
Evaluating Service Encounters: The Effects of Physical Surroundings and Employee Responses

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Mary Jo Bitner

Evaluating Service Encounters: The Effects of Physical Surroundings and Employee Responses

For consumers, evaluation of a service firm often depends on evaluation of the "service encounter" or the period of time when the customer interacts directly with the firm. Knowledge of the factors that influence customer evaluations in service encounters is therefore critical, particularly at a time when general perceptions of service quality are declining. The author presents a model for understanding service encounter evaluation that synthesizes consumer satisfaction, services marketing, and attribution theories. A portion of the model is tested experimentally to assess the effects of physical surroundings and employee responses (explanations and offers to compensate) on attributions and satisfaction in a service failure context.

AS service industries continue to grow in importance, consumers voice increasing irritation, frustration, and dissatisfaction with individual service encounters (Koepp 1987). In many cases those discrete encounters *are* the service from the customer's point of view. The recent and wide-ranging focus on service encounter satisfaction and service quality speaks to both the importance and the complexity of the issues. First and foremost, customer satisfaction depends directly and most immediately on the management and monitoring of individual service encounters (Parasuraman, Zeithaml, and Berry 1985; Shostack 1984, 1987; Solomon et al. 1985; Surprenant and Solomon 1987). The management of individual en-

counters is nested within broader managerial issues of organizational structure, philosophy, and culture that also can influence service delivery and ultimately customer perceptions of service quality (Bowen and Schneider 1988; Gronroos 1984; Heskett 1987; Zeithaml, Berry, and Parasuraman 1988).

Though recognizing the complex organizational and strategic issues that must be resolved and managed if service delivery is to be effective, this article focuses narrowly on customer perceptions and marketing mix effects in individual service encounters. This focus draws attention to controllable elements at the point of interaction between the firm and its customers that may influence customer evaluations, and ultimately affect perceptions of service quality and repeat purchase behavior. The purpose of the article is to enhance managerial understanding of customer evaluations in service encounters by addressing the following questions:

- What are the antecedents and consequences of customer dis/satisfaction in service encounters?
- How can the services marketing mix be utilized to influence customer satisfaction positively in service encounters?

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To address these questions, a model of service encounter evaluation is presented that synthesizes consumer satisfaction, services marketing, and attribution theories and provides a framework for programmatic research on service encounter evaluations. A portion of the model is tested experimentally to assess the effects of physical surroundings ("atmospherics") and employee responses (explanations and offers to compensate) on attributions and satisfaction in a service context. Managerial and research implications of the model and experimental results are discussed.

Conceptual Definitions

Service Encounter

The model of service encounter evaluation relies on Shostack's (1985, p. 243) definition of the term "service encounter" as "a period of time during which a consumer directly interacts with a *service*." Shostack's definition encompasses all aspects of the service firm with which the consumer may interact—including its personnel, its physical facilities, and other tangible elements—during a given period of time.

Services Marketing Mix

The model illustrates how marketing mix elements are proposed to influence customer satisfaction. The marketing mix is defined as the controllable variables that an organization can coordinate to satisfy its target market (McCarthy and Perreault 1987, p. 35). Because of the distinguishing characteristics of services, it has been suggested that service firms have additional variables, beyond the traditional "four P's," that can satisfy target markets. For example, because services are produced and consumed simultaneously (Gronroos 1984; Langeard et al. 1981; Zeithaml, Parasuraman, and Berry 1985), customers often are present "in the firm's factory" and interact directly with the firm's personnel. Thus, "the factory" and the contact personnel play marketing roles as well as serving operational functions. In addition, because services are essentially intangible processes, customers are frequently searching for surrogates or "cues" to help them determine the firm's capabilities (Shostack 1977). Often the only cues available are the firm's physical facility and its employees.

On the basis of the preceding reasoning, Booms and Bitner (1981) proposed an expanded marketing mix for services consisting of the four traditional elements (product, price, place, promotion) and three new ones: physical evidence (the physical surroundings and all tangible cues), participants (all human actors in the service encounter including firm personnel and other customers), and process (procedures, mechanisms, and flow of activities). Though the three new elements could

be encompassed within the traditional mix, separating them out draws attention to factors that are of expressed importance to service firm managers. Of particular interest in this article are two of the new elements: physical evidence and participants.

Service Satisfaction and Service Quality

Service encounter satisfaction is defined here within the disconfirmation of expectations paradigm (Churchill and Surprenant 1982; Oliver 1980; Oliver and DeSarbo 1988; Swan 1983; Tse and Wilton 1988). The theory underlying the disconfirmation paradigm is that consumers reach satisfaction decisions by comparing product or service performance with prior expectations about how the product or service would or should perform. Each individual consumer is assumed to have expectations about how each individual service/product will perform. These expectations are compared with actual perceptions of performance as the product/service is consumed. If expectations exceed performance, dissatisfaction results. When expectations are met, or when performance actually exceeds expectations, satisfaction results.

Satisfaction is related closely to, but is not the same as, the customer's general attitude toward the service. The key to distinguishing satisfaction from attitude is that satisfaction assessments relate to individual transactions whereas attitudes are more general (Oliver and Westbrook 1982; Swan 1983). Similarly, one interpretation suggests that satisfaction can be distinguished from perceived quality. Parasuraman, Zeithaml, and Berry (1988) define "perceived [service] quality" as the consumer's judgment about a firm's overall excellence or superiority. This definition suggests that perceived quality is similar to an individual's general attitude toward the firm (see also Zeithaml 1988).

Consumer Attributions

The model of service encounter evaluation incorporates consumer attributions within the satisfaction paradigm. Attributions are what people perceive to be the causes behind their own behavior, the behaviors of others, or the events they observe. Whether attributions occur spontaneously for all behaviors and events is a subject of debate. However, in a major review article on the topic, Weiner (1985a) concluded that people *do* engage in "spontaneous causal thinking" *particularly in cases of unexpected and negative events*. Weiner's long stream of research on attributions has led to the conclusion that most causes can be classified on three dimensions: locus (Who is responsible?), control (Did the responsible party have control over the cause?), and stability (Is the cause likely to recur?). The nature of the attributions made has been shown to influence both affective and behavioral responses (Folkes 1984, 1988; Folkes, Koletsky, and

Graham 1987; Krishnan and Valle 1979; Weiner 1985b).

A Model of Service Encounter Evaluation

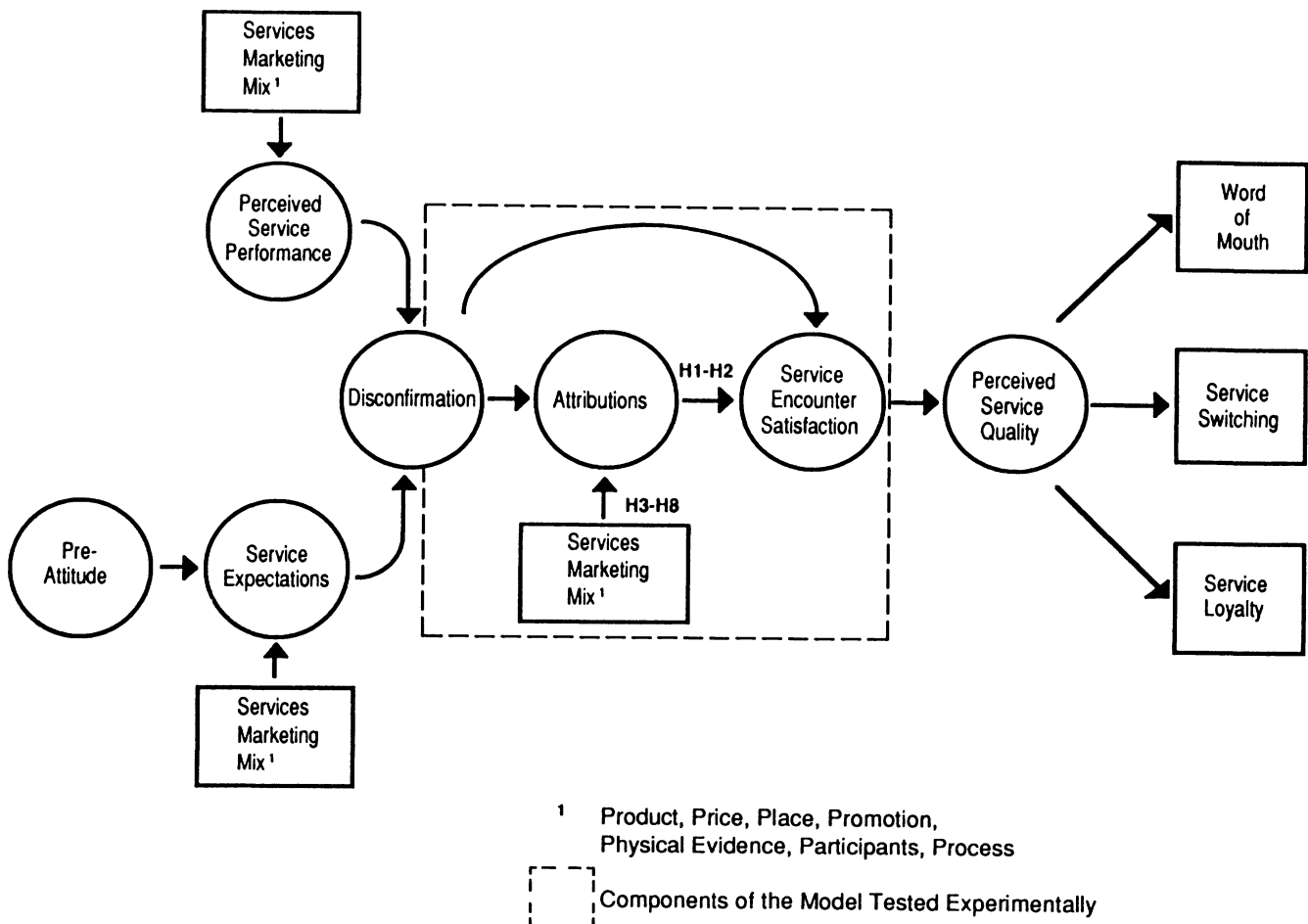
Theoretical Relationships

On the basis of the preceding concepts, Figure 1 represents a general model of the antecedents and outcomes of consumer satisfaction in service encounters. The first part of the model suggests that a consumer's preattitude will influence expectations about the outcome of a particular service encounter (Oliver 1980; Swan 1983). The second stage of the process suggests that the customer's immediate reaction after consumption depends on a comparison of prior expectations and perceived performance, resulting in confirmation of expectations or in positive/negative disconfirmation when expectations and performance do not match.

The next part of the model implies that causal at-

tributions for disconfirmation will mediate customer satisfaction. That is, *before* a customer determines his or her level of dis/satisfaction, he or she will diagnose the causes of disconfirmation and, depending on the perceived nature of the causes, the level of dis/satisfaction and subsequent behaviors may be modified. This positioning of the attribution construct (after disconfirmation and before dis/satisfaction) is consistent with recent work in both consumer behavior (Folkes, Koletsky, and Graham 1987; Oliver and DeSarbo 1988) and psychology (e.g., McFarland and Ross 1982; Reisenzein 1986; Weiner 1980). The results reported from these studies suggest an attribution-affect-behavior sequence rather than the affect-attribution-action sequence implied in earlier satisfaction research (Folkes 1984; Krishnan and Valle 1979; Valle and Wallendorf 1977). The final part of the model shows service encounter satisfaction as an input into the more general construct, perceived service quality (or attitude), which in turn leads to later behaviors toward the service firm (Oliver 1980).

FIGURE 1
A Model of Service Encounter Evaluation



Marketing Mix Effects

Though all of the mix elements are likely to influence satisfaction directly, the purpose of the model and experiment is to begin to understand *how* this influence occurs by illustrating their effects on satisfaction antecedents. In Figure 1, the services marketing mix is shown as entering the service encounter satisfaction process by directly influencing three antecedents of satisfaction: expectations, perceived service performance, and attributions. Because they have had limited attention in the marketing literature and because they are of particular importance in many service settings, two of the new mix elements—physical evidence and participants—are the focus of the following discussion and experiment.

Because services are intangible and usually cannot be tried prior to purchase, customers look for tangible evidence of what they are about to experience in a given service encounter (Langeard et al. 1981; Shostack 1977). Physical evidence such as environmental design, decor, signage, and business cards/stationery send messages that help to establish the firm's image and influence the customer's expectations (Baker 1987; Booms and Bitner 1982; Shostack 1977). The participants in the service environment also provide clues about what the customer should expect. Visual inspection of their dress (Solomon 1985) and nonverbal cues as to the demeanor of both the service firm personnel and other customers in the service facility aid customers in categorizing the firm and forming pre-experience expectations for the service encounter.

At the next stage of the evaluation process, elements of physical evidence such as noise level, odors, temperature, colors, textures, and comfort of furnishings may influence perceived performance in the service encounter. Research suggests that such variations in physical environment can affect perceptions of an experience independently of the actual outcome (e.g., Biggers and Pryor 1982; Maslow and Mintz 1956). Similarly, the attitudes and behaviors of service personnel also influence perceived service performance. In the services literature, such behaviors usually are associated with what is called "process" or "functional" quality (the *how* of service delivery) as opposed to the "outcome" or "technical" quality (the *what* of service delivery) (Gronroos 1984; Lehtinen 1986). In addition, customers may be influenced by the perceived experiences of other customers.

The model suggests that marketing mix elements also may influence satisfaction in the service encounter through their effects on attributions for service disconfirmation. For example, when things go wrong in a service encounter, employees frequently attempt to sooth disgruntled customers by apologizing, offering to compensate, and explaining why the service deliv-

ery failure occurred (Clemmer and Schneider 1989). Any of these behaviors may influence customer attributions about the firm's responsibility for the failure and the likelihood of its occurring again. Similarly, variations in the firm's physical facility may suggest different underlying causes when a failure occurs.

Hypotheses, Design, and Procedure

The model provides a framework for programmatic research on service encounter evaluations. As an initial step in the research program, a controlled experiment was conducted to test a portion of the model focusing on the relationships between attributions and satisfaction and between selected elements of the services marketing mix and attributions, as indicated in Figure 1. These elements of the model were selected because the implied relationships are not intuitively obvious and because the findings would have direct managerial as well as theoretical implications. As the locus dimension of causality was held constant in the experiment, all hypotheses relate to the control and stability dimensions of attributions.

Hypotheses

Attributions and satisfaction. Attribution theory (Folkes 1988; Harvey and Weary 1984; Weiner 1985a,b) and the results of empirical studies (Folkes 1984; Folkes, Koletsky, and Graham 1987; Oliver and DeSarbo 1988), as previously discussed, suggested the following hypotheses.

- H₁: In cases of service failure, when customers perceive that the firm has control over the cause, they are more dissatisfied than when they believe the firm has no control.
- H₂: In cases of service failure, when customers perceive the cause to be stable (i.e., likely to recur), they are more dissatisfied than when they believe the failure is a rare event.

Physical surroundings, employee responses, and attributions. Previous empirical studies and social psychology theories are helpful in predicting the nature of consumer attributions in service encounters. For example, previous research suggests that when an employee provides an external explanation for service failure, by placing the blame on something or someone other than her/himself or the firm, the explanation is likely to lead the customer to believe the firm had less control over the failure than when an internal explanation (one in which the employee implicates her/himself or the firm) is provided (Folkes 1984; Folkes, Koletsky, and Graham 1987). When no explanation is provided, the fundamental attribution error (Harvey and Weary 1984) would predict that customers will attribute greater control to the firm.

The preceding reasoning leads to two hypotheses.

- H₃: When an employee offers an *external* explanation for service failure, the customer attributes less control to the firm than when an *internal* explanation is given.
- H₄: When an employee offers an *external* explanation for service failure, the customer attributes less control to the firm than when *no* explanation is given.

When an employee offers to compensate the customer for service failure, the offer may influence attributions. It is plausible that an offer may lead the customer to attribute greater control to the firm if the customer sees the offer as an admission of guilt and as a confirmation of the failure that reinforces negative beliefs about the firm. Conversely, an offer may lead the customer to think, "They must care about me and my business or they wouldn't offer to do this. Because they care, they aren't likely to do it again." Or, "They couldn't afford to do this often so it must be an infrequent occurrence and probably outside their control." The dollar value of the offer to compensate as well as whether the customer prefers a replacement product to a refund (Folkes 1984) also may affect how the offer is perceived.

Because opposite effects of offers can be argued logically, the following nondirectional hypotheses are advanced.

- H₅: The customer's attributions about the firm's control are influenced by whether or not an offer is made to compensate for service failure.
- H₆: The customer's attributions about the stability or likely recurrence of the cause are influenced by whether or not an offer is made to compensate for service failure.

Finally, physical surroundings also are hypothesized to influence customer attributions in service failure situations. For example, if a customer experiences service failure in an organized, professional environment, the customer may blame the firm less. Cues in an organized environment may suggest competence, efficiency, care, and other positive attributes. When failure occurs in such an environment, the customer is likely to attribute the cause to something unintentional and relatively temporary. In contrast, in a disorganized environment the physical cues may suggest incompetence, inefficiency, and poor service. In such an environment, the customer may attribute greater responsibility to the firm and be more likely to expect the same type of problem to occur in the future. The following hypotheses pertain to the effect of physical surroundings on attributions.

- H₇: Less control is attributed to the firm when the service failure occurs in an organized service environment than when the same event occurs in a disorganized environment.
- H₈: The customer's attributions of stability are less (i.e., the cause is less likely to recur) when the service fail-

ure occurs in an organized service environment than when the same event occurs in a disorganized environment.

Design and Procedure

The study tested the eight hypotheses in a 3 (internal explanation vs. external explanation vs. no explanation) × 2 (offer vs. no offer) × 2 (organized environment vs. disorganized environment) complete factorial experiment. Subjects were assigned randomly to one of the 12 conditions.

Subjects were 145 travelers waiting to board airplanes at an international airport. An interviewer presented them with a travel story, which they were asked to read, describing a negative service disconfirmation situation. Subjects were instructed to imagine that they were the traveler in the story. The story describes a traveler who goes to a travel agency and requests a roundtrip ticket to San Francisco at the cheapest possible fare. Later, while in flight to San Francisco, the traveler converses with a fellow passenger about their air fares. In the conversation, the traveler learns he or she did *not* get the cheapest fare. On returning from San Francisco, the traveler goes back to the travel agent and the agent provides one of three explanations (internal, external, none) for the failure to get the cheapest fare, as well as one of two possibilities to make up for the problem (offer, no offer). The narrative was in a booklet illustrated by 8½-by-11-inch full-color photographs. The booklets showed the incident occurring in the same travel agency under one of two environment conditions (organized, disorganized).

After reading the story, subjects responded to measures of disconfirmation, attributions, attitude, satisfaction, and intended behaviors. In addition, manipulation checks of the independent variables were included. Demographic and background data also were collected (sex, age, occupation, frequency of travel, usual method of booking travel, and opinions about travel agents).

Independent Variables

Two versions of the booklet were prepared, identical with the exception of the travel agency photographs. One booklet showed the "organized" travel agency and the other showed the "disorganized" travel agency. The travel agency photographs were taken by a professional photographer using an actual travel agency. The same agency was used for both sets of photographs, with physical cues changed to make it appear organized in one case and disorganized in the other. An exterior and two interior photographs of the travel agency were included in the booklet. Figures 2 and 3 are black and white reductions of the interior close-up photographs.

After reading the travel story, subjects responded

FIGURE 2
Visual Stimulus: "Organized" Travel Agency



FIGURE 3
Visual Stimulus: "Disorganized" Travel Agency



to measures of disconfirmation and then read one of six different conversation vignettes (2 offer \times 3 explanation). The following explanations and offers contained in the conversations were developed in consultation with travel agents and experienced travelers. The specific fares cited in the story were competitive market fares during the period in which the study took place.

- External explanation: "... It was a special fare available only through the end of last month. Since you bought your ticket on the first, it was no longer available. ..."
- Internal explanation: "... I must have overlooked that

special fare paid by the woman you met. You know, fares change so often these days it's almost impossible for me to keep up with them. ..."

- No explanation: [no text]
- Offer: "... I really can't do anything to change what happened. I do feel badly about it and we don't want to lose your business. Since we do guarantee the lowest fare, I'd like to offer to reimburse your \$98."
- No offer: [no text]

Measures

The experiment was designed with the intention of holding disconfirmation constant for all conditions. Two *disconfirmation* measures therefore were included to affirm the assumption. After the disconfirmation measures, subjects read the conversation vignette containing the explanation and offer manipulations, and then responded to the *attribution* measures. Two measures of control attributions (Was the event controllable by the travel agent?) and two of stability attributions (Is the same thing likely to occur again in the future with this travel agent?) were included using modifications of 7-point semantic differential scales developed by Russell (1982). *Satisfaction* was measured by three 7-point semantic differential items (Oliver and DeSarbo 1988; Westbrook 1980) to assess overall satisfaction with the travel agent, the travel agent's company, and with the specific travel experience. The last satisfaction measure was included as a way of checking discriminant validity, because the manipulations should have no significant effect on perceptions of satisfaction with the travel experience itself. For each of the three objects of satisfaction subjects were asked, "Under the circumstances described in the preceding story, how would you feel about . . . : " (delighted/terrible). Intermediate points on the delighted/terrible scale were not labeled. *Attitude* toward the travel agent after the incident was assessed by using bipolar adjectives in a 7-item semantic differential scale. The likelihood of the subject engaging in four different *behaviors* also was assessed. Seven-point scales were used to determine the likelihood of recommending the travel agent, going back to the travel agent, switching to another travel agent, and complaining to the agent's supervisor.

Methodological Considerations

The role-playing method used for the study was chosen to enhance internal and statistical conclusion validity by increasing control over the manipulated variables and reducing random "noise" in the experimental setting (Cook and Campbell 1979). This purpose was accomplished somewhat at the expense of external validity, though the use of actual travelers and a realistic, believable travel incident describing a situation most travelers fear they will experience (or actually

have experienced) gave the study a reasonable degree of experimental and mundane realism (Carlsmith, Ellsworth, and Aronson 1976).

The use of role-playing in experiments has a long history in psychological research (e.g., Greenberg 1967; Weiner 1980). Recent studies in marketing and consumer behavior also have employed role-playing (e.g., Folkes 1984; Surprenant and Solomon 1987). Like all research methods, the approach has both advantages and disadvantages (Carlsmith, Ellsworth, and Aronson 1976; Sawyer 1977; Surprenant and Churchill 1984). The primary advantages are that otherwise expensive or extremely difficult manipulations can be operationalized relatively easily and the researcher can control otherwise unmanageable variables. In addition, role-playing allows time to be compressed, as in the case of the travel story, whereas in "real life" the events would be likely to take place over several weeks. The primary disadvantages are a possibly greater likelihood of demand effects if subjects can guess the hypotheses of the study and the possible inability of subjects to project their behavior and to respond as they actually would in a real situation. Pretesting indicated that subjects could not guess the experimental hypotheses. Use of a between-subjects design also made demand effects less likely (Sawyer 1975).

Analysis and Results

Manipulations and Assumptions

Checks of the environment, explanation, and offer manipulations revealed that subjects perceived the three independent variables as intended. The effect of environment was assessed on a scale ($\alpha = .96$) made up of 10 7-point semantic differentials. Results showed a significant difference ($F = 364.7$; $p = .001$) in the intended direction, with the organized agency being evaluated significantly higher on all 10 items (i.e., pleasant, beautiful, organized, above average, neat, high quality, well kept, professional, calming, efficient) than the disorganized agency. Explanation and offer manipulations were checked through two multiple-choice questions to assess the subjects' comprehension of the explanations and offers in the story. All but two subjects correctly identified the explanation given and only four subjects incorrectly identified the nature of the offer given in the story. Believability of the explanations also was measured on a 7-point scale (not at all believable/highly believable). Mean believability scores for the external and internal explanations were 6.09 and 3.95, respectively. All of the checks were measured after the dependent measures with the exception of the explanation manipulation check. Because the explanations were imbedded in the conversation, the explanation manipulation

check was purposely positioned before the dependent measures to be sure the subjects had indeed processed the explanatory information.

An assumption of the study was that all subjects would experience the same level of negative disconfirmation in reading the story even though half saw the disorganized agency photographs and half saw the organized agency photographs. Analysis of variance results confirmed this assumption. There was no effect of environment on either of the disconfirmation measures, nor on the summed measure.

Profile of Subjects

Data were collected over a period of 18 weekdays at different times of day at the departure gates of an international airport. A total of 145 subjects participated, 56% men and 44% women. The range in age was from 18 to 76 years, with a mean age of 41 years. A wide variety of occupations were represented. Participants included 12% frequent flyers (six or more trips per year), 39% moderate travelers (two to five trips per year), and 49% infrequent travelers (one or fewer trips per year). Eighty-six percent normally used a travel agent, whereas 11% said they booked their pleasure trips directly with the airline. These percentages are comparable to industry data on travel agency usage for pleasure travel. As these demographic variables had no significant effects on the dependent measures, they were excluded from further analyses.

Attributions and Satisfaction

Three separate multiple regression analyses were done to test the basic relationship suggested in H_1 and H_2 . Control attributions (sum of two measures; Pearson correlation = .86) and stability attributions (sum of two measures; Pearson correlation = .52) were the predictor variables. The three criterion measures were satisfaction with the travel agent, satisfaction with the travel agent's company, and satisfaction with the travel experience. The coefficients for both control and stability attributions were expected to have negative signs. Both coefficients were expected to be *insignificant* when satisfaction with the travel experience was the criterion measure because the measure was included to assess discriminant validity. The following regression results support the hypotheses. Standardized coefficients are reported. All signs are in the hypothesized directions and significant (or insignificant in the case of the travel experience regression) as predicted by H_1 and H_2 .

	Adj. R ²
Satisfaction with travel agent = -.35 (control) ^a - .36 (stability) ^a	.37
Satisfaction with travel agent's company = -.28 (control) ^a - .38 (stability) ^a	.33
Satisfaction with travel experience = .07 (control) ^b - .18 (stability) ^b	.009

^ap < .001.

^bp > .05.

The proposed positioning of the attribution construct within the satisfaction paradigm is supported further by a just-identified fully recursive path analysis (Duncan 1966) as shown in Figure 4. If both satisfaction and perceived quality (or attitude) are assumed to be affective responses, the results support an attribution-affect-behavior sequence (as shown in the model) rather than an affect-attribution-behavior sequence. Neither of the paths between attributions and behavior is significant, whereas three of the four paths linking attributions to the two affective responses are significant. The affective responses are in turn strong predictors of behavior.

Marketing Mix and Attributions

H₃ through H₈ predict relationships between manipulated marketing mix variables and resulting levels of control and stability attributions. These hypotheses were tested in two analyses of variance, first with control attributions (sum of two measures) as the dependent measure and then with stability attributions (sum of two measures) as the dependent measure. In both cases, the independent variables were environment (organized vs. disorganized), explanation (internal explanation vs. external explanation vs. no explanation), and offer (offer vs. no offer). Results for each hypothesis are discussed next. The ANOVA results are reported in Table 1.

Explanations and attributions. H₃ and H₄ predict that when an employee offers an external explanation, attributions of control are weaker than when other explanations are offered. This prediction is upheld ($F = 132$; $p = .001$). Analysis of the relevant means shows that subjects in the external explanation condition attributed significantly less control to the travel agent than did those in either the internal or no explanation condition. Summary statistics are reported in Table 2.

Pairwise t-tests show that not only is the mean response in the external explanation condition significantly different from that in the internal ($t = 16.78$; $p < .001$) and no explanation ($t = -10.78$; $p < .001$) conditions, but the latter two means are also significantly different ($t = 4.25$; $p < .001$). Duncan's multiple range test ($\alpha = .05$) also shows all pairs of means as significantly different. Significantly more control was attributed to the travel agent in the inter-

nal explanation condition than in the no explanation condition. Perhaps in the no explanation condition some of the subjects attributed the problem to an external factor, thus lowering the overall control attribution mean in that condition.

Results also show a nonhypothesized significant main effect of explanations on stability attributions (Table 2). Subjects reading the internal explanation were more likely to expect the same failure to occur in the future than were subjects in the external or no explanation condition. This result was not hypothesized because there is no reason theoretically that internal and external explanations should be perceived as inherently more or less stable. Both types of explanations can be stable or unstable.

Offers and attributions. H₅ predicts a relationship between offers to make up for negative service disconfirmation and resulting attributions of control. Results show no significant main effect of offers on control attributions ($F = .82$; $p = .336$) (Table 2). However, there is a significant interaction between explanations and offers ($F = 5.39$; $p = .006$); cell means for the significant interaction follow. The interaction suggests that the presence of an offer and any explanation served to reduce the control attributed to the travel agent. When no explanation was provided, however, the offer may have appeared to be an admission of guilt; thus, attributions of control increased when an offer was given with no explanation.

	Significant Two-Way Interaction		
	Internal Explanation	External Explanation	No Explanation
Offer	11.0	3.35	10.12
No offer	12.46	4.48	8.65

Results show a main effect of offers on stability attributions that approaches significance ($F = 3.09$, $p = .08$). The direction of the results suggest that weaker attributions of stability are associated with the offer condition. That is, when they were offered compensation to make up for the travel agent's failure, subjects were less likely to believe the same event would occur in the future. Summary statistics are given in Table 2. The insignificant result is surprising because pretest data had shown a statistically significant main effect of offers on stability attributions ($F = 9.73$; $p = .01$) with an n of only 24. Because the results are consistent in direction, a meta-analysis was performed combining the two studies (Rosenthal 1978; Strube and Miller 1986). The meta-analysis yielded an overall P -value of .004, indicating that the main effect of offers on stability attributions is significant across studies.

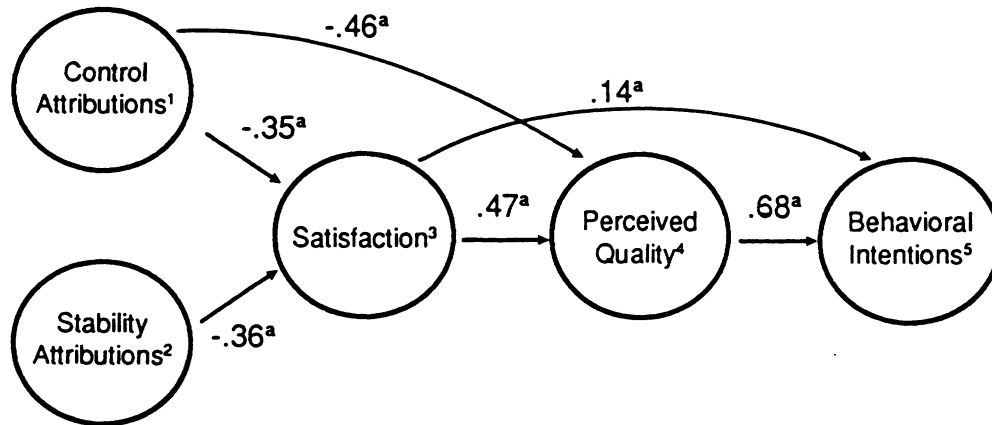
Environment and attributions. H₇ predicts that less control is attributed to the travel agent when service failure occurs in an organized environment than when

FIGURE 4
Fully Recursive Path Analysis

Structural Equation System

		Adj. R ²
Z ₁ : Control Attributions ¹ =	—	
Z ₂ : Stability Attributions ² =	—	
Z ₃ : Satisfaction ³ =	$-.35Z_1^a - .36Z_2^a$.37
Z ₄ : Perceived Quality ⁴ = (Attitude)	$-.46Z_1^a - .03Z_2^a + .47Z_3^a$.69
Z ₅ : Behavior Intentions ⁵ =	$-.04Z_1 - .08Z_2 + .14Z_3^a + .68Z_4^a$.75

Significant Paths



^a $p \leq .05$

¹ sum of two measures; $r = .86$

² sum of two measures; $r = .52$

³ one item measure

⁴ sum of seven items; $\alpha = .92$

⁵ sum of four items; $\alpha = .91$

TABLE 1
ANOVA Decompositions

Source of Variation	Sum of Squares	d.f.	F	P-Value
Dependent Measure: Control Attributions				
Main effects	1555.23	4	66.18	.001
Environment	12.91	1	2.20	.141
Explanation	1548.15	2	131.76	.001
Offer	4.84	1	.82	.366
Two-way interactions	104.07	5	3.54	.005
Env × expl	32.57	2	2.77	.066
Env × offer	5.93	1	1.01	.317
Expl × offer	63.29	2	5.39	.006
Three-way interactions	.46	2	.04	.962
Env × expl × offer	.46	2	.04	.962
Explained	1659.75	11	25.68	.001
Residual	775.47	132		
Total	2435.22	143		
Dependent Measure: Stability Attributions				
Main effects	273.37	4	11.50	.001
Environment	73.76	1	12.42	.001
Explanation	189.44	2	15.94	.001
Offer	18.34	1	3.09	.081
Two-way interactions	11.28	5	.38	.862
Env × expl	3.22	2	.27	.763
Env × offer	5.71	1	.96	.329
Expl × offer	2.70	2	.23	.797
Three-way interactions	7.47	2	.63	.535
Env × expl × offer	7.47	2	.63	.535
Explained	292.12	11	4.47	.001
Residual	790.12	133		
Total	1082.23	144		

TABLE 2
Effects of Explanations, Offers, and Environment on Attributions

Dependent Measures	Manipulated Cues									
	Explanation				Offer			Environment		
	Internal	External	No Explanation	f/p-Value	Offer	No Offer	f/p-Value	Organized	Disorganized	f/p-Value
Control attributions ^a	11.73	3.94	9.42	132/.001	8.25	8.47	.82/.366	8.16	8.55	2.2/.14 ^b
Omega ²				.64			.002			.005
Variance	5.5	4.9	8.8		17.7	16.5		18.8	15.6	
n	48	48	48		72	72		69	75	
Stability attributions ^c	10.40	7.71	8.57	15.9/.001	8.54	9.23	3.09/.08 ^d	8.19	9.55	12.4/.001
Omega ²				.18			.02			.07
Variance	6.4	7.0	5.7		7.0	7.9		7.2	7.0	
n	48	48	49		72	73		70	75	

^aSum of two 7-point scale items; $r = .86$.

^bMeta-analysis shows overall $P = .02$.

^cSum of two 7-point scale items; $r = .52$.

^dMeta-analysis shows overall $P = .004$.

it occurs in a disorganized environment. The main effect of environment on control attributions is not significant ($F = 2.2$; $p = .14$), but results are in the predicted direction. Because the results were in the same predicted direction in a pretest ($F = 4.17$; $p = .07$), the two studies were combined in a meta-analysis. The resulting overall P -value is .02, suggesting

that the environment influenced control attributions as predicted across studies. Results show a statistically significant effect of environment on stability attributions ($F = 12.4$; $p = .001$) as predicted by H_8 . Subjects in the organized travel agency condition were less likely to expect the failure to occur again in the future than were subjects in the disorganized agency

condition, as predicted. Summary statistics are reported in Table 2.

Relative effect size. Though several of the observed effect sizes (ω^2 in Table 2) are small, marginal differences in the context of consumer satisfaction can be very important, especially in highly competitive market environments. Furthermore, a meta-analysis of consumer behavior studies found that 62.5% of all significant effects in the consumer experiments reviewed had ω^2 's between .01 and .09 (Peterson, Albaum, and Beltramini 1985). Comparably small effect sizes are the norm in many areas of behavioral research (see Peterson, Albaum, and Beltramini 1985). In the current study, the effect of explanations (.64; .18) is large and overwhelms the other manipulated variables. However, the study was not intended or designed to make comparisons of relative effects of the manipulated variables (Cooper and Richardson 1986).

Discussion

Summary of Results

Of the eight hypotheses, five are upheld (H_1 , H_2 , H_3 , H_4 , H_8), for one a significant two-way interaction is found rather than the hypothesized main effect (H_5), and for two the effects are not statistically significant (H_6 , H_7). When combined with pretest results through meta-analyses, the latter two hypotheses also are upheld. The experimental results suggest that when customers perceive the cause of service failure to be within the control of the firm and likely to occur again, they will be more dissatisfied than when opposite conditions hold (H_1 , H_2). The results further suggest that controllable variables such as employee explanations (H_3 , H_4), offers to compensate (H_5 , H_6), and the appearance of the physical environment (H_7 , H_8) can influence how customers perceive the causes of service failure. These findings confirm the importance of understanding customers' attributions and how they are formed. Such understanding can guide management policies and actions in response to product/service failures.

Managerial Implications

Several managerial implications are suggested by the service encounter evaluation framework and by the results of the experiment. First, the model implies that it is important to manage and control every individual service encounter to enhance overall perceptions of service quality. This relationship, though intuitively appealing, has not been tested empirically.

Another implication is that even when the experience is *not* what the customer expects, there may be an opportunity to turn the encounter into a more satisfying one through understanding the customer's attri-

bution processes. Results of the experiment indicate that attributions do indeed influence level of satisfaction. Further, the results show that providing customers with logical explanations for service failures and compensating them in some way can mitigate dissatisfaction. Other research suggests that such actions may even turn a dissatisfying event into a memorable, satisfying encounter (Bitner, Booms, and Tetreault 1990). The experimental results also show that nonverbal cues such as the firm's physical appearance can influence customer attributions and satisfaction in a service failure context. Hence, attention to the symbolic meaning of nonverbal messages may also be a key to enhancing service encounter evaluations.

The framework and study results reinforce the idea that elements of the expanded marketing mix should be included in strategies for improving service encounter satisfaction. Though many service firm managers recognize the importance of service personnel, other customers, and physical evidence in communicating with and satisfying their customers, there is a surprising lack of customer-driven research to provide a basis for planning strategies related to these elements of the marketing mix. Strategies relating to training, monitoring, and motivating service personnel and to the design and control of consistent physical evidence should be developed on the basis of customer input and recognition of the marketing impact of these elements.

A clear implication of the preceding discussion is the need for coordination among the functional areas within the service firm. Typically, decisions about employees and the design of physical evidence are not made by marketing managers, but rather by human resource managers, operations managers, and design professionals. The overlap of these functions in service firms is noted frequently (Gronroos 1984; Heskett 1987; Langeard et al. 1981). The inclusion of operations and human resource concerns within the services marketing mix as "physical evidence, participants, and process" highlights this functional overlap and implies the need for coordinated decision making.

Implications for Research

The regression and path analysis results support the hypothesized positioning of the attributions construct within the disconfirmation paradigm, confirming the attribution-affect-behavior sequence suggested in previous research (e.g., Folkes, Koletsky, and Graham 1987; Weiner 1980).

Further, in finding that physical surroundings and employee responses can significantly influence important consumer responses, this study reinforces the need to consider these and other situational variables (Belk 1975) in predicting and explaining consumer behaviors. Research in consumer behavior has tended

to focus on the role of core attributes of products/services in determining customer responses. Relatively little empirical work has been done to examine the role of what might be considered peripheral variables, such as the physical surroundings in which the product/service is consumed and the social interactions surrounding the purchase and consumption experience.

Further research clearly is needed for replication to determine the robustness and boundaries of the model and the results. Generalization of the current results is inherently limited by the experimental setting and the role-playing approach. The model and hypotheses should be tested with a variety of methods, settings, and subject populations. In addition, the model presents several relationships that, though conceptually and intuitively appealing, lack empirical substantiation. For example, the model implies a close relationship between service encounter satisfaction and perceived service quality, but empirical research to substantiate this relationship is lacking. Similarly, the relationships between services marketing mix elements and expectations/perceived performance shown in Figure 1 have not been tested empirically.

In-depth research (both substantive and methodological) also is needed on each of the new marketing mix elements. For example, on the topic of physical evidence, what theories can help explain the effects of physical cues on consumer responses? Both the environmental and cognitive psychology literatures may offer explanations (e.g., Mehrabian and Russell 1974). How can one measure in advance the likely impact of changes in physical design? How can the symbolic meaning of various physical cues be assessed? How frequently should physical evidence be upgraded and what are the costs/benefits?

More research is needed as well in the areas of screening, training, and motivating service employees to be *marketers* rather than functionaries. The development and assessment of internal marketing strategies (e.g., Berry 1981) and innovative approaches to screening and hiring (e.g., Schneider and Schechter 1988) are examples of research in this context. Further research on the development of relationship-building marketing strategies also can enhance service encounter satisfaction (e.g., Berry 1983; Crosby and Stephens 1987).

In addition to answers to the specific research questions noted here, further model development may be needed. Clearly the model as presented does not capture, nor is it intended to capture, all of the causes and consequences of service encounter satisfaction. For example, the model suggests that a high level of perceived service quality will lead to service loyalty. Obviously, however, other variables in addition to perceived quality will affect service loyalty. Such variables as time or money constraints, lack of alternatives, switching costs, and habit all may affect service loyalty. Similarly, though the model suggests that level of satisfaction in the service encounter results from a very rational, cognitive sequence, other variables may be influential. Individual personality traits and temporary mood states caused by unrelated events may well temper the level of satisfaction in a particular service encounter. Finally, the model implies a very close relationship between service encounter satisfaction and perceived service quality. Again, though this relationship is likely, many additional factors influence perceived service quality, such as service encounter satisfaction with competing services, perceptions of industry quality standards, word-of-mouth communication, and advertising.

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