



Service Attribute Boundary Conditions of the Service Climate-Customer Satisfaction Link

Author(s): David M. Mayer, Mark G. Ehrhart and Benjamin Schneider

Source: *The Academy of Management Journal*, Vol. 52, No. 5 (Oct., 2009), pp. 1034-1050

Published by: Academy of Management

Stable URL: <https://www.jstor.org/stable/40390330>

Accessed: 08-02-2019 14:48 UTC

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at <https://about.jstor.org/terms>



Academy of Management is collaborating with JSTOR to digitize, preserve and extend access to *The Academy of Management Journal*

SERVICE ATTRIBUTE BOUNDARY CONDITIONS OF THE SERVICE CLIMATE–CUSTOMER SATISFACTION LINK

DAVID M. MAYER
University of Michigan

MARK G. EHRHART
San Diego State University

BENJAMIN SCHNEIDER
Valtera Corporation and University of Maryland

We propose service attributes as boundary conditions of the relationship between service climate and customer satisfaction. Drawing on service climate theory and research, the customer contact model of service delivery, typologies of service attributes, and relational coordination theory, we hypothesized that *customer contact frequency*, *service intangibility*, and *service employee interdependence* moderate the positive link between service climate and customer satisfaction so that the relationship is more positive when those three variables are at high levels. Using a sample of 129 supermarket departments, we collected data from three unique sources (service employees, executives, and customers). Analyses revealed support for the hypotheses.

Given that 70 percent of today's economy is service based, scholars and practitioners are particularly interested in understanding how to design organizations that provide excellent service to customers (Schneider & White, 2004). In fact, many aspects of organizational design, such as developing high-performance human resource management systems (see Horwitz and Neville [1996] for a review), seeking ways to increase efficiency (Love-lock & Wirtz, 2004), and improving the physical layout of a store (Bitner, 1992), represent attempts from different disciplines (human resources, operations management, and marketing, respectively) to link internal organizational design features to customer satisfaction. This article highlights the fact that many different aspects of organizational design are important for satisfying customers in this service-based economy. Research on the link between customer satisfaction and bottom-line performance has been rewarding, revealing a significant relationship between customer satisfaction and return on investment (Zeithaml, 2000) and operating profits (Zahorik & Rust, 1992). In addition, in recent longitudinal studies, Anderson, Fornell, and Mazvancheryl (2004) revealed that organization-level customer satisfaction is significantly related to shareholder value, and Gruca and Rego (2005) extended the Anderson et al. findings by showing that the relationship between customer satisfaction and shareholder value occurs as a function of increased future cash flow and a reduction in the variability of cash flow over time.

One aspect of organizational design to which research has given substantial attention in the past two decades is *service climate* (Schneider, Bowen, Ehrhart, & Holcombe, 2000). Service climate is defined as "employees' perceptions of the practices, policies, procedures, and behaviors that get rewarded, supported, and expected" regarding meeting customers' needs effectively (Schneider, White, & Paul, 1998: 151). Empirical research has consistently found a positive relationship between service climate and customer perceptions of service quality and customer satisfaction (Dean, 2004; Johnson, 1996; Salanova, Agut, & Peiro, 2005; Schmitt & Allscheid, 1995; Schneider, Ashworth, Higgs, & Carr, 1996; Schneider & Bowen, 1985; Schneider, Ehrhart, Mayer, Saltz, & Niles-Jolly, 2005; Schneider et al., 1998).

Although there is robust support for the direct positive link between service climate and customer experiences (see Dean [2004] for a review), there is a dearth of research examining boundary conditions of this relationship (see Dietz, Pugh, and Wiley [2005] and Schneider, Salvaggio, and Subirats [2002] for exceptions). A premise of our research is that one should not expect a high level of service climate to be equally effective in all service contexts, and thus it is important to understand when service climate matters most (and least). This issue is important for both conceptual and practical reasons. Conceptually, to gain a complete understanding of the effects of service climate, scholars need to move beyond existing bivariate findings to

examine contingencies of the relationship between service climate and customer satisfaction. Practically, such research is critical because there are contexts in which organizations should allocate resources to developing an infrastructure in which service is valued and other contexts in which such allocations would be a less-fruitful investment.

The purpose of our research was to examine three potential moderators of the relationship between service climate and customer satisfaction: (1) the frequency of *customer contact* with service employees, (2) the *intangibility* of the service, and (3) the amount of *interdependence* among service employees needed for them to deliver high-quality service. We focused on these three variables in particular because they are core attributes of services (Schneider, 2004). We drew on service climate theory (Schneider et al., 2000), the customer contact model of service delivery (Chase, 1978, 1981; Chase & Tansik, 1983), a number of services typologies (Bell, 1981; Bowen & Bowers, 1986; Grönroos, 1990; Patterson & Cicic, 1985), and theory and research on relational coordination (Gittell, 2000, 2002, 2005) to develop theoretically derived hypotheses regarding how customer contact frequency, service intangibility, and service employee interdependence act as boundary conditions of the relationship between service climate and customer satisfaction. Further, we tested our theoretical model using data collected from three unique sources (service employees, executives, and customers) within a sample of 129 supermarket departments. In what follows, we provide a theoretical rationale for customer contact frequency, service intangibility, and service employee interdependence as moderators of the relationship between service climate and customer satisfaction.

BOUNDARY CONDITIONS OF THE RELATIONSHIP OF SERVICE CLIMATE TO CUSTOMER SATISFACTION

Services are generally defined by a few core attributes. For example, Bowen and Schneider (1988) highlighted customer involvement, relative intangibility, and simultaneous production and consumption as core attributes of services. In addition, another fundamental aspect of services is the need for service employees to work together and coordinate activities to deliver high-quality service (Gittell, 2000, 2002, 2005; Schneider, 2004; Skaggs & Huffman, 2003). A number of different models and typologies of services have highlighted these service attributes. For example, Bell's (1981) taxonomy included both service intangibility and degree of customer contact and involvement; Bowen and

Bowers's (1986) classification of services varied on intangibility and customer contact; Patterson and Cicic's (1985) taxonomy included service intangibility and face-to-face contact; and Gittell's (2000, 2002, 2005) work on relational coordination emphasized the role of interdependence among service employees. These various typologies and classifications of services have highlighted that although customer contact, intangibility, and interdependence are defining features of services, not all services are created equal with regard to these attributes. Indeed, services can vary on several continua, ranging from high to low customer contact (Chase & Tansik, 1983; Susskind, Kacmar, & Borchgrevink, 2003), high to low intangibility (Bowen & Ford, 2002; Miller & Foust, 2003; Santos, 2002; Shostack, 1977), and high to low interdependence (Gittell, 2000, 2002, 2005; Schneider, 2004; Schneider et al., 1998).

In this article, we argue that the more a service is truly a pure service—that is, it requires more-frequent customer contact, is more intangible, and requires service employees to work interdependently to deliver increasingly complex services and support the service delivery process (Grönroos, 1990; Schneider et al., 1998)—the more critical service climate is for managing the service encounter. The purer a service, the more a service climate helps to reduce the uncertainty that emerges when the customer is a part of the service context, and thus few objective indicators are available with which the quality of the service can be judged (Bowen & Schneider, 1988). In what follows, we provide a more-formal theoretical rationale for frequency of customer contact, service intangibility, and service employee interdependence as boundary conditions of the relationship between service climate and customer satisfaction.

Customer Contact Frequency

As mentioned previously, a key attribute of services is that the customer is at least present for, and potentially involved in, the production of his or her own service, and thus there is a direct interaction between the service employee and customer. Customer contact has been the target of considerable interest in the services literature (Chase, 1978); it concerns customers' being physically present in a service delivery system and employees' interacting with them. The customer contact model of service delivery developed by Chase and colleagues (Chase, 1978, 1981; Chase & Tansik, 1983) has provided perhaps the most detailed analysis of the role of the contact between service employees and customers in services. According to this model, the

frequency of employees' contact with customers is a major source of inefficiency in organizations because of the variability it introduces into production. Indeed, the presence and/or active involvement of customers in service delivery production and the variety and unpredictability of customer requests and demands increase the heterogeneity of interactions faced by service employees (Bowen & Schneider, 1988).

Such heterogeneity of interactions is likely to increase the uncertainty experienced by service employees and, eventually, by customers. Chase (1981) detailed the difficulty in controlling service systems with a high frequency of customer contact, noting that these systems tend to be less efficient because of the uncertainty that interactions with customers introduce into the service delivery process. Thus, highly frequent customer contact characterizes services, uncertainty increases because standardization of customer demands is not present, and higher levels of service employee attention and coordination are needed to address this variability in customer demands (Skaggs & Huffman, 2003). Bowen and Schneider (1988) similarly argued that when customers participate in a service system, uncertainty is likely to increase, and when customer contact frequency is high, it is more difficult to control and to standardize service processes. Given the uncertainty associated with managing services with highly frequent customer contact, it has been suggested, from an operations management perspective, that organizations should attempt to minimize contact as much as possible (Chase, 1978, 1981; Chase & Tansik, 1983).

Although the reduction of frequency or elimination of customer contact may be possible in some service contexts, other contexts exist further along the continuum of customer contact in which the elimination of contact between service employees and customers is impossible and may in fact be undesirable (Bowen & Schneider, 1988). When customer contact is required and cannot be avoided, it must be managed (Lengnick-Hall, 1996; McGlaughlin, 1996). However, because service consumption can occur almost simultaneously with service delivery (Bowen & Schneider, 1988), it is difficult to manage the service delivery process directly, and therefore it must be managed indirectly through the development and maintenance of a high level of service climate (Schneider & Bowen, 1985). Employees in units with a "high service climate" are surrounded by the resources required to deal with customer variability and have the motivation to do so, with the result that they require less direct supervision yet produce effective delivery of superior service quality. When customer contact fre-

quency is relatively low, the heterogeneity of customer contact that employees experience is reduced, resulting in a subsequent reduction in demands for their attention and, it follows, reduced demands on their organization to provide resources for customer service delivery. In other words, a high service climate may not be required to ensure customer satisfaction.

Dietz et al. (2004) provided some empirical evidence for the potential moderating role of customer contact frequency in the link between service climate and customer satisfaction. They hypothesized and found that the self-reported frequency of customer visits moderated the relationship between service climate and customer satisfaction in a sample of 160 bank branches. More specifically, the relationship was moderate, positive, and significant for branches with a high frequency of visits but weak, positive, and nonsignificant for branches with a low frequency. We replicate and extend their findings in a different setting, using different measurement approaches and data sources and focusing on the degree of contact from the employees' rather than the customers' vantage point.

Hypothesis 1. The frequency of customer contact required for employees to deliver service moderates the relationship between service climate and customer satisfaction in such a way that the relationship is significantly more positive when customer contact frequency is high than when customer contact frequency is low.

Service Intangibility

In addition to customer contact frequency, another key aspect of services is intangibility, or the extent to which a service can be assessed using the basic senses—that is, touched, tasted, and felt (Bowen & Ford, 2002). Services that are *experiences* are high in intangibility. Attending a symphony concert or play is a highly intangible experience because one leaves with only the experience. When purchasing a camera, a customer leaves with the camera, which can be shown, touched, and used by the customer and others. Intangibility in services can be thought of as a continuum (see Shostack's [1977] "intangibility spectrum" for an example), and the extent to which a service is more or less intangible is likely to influence the amount of uncertainty customers experience in attempting to evaluate the service; the play is more difficult to evaluate than the camera. For example, Miller and Faust (2003) noted a positive association between the intangibility of a service and the level of uncertainty and risk perceived by consumers. Horwitz

and Neville (1996) echoed this notion by highlighting that when a market entity is more intangible, its unpredictability rises, and changes in delivery may be necessary to satisfy each customer. Finally, in their review piece, Bowen and Schneider (1988) proposed that the more intangible a service is, the greater is the difficulty and ambiguity customers face when determining the quality of the service exchange.

Grönroos's (1990) theory of the technical and functional quality of services has some implications for when the intangible aspect of services is likely to be most in need of management. Grönroos suggested that services have both a *technical* dimension (what the customer objectively receives from an organization) and a *functional* dimension (the more-subjective experience of the customer during service delivery). The more intangible a service is, the more important the functional dimension becomes, and the more critical it is for service employees to effectively manage the service encounter. If the service is 99 percent goods- or product-based (i.e., tangible), most of the customer perceptions of service quality are going to be based on the quality of the goods, rather than on how the goods were delivered. When the service is more intangible, however, like the symphony concert or the play, the customer's perceptions of quality will be based on the intangible content of what is delivered and the service delivery process or the service atmosphere that service employees to a large extent create.

We argue that service climate is most vital for the functional dimension of service—how service employees deliver the service to the customers. Bowen and Schneider (1988) noted that when a service is more intangible, it is difficult to control what consumers actually experience. Because of this lack of control, it is critical to establish internal control mechanisms to handle the uncertainty. A service climate provides these indirect control mechanisms, and the larger the functional dimension (the more intangible the service), the more a high service climate is necessary. On the other hand, the larger the technical dimension (the less intangible the service), the less service climate will matter. Bebeko (2000) made a similar point by positing that when a service is more intangible, management must make a stronger commitment to service quality by developing a high service climate to ensure customers' experiences are consistent and reliable. This of course links back to the discussion on the nature of services—the more a service is truly a pure service (contains core service attributes), the more important service climate will be.

Hypothesis 2. Service intangibility moderates the relationship between service climate and customer satisfaction in such a way that the relationship is significantly more positive when service intangibility is high than when service intangibility is low.

Service Employee Interdependence

The final attribute of service we considered was service employee interdependence. In an increasingly complex world of service delivery, dyads and even teams must cooperate for competitive advantage in delivering the highest-quality service. Although extensive attention has focused on the topic of the employee-customer relationship, relatively little attention has been focused on the interdependence among customer service employees in the service delivery process (Gittell, 2002). As part of *relational coordination theory*, Gittell (2000, 2002, 2005) argued that three conditions demand higher levels of coordination in a service environment: (1) services are characterized by reciprocal interdependence (e.g., iterative interactions among service providers to deliver high-quality service) rather than sequential interdependence (e.g., handoffs from members of a manufacturing line), (2) service operations occur under high levels of uncertainty, and (3) service delivery is highly time constrained. When these conditions are not met, the need for coordination among service providers diminishes, and the emphasis moves instead to the provider-customer relationship.

The service literature emphasizes the importance of two types of interdependence. Some types of service involve multiple employees working together to deliver the service to customers. For instance, in the healthcare environment, physicians, nurses, physical therapists, social workers, and case managers must work together for patients to receive quality care (Gittell, 2002). All these individuals interact with customers, and they are interdependent during service delivery in such a way that if one of them does not do his or her part, the outcome suffers. Another type of interdependence is that between customer contact employees and other employees who support them but do not necessarily interact directly with customers. Theory and research on internal marketing, which emphasizes the importance of building customer orientation throughout the organization so that customer contact employees are supported in their efforts to provide high-quality service (George & Grönroos, 1989; Rafiq & Ahmed, 2000), highlight this type of interdependence.

In a similar vein, others have discussed the im-

portance of internal service, or the extent to which service providers receive the service and support they require from others internal to an organization (Schneider & Bowen, 1992; Schneider et al., 1998). For example, although ticket agents and flight attendants interact directly with customers, the quality of service they are able to provide is dependent on the work of baggage handlers, ramp agents, operations agents, freight agents, mechanics, cabin cleaners, and caterers (Gittell, 2000). Thus, interdependence among service providers and interdependence between service providers and internal employees are both important for the ultimate service quality delivered to the customer. In our research, we focused specifically on the interdependence of employees working in the same department. We did so to examine the roles of both service employee interdependence and service climate in a department in department-level customer satisfaction.

We contend that a high service climate is more necessary when levels of interdependence are high. When a service depends on more than one person, a breakdown by any of the employees involved negatively impacts service quality. Therefore, it is important that all employees in the chain of service delivery, even those who do not interact directly with customers, understand their roles in the process and recognize the contributions they make to the customers' satisfaction (Reardon & Enis, 1990). As Schneider and Bowen (1992) wrote, management must build a service climate for *all* employees in a unit or organization, not just the service providers. By ensuring that employees are equipped with the resources they need, receive the training they require, and have a commitment to providing high-quality service to customers, management's efforts to build a high service climate should increase the cooperation of interdependent employees and reduce the likelihood of a breakdown among the interdependent employees providing the service, thus increasing the likelihood that customers will be satisfied. As Gittell (2002) noted, when interdependence is high, successful coordination is more likely to occur through the development of established routines, scheduling, planning, and standardization of the service delivery process—all things that a high service climate can help improve. Similarly, because high interdependence creates uncertainty about the roles service employees will assume in serving a customer, service climate helps formalize and standardize the service delivery process so that employees are better able to coordinate their efforts. We expected the relationship between service climate and customer satisfaction to be stronger when service employee in-

terdependence is high, because service climate can help reduce uncertainty regarding how service employees can coordinate efforts to serve customers.

Hypothesis 3. Service employee interdependence moderates the relationship between service climate and customer satisfaction in such a way that the relationship is significantly more positive when service employee interdependence is high than when service employee interdependence is low.

METHODS

Sample and Procedures

We collected data for this study from employees, executives, and customers of a supermarket chain in the northeastern United States. In terms of *employee* data, we distributed 11,250 surveys to employees in 173 stores. Of these, 4,500 usable employee surveys from 1,008 departments were returned to us in prepaid envelopes, giving a response rate of approximately 40 percent. Employees filled out a paper survey, which included a measure of service climate, during working hours and then mailed the survey back to us.

In terms of *executive* data, we e-mailed a short survey to five executives in the organization who had intimate knowledge of the different departments (deli, bakery, meat, and so forth) and asked them to rate each department type by the amount of customer contact frequency, service intangibility, and service employee interdependence. Although the survey rated 18 department types, we had service climate and customer satisfaction data in only 9 department types. Specifically, of the 129 departments, we had data from the bakery ($n = 24$), deli ($n = 20$), floral ($n = 3$), front end ($n = 2$), meat ($n = 24$), pharmacy ($n = 20$), prepared foods ($n = 12$), produce ($n = 16$), and video ($n = 8$) departments. The executives filled out the short survey and then e-mailed or faxed their ratings to the primary investigator during approximately the same time period that employees filled out the survey.

In terms of *customers*, the sponsoring organization provided customer satisfaction data at the department level of analysis for the quarter after we had collected the employee and executive data. The sponsoring organization collected customer satisfaction data using a process whereby it randomly selected customers on site in the various departments to participate and then averaged individual customer ratings for each department. The organization provided us with the data already aggregated to the department level and informed us that the average number of customers per depart-

ment was 115. It should be noted that all three types of data used in the study—service climate, core service attributes (i.e., customer contact frequency, service intangibility, and service employee interdependence), and customer satisfaction—were collected from different sources, thus eliminating any potential effects of response contamination.

The unit of analysis in this research was supermarket departments. For data analysis purposes, we retained only departments consisting of four or more employees that had corresponding department-level customer satisfaction data (Bliese, 1998). This deletion reduced the number of departments in the sample to 129, representing 804 employees for an average of 6.23 employees for each department.

Measures

Service climate. We used the eight-item Global Service Climate measure developed by Schneider et al. (1998) in this research. A sample item is, “How would you rate the recognition and rewards employees receive for the delivery of superior service?” Employees made responses on a rating scale ranging from 1, “poor,” to 5, “excellent.” The coefficient alpha was .94.

Customer contact frequency, service intangibility, and service employee interdependence. Five executives from the sponsoring organization rated each department type on the frequency of customer contact, intangibility of the service, and level of service employee interdependence. Because existing measures of *customer contact frequency* have limitations (see Kellogg and Chase [1995] and Wemmerlov [1990] for critiques), we deemed it important to develop a measure that accurately reflected our conceptualization of customer contact frequency. Further, because the executives rated each department type (a total of 18) on this question, for purposes of time, it was necessary to provide a single item with detailed behavioral descriptors. Finally, we needed our measures to be at the unit level, and prior work has focused on the individual level. The question for customer contact frequency was, “How often do employees in this department interact face-to-face with customers?” The rating scale included the following descriptions: (1) “rarely if ever interact face-to-face with customers,” (2) “at few times they interact face-to-face with customers,” (3) “sometimes they interact face-to-face with customers,” (4) “often they interact face-to-face with customers,” and (5) “continuously they interact face-to-face with customers.” We calculated reliability information with regard to the customer contact frequency rating across the

average interrater reliability ($r = .76$) for the five executives using the Spearman-Brown prophecy formula, yielding an interrater reliability estimate of .94. This formula is most often used in estimating the expected increase in internal consistency reliability when the length of tests is increased, and this is done on the basis of average item intercorrelations (Nunnally & Bernstein, 1994). We applied the formula here using the same logic; in other words, we had five raters, so we estimated the reliability of the summed rating of those five on the basis of the average intercorrelation of the raters.

As with customer contact, there are also difficulties with the measurement of *service intangibility*, prompting Miller and Faust to note that “intangibility is a difficult concept for consumers to understand and that measures of service intangibility need some refinement” (2003: 47). Fortunately, we were assured by the executives that they fully understood our measure and that it did a good job of capturing our conceptualization of service intangibility. Further, although we again needed to use a single-item measure, single-item service intangibility measures are common in this area of research (Bowen, 1990; Murray & Schlater, 1995). Specifically, we asked executives: “How tangible is the service product this department offers to customers? Does what the department offers to customers involve something more tangible (they can hold it in their hands and/or use it and/or show it to others), or does the department offer more of an experience (people feel better, people can tell others about it)?” We asked them to rate all the department types using a rating scale that included the following descriptions: (1) “highly intangible, this department offers much more of an experience than a product to customers,” (2) “somewhat intangible, this department offers more of an experience than a product to customers,” (3) “equal parts tangible and intangible, this department’s offering to customers is equal parts experience and product,” (4) “somewhat tangible, this department offers more of a product than an experience to customers,” and (5) “highly tangible, this department offers much more of a product than an experience to customers.” We calculated reliability information with regard to the service intangibility ratings, again using the Spearman-Brown prophecy formula. The average interrater agreement ($r = .52$) among the five executives yielded an estimated reliability of .84 for the sum of the ratings.

Because the executive survey had limited space, and because we sought to be consistent with the measurement of the other two moderators, we used a single-item measure of *service employee interdependence* developed for this study. Additionally,

prior work on task interdependence generally does not have the customer service focus that our measure does. We assessed service employee interdependence with the following item: "How much do department employees need to work with others and cooperate to get their work done and provide service to customers?" We asked them to rate all the department types using a rating scale that included the following descriptions: (1) "rarely do they ever need to work together," (2) "at few times do they need to work together," (3) "sometimes they need to work together," (4) "often they need to work together," and (5) "they need to continuously work together." We calculated reliability information with regard to the service intangibility ratings again using the Spearman-Brown prophecy formula. The average interrater reliability ($r = .54$) for the five executives yielded an interrater reliability estimate of .86.

Customer satisfaction. Given that a focus of this article is the importance of service employees, we used four items developed by the sponsoring organization to assess customer satisfaction with the people working in the departments. The items were the same in all departments except that the name of the department type was mentioned in the question. We asked customers to rate the employees in a particular department on a 1 ("poor") to 4 ("excellent") scale. The four items were, "How would you rate our [department name] personnel for friendly, courteous service?" "How would you rate our [department name] personnel for prompt, efficient service?" "How would you rate our [department name] personnel for product knowledge?" and "How would you rate our [department name] personnel in terms of being professional and trustworthy?" The alpha was .94.

Control variables. To eliminate potential confounds, we included a number of department-level variables as controls in testing the hypotheses. We controlled for *department size* because size has been linked to the effects of climate in prior research (Colquitt, Noe, & Jackson, 2002). The sponsoring organization provided data on the number of employees in each department. We controlled for *department tenure* because employees who had worked in a department for a long time might have developed relationships with repeat customers, and thus customer satisfaction was likely to be higher (Palmatier, Dant, Grewal, & Evans, 2006). Employees reported their length of service in the department using the following scale: 1, "1 year or less," 2, "more than 1 year but less than 3 years," 3, "3 years or more but less than 5 years," 4, "5 years or more but less than 10 years," and 5, "10 years or more." We controlled for *department full-time/*

part-time status because employees who worked full-time might have had more opportunities to interact with and develop relationships with customers. Employees provided self-report data on status ("part-time" was coded 0 and "full-time" was coded 1), and we calculated an average for each department. We controlled for *department work shift* because employees working on different shifts obviously did not have the same opportunities to interact with customers. Employees rated whether their shift was from 8 A.M. to 4 P.M. (coded 0), between 4 P.M. and 10 P.M. (coded 1), or between 10 P.M. and 8 A.M. (coded 2). We controlled for *average department gender* because the gender composition of a unit might relate to customer service orientation. Employees provided self-report data on gender ("male," 0; "female," 1), and we calculated an average for each department.

Data Aggregation and Independence

We generated service climate values by aggregating employee data to the department level. First, we assessed the degree of employee agreement regarding department service climate by calculating the $r_{wg(j)}$ statistic (George & James, 1993), which assesses interrater agreement. The mean $r_{wg(j)}$ for service climate was .82. Considerable debate exists regarding the adequate cutoff for $r_{wg(j)}$ values (see Lance, Butts, and Michels [2006] for a useful review); these values are greater than the generally accepted .70 value. In addition, we computed intraclass correlations (ICCs) to determine the reliability of service climate (Bliese, 2000). We used the ICC(1) to examine the degree of variability in responses at the individual level that was attributable to being part of a given department and the ICC(2) to examine the reliability of group means. The ICC(1) was .16 ($p < .01$), and the ICC(2) was .70 ($p < .01$). On the basis of prior aggregation results, these values provide adequate support for aggregation (Bliese, 1998; Bliese, Halverson, & Schriesheim, 2002).

In addition to issues of aggregation, we also checked to see if there were any problems with nonindependence in our data. Indeed, the level of analysis in this research—supermarket departments—is nested within both department type and store. To estimate the nonindependence, we calculated ICC(1) values on the global service climate variable for both department type and store. As Bliese (2000) noted, the ICC(1) provides an estimate of the proportion of variance that is due to the grouping variable. James (1982) reported a median ICC(1) value of .12 in a number of organizational research studies. Thus, by calculating ICC(1) values

at the department type and store levels, we hoped to find an indication of the extent to which these higher-order factors were affecting the data. Controlling for the effects of the department level, we found that global service climate had an ICC(1) of .04 for department type and $-.01$ for store. Note that the slightly negative value for store indicates large in-store variance relative to between-store variance. The ICC(1) for department type indicates a relatively small effect, compared both to the department level, which had an ICC(1) of .16, and the median value of .12 provided by James (1982). We concluded that the department level of analysis was appropriate and that nonindependence due to department type or store did not appear to be a major concern.

RESULTS

Descriptive Statistics

Table 1 presents the means, standard deviations, reliability estimates, and correlations among the study variables. A closer look at the descriptive statistics revealed no outliers or major violations of regression assumptions.

Tests of Hypotheses

In keeping with Aiken and West (1991), we centered the independent variables and used them to create the interaction terms required for assessing the impact of the boundary conditions. We tested the hypotheses using hierarchical regression with the control variables in the first step, independent variables in the second step, and the interaction term in the third step for each of the hypotheses.

Hypothesis 1 predicts that customer contact frequency moderates the relationship between service climate and customer satisfaction in such a way that the relationship is significantly more positive when customer contact frequency is high than when it is low. Results supported Hypothesis 1. Specifically, the interaction term in the regression equation representing the relationship between service climate and customer contact frequency was significant ($\beta = .18, p < .05, \Delta R^2 = .03$). Simple slope results indicated that for departments low in customer contact frequency (one s.d. below the mean), service climate was not significantly related to customer satisfaction ($\beta = -.10, p > .05$), but for departments high in customer contact frequency (one s.d. above the mean), service climate was significantly, positively related to customer satisfaction ($\beta = .21, p < .05$). Table 2 provides the regression results for all the hypotheses, and Figure 1 shows a plot of the significant interaction.

Hypothesis 2 predicts that service intangibility moderates the relationship between service climate and customer satisfaction in such a way that the relationship is significantly more positive when service intangibility is high than when it is low. Results yielded support for Hypothesis 2. Specifically, the interaction between service climate and service intangibility was significant ($\beta = .21, p < .05, \Delta R^2 = .04$). Simple slope results indicated that for departments low in service intangibility (one s.d. below the mean), service climate was not significantly related to customer satisfaction ($\beta = -.13, p > .05$), but for departments high in service intangibility (one s.d. above the mean), service climate was significantly, positively related to customer satisfaction

TABLE 1
Means, Standard Deviations, Reliabilities, and Correlations among Study Measures^a

Variables	Mean	s.d.	1	2	3	4	5	6	7	8	9	10
1. Department size	6.23	2.48										
2. Department tenure	3.06	0.84	-.02									
3. Department full-time/ part-time status	0.57	0.34	.05	.45**								
4. Department work shift	1.43	0.32	-.05	-.27**	-.31**							
5. Department gender	0.68	0.28	-.03	.01	-.08	.07						
6. Service climate	3.35	0.53	-.05	-.13	.00	.14	.17	(.91)				
7. Customer contact	4.07	0.58	-.06	-.33**	-.43**	.22*	.42**	.14	(.94)			
8. Service intangibility	2.93	0.35	.26**	-.24**	-.18*	-.01	.12	.14	.45**	(.84)		
9. Service employee interdependence	4.07	0.44	.12	-.16	-.07	-.10	.36**	.11	.55**	.52**		
10. Customer satisfaction	3.55	0.25	.06	-.08	.07	-.11	-.19*	.04	-.26**	-.02	-.16	(.94)

^a $n = 129$ (departments).

* $p < .05$

** $p < .01$

TABLE 2
Results of Hierarchical Regression Analysis for Customer Satisfaction^a

Variables	Moderator: Customer Contact			Moderator: Service Intangibility		Moderator: Service Employee Interdependence	
	Step 1	Step 2	Step 3	Step 2	Step 3	Step 2	Step 3
Department size	.00 (.01)	.00 (.01)	.00 (.01)	-.01 (.01)	.00 (.01)	.01 (.01)	.00 (.01)
Department tenure	-.04 (.03)	-.06 (.03)	-.05 (.03)	.04 (.03)	.04 (.03)	-.05 (.03)	-.05 (.03)
Department full-time/part-time status	.07 (.07)	.00 (.08)	.01 (.08)	-.06 (.08)	-.06 (.07)	.06 (.07)	.05 (.07)
Department work shift	-.09 (.07)	-.08 (.07)	-.10 (.07)	.10 (.07)	.08 (.07)	-.12 (.07)	-.10 (.07)
Department gender	-.15 (.08)	-.07 (.09)	-.07 (.08)	.16 (.08)*	.19 (.08)	-.11 (.09)	-.12 (.08)
Service climate		.04 (.04)	.05 (.04)				
Customer contact frequency		-.12 (.05)*	-.12 (.05)*				
Service climate × customer contact frequency			.15 (.07)*				
Service climate				-.04 (.04)	-.06 (.04)		
Service intangibility				-.04 (.07)	-.01 (.07)		
Service climate × service intangibility					.32 (.14)*		
Service climate						.04 (.04)	.03 (.04)
Service employee interdependence						-.10 (.05)	-.11 (.05)*
Service climate × service employee interdependence							.21 (.09)*
<i>F</i>	1.75	2.36*	2.64*	1.37	1.88	1.82	2.28*
<i>R</i> ²	.07	.12	.15	.07	.11	.10	.13
<i>F</i> for model change	1.75	3.68*	4.20*	0.46	5.13*	1.94	5.04*
ΔR^2	.07	.05	.03	.01	.04	.03	.04

^a *n* = 129 (departments). Values are unstandardized regression coefficients, with standard errors in parentheses.

* *p* < .05

** *p* < .01

($\beta = .29$, *p* < .05). Figure 2 provides a plot of the significant interaction.

Hypothesis 3 predicts that service employee in-

terdependence moderates the relationship between service climate and customer satisfaction in such a way that the relationship is significantly more pos-

FIGURE 1
Effects of Interaction between Service Climate and Customer Contact Frequency on Customer Satisfaction

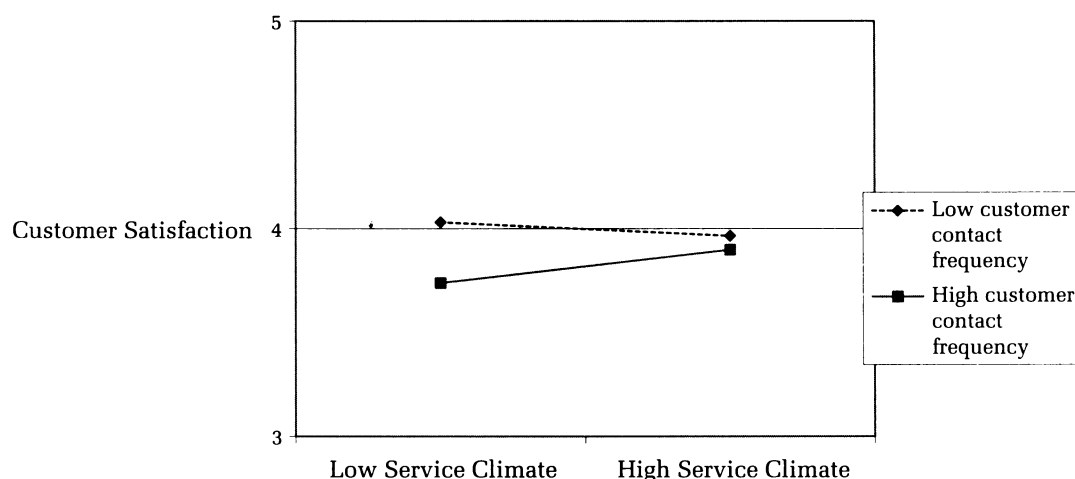
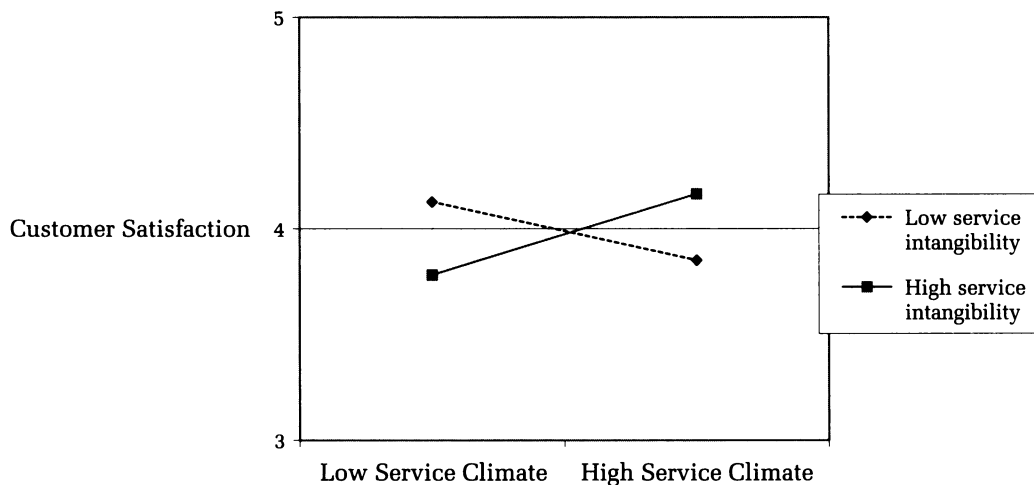


FIGURE 2
Effects of Interaction between Service Climate and Service Intangibility on Customer Satisfaction

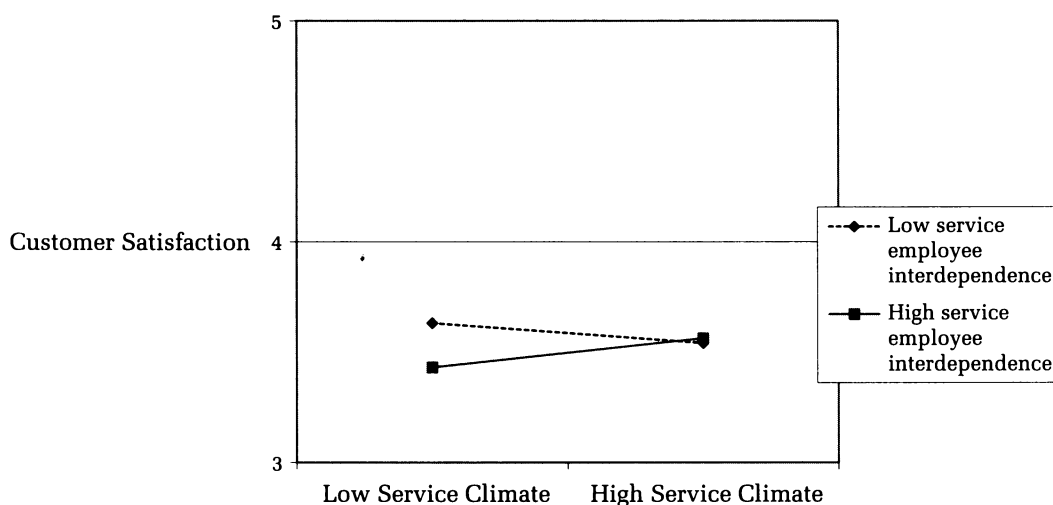


itive when service employee interdependence is high than when it is low. Results yielded support for Hypothesis 3. Specifically, the interaction between service climate and service employee interdependence was significant ($\beta = -.20$, $p < .05$, $\Delta R^2 = .04$). Simple slope results indicated that for departments low in service employee interdependence (one s.d. below the mean), service climate was not significantly related to customer satisfaction ($\beta = -.17$, $p > .05$), but for departments high in service employee interdependence (one s.d. above the mean), service climate was significantly, positively related to customer satisfaction ($\beta = .26$, $p < .05$). Figure 3 provides a plot of the significant interaction.

DISCUSSION

The purpose of this study was to examine service attribute boundary conditions of the service climate–customer satisfaction link. Drawing on service climate theory (Schneider et al., 2000), the customer contact model of service delivery (Chase, 1978, 1981; Chase & Tansik, 1983), a number of services typologies (Bell, 1981; Bowen & Bowers, 1986; Grönroos, 1990; Patterson & Cicic, 1985), and theory and research on relational coordination (Gittell, 2000, 2002, 2005), we found support for *customer contact frequency*, *service intangibility*, and *service employee interdependence* as moderators of the relationship between service climate and cus-

FIGURE 3
Effects of Interaction between Service Climate and Service Employee Interdependence on Customer Satisfaction



tomer satisfaction. Specifically, service climate is significantly, positively related to customer satisfaction when each moderator is high. However, when these moderator variables are low, the relationship between service climate and customer satisfaction is not only significantly weaker, but also nonsignificant. This research builds on and extends extant research that has generally explored and found support for a direct relationship between service climate and customer satisfaction (e.g., Dean, 2004) by highlighting some important contingencies regarding this relationship.

Theoretical Implications

Service climate theory has developed steadily over the past 20 years, and support for a positive link between service climate and customer outcomes such as perceptions of service quality, satisfaction, and loyalty has been clear and robust (Dean, 2004; Schneider et al., 2000). An aim of this research was to take the next step in developing service climate theory by examining boundary conditions of the aforementioned relationships. In identifying potential moderators, we focused on core service attributes, with the notion that the more a service is truly a pure service (involving frequent customer contact, intangibility, and employee interdependence), the more important service climate will be. The results of our research extend service climate theory by identifying three contingencies of the effects of service climate on customers: customer contact frequency, service intangibility, and service employee interdependence.

The findings for customer contact frequency are consistent with the results of past research by Dietz et al. (2004), despite a number of differences between the two studies. Setting, variable measurement, and data source all differ, and further, Dietz et al. assessed frequency of customer visits, whereas we assessed frequency of employee contact with customers. Such consistency in findings across studies speaks to their robustness. These findings suggest that when customer inclusion introduces uncertainty into service delivery, it is important to develop a high level of service climate to standardize and routinize the service delivery process.

Another interesting finding related to customer contact frequency is the significant, negative correlation between customer contact frequency and customer satisfaction (see Table 1): customer satisfaction was higher for departments with low contact frequency. When customer contact frequency is low, it is easier to create a consistent, reliable experience for customers because such experiences

are going to be more homogeneous (Bowen & Schneider, 1988; Chase, 1978, 1981). This finding lends credence to the suggestion by Chase and colleagues (Chase, 1978, 1981; Chase & Tansik, 1983) that organizations—supermarkets, at least—may fare better by limiting contact with customers. In line with the distinction by Gutek, Bhappu, Liao-Troth, and Cherry (1999), perhaps customer contact has a negative influence in a *service encounter* context (a single interaction between a customer and a service provider) but a positive effect when there is a *service relationship* (multiple interactions between a customer and service provider over time). It is important to note that we conducted our work in supermarket departments, which surely cannot provide interactions representative of the full range of customer contact frequency in various organizations and industries. Thus, conclusions based on our work need to be made cautiously so far as the full range of customer contact frequency is concerned (Grant, 2007). Future research should examine the generalizability of our findings.

Another implication of the customer contact findings is that customer contact can influence *customer* attitudes. Much of the research that focuses on customer contact concerns its influence on *employees*. For example, burnout and job design researchers have developed and tested theory to explain how customer contact affects employees' experiences and behaviors. On the one hand, burnout theory and research highlight the potential costs of customer contact in terms of increasing employees' emotional exhaustion, depersonalization, and stress from engaging in emotional labor (Cordes & Dougherty, 1993; Grandey, Fisk, & Steiner, 2005; Maslach, Schaufeli, & Leiter, 2001). On the other hand, job design theory and research highlight the potential benefits of customer contact in terms of increasing employees' motivation and performance (Grant, 2007; Grant et al., 2007). In our research, we extended the work on burnout and job design in at least two major ways. First, we found that customer contact influences not only employee outcomes (as past work has shown), but also customer attitudes. Second, whereas theory and research on burnout and job design tend to examine the direct relationship between contact and employee outcomes, we viewed customer contact as a moderator of the relationship between the organizational context (service climate) and customer satisfaction.

The findings for service intangibility resemble those for customer contact frequency in that service climate and customer satisfaction had a positive relationship when intangibility was high but a nonsignificant relationship when it was low. These

findings are consistent with Grönroos's (1990) theory of the technical and functional quality of services. In fact, our findings suggest that because services tend to be focused more on the *functional* dimension (the more-subjective experience of the customer during the service delivery) as opposed to the *technical* dimension (what the customer objectively receives from the organization), service climate must be of particular importance. Because of uncertainty about how to evaluate service delivery when there is no concrete product, a service climate provides indirect control mechanisms needed to address customer concerns regarding service quality. A high level of service climate helps standardize the service delivery process, which thus becomes more reliable for customers (Bebko, 2000).

The findings for service employee interdependence are consistent with Gittell's (2000, 2002, 2005) relational coordination theory in that they suggest that when service employees must work interdependently, it is important to have organizational structures that help reduce uncertainty and increase coordination. A high service climate can address the need for more coordination because service employees have a clear and consistent message regarding what their unit (or organization) values, and the practices and procedures for delivering high-quality service are clearly articulated. Bowen and Schneider (1988) pointed out that successful coordination is critical when delivering services because of the high level of interdependence among service employees. Because a high service climate includes ensuring that service employees have the needed skills and resources and are rewarded and supported for delivering high-quality service, when service employees must work interdependently and coordinate activities, they will be well equipped and motivated to coordinate activities to serve a customer.

A few additional findings have implications we feel are worth noting. First, customer contact frequency, service intangibility, and service employee interdependence were not correlated with service climate. Therefore, the nature of a service itself does not appear to result in a service climate; here, departments varied from low to high levels of service climate along the continua of customer contact frequency, service intangibility, and service employee interdependence. Our results suggest that the organization studied here may be either overinvesting in creating a high service climate when it is not useful (when customer contact frequency, service intangibility, and service employee interdependence are low) and/or underinvesting when a high service climate would be beneficial. Second, we did not find a significant zero-order correlation

between service climate and customer satisfaction in this sample, despite the fact that past research has repeatedly demonstrated such a relationship (e.g., Schneider et al., 2000). This result may be due to the variability in customer contact frequency, service intangibility, and service employee interdependence among the departments in our sample, whereas the data from the other settings (e.g., bank branches) used in previous research may have varied less on these important contextual variables. In addition, past research has emphasized that service climate must translate into employee service behavior and that the employee behavior is the more proximal predictor of customer satisfaction (Schneider et al., 2005). These observations make the results of the present effort even clearer in their practical implications, the topic to which we turn next.

Practical Managerial Implications

Although already noted, it is certainly worth repeating that an important practical implication of this research is that an organization should be selective when investing resources into developing a high service climate. It is costly in terms of time, money, and resources to successfully develop and maintain a high service climate, so it is important for organizations to allocate such capital judiciously. The results of this research suggest that when a service requires frequent customer contact, is relatively intangible, and requires that service employees work together, the efforts invested in developing a high service climate may well be worth it. However, if customers rarely interact with service employees and the service is what Grönroos (1990) would call "technical," then service climate may have little effect on customers.

Another implication for management is that effectively managing the service context when customer contact is frequent may provide a strategic advantage. Although the initial work on the customer contact frequency model explicitly called for the reduction of customer contact frequency whenever possible, because customers decrease efficiency, subsequent work has highlighted the fact that situations in which customer contact frequency is high present a unique opportunity for service organizations (Kellogg & Chase, 1995; Tansik, 1990). If service employees are able to successfully provide high-quality service to customers heavily involved in the process, they will likely reap the benefits of improved customer satisfaction, loyalty, and ultimately bottom-line outcomes (Heskett, Sasser, & Schlesinger, 1997). In fact, the development of a workforce that values the deliv-

ery of high-quality service to customers *when appropriate* is difficult to imitate precisely because it requires that so many resources be expended to make it happen. At the time we were preparing this article, it became public knowledge, for example, that Netflix had abandoned e-mail contact with its customers in favor of person-to-person telephone contact with live, nonoutsourced customer service representatives (Hafner, 2007). It was an attempt to compete with Blockbuster through the development of higher levels of customer contact. On the basis of what we have shown here, for this change to work, Netflix must also create a high service climate for the new customer service representatives.

A final implication for management is that because services tend to involve interdependence among multiple employees, anything an organization can do to increase coordination and cooperation toward the goal of serving customers is important. When interdependence is high, developing a high-quality service climate will likely prove useful. In addition, increasing standardization of an employee's specific roles related to serving customers, highlighting the importance of the various roles (even the positions less-proximal to the customer), and improving communication among all employees who play roles in serving customers should be worthwhile for service organizations—especially when interdependence is required.

Strengths, Limitations, and Future Directions

Our research has a number of strengths. First, whereas most prior research has focused on the direct relationship between service climate and customer satisfaction, we conceptually and empirically explored three core service attributes as potential boundary conditions of this relationship and found support for all three. Second, we collected data from three different sources (service employees, executives, and customers), so there were no response bias or same source bias concerns. Third, we collected customer satisfaction data in the quarter after we collected the employee and executive survey data, which suggests (but does not definitively show) that the causal relationship goes from service climate to customer satisfaction.

Despite these strengths, like all research, this study has some limitations. One limitation is that although we drew on service climate theory to predict that service climate is particularly important when customer contact frequency, service intangibility, and service employee interdependence are high because a high service climate helps reduce

uncertainty and increase cooperation, we did not actually assess perceptions of uncertainty on the part of employees or customers, or perceptions of cooperation on the part of employees. Future research should assess uncertainty reduction and cooperation as causal mechanisms promoting positive effects of service climate in certain contexts.

In addition, other theoretical mechanisms besides uncertainty could explain the relationships. For example, Schneider's early work (1980) emphasized that because of the physical and psychological closeness between employees and customers, these two groups influence each other and pick up on each other's attitudes. For example, if a customer's trash collector is having a bad day (low customer contact), it likely doesn't affect the customer. If a customer's hair stylist is having a bad day (high customer contact), it affects the customer because the close proximity causes a customer to be influenced by the employee's mood. This example illustrates another factor besides uncertainty that may help explain our findings.

A second limitation is the use of single-item measures of customer contact frequency, service intangibility, and service employee interdependence. Although the measures did provide detailed behavioral descriptors, and there have been consistent problems in the measurement of these variables (Kellogg & Chase, 1995; Miller & Faust, 2003; Wemmerlov, 1990), future research should include psychometrically sound, multi-item measures of these constructs. We tried to compensate for the single-item measures by having multiple raters, so perhaps this is not an issue critical to the findings we report. However, despite the potentially lower reliability of our measures and the low variance on our moderators and dependent variable, the fact that we still found significant interactions speaks to the robustness of the findings. A third limitation is that we were unable to get ratings of customer contact frequency, service intangibility, and service employee interdependence for each of the 129 departments in this study, but instead had five executives make ratings of the different department types and then assigned each department the appropriate rating for its type. This measurement approach was necessary because executives did not have intimate knowledge of every department in their own store, or enough time to assess each one, but they did have intimate knowledge of each of the department types. Despite this conservative approach, we found support for our proposed hypotheses.

Another limitation of this research is that we were unable to assess the reliability of the measure of customer satisfaction, because the sponsoring organization provided these data to us at the unit

level. Although the inclusion of many customer ratings per unit suggests that reliability was sufficient, in future research it will be important to obtain the data at the individual level so that reliability can be assessed.

A final limitation is that we did not test all the interactions in the same regression model. We opted to test the moderators in separate regressions because of issues of multicollinearity and statistical power and the fact that our theory did not directly predict the incremental effect of each interaction while controlling for the other terms. However, given our approach, it would be interesting for future research to treat true or pure service as a higher-order construct indicated or even formed by customer contact, service intangibility, and interdependence. Researchers could then examine whether the dimensions play unique, independent roles in moderating the association between service climate and customer satisfaction or whether the underlying "true service" construct is the active ingredient driving the interactions we found in this study.

In addition to the future research directions already mentioned, there are additional avenues to help further develop service climate theory. One obvious next step is to examine additional moderators of the service climate–customer satisfaction relationship. For instance, it may be that certain industries are more conducive to the development of a service climate or that service climates are more effective in certain market segments (Schneider & Chung, 1996). In addition, it would be interesting to see how these core service attributes are related to climate strength (variance in perceptions of service climate in a unit or organization) or perhaps how they interact with climate strength to influence customer attitudes (Schneider et al., 2002). Alternatively, it would be useful to examine mediators of the service climate–customer satisfaction relationship. Why does service climate evenuate in satisfied customers? Schneider et al. (2005) found that customer-focused organizational citizenship behavior performed by service employees mediated the service climate–customer satisfaction link. In the introduction of this article, we suggested that a service climate may result in a more-standardized experience for customers; perhaps standardization mediates between service climate and customer satisfaction.

Another interesting issue for further inquiry relates to our findings that the slopes for low customer contact frequency, low service intangibility, and low service employee interdependence were all negative, albeit nonsignificant. Although we hesitate to draw strong inferences from nonsignifi-

cant findings, the implications are potentially important pending additional research to see if the findings can be replicated and/or can achieve statistical significance. That is, it is assumed in research and writing on service climate that building a positive service climate always has positive consequences. If, as here, service climate is negatively related to customer satisfaction in units with low core service attributes, then organizations need to more fully understand why this is so. For example, it might be that a positive service climate implicitly demands attention to customers even when the attention is unexpected and unwanted by customers in a basically low contact situation—and the result is dissatisfaction.

Conclusions

Given the prominent role of service in today's economy, it is critical for organizations to develop internal design features that foster the effective management of service employees. The results of our research suggest that a service climate is likely to be most important when the service being delivered is truly a pure service—one requiring high customer contact frequency, having a high degree of service intangibility, and requiring service employees to work interdependently. By successfully developing and nurturing a service climate, particularly when the context is most conducive for the effectiveness of such a climate, organizations should gain a strategic competitive advantage and, ultimately, more-satisfied customers.

REFERENCES

- Aiken, L. S., & West, S. G. 1991. *Multiple regression: Testing and interpreting interactions*. New York: Sage.
- Anderson, E. W., Fornell, C. S., & Mazvancheryl, S. K. 2004. Customer satisfaction and shareholder value. *Journal of Marketing*, 68(6): 172–185.
- Bebko, C. P. 2000. Service intangibility and its impact on consumer expectations of service quality. *Journal of Services Marketing*, 14(1): 9–26.
- Bell, M. L. 1981. A matrix classification of marketing goods and services. In J. H. Donnelly & E. R. Geroge (Eds.), *Marketing of services*: 208–212. Chicago: American Marketing Association.
- Bitner, M. J. 1992. Servicescapes: The impact of physical surroundings on customers and employees. *Journal of Marketing*, 56(April): 57–71.
- Bliese, P. 1998. Group size, ICC values, and group-level correlations: A simulation. *Organizational Research Methods*, 1: 355–373.

- Bliese, P. 2000. Within-group agreement, non-independence, and reliability: Implications for data aggregation and analysis. In K. J. Klein & S. W. J. Kozlowski (Eds.), *Multilevel theory, research and methods in organizations*: 512–556. San Francisco: Jossey-Bass.
- Bliese, P., Halverson, R., & Schriesheim, C. 2002. Benchmarking multilevel methods in leadership: The articles, the model, the dataset. *Leadership Quarterly*, 13: 3–14.
- Bowen, D. E., & Schneider, B. 1988. Services marketing and management: Implications for organizational behavior. In B. M. Staw & L. L. Cummings (Eds.), *Research in organizational behavior*, vol. 10: 43–80. Greenwich, CT: JAI Press.
- Bowen, J. 1990. Development of a taxonomy of services to gain strategic marketing insights. *Journal of the Academy of Marketing Science*, 18: 43–49.
- Bowen, J., & Bowers, M. R. 1986. A marketing contingency approach to service organizational structure. In M. Venkatesan, D. M. Schmalensee, & C. Marshall (Eds.), *Creativity in services marketing: What's new, what works, what's developing*: 78–82. Chicago: American Marketing Association.
- Bowen, J., & Ford, R. C. 2002. Managing service organizations: Does having a “thing” make a difference? *Journal of Management*, 28: 447–469.
- Chase, R. B. 1978. Where does the customer fit in a service operation? *Harvard Business Review*, 56(X): 137–142.
- Chase, R. B. 1981. The customer contact approach to services: Theoretical basis and practical extensions. *Operations Research*, 29: 698–706.
- Chase, R. B., & Tansik, D. A. 1983. The customer contact model of organizational design. *Management Science*, 29: 1037–1050.
- Colquitt, J. A., Noe, R. A., & Jackson, C. L. 2002. Justice in teams: Antecedents and consequences of procedural justice climate. *Personnel Psychology*, 55: 83–109.
- Cordes, C. L., & Dougherty, T. W. 1993. A review and an integration of research on job burnout. *Academy of Management Review*, 18: 621–656.
- Dean, A. M. 2004. Links between organisational and customer variables in service delivery: Evidence, contradictions, and challenges. *International Journal of Service Industry Management*, 15: 332–350.
- Dietz, J., Pugh, S. D., & Wiley, J. W. 2004. Service climate effects on customer attitudes: An examination of boundary conditions. *Academy of Management Journal*, 47: 81–92.
- 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., & Grönroos, C. 1989. Developing customer-conscious employees at every level—Internal marketing. In C. A. Congram & M. L. Friedman (Eds.), *Handbook of service marketing*: 85–100. New York: AMACOM.
- Gittell, J. H. 2000. Organizing work to support relational coordination. *International Journal of Human Resource Management*, 11: 517–539.
- Gittell, J. H. 2002. Relationships between service providers and their impact on customers. *Journal of Service Research*, 4: 299–311.
- Gittell, J. H. 2005. Relational coordination: Coordinating work through relationships of shared knowledge, shared goals, and mutual respect. In O. Kyriakidou & M. Ozbilgin (Eds.), *Relational perspectives on organizational studies*. Northampton, MA: Edward Elgar.
- Grandey, A. A., Fiske, G. M., & Steiner, D. D. 2005. Must “service with a smile” be stressful? The moderating role of personal control for American and French employees. *Journal of Applied Psychology*, 90: 893–904.
- Grant, A. 2007. Relational job design and the motivation to make a prosocial difference. *Academy of Management Review*, 32: 393–417.
- Grant, A., Campbell, E. M., Chen, G., Cottone, K., Lapedis, D., & Lee, K. 2007. Impact and the art of motivation maintenance: The effects of contact with beneficiaries on persistence behavior. *Organizational Behavior and Human Decision Processes*, 103: 53–67.
- Grönroos, C. 1990. Relationship approach to marketing in service contexts: The marketing and organizational behavior interface. *Journal of Business Research*, 20(1): 3–11.
- Gruca, T. S., & Rego, L. L. 2005. Customer satisfaction, cash flow, and shareholder value. *Journal of Marketing*, 69(July): 115–130.
- Gutek, B. A., Bhappu, A. D., Liao-Troth, M. A., & Cherry, B. 1999. Distinguishing between service relationships and encounters. *Journal of Applied Psychology*, 84: 218–233.
- Hafner, K. 2007. Humans regain jobs from mice. *New York Times*, August 16: C1, C11.
- Heskett, J. L., Sasser, W. E., Jr., & Schlesinger, L. 1997. *The service-profit chain*. New York: Free Press.
- Horwitz, F. M., & Neville, M. A. 1996. Organization design for service: A review of the literature. *Human Resource Management*, 35: 471–492.
- James, L. R. 1982. Aggregation bias in estimates of perceptual agreement. *Journal of Applied Psychology*, 67: 218–229.
- Johnson, J., 1996. Linking employee perceptions of service climate to customer satisfaction. *Personnel Psychology*, 49: 831–850.
- Kellogg, D. L., & Chase, R. B. 1995. Constructing an

- empirically derived measure for customer contact. *Management Science*, 41: 1734–1749.
- Lance, C. E., Butts, M. M., & Michels, L. C. 2006. The sources of four commonly reported cutoff criteria: What did they really say? *Organizational Research Methods*, 9: 202–220.
- Lengnick-Hall, C. A. 1996. Customer contributions to quality: A different view of the customer-oriented firm. *Academy of Management Review*, 21: 791–824.
- Lovelock, C., & Wirtz, J. 2004. *Services marketing* (5th ed.). Upper Saddle River, NJ: Prentice-Hall.
- Maslach, C., Schaufeli, W. B., & Leiter, M. P. 2001. Job burnout. In S. T. Fiske, D. L. Schacter, & C. Zahn-Waxler (Eds.), *Annual review of psychology*, vol. 52: 397–422. Palo Alto, CA: Annual Reviews.
- McGlaughlin, C. 1996. Why variation reduction is not everything: A new paradigm for service operations. *International Journal of Service Industry Management*, 7(3): 17–30.
- Miller, D. W., & Faust, J. E. 2003. Classifying services by intangibility/tangibility of attributes and benefits. *Services Marketing Quarterly*, 24(4): 35–55.
- Murray, K. B., & Schlacter, J. L. 1990. The impact of services versus Goodson Consumers' assessment of perceived risk and variability. *Journal of the Academy of Marketing Science*, 18: 51–65.
- Nunnally, J. C., & Bernstein, I. H. 1994. *Psychometric theory* (3rd ed.). New York: McGraw-Hill.
- Palmatier, R. W., Dant, R. P., Grewal, D., & Evans, K. R. 2006. Factors influencing the effectiveness of relationship marketing: A meta-analysis. *Journal of Marketing*, 70(4): 136–153.
- Patterson, P. G., & Cicic, M. 1995. A typology of service firms in international markets: An empirical investigation. *Journal of International Marketing*, 3(4): 57–83.
- Rafiq, M., & Ahmed, P. K. 2000. Advances in the internal marketing concept: Definition, synthesis and extension. *Journal of Services Marketing*, 14: 449–262.
- Reardon, K. K., & Enis, B. 1990. Establishing a company-wide customer orientation through persuasive internal marketing. *Management Communication Quarterly*, 3: 376–387.
- Salanova, M., Agut, S., & Peiro, J. M. 2005. Linking organizational resources and work engagement to employee performance and customer loyalty: The mediation of service climate. *Journal of Applied Psychology*, 90: 1217–1227.
- Santos, J. 2002. From intangibility to tangibility on service quality perceptions: A comparison study between consumers and service providers in four service industries. *Managing Service Quality*, 12: 292–302.
- Schmitt, M. J., & Allscheid, S. P. 1995. Employee attitudes and customer satisfaction: Making theoretical and empirical connections. *Personnel Psychology*, 48: 521–536.
- Schneider, B. 1980. The service organization: Climate is crucial. *Organizational Dynamics*, 9(2): 52–65.
- Schneider, B. 2004. Welcome to the world of services management. *Academy of Management Executive*, 18(2): 144–150.
- 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. E. 1985. Employee and customer perceptions of service in banks: Replication and extension. *Journal of Applied Psychology*, 70: 423–433.
- Schneider, B., & Bowen, D. E. 1992. Personnel/human resources management in the service sector. In K. R. Rowland & G. R. Ferris (Eds.), *Research in personnel and human resources management*, vol. 10: 1–30. Greenwich, CT: JAI Press.
- Schneider, B., Bowen, D. E., Ehrhart, M. G., & Holcombe, K. M. 2000. The climate for service: Evolution of a construct. In N. M. Ashkanasy, C. Wilderom, & M. F. Peterson (Eds.), *Handbook of organizational culture and climate*: 21–36. Newbury Park, CA: Sage.
- Schneider, B., & Chung, B. 1996. Service quality. In C. L. Cooper & D. M. Rousseau (Eds.), *Trends in organizational behavior*, vol. 3: 65–80. Hoboken, NJ: Wiley.
- Schneider, B., Ehrhart, M. G., Mayer, D. M., Saltz, J. L., & Niles-Jolly, K. 2005. Understanding organization-customer links in service settings. *Academy of Management Journal*, 48: 1017–1032.
- Schneider, B., Salvaggio, A. N., & Subirats, M. 2002. Climate strength: A new direction for climate research. *Journal of Applied Psychology*, 87: 220–229.
- Schneider, B., & White, S. S. 2004. *Service quality: Research perspectives*. Thousand Oaks, CA: Sage.
- Schneider, B., White, S. S., & Paul, M. C. 1998. Linking service climate and customer perceptions of service quality: Test of a causal model. *Journal of Applied Psychology*, 83: 150–163.
- Shostack, G. L. 1977. Breaking free from product marketing. *Journal of Marketing*, 42(2): 73–80.
- Skaggs, B. C., & Huffman, T. R. 2003. A customer interaction approach to strategy and production complexity alignment in service firms. *Academy of Management Journal*, 46: 775–786.
- Susskind, A. M., Kacmar, K. M., & Borchgrevink, C. P. 2003. Customer service providers' attitudes relating to customer service and customer satisfaction in the customer-server exchange. *Journal of Applied Psychology*, 88: 179–187.

- Tansik, D. A. 1990. Balance in service systems design. *Journal of Business Research*, 20(2): 55–61.
- Wemmerlov, U. 1990. A taxonomy for service processes and its implications for system design. *International Journal of Service Industry Management*, 1(3): 20–40.
- Zahorik, A. J., & Rust, R. T. 1992. Modeling the impact of service quality on profitability: A review. In T. A. Swartz, D. E. Bowen, S. W. Brown (Eds.), *Advances in services marketing and management*: 247–276. Greenwich, CT: JAI Press.
- Zeithaml, V. A. 2000. Service quality, profitability, and the economic worth of customers: What we know and what we need to learn. *Journal of the Academy of Marketing Science*, 28: 67–68.



David M. Mayer (dmmayer@umich.edu) received his Ph.D. in industrial and organizational psychology from the University of Maryland and is currently an assistant professor in the Department of Management and Organi-

zations in the Ross School of Business at the University of Michigan. His research interests concern social and ethical issues in organizations, and he has focused primarily on behavioral ethics, prosocial behavior, organizational justice, diversity, and customer service.

Mark G. Ehrhart (mehrhart@sunstroke.sdsu.edu) is an associate professor of industrial/organizational psychology at San Diego State University. He received his Ph.D. in industrial/organizational psychology from the University of Maryland. His research interests include service quality, organizational climate/culture, organizational citizenship behavior, and levels of analysis issues in organizational research.

Benjamin Schneider (bschneider@valtera.com) is a senior research fellow with Valtera and a professor emeritus at the University of Maryland, where he chaired the Industrial and Organizational Psychology Program for many years. He received his Ph.D. in industrial and social psychology from the University of Maryland. He has interests in organizational climate and culture, as well as service quality and customer satisfaction.

