 No. 2, pp. 63-85.
- Davidow, W.H. and Uttal, B. (1989), *Total Customer Service: The Ultimate Weapon*, Harper & Row, New York, NY.
- Day, G.S. (1969), "A two-dimensional concept of brand loyalty", *Journal of Advertising Research*, Vol. 9 No. 3, pp. 29-35.
- De Ruyter, K., Wetzels, M. and Bloemer, J. (1998), "On the relationship between perceived service quality, service loyalty and switching costs", *International Journal of Service Industry Management*, Vol. 9 No. 5, pp. 436-53.
- Dick, A.S. and Basu, K. (1994), "Customer loyalty: toward an integrated conceptual framework", *Journal of the Academy of Marketing Science*, Vol. 22 No. 2, pp. 99-113.
- Erevelles, S. and Leavitt, C. (1992), "A comparison of current models of consumer satisfaction, dissatisfaction", *Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behaviour*, Vol. 5, pp. 104-14.
- Farrell, D. and Rusbult, C.E. (1981), "Exchange variables as predictors of job satisfaction, job commitment, and turnover: the impact of rewards, costs, alternatives, and investments", *Organisational Behaviour and Human Decision Processes*, Vol. 28 No. 1, pp. 78-95.
- Fornell, C. and Larcker, D.F. (1981), "Evaluation structural equations models with unobservable variables and measurement error", *Journal of Marketing Research*, Vol. 18, pp. 39-50.
- Fornell, C. and Wernerfelt, B. (1987), "Defensive marketing strategy by customer complaint management: a theoretical analysis", *Journal of Marketing Research*, Vol. 24, pp. 337-46.
- Fornell, C., Johnson, M., Anderson, E., Cha, J. and Bryant, B. (1996), "The American customer satisfaction index: nature, purpose and findings", *Journal of Marketing*, Vol. 60 No. 4, pp. 7-18.
- Fournier, S. and Yao, J.L. (1997), "Reviving brand loyalty: a conceptualisation within the framework of consumer-brand relationships", *International Journal of Research in Marketing*, Vol. 14, pp. 451-72.
- Fullerton, G. and Taylor, S. (2002), "Mediating, interactive, and non-linear effects in service quality and satisfaction with services research", *Canadian Journal of Administrative Sciences*, Vol. 19 No. 2, pp. 124-36.
- Ganesan, S. (1994), "Determinants of long-term orientation in buyer-seller relationships", *Journal of Marketing*, Vol. 58, April, pp. 1-19.
- Garbarino, E. and Johnson, M.S. (1999), "The different roles of satisfaction, trust and commitment in customer relationships", *Journal of Marketing*, Vol. 63, pp. 70-87.
- Giese, J.L. and Cote, J.A. (2000), "Defining consumer satisfaction", *Academy of Marketing Science Review*, pp. 1-33, available at: www.amsreview.org/amsrev/theory/giese01-00.html
- Gottlieb, J., Grewal, D. and Brown, S.W. (1994), "Consumer satisfaction and perceived quality: complementary or divergent constructs?", *Journal of Applied Psychology*, Vol. 79 No. 6, pp. 875-85.
- Grönroos, C. (1982), *Strategic Management and Marketing in the Service Sector*, (published in 1983 in the USA by Marketing Science Institute and in the UK by

- Studentlitteratur/Chartwell-Bratt), Swedish School of Economics Finland, Helsingfors.
- Grönroos, C. (1984), "A service quality model and its marketing implications", *European Journal of Marketing*, Vol. 18, pp. 36-44.
- Grönroos, C. (1993), "Toward a third phase in service quality research", in Swartz, T.A., Bowen, D.A.Q. and Brown, S.W. (Eds), *Advanced in Service Marketing and Management*, Vol. 2, JAI Press, Greenwich, CT, pp. 49-64.
- Howard, J.A. and Sheth, J.N. (1969), *The Theory of Buyer Behavior*, John Wiley & Sons, Inc., New York, NY.
- Iacobucci, D., Ostrom, A. and Grayson, K. (1995), "Distinguishing service quality and customer satisfaction: the voice of the consumer", *Journal of Consumer Psychology*, Vol. 4 No. 3, pp. 277-303.
- Jacoby, J. and Chestnut, R.W. (1978), *Brand Loyalty Measurement and Management*, Wiley, New York, NY.
- Jacoby, J. and Kyner, D.B. (1973), "Brand loyalty versus repeat purchase behavior", *Journal of Marketing Research*, Vol. 10, pp. 1-9.
- Jones, M.A. and Suh, J. (2000), "Transaction-specific satisfaction and overall satisfaction: an empirical analysis", *Journal of Services Marketing*, Vol. 14 No. 2, pp. 147-59.
- Jöreskog, K.G. and Sörbom, D. (1996), *Lisrel 8: User's Reference Guide*, Scientific Software International, Chicago, IL.
- Kristensen, K., Martensen, A. and Gronholdt, L. (1999), "Measuring the impact of buying behaviour on customer satisfaction", *Total Quality Management*, Vol. 10, pp. S602-14.
- LaBarbera, P.A. and Mazursky, D. (1983), "A longitudinal assessment of consumer satisfaction/dissatisfaction: the dynamic aspect of the cognitive process", *Journal of Marketing Research*, Vol. 20 No. 4, pp. 393-404.
- Lapierre, J., Filiatrault, P. and Pierrien, J. (1996), "Research on service quality evaluation: evolution and methodological issues", *Journal of Retailing of Consumer Services*, Vol. 2, pp. 91-8.
- Lau, G.T. and Lee, S.H. (1999), "Consumers trust a brand and the link to brand", *Journal of Market-Focused Management*, Vol. 4, pp. 341-70.
- Martensen, A., Gronholdt, L. and Kristensen, K. (2000), "The drivers of customer satisfaction and loyalty: cross-industry findings from Denmark", *Total Quality Management*, Vol. 11, pp. S544-53.
- Moorman, C., Deshpande, R. and Zaltman, G. (1993), "Factors affecting trust in market research relationships", *Journal of Marketing*, Vol. 57 No. 1, pp. 81-101.
- Moorman, C., Zaltman, G. and Deshpande, R. (1992), "Relationships between providers and users of market research: the dynamics of trust within and between organizations", *Journal of Marketing Research*, Vol. 29, August, pp. 314-48.
- Morgan, R.M. and Hunt, S.D. (1994), "The commitment-trust theory of relationship marketing", *Journal of Marketing*, Vol. 58, July, pp. 20-38.
- Newman, J.W. and Werbel, R.A. (1973), "Multivariate analysis of brand loyalty for major household appliances", *Journal of Marketing Research*, Vol. 10 No. 4, p. 404.
- Nunnally, J. (1978), *Psychometric Theory*, 2nd ed., McGraw-Hill, New York, NY.
- Odekerken-Schroder, G., Birgelen, M., Lemmink, J., de Ruyter, K. and Wetzels, M. (2000), "Moments of sorrow and joy: an empirical assessment of the complementary value of critical incidents in understanding customer service evaluations", *European Journal of Marketing*, Vol. 34 No. 1/2, p. 107.
- Oliver, R.L. (1980), "A cognitive model of the antecedents and consequences of satisfaction decisions", *Journal of Marketing Research*, Vol. 17, November, pp. 460-7.
- Oliver, R.L. (1993), "Cognitive, affective, and attribute bases of the satisfaction response", *Journal of Consumer Research*, Vol. 20, December, pp. 418-30.
- Oliver, R.L. (1997), *Satisfaction: A Behavioral Perspective on the Consumer*, McGraw-Hill, Boston, MA.
- Oliver, R.L. (1999), "Whence consumer loyalty?", *Journal of Marketing*, Vol. 63, special issue, pp. 33-44.
- Oliver, R.L. and Swan, J.E. (1989), "Consumer perceptions of interpersonal equity and satisfaction in transactions: a field survey approach", *Journal of Marketing*, Vol. 53 No. 2, pp. 21-35.
- Ostrowski, P.L., O'Brien, T.V. and Gordon, G.L. (1993), "Service quality and customer loyalty in the commercial airline industry", *Journal of Travel Research*, Vol. 32, Fall, pp. 16-24.
- Parasuraman, A. (1998), "Customer service in business-to-business markets: an agenda for research", *Journal of Business & Industrial Marketing*, Vol. 13 No. 4/5, pp. 309-21.
- Parasuraman, A., Zeithaml, V.A. and Berry, L. (1985), "A conceptual model of service quality and its implications for future research", *Journal of Marketing*, Vol. 49, Fall, pp. 41-50.
- Parasuraman, A., Zeithaml, V.A. and Berry, L. (1988), "SERVQUAL: a multiple-item scale for measuring consumer perceptions of service quality", *Journal of Retailing*, Vol. 64, pp. 12-40.
- Parasuraman, A., Zeithaml, V.A. and Berry, L.L. (1994), "Reassessment of expectations as a comparison standard in measuring service quality: implications for further research", *Journal of Marketing*, Vol. 58, January, pp. 111-24.
- Patterson, P.G. (1995), "Choice criteria in final selection of a management consultancy service", *Journal of Professional Service Marketing*, Vol. 11 No. 2, pp. 177-87.
- Patterson, P.G. and Spreng, R.G. (1997), "Modelling the relationship between perceived value, satisfaction and repurchase intentions in a business-to-business, service context: an empirical examination", *International Journal of Service Industry Management*, Vol. 8 No. 5, pp. 414-34.
- Payne, A., Christopher, M., Clark, M. and Peck, H. (1995), *Relationship Marketing for Competitive Advantage*, Butterworth-Heinemann, London.
- Porter, L.W., Steers, R.M., Mowday, R.T. and Boulian, P.V. (1974), "Organisational commitment, job satisfaction and turnover among psychiatric technicians", *Journal of Applied Psychology*, Vol. 59 No. 5, pp. 603-10.
- Pritchard, M.P. and Howard, D.R. (1997), "The loyal traveller: examining a typology of service patronage", *Journal of Travel Research*, Vol. 35, Spring, pp. 2-10.
- Reichheld, F.F. and Sasser, W.E. (1990), "Zero defections: quality comes to services", *Harvard Business Review*, September/October, pp. 105-11.
- Rust, R.T. and Oliver, R.L. (1994), "Service quality: insights and managerial implications from the frontier", in Rust, R.T. and Oliver, R.L. (Eds), *Service Quality: New Directions in Theory and Practice*, Sage Publications, Thousand Oaks, CA.
- Rust, R.T., Zahorik, A. and Keiningham, T. (1995), "Return on quality (ROQ): making service quality financially accountable", *Journal of Marketing*, Vol. 59 No. 2, pp. 58-70.
- Samuelson, B.M. and Sandvik, K. (1997), "The concept of customer loyalty", in Arnott, D. et al. (Eds), *Marketing:*

- Progress, Prospects, Perspectives (No. 3)*, EMAC Proceedings, Warwick Business School, Coventry, pp. 1122-40.
- Schellhase, R., Hardock, P. and Ohlwein, M. (1999), "Customer satisfaction in business-to-business marketing: the case of retail organisations and their suppliers", *Journal of Business & Industrial Marketing*, Vol. 14 No. 5/6, pp. 416-32.
- Singh, J. (1990), "Voice, exit and negative word of mouth behaviors: an investigation across three service categories", *Journal of the Academy of Marketing Science*, Vol. 18 No. 1, pp. 1-15.
- Sirdeshmukh, D., Singh, J. and Sabol, B. (2002), "Impact of frontline employee behaviours and management practices on consumer trust, value and loyalty in relational service exchanges", *Journal of Marketing*, Vol. 66, January, pp. 15-37.
- Sivadas, E. and Baker-Prewitt, J.L. (2000), "An examination of the relationship between service quality, customer satisfaction, and store loyalty", *International Journal of Retail & Distribution Management*, Vol. 28 No. 2, p. 73.
- Spreng, R. and MacKoy, R. (1996), "An empirical examination of a model of perceived service quality and satisfaction", *Journal of Retailing*, Vol. 72 No. 2, pp. 201-14.
- Spreng, R. and Singh, A.K. (1993), "An empirical assessment of the SERVQUAL scale and the relationship between service quality and satisfaction", in Cravens, D. and Dickson, P. (Eds), *Proceedings of the AMA Conference: Enhancing Knowledge Development in Marketing*, Vol. 4, pp. 1-6.
- Taylor, S. and Baker, T. (1994), "An assessment of the relationship between service quality and customer satisfaction in the formation of consumers' purchase intentions", *Journal of Retailing*, Vol. 70 No. 2, pp. 163-78.
- Tucker, W.T. (1964), "The development of brand loyalty", *Journal of Marketing Research*, Vol. 1, August, pp. 32-5.
- Walker, J.L. (1995), "Service encounter satisfaction: conceptualised", *Journal of Services Marketing*, Vol. 9 No. 1, pp. 5-14.
- Westbrook, R.A. and Reilly, M.D. (1983), "Value percept disparity: an alternative to the disconfirmation of expectations theory of consumer satisfaction", in Bagozzi, R. and Tybout, A. (Eds), *Advances in Consumer Research*, Vol. 10, Association for Consumer Research, Ann Arbor, MI, pp. 256-61.
- Wilson, D.T. and Jantrania, S. (1994), "Understanding the value of a relationship", *Asia-Australia Marketing Journal*, Vol. 2 No. 1, pp. 55-66.
- Woodruff, R.B. and Gardial, S.F. (1996), *Know Your Customer*, Blackwell, Cambridge, MA.
- Woodside, A.G., Wilson, E.J. and Milner, P. (1992), "Buying and marketing CPA services", *Industrial Marketing Management*, Vol. 21, pp. 265-72.
- Zeithaml, V.A. (2000), "Service quality, profitability, and the economic worth of customers: what we know and what we need to learn", *Journal of the Academy of Marketing Science*, Vol. 28 No. 1, pp. 67-85.
- Zeithaml, V.A., Parasuraman, A. and Berry, L.L. (1996), "The behavioural consequences of service quality", *Journal of Marketing*, Vol. 60, April, pp. 31-46.
- Zins, A.H. (2001), "Relative attitudes and commitment in customer loyalty models: some experiences in the commercial airline industry", *International Journal of Service Industry Management*, Vol. 12 No. 3, pp. 269-94.