

THE POWER OF INTERFACING DEPARTMENTS IN SHAPING B2B CUSTOMER SATISFACTION

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Extant research identifies service quality and service encounter perceptions as the key determinants of satisfaction. However, no study in a business-to-business environment has examined the simultaneous effect of these two determinants on overall satisfaction. Hence, we do not know which of these two determinants has a stronger impact on service satisfaction. We investigated this issue by collecting data from shipping managers of several firms in Singapore that used the services of ocean freight shipping companies. Results of path analysis indicate that perceptions of service encounters have a relatively stronger impact compared to service quality. Implications of these results are discussed.

INTRODUCTION

In today's competitive environment, customer service has become the single most important factor in the business-to-business setting (Clark 1993). A key sign of its importance is the number of national awards (e.g., the Baldrige Award) available to recognize excellence in service. Service providers have become obsessed by their desire to gain customer satisfaction and to be viewed as offering superior service quality. The reason for this development is that both customer satisfaction and service quality have been hypothesized to be the key determinants of customer loyalty, which in turn, is essential for gaining a competitive advantage (Dick and Basu 1994; Gremler and Brown 1996; Tian-Cole 2002; Wetzels, Ruyter and Lemmink 2000). The services literature is replete with discussions on the relationship between service quality and satisfaction in the service delivery process. Cronin, Brady and Hult (2000) summarized these research efforts and suggested that the causal order is in favor of service quality preceding satisfaction.

The theoretical framework by Parasuraman, Zeithaml and Berry (1985, 1988) can be used as a foundation for linking service quality and satisfaction. According to this framework, service quality is determined by factors such as reliability, responsiveness, competence, approachability and ease of contact, courtesy, credibility, freedom from doubt, understanding the customer, communication, and physical appearance of the service provider's facilities. Most of these dimensions of service quality are "experience properties" that can be known only as the customer is in the process of purchasing or consuming (i.e., experiencing) the service. These experience dimensions include aspects such as access, courtesy, reliability, responsiveness, understanding/knowing the customer, and communication, among others. Based on this framework, Parasuraman et al. developed a 22-item scale, SERVQUAL, to assess service quality. In several studies, this scale was found to be a good predictor of service satisfaction (Babakus and Boller 1992; Cronin and Taylor 1992; Parasuraman, Berry and Zeithaml 1991).

During the service delivery process, invariably the customer and one or more representatives of the service provider interact with each other. Customer interfacing personnel are the face of the firm for the customer; the interaction between these two parties is

part of the service which ultimately impacts customer satisfaction. This interaction is known as the service encounter. Some have called this encounter the "moment of truth" since promises that may have been made are either fulfilled or unfulfilled. It is during such encounters that quality becomes evident to the customers. From the customers' perspectives, service quality cannot be separated from the service provider. If customers' experiences with various service encounters are positive, then it is likely that customers will also have a favorable evaluation of the service provider. The overall service satisfaction correspondingly depends on how the service provider manages and monitors the multiplicity of service encounters that may be involved in the process (Bitner 1990). It is the collectivity of these interactions that create the chemistry for the affective outcomes of consumers. For a business delivering service in interactive encounters with customers, perception of service encounters emerges as the most important determinant of customer satisfaction and other patronage indicators (Lemmink and Mattsson 2002; Mittal and Lassar, 1996). A number of other research efforts have also confirmed that consumers' evaluation of the service encounters has a strong impact on service satisfaction (Butcher, Sparks and O'Callaghan 2003; Harbarger 2000; Oliver and Swan 1989; Suprenant and Solomon 1987).

In sum, research in the services sector has identified two major determinants of service satisfaction. One is service quality and the other is evaluation of multiple service encounters. In an empirical study, Bitner and Hubbert (1994) found that service quality perceptions, overall satisfaction, and perceptions of service encounters are all significantly related to each other. What is not known, however, is which of the two determinants has a stronger impact on service satisfaction? On the one hand, service quality is viewed as a global construct that relates to the overall quality of the organization and its offerings. It represents an overall appraisal of the service. Service quality perceptions are considered long term consumer attitudes. On the other hand, service encounter perceptions are formed as a result of customers' experiences during short-term face-to-face interactions with representatives of the service provider. These

short term encounters add up to a sum of encounter experiences that ultimately determine satisfaction levels. Since service satisfaction is also viewed more as a short-term service encounter specific judgment (Cronin and Taylor 1992; Oliver 1993; Patterson and Johnson 1993), is it likely that service satisfaction has a stronger relationship with service encounter perceptions than with overall service quality? We address this question by analyzing data provided by customers of various ocean freight shipping services in Singapore.

METHOD

Sample and Questionnaire Administration

The data were collected from shipping managers of various organizations in Singapore who regularly use the services of ocean freight companies for their exporting requirements. A sample of 220 shipping managers participated in the study. Their names were randomly drawn from a list of all shippers, obtained from a large shipping company. While some of the shippers on the list represented customers of that shipping company, others were customers of competing shipping lines. Skilled interviewers who had experience in conducting managerial interviews personally administered the survey. The companies that the shipping managers represented have the following profile: 41.2 percent of the organizations dealt with trading only, 17.5 percent dealt with manufacturing activities, and 26.3 percent had both trading and manufacturing activities. About 50 percent of the organizations were domestic, 18.4 percent foreign owned and 31.6 percent joint ventures with a foreign partner. The annual turnover of the organizations varied from less than US \$ 10 million (for 49.1 percent of the companies) to over US \$ 25 million (for about 26 percent). The annual export freight expenses for these organizations ranged from less than US \$ 25,000 (for 25.7 percent of the companies) to over US \$ 100,000 (for 35.4 percent).

Measures

The questionnaire consisted of measures of service quality, service encounter perceptions, and overall

service satisfaction. First, service quality perceptions were measured using the 22-item SERVQUAL scale. The original scale, proposed by Parasuraman, Zeithaml and Berry (1988) was modified slightly to make it suitable for measuring service quality of ocean freight shipping services. Composite reliability indices for various dimensions of the SERVQUAL scale (i.e., tangibles, reliability, responsiveness, assurance, and empathy) exhibited acceptable reliability levels as suggested by Nunnally and Bernstein (1994). The overall reliability value of the 22-item scale exceeded .80.

The questionnaire also included measures of service encounter perceptions. Shipping lines often divide their organizations into a number of specialized departments, with each department having an interface with the customers. As such, customers' perceptions of the shipping lines' service quality is shaped by their encounters with representatives of the interfacing departments. In this study, four such interfacing departments (booking services, documentation, operations, and claims) and three supporting activities (marketing/sales department, telephone services, and service rendered during personal visits) were identified. Respondents were asked to rate these seven interfacing departments and activities on multi-item 7-point rating scales. Composite indices of these scales all exhibited high coefficient alpha reliabilities exceeding 0.9. The overall reliability value for the service encounter perceptions scale, which included all of the items related to various interfacing department ratings, also exceeded 0.9. Finally, service satisfaction, as measured by overall evaluation of shipping line's service, was assessed on a 1 (extremely poor) to 7 (excellent) scale.

RESULTS

Since the 22-item SERVQUAL scale exhibited high and acceptable reliability value, we combined responses to individual items to form the *measure of service quality (SQ)* perceptions. Similarly, the scale that consisted of all items related to various interfacing department ratings also exhibited a high and acceptable reliability value. Hence, we combined

all of those items to form the *measure of service encounter perceptions (SE)*.

Next, we performed a path analysis and evaluated the fit of four competing models, labelled as Models 1 to 4. In all four cases, measures of service quality perceptions and service encounter perceptions served as the independent variables and service satisfaction (SAT) served as the dependent variable. As shown in Figure 1 as well as Table 1, Model 1 freely estimated the paths linking SQ and SE with service satisfaction. This is a saturated model with a χ^2 value of 0 with 0 degrees of freedom. In Model 2, the two paths were constrained to be equal. The fit of this model is indicated by the χ^2 value of 7.58 with 1 degree of freedom. Model 3 only estimates the path from SE to SAT while constraining the path from SQ to SAT to zero. The χ^2 fit of the model is 4.13 with 1 degree of freedom. Model 4, on the other hand, assumes that SAT is affected by SQ. This model constrains the SE to SAT path to zero. Model 4 has a χ^2 fit of 54.3 (1 df.). We then compared the fit of Model 1 with the fit of the other three models by performing the χ^2 difference tests. For example, the difference in fit between Model 1 and Model 2 is 7.58. At one degree of freedom, this χ^2 difference is statistically significant ($p < .05$). This means that the fit of Model 2 is inferior to the fit of Model 1. This finding implies that contrary to the assumption of Model 2, the two paths (service quality – service satisfaction and service encounter perceptions – service quality) are not equal. Similarly, the other χ^2 difference tests showed that Model 1 provides a better fit than Model 3 where SQ - SAT path is zero and Model 4, where SE - SAT path is zero.

In sum, Model 1, which assumed that the two paths are not equal, provides a better fit. Table 1 also shows various fit statistics such as the goodness-of-fit index (GFI), comparative fit index (CFI), and the Tucker-Lewis Index (TLI). These three fit indices have been widely used to assess the fit of causal models. When using these indices, a fit index of "1" implies the best fit. Again, across the four models, Model 1 and even Model 3 have better fit indices than Models 2 and 4. However, on the basis of the χ^2 difference test Model 1 is superior to Model 3. Next,

Model 1 shows the path coefficients for the two paths along with their t-values. The t-values associated with these path coefficients are both above 2. This means that the two paths are statistically significant (prob. < .05). At the same time, the path coefficient for the service encounter perceptions – service satisfaction relationship (.57) is higher than the path coefficient for the service quality – service satisfaction relationship (.14).

TABLE 1
Path Estimates and Fit Statistics

	Model 1	Model 2 Eq1 paths	Model 3 No SQ effect	Model 4 No SE effect
χ^2 (df)	0 (0)	7.58 (1)	4.13 (1)	54.3 (1)
SE-Sat	.57	.38	.66	.00
SQ-Sat	.14	.38	.00	.51
GFI	1.0	.98	.99	.86
CFI	1.0	.97	.99	.75
TLI	1.0	.92	.96	.25

CONCLUSIONS AND IMPLICATIONS

The results clearly confirm previous research in that service satisfaction is affected by both service encounter perceptions and service quality. However, service satisfaction is affected more strongly by perceptions with service encounters than by service quality perceptions. It seems as if service encounters have more power in shaping satisfaction than service quality. But what are the underlying reasons for this situation? The most plausible explanation deals with the role of service providers in cultivating relationships with the customer as they deliver the service. Although the service might seem objective (i.e., getting specific goods shipped from one point to another in a timely, efficient and effective manner), the personnel of the service provider may have a critical impact on the feelings or emotions of the customer. Service personnel that are helpful, knowledgeable and agreeable will make the service encounter more

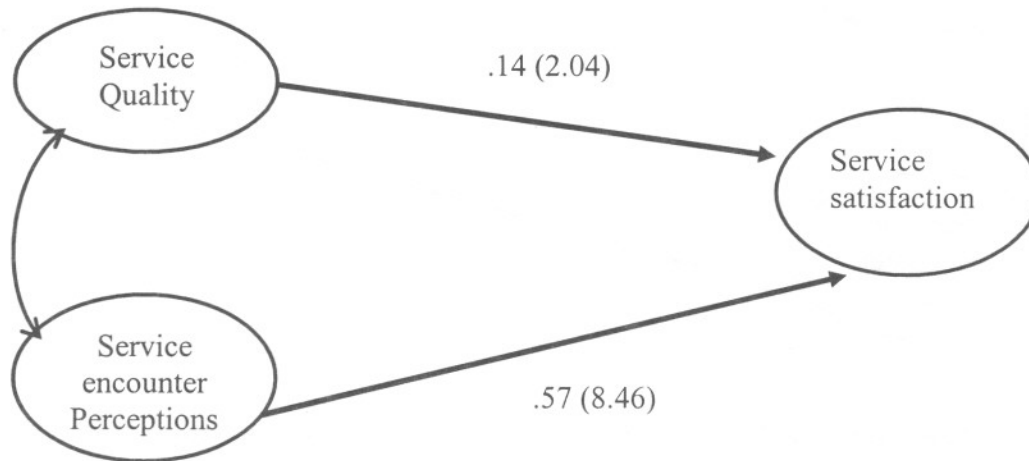
enjoyable or fulfilling for the customer. It is easy to imagine a situation where the service quality is high when viewed objectively, yet the personnel interfacing with the customer are rude and impatient. Such improper behavior may compel the customer to seek out a new shipper due to the poor treatment they may receive. This feeling may occur despite the successful shipping of the goods.

To better illustrate how service quality perceptions (SQ) and service encounter perceptions (SE) affect service satisfaction (SAT) in the shipping industry we divided the sample into those with above (sample) average scores on SQ (labeled as "High" SQ group) and those with below (sample) average scores on SQ (labeled as "Low" SQ group). Likewise, each subject in the sample was also placed into either the "High SE" group or "Low SE" group based on the subject's service encounter perceptions relative to the sample average. The mean service satisfaction scores for these four groups are shown in Figure 2. It is clear that even when customers had favorable service quality perceptions, there was a sizeable decrease in their service satisfaction score for those with low service encounter perceptions (5.8 or 5.4) as compared to those with high service encounter perceptions (6.4 or 6.3). Analysis of variance results also reveal a significant effect of service encounter perceptions ($p < .05$) and a less significant effect for service quality ($p < .10$) on service satisfaction.

Next, because personnel in interfacing departments have frequent contact with customers, they play a boundary-spanning role for the firm. This boundary-spanning role is a crucial one in terms of relationship marketing since personnel in this role are the ones relating to the customer. The quality of the service encounter is viewed as a salient strategic competitive weapon in service firms (Mittal and Lassar 1996). The service exchange that occurs in the service encounter is likely to play a pivotal role in the way it links to service satisfaction. Along these lines Bitner, Booms and Mohr (1994) emphasize that in service settings, customer satisfaction is often influenced by the quality of the interpersonal interaction between customer and contact employee. Mittal and Lassar (1996) also found that the social

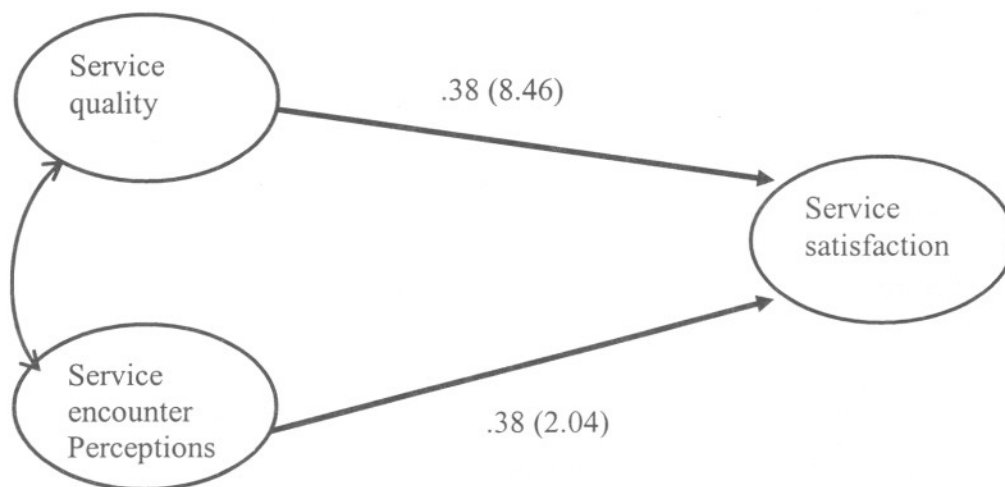
FIGURE 1

Model 1: Unconstrained Path Model



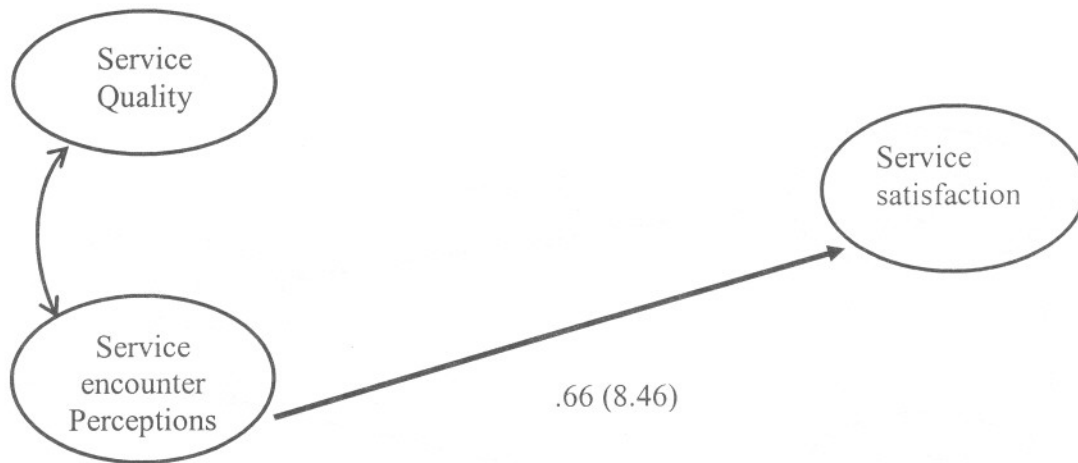
Fit Statistics for Model 1: $\chi^2(0) = 0$, prob. = 1.0. Model 1 is a saturated model. Above figure shows path estimates along with t-values (shown in parentheses).

Model 2: Constrained Model:
SQ – SAT and SE – SAT are constrained to be Equal



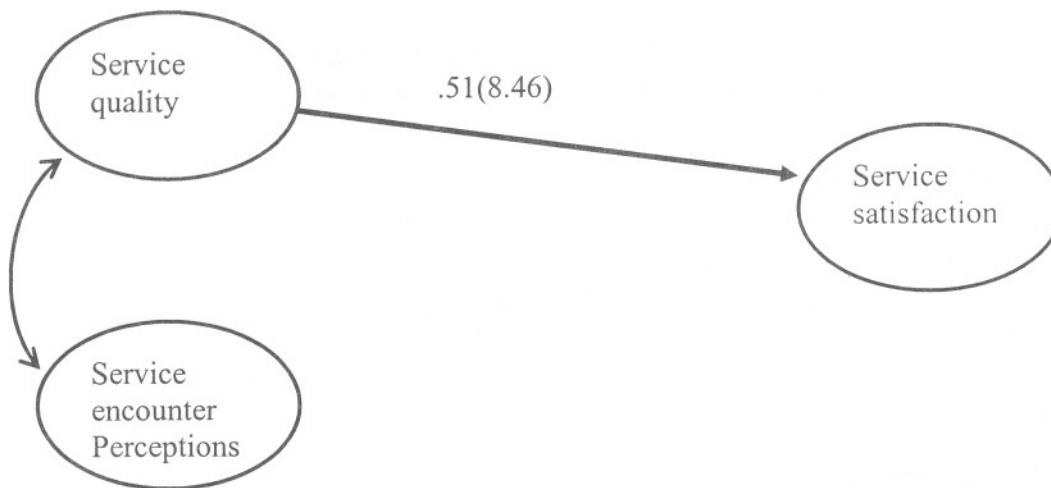
Fit Statistics for Model 2: $\chi^2(1) = 7.58$. Above figure shows path estimates along with t-values (shown in parentheses).

Model 3: Constrained Model: Only SE – SAT Effect is Present



Fit Statistics for Model 3: $\chi^2 (1) = 4.13$. Above figure shows path estimates along with t-values (shown in parentheses).

Model 4: Constrained Model: Only SQ – SAT Effect is Present



Fit Statistics for Model 4: $\chi^2 (1) = 54.3$. Above figure shows path estimates along with t-values (shown in parentheses).

FIGURE 2

Mean Service Satisfaction for High and Low levels of
Service Quality and Service Encounter Perceptions



Anova Results:

Model: $F(3,216) = 50.85$ $p < .00$

SQ Affect: $F(1,216) = 3.45$ $p < .06$

SE Affect: $F(1,216) = 48.22$ $p < .00$

SQ*SEnc Affect: $F(1,216) = 2.84$ $p < .09$

contact of interaction between the service provider and the customer had a big impact on perceptions of future patronage behavior; the more satisfying these contacts, the more likely there would be repeat business. How to make the interfacing departments effective in satisfying the customer and meeting or exceeding expectations is the challenge.

Customer satisfaction continues to grow as a top strategic issue in corporations. To develop an effective customer satisfaction program, it is essential that firms understand what customers value. Naumann, Jackson and Rosenbaum (2001) argue that exceeding customers' expectations enhances the value that customers attribute to a firm's offering. Yet, employees such as interfacing personnel are less likely to expend the extra effort to exceed customers' expectations unless they believe management is focused on their well being. McCarthy (1997), in particular, notes that the effectiveness of customer

service programs hinges on employees' training and understanding of customers' needs and the culture or working environment within the firm. Kaplan and Norton (1996) substantiate this view with empirical evidence showing a connection between employee morale and customer satisfaction. Clearly, the morale of each interfacing department is likely to have an impact on customer satisfaction.

Naumann, Jackson and Rosenbaum (2001) assert that empowering employee teams is integral if the firms want to obtain employee commitment and input for improving customer service. Empowered teams such as interfacing departments can be used to improve customer satisfaction, increase employee productivity and lower corporate costs. The real challenge lies in integrating employee input into programs to increase customer satisfaction. In the case of interfacing departments, management needs to encourage personnel in these departments to offer suggestions on

how to improve services to customers. Not only should the employees be rewarded when their suggestions result in improvements, but employees must also be given the requisite tools for delivering superior services.

Boshoff and Mels (1995) contend that because interfacing personnel are uniquely conscious of the special challenges inherent in customer interactions, more attention needs to be given to their perceptions of service delivery. Sergeant and Frenkel (2000) found that the capacity of service personnel to satisfy customers is also strongly dependent on the degree to which various departments worked together in a mutually cooperative fashion to satisfy the customer. Hence, it is also essential that firms try to coordinate the various interfacing departments so that they operate as a coordinated assembly of departments. If interfacing departments compete with each other for resources, the outcome may be a dysfunctional corporate culture that militates against cooperation. Indeed Edward Deming, the guru of quality management, exhorts upper management to reward team effort rather than individual effort. Such an idea is a recognition of the destructiveness of self-interest in creating harmony amongst groups such as interfacing departments.

Increasing attention is being focused on the complexity of service provider-customer relationships in recent marketing literature. In particular, researchers are probing the interface between the customer and service provider in term of the various encounters they have and the causal connections between quality, trust, customer retention, satisfaction and perceived quality. The practice of service marketing is also undergoing a metamorphosis as different service philosophies incorporate the relational and interactive features of service encounters. Such features include recruiting relationship marketing managers, use of loyalty based approaches to customer management and the development of behavioral frameworks for service process management (Broderick 1999) such as the behavioral repertoires conceptualized by Dobni, Zerbe and Ritchie (1997). Clearly, these efforts

reflect the importance management is attaching to service personnel who interface with the customer.

At the nucleus of CRM (Customer Relationship Management) is the premise that maintaining satisfied customers is essential for long-term success. In formulating marketing strategy, many industrial firms have given importance to factors such as caring, support, trustworthiness, and giving help when needed, as they are considered necessary to enhance relationship with customers, thus leading to service satisfaction. In fact, some marketing scholars maintain that building relationships has become the major focus of an increasing number of businesses. The interactions in which the interfacing departments engage with customers must be seen in this wider context in terms of relationship marketing.

The findings of this study should be of interest not only to shipping lines but to service providers in general. The customers' perceptions of the service provider and their satisfaction are very much based on these boundary spanners (Weitzel, Schwarzkopf and Peach 1989). Davidson (1984) suggests that the secret to running a successful service organization is to turn the organisation chart "upside down," where service provider is located at the top of the organisation, thereby indicating the level of importance to be extended to the boundary spanners. Of course, both the contact persons as well as support personnel are critical to the service performance. Failure to appreciate the critical role that interfacing departments play in customer satisfaction may mean setting the stage for lower customer retention and ultimately lower profits.

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