

Linking Service Climate and Customer Perceptions of Service Quality: Test of a Causal Model

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A set of foundation issues that support employee work and service quality is conceptualized as a necessary but not sufficient cause of a climate for service, which in turn is proposed to be reflected in customer experiences. Climate for service rests on the foundation issues, but in addition it requires policies and practices that focus attention directly on service quality. Data were collected at multiple points in time from employees and customers of 134 branches of a bank and analyzed via structural equation modeling. Results indicated that the model in which the foundation issues yielded a climate for service, and climate for service in turn led to customer perceptions of service quality, fit the data well. However, subsequent cross-lagged analyses revealed the presence of a reciprocal effect for climate and customer perceptions. Implications of these results for theory and research are offered.

For many businesses, the current environment is one of increased international competition, slower growth rates, and mature markets (Fornell, 1992; Storbacka, Strandvik, & Grönroos, 1994). To retain customers and stay competitive, many organizations are making customer perceptions of service quality a priority (Berry, 1995; Zeithaml & Bitner, 1996).

The interest in customer perceptions of service quality rests on the premise that a customer who holds positive perceptions of an organization's service quality is likely to remain a customer of that organization. Further, such customer retention yields numerous benefits. For example, current customers are a potential base for cross selling and are also a valuable source of new ideas for business strategies (Congram, 1991; Juttner & Wehrh, 1994). Per-

haps more important, however, it is less expensive for an organization to keep a current customer than to gain a new one. The U.S. Office of Consumer Affairs (Peters, 1988, as cited in Rust & Zahorik, 1993) reached the conclusion that it typically costs about five times as much to acquire a new customer than it does to retain a current one, and Christopher, Payne, and Ballantyne (1991) cite a multiplier as high as eight. Thus, the assumption is that it pays for an organization to emphasize service quality. Especially in the marketing literature there is growing support for the view that increased service quality ultimately leads to customer retention and eventually to higher profits for an organization (Deshpandé, Farley, & Webster, 1993; Narver & Slater, 1990; Rust & Zahorik, 1993; Storbacka, Strandvik, & Grönroos, 1994).

What can organizations do to promote the delivery of quality service as the means of retaining customers? That is, what internal structures, processes, goals, and rewards yield those behaviors that encourage customers to perceive the service quality they receive as superior? We believe that organizations must create a climate for service, and in this article we explore both antecedents and consequences of this climate. The general framework guiding our work proposes that those organizations that create the proper set of foundation conditions for employee work have also provided a basis for the development of a service climate. Further actions in the organization that focus directly on service quality yield a service climate. This climate is proposed to focus service employee efforts and competencies on delivering service quality, which in turn yields positive experiences for customers as well as customer perceptions of service quality. The purpose of this

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article is to provide an empirical test of these propositions using longitudinal data and structural equation modeling (SEM) techniques.

The present effort extends prior research on the relationship between service climate and customer perceptions of service quality (e.g., Schneider & Bowen, 1985) in three ways. First, whereas previous works have examined the relationships among customer perceptions of service quality, service climate, and more general human resource (HR) issues (e.g., training and resource availability), these prior efforts have considered HR practices and service climate independently. We, however, model the relationships between these two constructs. Second, the use of SEM is a departure from much of the prior work on service quality, which has generally presented simple bivariate correlations. Finally, we use both employee and customer data from multiple points in time, allowing us to model a long-term relationship between service climate and customer perceptions of service quality—in contrast to prior studies of only concurrent relationships. We now turn to a discussion of the variables in the model and their interrelationships.

Organizational Variables

What Is Climate?

Climate has been defined as the shared perceptions of employees concerning the practices, procedures, and kinds of behaviors that get rewarded and supported in a particular setting (Schneider, 1990, p. 384). Because multiple climates often exist simultaneously within a single organization, climate is best regarded as a specific construct having a referent—a climate must be a climate for something (e.g., service, support, innovation, safety; Schneider, Gunnarson, & Niles-Jolly, 1994).

A Climate for Service

Climate for service refers to employee perceptions of the practices, procedures, and behaviors that get rewarded, supported, and expected with regard to customer service and customer service quality. For example, to the extent that employees perceive that they are rewarded for delivering quality service, their organization's service climate will be stronger. Additionally, perceptions that customer service is important to management will also contribute to a strong service climate.

Foundation Issues

Foundation issues refer to contextual factors that sustain work behavior. We propose that a climate for service rests on a foundation of fundamental support in the way of resources, training, managerial practices, and the assis-

tance required to perform effectively. We propose two categories of foundation issues: (a) the quality of internal service existing in an organization (Grönroos, 1990; Reynoso & Moores, 1995), and (b) general facilitative conditions. The former category reflects the quality of the service received internally from other departments within the organization. The latter includes efforts toward removing obstacles to work (Burke, Rapinski, Dunlap, & Davison, 1996; Schoorman & Schneider, 1988), supervisory behaviors (e.g., giving feedback and sharing information; Schneider & Bowen, 1985), and HR policies (Schneider & Bowen, 1993).

Link Between the Foundation Issues and Climate for Service

The model presented in this article proposes that the foundation issues constitute a necessary but not sufficient cause of a climate for service. First, for service excellence to be delivered to end-user customers, service deliverers must receive the support of those who serve *them* (Reynoso & Moores, 1995; Schneider & Bowen, 1995). Second, we reasoned that a climate for service can be built in only an organization where, for example, the training programs provide people with the competencies required to perform their work (Schneider & Bowen, 1993).

This view of a climate for service as a figure resting on a general background is not entirely new. For example, Burke, Borucki, and Hurley (1992) offered a similar figure-ground conceptualization. They showed that employees' perceptions of their work environment could be modeled in terms of two factors: a concern for employees (similar to our foundation issues) and a concern for customers (conceptualized in the current study as the climate for service). However, these researchers did not propose a causal ordering for the constructs. Schneider and Bowen (1993) did propose a causal ordering to the constructs, arguing that a climate for employee well-being acts as a foundation for a climate for service but did not empirically test such an idea. The present test of a causal relationship between these constructs provides a compelling extension of previous research.

Linking Service Climate and Customer Perceptions of Service Quality

Using cross-sectional data, Schneider and his colleagues (Schneider & Bowen, 1985; Schneider, Parkinson, & Buxton, 1980) examined the relationships between customer perceptions of service quality and employee perceptions of service climate. A key finding of that research was that the way boundary workers (employees with whom customers physically interact in the course of doing business with an organization) perceive their organiza-

tions' service climates are related to the service quality perceived by those organizations' customers (see Schneider & Bowen, 1995, for a review of this research). For example, in two studies of retail banks, those bank branches whose service policies and practices were described in positive terms by boundary employees were the same branches whose service quality was described in positive terms by customers (Schneider et al., 1980; Schneider & Bowen, 1985). Johnson (1996), Wiley (1991), Schmit and Allscheid (1995), and Hartline and Ferrell (1993) showed similar results in linking employee and customer perceptions, and Heskett, Sasser, and Schlesinger (1997) reported several studies relating employee experiences to customer satisfaction.

Whereas these studies have all used concurrent designs, Schneider, Ashworth, Higgs, and Carr (1996) used a longitudinal design over four quarters to examine the relationships between employee experiences and customer experiences (satisfaction, intentions). Causal modeling techniques were not used in their study (because of sample size restrictions), but the results suggested a causal direction running from employee experiences to customer experiences, a commonly held assumption in the service quality literature (Burke et al., 1996; Schneider & Bowen, 1993, 1995). We took this conventional wisdom concerning the direction of causality as a starting point for our first model:

Model 1. General foundation issues serve as a necessary but not sufficient cause of a climate for service, and climate for service in turn causes customer perceptions of service quality.

An alternative to Model 1 is that customer perceptions cause the organization to adopt particular practices and policies. As Bowen (1983) noted, "Typically the customer has been viewed as a relatively passive recipient of the outcomes of organizational behavior. . . . But such a perspective fails to illuminate how customers influence the attitudes and performance of employees" (p. 111). An organization may alter existing practices or invoke new ones in response to signals received from customers. Bitner, Booms, and Mohr (1994) argued that boundary employees are attracted to their positions because of a desire to provide good service (Schneider, 1987) and therefore look to customers for cues to help them improve service quality. Customers face no restrictions in what they can communicate to employees, and they are therefore able to make their views known to the organization (Schneider & Bowen, 1985).

To our knowledge, Ryan, Schmit, and Johnson (1996) provided the only empirical support for this alternative hypothesis that customers influence employees over time. Using SEM to explore causality, they examined 131 branches of a finance company over the 1992–1993 time period. Of particular relevance to the current study is the

relationship between customers' overall satisfaction with their branches and a summary measure of employee attitudes that the authors termed *morale*. Results showed that overall customer satisfaction in 1992 *caused* morale in 1993, but morale in 1992 did not seem to cause overall customer satisfaction in 1993. These findings support the idea that customers have a causal impact on employee attitudes.

Another alternative to Model 1 is that employee–customer relationships are reciprocal. That is, the service climate that employees experience may result in behaviors that elicit positive customer perceptions of service quality, whereas those same employee–climate perceptions may be influenced by customer experiences. In other words, the two unidirectional arguments just outlined may *both* hold, creating a reciprocal relationship in which service climate and customer perceptions of service quality are reciprocally causal.

On the basis of conventional wisdom permeating service quality research (see also Berry, 1995), supplemented by the recent longitudinal research by Schneider et al. (1996), we proposed that service climate causes customer perceptions of service quality. However, on the basis of the Ryan et al. (1996) study reviewed earlier, we did not abandon the possibility that customer experiences might also have an impact on service climate.

Model 2. There are three possible causal directions between service climate and customer perceptions of service quality. Specifically, a causes b, b causes a, or the relationship is reciprocal. Consistent with Model 1, we believe that the first of these relationships will be the strongest in magnitude.

Method

Sample

To test our models, we used survey data collected both from the employees and from customers of 134 branches of a large northeastern bank. All employees and a random sample of customers were asked to participate. Survey responses were collected from 2,134 employees in 1990 and 2,505 employees in 1992. The 1990 survey was mailed through company mails to employees in their branch; the response rate was 64%. The 1992 survey was administered in groups in the branches rather than through the mails; the response rate for 1992 was not available. However, a somewhat similar survey (not analyzed here because the content was too different) was also administered in groups in the branch in 1993 and yielded a 77% response rate.

The sample of customers included 3,100 in 1990; 2,266 in 1992; and 1,900 in 1993. An external market research firm administered the customer survey by telephone to randomly selected customers. The response rates were not available, but previous experience with this mode of customer satisfaction surveys indicates the response rate to be 50% when administered via telephone. Because we conducted our analyses at the unit

(branch) level of analysis, we aggregated these individual responses (both employee and customer) over the 134 bank branches.

Scale Development

The organization modified both the employee and customer surveys over the years covered in this study, with items being added, deleted, and reworded. Previous research by Schneider and Bowen (1985) and Schneider, Wheeler, and Cox (1992) provided the basis for the 1990 employee survey. The 1990 and 1992 employee surveys had sufficient item overlap for analyses purposes. For the customer survey, there was enough consistency across the 1990, 1992, and 1993 survey items to use data from all 3 years.

Scale development procedure. Each of the three main construct classes (foundation issues, climate for service, and customer perceptions of service quality) was represented by a number of scales that assessed either the global construct or one of its specific components. These scales were refined by forming homogeneous item clusters (HICs; Hogan, 1991). The HIC procedure gives the scales a "thematic unity" that facilitates their interpretation (Hogan, 1991, p. 894). In this procedure, each rationally derived scale was individually subjected to a principal components exploratory factor analysis with oblique rotation. We conservatively chose to eliminate items with factor loadings of less than .60; Becker and Bös (1979) recommended a cutoff of at least .50. Thirteen of the 14 scales were shown to be unidimensional, making the type of rotation used in the factor analysis largely irrelevant. We now turn to an examination of the HICs for each construct class to determine if they could be grouped into our a priori higher order factors.

Foundation issues. Our scale development process yielded five scales measuring the foundation issues. Four tapped general conditions that facilitate work: Leadership, Participation, Computer Support, and Training. A confirmatory factor analysis revealed that these scales could be viewed as indicators of a single factor, which we labeled Work Facilitation, $\chi^2(2, N = 138) = 5.07, p = .08$; Comparative Fit Index, CFI, = .99. The remaining scale refers to how well units in a firm serve each other; we

labeled this scale Interdepartment Service (in the services marketing literature, this scale would be called "internal marketing;" George, 1990; Grönroos, 1990; Reynoso & Moores, 1995). Table 1 presents sample items from the Work Facilitation and Interdepartment Service Scales.

Climate for service. One Global Service Climate Scale and three scales assessing facets of service climate are shown in Table 2, with sample items. The first scale, Global Service Climate, provides a summary measure of the organization's climate for service. The remaining three scales represent diverse services practices. The Customer Orientation Scale measures the degree to which an organization emphasizes, in multiple ways, meeting customer needs and expectations for service quality; the Managerial Practices Scale reflects those actions taken by an employee's immediate manager that support and reward the delivery of quality service; and the Customer Feedback scale assesses the solicitation and use of feedback from customers regarding service quality. It is important to note that these constructs are the facets of the work environment that connote service. In our conceptualization, existence of the foundation issues (reviewed previously) permits these service-oriented practices and procedures to occur. It is also important to note that, although the Global Service Climate Scale addresses many of the same issues as the three service practices scales, it is not a composite of the three scales—it is its own distinct scale designed to tap the "molar" aspect of service climate. Subsequent analyses show the contribution of each of the three service climate facet scales to the Global Service Climate Scale; in tests of Models 1 and 2, the Global Service Climate Scale was used.

Readers will note that the items shown in Tables 1 and 2 present the response set of "your business" rather than "your branch." This is because the survey was used not only in branches but in other segments of the bank. In the directions for completing the survey, respondents were told how to interpret "your business." They were told that "your business is the area defined by the products and services it offers, and the customers it deals with." Although theoretically these directions might appear somewhat ambiguous, they yielded acceptable levels of within-branch agreement in the present study (to be re-

Table 1
Foundation Issues Scales

Scale	Average α		Total no. items	Sample items
	1990	1992		
Work Facilitation ^a	.90	.79	15	<ul style="list-style-type: none"> • My manager is responsive to my requests for help or guidance. • We have the manuals and resource materials we need for the computer systems we work with. • Employees have, or have access to, the product and policy information they need to do their work in my business. • People in my business are adequately trained to handle the introduction of new products and services.
Interdepartment Service	.97	—	10	<p>Respondents were directed to report on the area in which they most depended:</p> <ul style="list-style-type: none"> • How would you rate the job knowledge of the staff in this area? • How would you rate the overall quality of service provided to you by this area? • The staff in this area is very cooperative.

^a Four subscales.

Table 2
Climate for Service Scales

Scale	Average α		Total no. items	Items and sample items
	1990	1992		
Global Service Climate	.91	.88	7	<ul style="list-style-type: none"> • How would you rate the job knowledge and skills of employees in your business to deliver superior quality work and service? • How would you rate efforts to measure and track the quality of the work and service in your business? • How would you rate the recognition and rewards employees receive for the delivery of superior work and service? • How would you rate the overall quality of service provided by your business? • How would you rate the leadership shown by management in your business in supporting the service quality effort? • How would you rate the effectiveness of our communications efforts to both employees and customers? • How would you rate the tools, technology, and other resources provided to employees to support the delivery of superior quality work and service?
Customer Orientation	.90	.89	8	<ul style="list-style-type: none"> • My business does a good job keeping customers informed of changes which affect them. • Top management in my business has a plan to improve the quality of our work and service.
Managerial Practices	.91	.86	4	<ul style="list-style-type: none"> • My manager is very committed to improving the quality of our area's work and service. • My manager recognizes and appreciates high quality work and service.
Customer Feedback	.90	.82	3	<ul style="list-style-type: none"> • My business asks our external customers to evaluate the quality of work and service. • We are informed about external customer evaluations of the quality of service delivered by my business.

ported later). It is important to note that previous studies have used similar directions (in that employees in a branch were asked to describe "the bank" not "the branch") and also found acceptable levels of internal agreement (Schneider & Bowen, 1985; Schneider et al., 1980). In addition, focus groups we have run in piloting surveys suggest that employees respond with regard to what they know best; in the present case we suspect it is their branch. Research on the impact of the frame of reference for item wording could shed light on whether there is an effect of "business" or "bank" versus "branch," but to our knowledge such research does not yet exist.

Customer perceptions of service quality. Seven customer perception scales emerged from our scale construction procedure reviewed above: Overall Customer Perceptions of Service Quality (Overall Customer Perceptions), Efficiency, Security, Competency, Tellers, Responsiveness, and Relationships. Because a confirmatory factor analysis indicated that the last three scales could be considered as indicators of a single factor, $\chi^2(2, N = 179) = 10.23, p = .01$; CFI = .96, we combined them into one scale named Relationships. (Although the chi-square value is significant, the ratio of the chi-square value to its degrees of freedom met the recommended criterion of being approximately five (Jöreskog, 1969); furthermore, every item had a significant factor loading on the factor.) Sample items of the five final customer scales are presented in Table 3. As with the Global Service Climate Scale, note that the Overall Customer Perceptions Scale is not a composite measure of the other scales but instead is an independent scale, and it is the scale that was used in the analyses to test Models 1 and 2.

The Relationships Scale that emerged in the present study converges with significant developments in the services market-

ing literature (e.g., Christopher et al., 1991). In services marketing, the issue of building and maintaining relationships with customers has become a central component in understanding how service quality yields customer retention (Berry, 1995). In brief, a key issue for future research may well be the conceptualization and assessment of relationships between an organization's practices and the depth of the relationship (defined as commitment or loyalty) that customers feel toward that service organization (Schneider, White, & Paul, 1997; White & Schneider, 1997).

The other scales regarding customer perceptions (Efficiency, Security, and Competency) have analogs in numerous studies of service quality. For example, extensive research by Zeithaml, Parasuraman, and Berry (1990) on service quality reveals similar dimensions of customer perceptions, as does the work of Schneider et al. (1997). The overlap with past conceptualizations of the dimensions of service quality is not perfect. For example, we do not have a scale parallel to the "tangibles" dimension found in Parasuraman, Zeithaml, and Berry's (1988) SERVQUAL measure. However, the dimensions of customer perceptions examined in the current article appear to represent largely the same construct domains as those existing in the services marketing literature.

Data Aggregation

The variables of interest in this study are conceptualized at the organizational level of analysis, requiring aggregation of data collected from individuals. Conceptual aggregation, however, is best accompanied by statistical justification (Klein, Dansereau, & Hall, 1994).

Table 3
Customer Perceptions of Service Quality Scales

Scale	Average α			Total no. items	Sample items
	1990	1992	1993		
Overall Customer Perceptions	.75	.78	.79	3	<ul style="list-style-type: none"> • How would you rate the overall quality of the service provided by the bank? • How would you rate the overall quality of the service provided by the tellers at the bank?
Efficiency	.84	.85	.81	5	Customers were asked to rate the bank on <ul style="list-style-type: none"> • Wait in the teller lines. • Efficiency of the tellers.
Security	.68	.74	.64	4	Customers were asked to rate the bank on <ul style="list-style-type: none"> • The ATM machines on being up and working. • The ATM machines that do not make errors when customers take out cash.
Competency	.86	.84	.87	5	Customers were asked to rate the <ul style="list-style-type: none"> • Knowledge [of the bank personnel] concerning the services offered. • Bank personnel's ability to handle special requests or problems.
Relationship ^a	.89	.83	.94	13	Customers were asked to rate the non-teller staff (managers, customer service staff, platform staff) on <ul style="list-style-type: none"> • Willingness to cut through red tape to solve a customer's problem. • Giving you their full attention. • Their friendly, helpful attitude.

^a Three subscales.

Intraclass correlation, ICC(1), and ICC(2) are statistics commonly used to justify aggregation of data to higher levels of analysis (e.g., Bartko, 1976; Shrout & Fleiss, 1979). The ICC(1) compares the variance between units of analysis (bank branches) to the variance within units of analysis using the individual ratings of each respondent. The ICC(2) assesses the relative status of between and within variability using the average ratings of respondents within each unit (Bartko, 1976). Across all variables, the average ICC(1) value for our data was .09, and the average ICC(2) value was .47. Although there are no strict standards of acceptability for either ICC(1) or ICC(2) values, James (1982) reported a median ICC(1) value of .12 in the organizational literature, and Glick (1985) recommended an ICC(2) cutoff of .60. Although our values are slightly below these recommended levels, they are moderate values for these statistics and do not seem low enough to prohibit aggregation.

We also used the $r_{WG(J)}$ statistic (James, 1982; James, Demaree, & Wolf, 1984) as further evidence to justify aggregation of individual level data. The multiple item $r_{WG(J)}$ was computed for each scale by branch. The average $r_{WG(J)}$ across the employee variables was .75 in 1990 and .78 in 1992. Across the customer variables, the average $r_{WG(J)}$ was .82 in 1990; .88 in 1992; and .87 in 1993. These values were greater than the .60 cutoff recommended by James (1982), indicating adequate agreement between employees and customers within bank branches.

In sum, we felt that our aggregation statistics provided sufficient support for aggregation. In addition, we had theoretical justification for aggregating the variables. All of our variables were conceptualized and defined at the organizational level of analysis because bank branches are the unit of analysis for managerial decision making and the unit of analysis for customer perceptions of service quality. The very real and practical fact that managers who make decisions about the branch system and

customers who frequent the branch and its services conceptualize the branch as a unit suggests the usefulness of the branch as the unit of analysis here (George & James, 1993; Schneider & Bowen, 1985).

Results

Descriptive Statistics

Table 4 presents the zero-order intercorrelation matrix for the various employee and customer scales. We chose the 1990–1993 (employee–customer) time lag for these correlations because this was the longest time lag available to us, and we sought to illustrate the long-term relationship between service climate and customer perceptions. The table reveals the following: Of the two foundation issues, only Interdepartment Service is significantly directly related to Overall Customer Perceptions, but both are essentially equivalently related to Global Service Climate. Furthermore, Global Service Climate is directly related to Overall Customer Perceptions, as is one of the three dimensions hypothesized to underlie climate for service (Customer Feedback). All specific facets of customer perceptions thought to underlie Overall Customer Perceptions are strongly related to the overall measure.

Test of the Causal Models

The causal models were run on a slightly reduced sample of 126 bank branches because scatterplots identified eight outliers. These outliers were identified when exami-

Table 4
Zero-Order Correlation Matrix for 1990 Employees Scales With 1993 Customer Scales (N = 134 Bank Branches)

Variable	1	2	3	4	5	6	7	8	9	10	11
1. Customer orientation '90	—										
2. Managerial behavior '90	.50**	—									
3. Customer feedback '90	.61**	.52**	—								
4. Work facilitation '90	.54**	.86**	.48**	—							
5. Interdepartment service '90	.69**	.35**	.52**	.41**	—						
6. Global service climate '90	.74**	.66**	.63**	.70**	.66**	—					
7. Overall customer perception '93	.09	.14	.31**	.07	.21*	.26**	—				
8. Security '93	.00	.11	.16	.04	.19*	.10	.52**	—			
9. Efficiency '93	.02	.16	.30**	.09	.16	.28**	.82**	.40**	—		
10. Competency '93	.05	.12	.26**	.10	.22*	.22*	.79**	.62**	.62**	—	
11. Relationship '93	.11	.18	.31**	.12	.28**	.26**	.86**	.63**	.74**	.89**	—

* $p < .05$. ** $p < .01$.

nation of changes in global service climate ratings from 1990 to 1992 revealed eight branches where the change from 1990 to 1992 exceeded 1.00. Changes this large (the average change was .35) were not explainable, so the eight branches were eliminated from subsequent analyses as recommended in Pedhazur and Schmelkin (1991).

Although the final sample of 126 branches is large for unit level analyses, it is small for analytic purposes using structural equation modeling (EQS; Bentler, 1995) on the causal models. This necessitated restricting the number of variables in the models, leading us to test the two proposed models described earlier using the general construct classes of Global Service Climate and Overall Customer Perceptions of Service Quality, as well as the two major facets of the foundation issues (Work Facilitation and Interdepartment Service). To conduct the causal analyses, we used the EQS 5.2 (Bentler, 1995) structural equation modeling package. The two models were run on the covariance matrices of the variables (the matrices are available on request from Benjamin Schneider).

Figure 1 depicts the foundation issues (Work Facilitation and Interdepartment Service) preceding a climate for service, which in turn precedes customer perceptions of service quality. Instead of running our model on the manifest variables themselves, we considered each manifest variable as a single indicator of a latent factor. The error variances of the manifest variables were set equal to $(\sigma_i^2) \times (1 - \alpha)$, where σ_i^2 is the observed variance of the manifest variable and α is its reliability. (See Tables 1, 2, and 3 for reliability estimates.) The paths from the latent factors to the manifest variables were set equal to $\sigma_i^2 \times \alpha$.

Note that this model reflects how well the 1990 employee data predicted customer perceptions of service quality in 1993. This was the longest time lag that we could test, and, as with the zero-order correlation matrix in Table 4, it reveals the long-lasting effects of service climate on customer perceptions of service quality. (The

results presented here with the 1993 customer perceptions of service quality data are essentially the same as when 1990 or 1992 customer perceptions of service quality data are used—the same paths are significant in all cases.)

The fit indexes for the model depicted in Figure 1 illustrate that this model fits the data quite well, with both CFI and Bentler-Bonnett Normed-Fit Index (BBNFI) indexes close to 1.00 (.98 and .97, respectively). The chi-square statistic is nonsignificant, $\chi^2(2, N = 126) = 5.77, p = .06$, and all of the paths in the model are significant. Furthermore, not only does the proposed model fit the data well, but an alternative

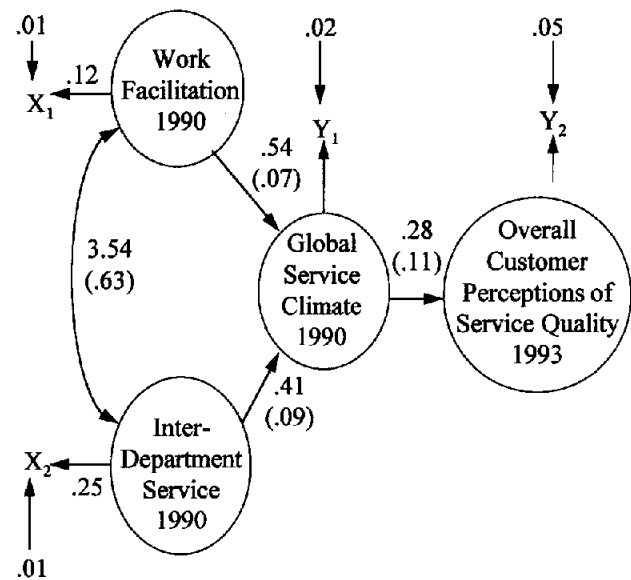


Figure 1. Model linking foundation issues in 1990 to climate for service in 1990 to customer perceptions of service quality in 1993 using structural equation modeling (maximum likelihood estimation). These are unstandardized regression coefficients; only significant ones are presented ($p < .05$). Standard errors are in parentheses.

model can be ruled out. If the causal ordering of the foundation issues and climate for service are reversed, the model fits the data less well, as indicated by a larger chi-square, $\chi^2(2, N = 126) = 9.03, p = .01$. (The model depicting foundation issues and climate for service as exogenous variables has no degrees of freedom with which to assess model fit and is therefore not presented.) In sum, these results suggest preliminary support for the hypothesized causal model.

The facets underlying global service climate. Because only global and higher order factors were used to test the model in Figure 1, we regressed Global Service Climate on the three specific service climate facets to determine how the specific scales contributed to the global one. The results reveal that Global Service Climate was significantly related to each of the three specific facets of service climate: Customer Orientation ($b = .54, p = .00$), Managerial Practices ($b = .30, p = .00$), and Customer Feedback ($b = .10, p = .04$). Thus, the global measure of service climate that predicts customer perceptions of service quality in turn appears to reflect the three service practice dimensions (Customer Orientation, Managerial Practices, and Customer Feedback), with Customer Orientation revealing the strongest relationship.

We interpret these results to mean that Work Facilitation and Interdepartment Service provide a foundation for Global Service Climate and that this foundation for Global Service Climate is enacted into an actual service climate as a function of at least three specific sets of service practices: Customer Orientation, Managerial Practices, and Customer Feedback.

The facets underlying overall customer perceptions of service quality. The contribution of the four specific customer perception scales to the Overall Customer Perceptions Scale was also examined using regression analyses. This regression shows that all four scales significantly contribute to Overall Customer Perceptions: Security ($b = -.07, p = .05$), Relationship ($b = .34, p = .00$), Competency ($b = .40, p = .00$), and Efficiency ($b = .18, p = .00$). The regression coefficients illustrate that the overall measure of customer perceptions of service quality (predicted by service climate in the earlier model) in turn reflects four dimensions of customer service quality perceptions (Security, Competency, Relationships, and Efficiency).

Interestingly, whereas the coefficients for Efficiency, Competency, and Relationships were all positive as expected, Security was negatively related to Overall Customer Perceptions. However, Security was positively related to the other three dimensions—all of the covariances were significantly positive. The inconsistency between Security's positive covariances with the other dimensions and its negative relationship to Overall Customer Perceptions is difficult to explain. But we do not discount the

finding because other work has also found a negative relationship between an indicator of security and customer perceptions of service quality (Schneider et al., 1997).

In sum, the results presented to this point suggest support for the following conclusions: (a) Two issues provide a foundation for the emergence of a climate for service, which is related to overall customer perceptions of service quality; (b) A climate for service reflects three sets of specific service facets, which are Customer Orientation, Managerial Practices, and Customer Feedback; and (c) Overall Customer Perceptions reflect four specific facets of customer experiences, which are Security, Efficiency, Competence, and Relationship.

Exploring the causal direction of the service climate–customer perceptions link. Although the analyses of Model 1 (Figure 1) indicate some support for the employee-to-customer causal direction, more definitive evidence can be provided by a cross-lagged panel analysis (CLPA). Thus, we ran a two-variable, two-wave CLPA using Global Service Climate and Overall Customer Perceptions from 1990 and 1992. Note that the customer data used for this analysis is from 1992 not 1993. This is true because the latest data for employees were for 1992, and the CLPA requires equivalent lags for the analysis. It is also important to note that the data for the four variables were collected from four independent sources: Different employee and different customer samples were used in each of the years of data collection. Thus, values presented in the CLPA are not artificially inflated because of such factors as percept–percept bias.

It is also important to note that Kenny (1979) advocated choosing the time lag to be studied based on conceptual grounds, but, absent such grounds in the present case, we chose the longest time lag possible. Whether two years is the appropriate lag and whether the results revealed here will generalize to other lags are questions that should give readers pause in interpreting all of the relationships shown here, including the lagged analyses. Recall, however, that the model tested in Figure 1 on employee data for 1990 and customer data for 1993 was found to be essentially the same regardless of the time lag analyzed.

The first step in conducting the CLPA was to test a number of assumptions. Importantly, the synchronous correlations were not significantly different from each other ($z = .27, p > .05$), meeting the assumption of stationarity (Kenny, 1979). In addition, the stability coefficients for service climate and customer perceptions of service quality were statistically equivalent ($z = .53, p > .05$). Furthermore, not only were the variances of the 1992 variables homogeneous, $F(123, 123) = 1.03, p = .44$, but pairwise comparisons of the four variances in the model did not yield any significant differences (all p s $< .05$).

CLPAs have been used to examine issues of causality

for some time in the social sciences (e.g., Blalock, 1968), with causality being inferred from differences in the cross-lagged zero-order correlations. However, interpretation of CLPAs can be equivocal when based on zero-order correlations. Thus, most researchers have moved from zero-order correlations to part correlations, partial correlations, or regression coefficients (Cook & Campbell, 1979; Heise, 1969; Shingles, 1985). These alternatives control for or remove the confounding influences of the synchronous and diachronic correlations present in cross-lagged zero-order correlations, permitting more straightforward interpretation and greater confidence in the causal inferences that can be drawn.

To this end, we estimated our CLPA using SEM, providing more refined estimates of the paths as well as a measure of overall model fit. In addition, using SEM allowed us to consider measurement error in our model. As in the first model we tested, single-indicator latent factors were used. Error variances and paths were again fixed according to the reliabilities of the manifest variables. In order to evaluate this model, we relaxed the overidentifying restriction that the error terms of Global Service Climate 1992 and Overall Customer Perceptions 1992 were correlated. This is a standard way of overidentifying such a model (Heise, 1969). The resultant path model is presented in Figure 2.

The fit indexes of the model were high, with a CFI of .93 and a BBNFI of .94, and all but one of the paths in the model were significantly greater than zero ($p < .05$); the fourth path was not significant, but its p value was .06. The chi-square value was significant, $\chi^2(1, N = 126) = 4.26$, $p = .04$, but the ratio of the chi-square to its degrees of freedom was very close to five—the recommended level for accepting a model (Jöreskog, 1969). The relatively high fit indexes and the ratio of chi square to degrees of freedom suggested acceptance of the model as viable, prompting additional consideration.

The model in Figure 2 indicates that the path from Overall Customer Perceptions 1990 to Global Service Climate 1992 was significant, whereas the path from Global Service Climate 1990 to Overall Customer Perceptions 1992 was not. However, when the two diagonal paths were constrained to be equal, there was a minimal change in the fit of the model ($\Delta\chi^2 = .01$, $p = .92$), indicating that the two paths were of equal magnitude. Thus, we can conclude that service climate and customer perceptions of service quality affect each other over time. This result runs counter to our hypothesis that the path from service climate to customer perceptions of service quality would be the larger of the two. Instead, both paths were of the same sign and magnitude. This finding supports a relationship of reciprocal causality between service climate and customer perceptions of service quality.

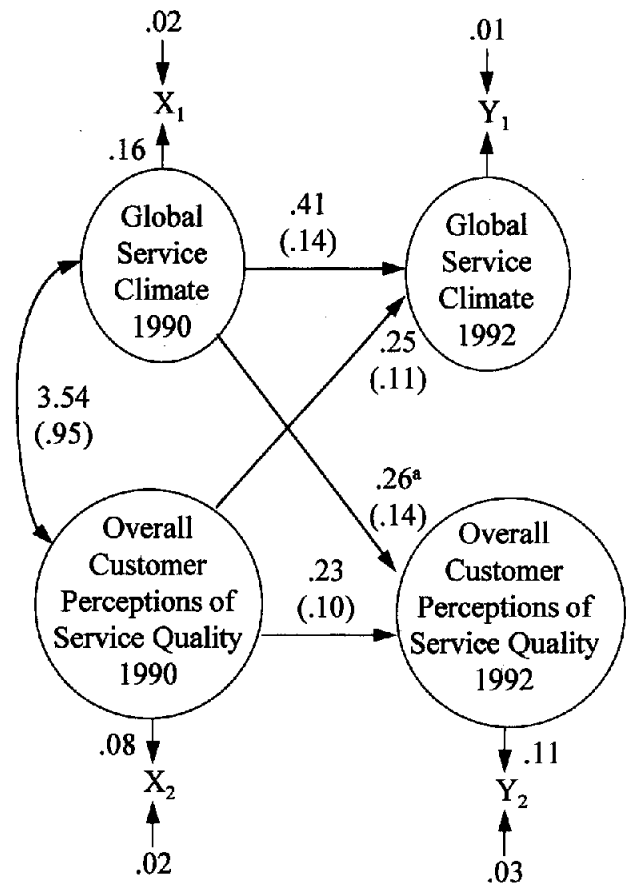


Figure 2. Cross-lagged panel analysis relating global service climate and overall customer perceptions using structural equation modeling (maximum likelihood estimation). These are unstandardized regression coefficients; only significant ones are presented ($p < .05$). Standard errors are in parentheses. ^a $p = .06$.

Discussion

This study supports a number of assumptions commonly made in the services literature concerning relationships between employee perceptions of the way their organization functions and customer perceptions of service quality. First, the presence of foundation issues does seem to provide a basis for a climate for service. Although not a new hypothesis, the current study empirically tests and finds preliminary support for such a relationship. Schneider and Bowen (1993) proposed that when employees' work is facilitated (e.g., via supporting mechanisms such as adequate resources and supportive supervision), they can then devote themselves to meeting the demands of customers. Having to struggle against organizational policies diminishes the ability of employees to satisfy customers and makes it unlikely that a climate in which service quality is seen as a priority will emerge.

In our introduction, we proposed that the foundation issues are necessary but not sufficient for a climate for service to emerge, that service-oriented policies and practices can be built on the foundation issues, and that these policies and practices produce the climate for service. Unfortunately, we were unable to directly test this proposition. Table 4, however, is instructive in this regard. For example, note in Table 4 that Global Service Climate is correlated with the service practices and the foundation issues at about equivalent magnitude (the correlations range from .74 for Customer Orientation to .63 for Customer Feedback), suggesting that foundation issues and the service policies and practices are important for a Global Service Climate. Note also in Table 4 that the foundation issues relate to the service practices in somewhat different ways. For example, Interdepartment Service correlates with Customer Orientation at $r = .69$, and Managerial Behavior ($r = .35$) and Customer Feedback ($r = .52$) have more modest relationships. Conversely, Work Facilitation correlates most strongly with Managerial Behavior ($r = .86$) and more modestly with Customer Orientation ($r = .54$) and Customer Feedback ($r = .48$). It is also of interest to note in Table 4 that Work Facilitation and Interdepartment Service are only modestly inter-correlated ($r = .41$).

Our interpretation of these results is that Global Service Climate is the result of a complex set of systems issues, some emphasizing what we have called foundation issues and others focusing more specifically on service policies and practices. We further infer from these results that Interdepartment Service provides a specific foundation for Customer Orientation and that Work Facilitation specifically provides for service-oriented Managerial Behaviors. Finally, we infer from the data that Work Facilitation and Interdepartment Service are not substitutes for each other; both are required as foundations for service policies and practices, and all are required for a Global Service Climate to exist.

A finding from the present research that does not fit well with most current thinking on service quality and customer experiences concerns the finding regarding the reciprocal relationship between employee and customer perceptions. Numerous articles and books on the relationship between organizational design and customer experiences implicitly assume the internal design \rightarrow customer experience model (e.g., Berry, 1995; Heskett et al., 1997; Schneider & Bowen, 1995). Although finding a reciprocal relationship between customer and employee data is not totally unexpected nor unexplainable, it was clearly not what we hypothesized. As noted earlier, Bowen (1983) and Ryan et al. (1996) recognized the influence customers have on employees, with their research showing that customers can provide a source of direction and perceptions of service quality for boundary workers. In fact, in his

1938 classic work *The Functions of the Executive*, Barnard included customers as part of the organization.

Fortunately, the present data offer some potential insights into how this reciprocal relationship may occur. As a facet of a climate for service the Customer Feedback Scale (shown in Table 2) reflects actions taken by the organization toward keeping customers informed of organizational practices and, in turn, informing employees about customers' evaluations of service quality. These survey items reveal that the process may unfold as follows: (a) data are collected from customers, (b) those data are shared with employees, and (c) based on that information, actions are taken in the form of new service-oriented policies and procedures.

The data reveal that those organizations paying the closest attention to their customers' expectations and needs are the organizations most likely to create conditions yielding a climate for service. That climate for service, in turn, yields behaviors that result in customer perceptions of service quality. As seen in Table 4, the Customer Feedback Employee Scale is one of the strongest correlates of Overall Customer Perceptions and also correlates with all but one of the specific customer scales. The key to positive customer perceptions of service quality, then, may be listening to customers and creating conditions that will meet those customers' expectations and needs, not an unusual conclusion in an era characterized by a focus on customers.

Peters and Waterman (1982) can be thought to have initiated this contemporary customer focus, using the phrase "close to the customer" and words such as "obsession," "intensity," and "care." One of the things that excellent companies do, according to Peters and Waterman, is listen to their customers. The present results indicate that listening to service customers can yield the very climate for service that produces positive customer service quality perceptions, the outcome so well-articulated by Peters and Waterman and those who have followed them (e.g., Christopher et al., 1991). For example, Heskett et al.'s (1997) "cycle of success" shows how the employee cycle of success and the customer cycle of success interact to the long-term benefit of both. Heskett et al. refer to the relationship between employees and customers in service organizations as a "mirror" implying that what happens for both has reciprocal influences like those found here.

In the services marketing literature (e.g., Zeithaml & Bitner, 1996), there is increasing attention being paid to this interactive or reciprocal relationship between the internal and external world of the service organization. In that literature the popular term is "market orientation" (e.g., Narver & Slater, 1990). Operationalization of "market orientation" there has typically been through the assessment of managerial impressions of corporate "market orientation," but the present results suggest that input

from service delivery employees might also prove fruitful. We suspect that much of what we have called "service climate" will map well onto what services marketing researchers are calling "market orientation."

Additional Insights Gained

In addition to the exploration of the primary results just presented, there are several other specific insights this research yields. First, both the current and other similar findings (Schneider et al., 1996; Wiley, 1996) suggest that employee surveys that focus on organizational policies, practices, and procedures appear to be valid, at least when they are aggregated to the unit level. That is, they relate to important organizational outcomes such as customer perceptions of service quality (as shown here) and business organization financial indicators (Denison, 1990). These findings suggest a rethinking of the validity of employee reports of organizational functioning—they may be more than just opinion.

Another interesting finding can be found in the zero-order correlation matrix (see Table 4). Specifically, two variables (Interdepartment Service and Customer Feedback) stand out in terms of their direct relationship to customer perceptions of service quality. These results suggest that when employees report that they work in a setting where their own service delivery efforts are supported by the service of others and where they receive performance feedback from the customers they serve, customer perceptions of service quality will be positive.

This finding indicates that the assistance of others is a key internal operation in the chain of events between internal organizational functioning and customer perceptions of service quality. Research by Weatherly and Tansik (1993) also supports this conclusion. They found that the nature of employees' jobs (in terms of role stress and ambiguity in job design) as articulated by supervisors and management was related to whether those employees avoided demands from customers instead of working hard to meet those demands. If one conceptualizes internal organizational functioning as the foundation for eventual customer perceptions of service quality, as we do here, it appears that internal cooperation in the form of employees helping each other can ultimately lead to employees helping customers (Grönroos, 1990). Taking this conclusion one step further reveals another possible mechanism through which service climate affects customer perceptions—actual interpersonal behaviors used by employees in their interactions with customers. Related research has illuminated how certain employee behaviors (i.e., soliciting information from customers or coordinating interdependent tasks among fellow employees) moderate the relationship between a climate for service and customer perceptions of service quality (Paul, 1996). Perhaps the

kinds of behaviors employees engage in are critical for internal organizational practices to influence customer perceptions.

Implications

A number of practical implications can be derived from these findings. First, management cannot simply make service quality an emphasis and establish a strong climate for service without first laying a foundation for such a climate. It may do no good to create compensation plans that reward employees for delivering excellent service if their working conditions prevent them from doing so.

A second implication comes from our finding of a reciprocal relationship between customer perceptions of service quality and service climate. Not only do organizational practices affect the ways customers perceive the quality of the service they receive, but customer perceptions can affect organizational practices. Organizations that listen to their customers can make adjustments to improve service quality from the customer's viewpoint, hopefully leading to increased customer retention; Heskett et al. (1997) called these employees "listening posts" and noted that management's challenge is to listen. Bowen and Schneider (1988) argued that employees who function at the boundary of organizations can be the eyes and ears of their organizations with respect to customers and the larger environment—if only management would take advantage of the knowledge those workers possess. Furthermore, a management that demonstrates faith in employee reports on organizational functioning sends a strong signal of its intentions to function as a partnership with its employees, a desirable goal in an age of high-performing organizations (Galbraith, Lawler, & Associates, 1993).

But what does *listen* actually mean? How should organizations collect information from their customers, and what sort of information should they attempt to collect? We suggest constructing a matrix, with methods of collecting information defining the columns and types of information collected defining the rows. Some methods could include market research or direct customer surveys or input from service deliverers, each of whom interacts with many customers. The types of information in the matrix could include everything from the tangible features of the environment (what Bitner, 1992, called "service-escapes") to the courtesy and competencies of service deliverers, to pricing, and so forth. It is likely that different sources of information will be more appropriate for different kinds of input, and future research could determine which cells in the matrix are most useful to organizations trying to improve service quality.

Above, we mentioned that organizations that pay attention to what their employees say regarding organizational

functioning are demonstrating good faith and an intention to function as a partnership (Galbraith et al., 1993). The same principle probably holds true for customers. A recent movement in the field of marketing, known as relationship marketing, emphasizes the importance of making customers feel less like "numbers" and more like valued individuals whose needs are recognized and fulfilled by the organization (Brierly, 1994). One way for an organization to accomplish this goal is to seek customer evaluations of the service delivered and actually pay attention to those evaluations and to actively involve customers in the production of their own services (Schneider & Bowen, 1995). Thus, not only can management act as a partner with its employees, but it can play the same role with customers.

Limitations of the Current Study

One limitation of the present study is that we were unable to provide evidence regarding how long it takes for organizational climate to affect customers or for customers to affect organizational climate; our data are insufficient to accomplish this task. Our choice of length of time lag in our cross-lagged design was driven by the nature of our data rather than by theory (Kenny, 1979). Within existing literature, we found little specific guidance in terms of appropriate theoretical time lags. However, our two-year time lag seems consistent with theoretical models of organizational change that maintain it takes 3 to 5 years for organizational changes to show substantial effects (e.g., Nadler & Tushman, 1988). In future attempts to replicate these results, if the data are available, it would be useful to test various time lags in exploring this reciprocal relationship between employees and customers.

We chose a 3-year time lag for Model 1 (see Figure 1) because this was the longest time lag our data allowed us to test. However, as mentioned previously, we found the same paths to be significant when testing the Model 1 (Figure 1) with 1990 data alone, 1990–1992 data, or the model presented here using 1990–1993 data. Perhaps once an organization develops and achieves some consistency in its relationships with customers, reciprocal relationships will persist and the issue of defining how long it takes these effects to emerge becomes moot.

A second limitation of the study concerns the ratio of sample size to hypothesized paths. Sample size put severe constraints on the number of variables that we could include in any one test of the model, forcing us to run separate models to understand the connections between, for example, the facets of climate and Global Service Climate. It is always desirable to have a larger sample size, but in the present case we were limited to the branches available in our data set.

A third limitation concerns the source of employee data.

Employee perceptions of foundation issues and climate for service were collected from the same sample. We recognize that correlations between these two variables potentially could have been inflated as a result of common method variance. Future research might consider using a unique subset of employees to assess each variable.

An implicit message that might emerge from our study is that the climate for service is *the* determinant of customer perceptions of service quality. In not including other alternative causes, we do not intend to represent those constructs as irrelevant or even less relevant than service climate. Marketing scholars know that customer perceptions of service quality are a complex melange of price, convenience, value, and quality of service (Berry, 1995; Oliver, 1997; Zeithaml et al., 1990). Our findings should not be interpreted as implying that service quality is the sole or even the major cause of customer perceptions of service quality. A look at the modest relationships shown in Table 4 between the variables we studied and customer perceptions of service quality is very salutary in this regard, with only one employee variable (Customer Feedback) revealing a correlation above .30.

Summary and Conclusion

The present results lend further credence to the notion that internal organizational functioning targeted on service quality is related to customer perceptions of service quality. This has been suspected for some time (Barnard, 1938) and demonstrated empirically for almost 20 years (Schneider et al., 1980). The current study took previously established concurrent relationships and extended them into a longitudinal mode. This perspective yielded some new insights into the dynamics of the relationships among internal organizational functioning and customer perceptions of service quality. Specifically, the present results reveal a strong reciprocity in this relationship, a finding that had not been anticipated by many (for an exception see Bowen, 1983). Thus, additional research is necessary to explore the reliability of this finding. If reciprocity is reliable, then the relationship between internal and external constituencies of organizations must be viewed in new ways, not as independent actors but as integral units. Furthermore, the notions of boundaries between organizations and the customers they serve must be replaced by, at a minimum, highly permeable boundaries (Schneider & Bowen, 1995).

References

- Barnard, C. (1938). *The functions of the executive*. Cambridge, MA: Harvard University Press.
- Bartko, J. J. (1976). On various intraclass correlation reliability coefficients. *Psychological Bulletin*, 83, 762–765.
- Becker, P., & Bös, K. (1979). The concept of homogeneity: A

- comparison of two ways to select homogeneous item clusters. *International Journal of Sport Psychology*, 10, 101–111.
- Bentler, P. (1995). *EQS structural equations program manual*. Encino, CA: Multivariate Software.
- Berry, L. (1995). Relationship marketing of services—Growing interest, emerging perspectives. *Journal of the Academy of Marketing Science*, 23, 236–245.
- Bitner, M. J. (1992). Servicescapes: The impact of physical surroundings on customers and employees. *Journal of Marketing*, 56, 57–71.
- Bitner, M. J., Booms, B. H., & Mohr, L. A. (1994). Critical service encounters: The employee's viewpoint. *Journal of Marketing*, 58, 95–106.
- Blalock, H. M. (1968). *Causal inferences in non-experimental research*. Chapel Hill, NC: University of North Carolina Press.
- Bowen, D. E. (1983). *Customers as substitutes for leadership in service organizations*. Unpublished doctoral dissertation, Michigan State University.
- Bowen, D. E., & Schneider, B. (1988). Services marketing and management: Implications for organizational behavior. *Research in Organizational Behavior*, 10, 43–80.
- Brierly, H. (1994). The art of relationship management. *Direct Marketing*, 57, 25–26.
- Burke, M., Borucki, C., & Hurley, A. (1992). Reconceptualizing psychological climate in a retail service environment: A multiple stakeholder perspective. *Journal of Applied Psychology*, 77, 717–729.
- Burke, M., Rapinski, M., Dunlap, W., & Davison, H. (1996). Do situational variables act as substantive causes of relationships between individual difference variables? Two large-scale tests of common cause models. *Personnel Psychology*, 49, 573–598.
- Christopher, M., Payne, A., & Ballantyne, D. (1991). *Relationship marketing: Bringing quality, customer service and marketing together*. London: Butterworth-Heinemann.
- Congram, C. (1991). Building relationships that last. In C. Congram (Ed.), *The AMA handbook of marketing for the service industries* (pp. 263–380). New York: AMACOM.
- Cook, T., & Campbell, D. (1979). *Quasi-experimentation: Design and analysis issues for field settings*. Boston, MA: Houghton Mifflin.
- Denison, D. R. (1990). *Corporate culture and organizational effectiveness*. New York: Wiley.
- Deshpandé, R., Farley, J., & Webster, F. (1993). Corporate culture, customer orientation, and innovativeness in Japanese firms: A quadrad analysis. *Journal of Marketing*, 57, 23–27.
- Fornell, C. (1992). A national customer satisfaction barometer: The Swedish experience. *Journal of Marketing*, 56, 6–21.
- Galbraith, J., Lawler, E., & Associates. (1993). *Organizing for the future: The new logic for managing complex organizations*. San Francisco: Jossey-Bass.
- George, J. M., & James, L. R. (1993). Personality, affect, and behavior in groups revisited: Comment on aggregation, levels of analysis, and a recent application of within and between analysis. *Journal of Applied Psychology*, 78, 798–804.
- George, W. R. (1990). Internal marketing and organizational behavior: A partnership in developing customer-conscious employees at every level. *Journal of Business Research*, 20, 63–70.
- Glick, W. H. (1985). Conceptualizing and measuring organizational and psychological climate: Pitfalls in multilevel research. *Academy of Management Review*, 10, 601–616.
- Grönroos, C. (1990). Relationship approach to marketing in service contexts: The marketing and organizational behavior interface. [Special Issue: Services marketing]. *Journal of Business Research*, 20, 3–11.
- Hartline, M., & Ferrell, O. (1993). *Contact employees: Relationships among workplace fairness, job satisfaction, and prosocial service behaviors*. (Issue Brief No. 93–122) Cambridge, MA: Marketing Science Institute.
- Heise, D. (1969). Problems in path analysis and causal inference. In E. Borgatta & G. Bohrnstedt (Eds.), *Sociological methodology 1969* (pp. 38–73). San Francisco: Jossey-Bass.
- Heskett, J. L., Sasser, W. E., Jr., & Schlesinger, L. A. (1997). *The service profit chain*. New York: Free Press.
- Hogan, R. (1991). Personality and personality measurement. In *Handbook of industrial and organizational psychology* (Vol. 2, pp. 873–919). Palo Alto, CA: Consulting Psychologists Press.
- James, L. R. (1982). Aggregation bias in estimates of perceptual agreement. *Journal of Applied Psychology*, 67, 219–229.
- James, L. R., Demaree, R. G., & Wolf, G. (1984). Estimating within-group interrater reliability with and without response bias. *Journal of Applied Psychology*, 69, 85–98.
- Johnson, J. (1996). Linking employee perceptions to customer satisfaction. *Personnel Psychology*, 49, 831–852.
- Jöreskog, K. (1969). A general approach to confirmatory maximum likelihood factor analysis. *Psychometrika*, 34, 183–202.
- Juttner, U., & Wehrh, H. P. (1994). Relationship marketing from a value system perspective. *International Journal of Service Industry Management*, 5, 54–73.
- Kenny, D. (1979). *Correlation and causality*. New York: Wiley.
- Klein, K. J., Dansereau, F., & Hall, R. J. (1994). Levels issues in theory development, data collection, and analysis. *Academy of Management Review*, 19, 195–229.
- Nadler, D. A., & Tushman, M. L. (1988). Organizational frame bending: Principles for managing reorientation. *Academy of Management Executive*, 3, 194–204.
- Narver, J., & Slater, S. (1990). The effect of a market orientation on business profitability. *Journal of Marketing*, 54, 1–18.
- Oliver, R. (1997). *Satisfaction: A behavioral perspective on the consumer*. New York: McGraw-Hill.
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing*, 64, 12–40.
- Paul, M. C. (1996). *Externally-oriented behaviors as the link between the climate for service and service quality*. Unpublished masters thesis, University of Maryland, College Park.
- Pedhazur, E. J., & Schmelkin, L. P. (1991). *Measurement, design, and analysis*. Mahwah, NJ: Erlbaum.
- Peters, T. J., & Waterman, R. H. (1982). *In search of excellence: Lessons from American's best run companies*. New York: Warner Books.
- Reynoso, J., & Moores, B. (1995). Towards the measurement of internal service quality. *International Journal of Service Industry Management*, 6, 64–83.

- Rust, R., & Zahorik, A. (1993). Customer satisfaction, customer retention, and market share. *Journal of Retailing*, 69, 193–215.
- Ryan, A., Schmit, M., & Johnson, R. (1996). Attitudes and effectiveness: Examining relations at an organizational level. *Personnel Psychology*, 49, 853–882.
- Schmit, M. J., & Allscheid, S. P. (1995). Employee attitudes and customer satisfaction: Making theoretical and empirical connections. *Personnel Psychology*, 48, 521–536.
- Schneider, B. (1987). The people make the place. *Personnel Psychology*, 40, 437–453.
- Schneider, B. (1990). The climate for service: An application of the climate construct. In B. Schneider (Ed.), *Organizational climate and culture* (pp. 383–412). San Francisco: Jossey-Bass.
- Schneider, B., Ashworth, S., Higgs, A., & Carr, L. (1996). Design, validity, and use of strategically focused employee attitude surveys. *Personnel Psychology*, 49, 695–705.
- Schneider, B., & Bowen, D. (1985). Employee and customer perceptions of service in banks: Replication and extension. *Journal of Applied Psychology*, 70, 423–433.
- Schneider, B., & Bowen, D. E. (1993). The service organization: Human resources management is crucial. *Organizational Dynamics*, 21, 39–52.
- Schneider, B., & Bowen, D. (1995). *Winning the service game*. Boston: Harvard Business School Press.
- Schneider, B., Gunnarson, S. K., & Niles-Jolly, K. (1994). Creating the climate and culture of success. *Organizational Dynamics*, 23, 17–29.
- Schneider, B., Parkington, J., & Buxton, V. (1980). Employee and customer perceptions of service in banks. *Administrative Science Quarterly*, 25, 252–267.
- Schneider, B., Wheeler, J. K., & Cox, J. F. (1992). A passion for service: Using content analysis to explicate service climate themes. *Journal of Applied Psychology*, 77, 705–716.
- Schneider, B., White, S., & Paul, M. (1997). Relationship marketing: An organizational perspective. In T. A. Swartz, D. E. Bowen, & S. W. Brown (Eds.), *Advances in services marketing and management* (Vol. 6, pp. 1–22). Greenwich, CT: JAI Press.
- Schoorman, F. D., & Schneider, B. (Eds.). (1988). *Facilitating work effectiveness*. Lexington, MA: Lexington Books.
- Shingles, R. (1985). Causal inference in cross-lagged panel analysis. In H. M. Blalock (Ed.), *Causal models in panel and experimental design* (pp. 219–250). New York: Aldine.
- Shrout, P. E., & Fleiss, J. L. (1979). Intraclass correlations: Uses in assessing rater reliability. *Psychological Bulletin*, 86, 420–428.
- Storbacka, J., Strandvik, T., & Grönroos, C. (1994). Managing customer relationships for profit: The dynamics of relationship quality. *International Journal of Service Industry Management*, 5, 21–28.
- Weatherly, K. A., & Tansik, D. A. (1993). Managing multiple demands: A role-theory examination of the behaviors of customer contact service workers. In T. A. Swartz, D. E. Bowen, & S. W. Brown (Eds.), *Advances in services marketing and management* (Vol. 2, pp. 279–300). Greenwich, CT: JAI Press.
- White, S., & Schneider, B. (1997, October). *Climbing the commitment ladder: The influence of service quality on customer commitment*. Paper presented at the Sixth Annual AMA Frontiers in Services Conference, Nashville, TN.
- Wiley, J. W. (1991). Customer satisfaction: A supportive work environment and its financial cost. *Human Resources Planning*, 14, 117–127.
- Wiley, J. W. (1996). Linking survey data to the bottom line. In A. I. Kraut (Ed.), *Organizational surveys: Tools for assessment and change* (pp. 330–359). San Francisco: Jossey-Bass.
- Zeithaml, V., & Bitner, M. (1996). *Services marketing*. New York: McGraw-Hill.
- Zeithaml, V. A., Parasuraman, A., & Berry, L. L. (1990). *Delivering quality service: Balancing customer perceptions and expectations*. New York: Free Press.

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