

Linking organizational culture and customer satisfaction: Results from two companies in different industries

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This article presents a test of the relationship between organizational culture and customer satisfaction using business-unit data from two different companies. The first study examines 32 regional markets of a residential home-building company and the second study examines 148 automobile dealerships. The Denison Organizational Culture Survey (DOCS) is used to measure organizational culture, while customer satisfaction data were collected from customers themselves by independent third parties. With a few exceptions, the culture measures related significantly to customer satisfaction, explaining

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28% of the variance for the home-building markets and 11–28% of the variance for the auto dealerships.

A number of researchers have shown that a company's culture has a close link to its effectiveness (Denison, 1990; Kotter & Heskett, 1992; Ouchi, 1981). And in today's competitive business environment, customer satisfaction is an increasingly important component of an effective organization (Berry & Parasuraman, 1992; Fornell, Mithas, Morgeson, & Krishnan, 2006). Nonetheless, only a few empirical studies have examined the connection between the characteristics of an organization's work environment and this important aspect of organizational effectiveness (e.g., Conrad, Brown, & Harmon, 1997).

Most of the studies that have examined this impact have focused on the relationship between service-oriented climates and customer satisfaction (Johnson, 1996; Schneider & Bowen, 1995; Schneider, White, & Paul, 1998). These studies, while making a very important contribution, have tended to focus on the impact of a "climate for service" or "service climate" on customer satisfaction. In doing so, they may run the risk of neglecting more general organizational characteristics that can impact a broader range of organizational outcomes.

Thus, the current study presents a test of the impact that four broad characteristics of organizational culture have on customer satisfaction. We test this relationship using samples of business units from two companies in different industries. This focus on broad characteristics holds the promise that efforts to improve customer satisfaction can go hand-in-hand with efforts to improve more general aspects of organizational functioning, and do not have to come at the expense of innovation, efficiency, or bottom-line performance (Benko, 2001; Nunes & Driggs, 2006; Voss & Voss, 2000).

ORGANIZATIONAL CULTURE

The social context in which organizational members operate has been shown to relate to several important outcomes both for employees and the organization as a whole. Some researchers have investigated whether particular dimensions or facets of the social environment relate to the attitudes and behaviour of individual employees (e.g., Pritchard & Karasick, 1973; Schnake, 1983; Schneider & Snyder, 1975; Spector, 1997). Other researchers have related those facets to organizational or group-level outcomes (e.g., Cameron & Freeman, 1991; Denison, 1984, 1990, 2000; Denison & Mishra, 1995; Johnson, 1996; Rogg, Schmidt, Shull, & Schmitt, 2001; Schneider, Bowen, Erhart, & Holcombe, 2000; Schneider et al., 1998). Still other researchers have investigated the "strength" or intensity of the environment as it relates to organizational effectiveness (e.g., Calori & Sarnin, 1991; Gordon & DiTomaso, 1992; Kotter & Heskett, 1992; Sorensen, 2002).

For example, our previous research has shown that a firm's return on investment and return on sales can be predicted by the way in which their work environment is structured, such that companies with (1) a close link between individual and organizational goals, that can be (2) adapted to changing conditions, where (3) decisions are made at the appropriate level, and (4) goals are clear and reasonable, outperform companies that don't fit this description. Also, companies with a participative culture have a greater return on assets and nearly twice as high of a return on investment than those that do not (Denison, 1984, 1990). Turning our focus to individual-level outcomes, participative management also relates to employee's job satisfaction and organizational commitment. Interestingly, job satisfaction is also predicted by an environment characterized by achievement, hierarchy, structure, and extrinsic rewards (Carr, Schmidt, Ford, & DeShon, 2003). Finally, customer satisfaction as an outcome has been predicted by an organization's service orientation (Schneider et al., 1998) and a general organizational climate construct comprised of four factors: cooperation/coordination, customer orientation, employee commitment, and managerial consistency (Rogg et al., 2001).

These various studies tend to be classified by the respective researchers as "climate" or "culture" studies, representing different but overlapping interpretations of the same phenomenon. However, the primary distinction between these two labels is often a simple matter of the epistemological approach that the researchers bring to bear on the issue (Ashkanasy, Wilderom, & Peterson, 2000; Denison, 1996). Climate researchers generally measure individuals' perceptions (or a group's shared perceptions) of these constructs using some sort of standard questionnaire with which they can compare respondents across groups or organizations. Such research typically focuses on relatively narrow-bandwidth characteristics of the environment as they relate to individual and organizational outcomes of a similar breadth. While targeting a specific climate "for something" (Johnson, 1996; Schneider et al., 2000; Schneider & Reichers, 1983) may be a useful approach to affect change in a specific area identified by management as in need of improvement (or assessment), it presupposes a higher-level and broader knowledge of how this specific slice of the organizations' social context fits within the overall objectives of the organization. This also clearly directs resources and attention to one specific area of organizational functioning. Assuming organizations and their members have a relatively fixed pool of resources to draw from, this means a relative decrease in focus from other systems that are also vital to the effectiveness of the organization, such as its strategy and direction, capability to execute efficiently, and employees' engagement and empowerment.

By contrast, scholars and practitioners of organizational culture have taken a slightly different approach—one that first attempts to understand or uncover the key issues faced by the organization. Historically, investigation of an organizations' culture has entailed in-depth qualitative methodologies with sociological or anthropological origins to identify the unique values and beliefs that characterize a group or organization (e.g., Deal & Kennedy, 1982; Ouchi, 1981; Pettigrew, 1979; Wilkins & Ouchi, 1983). A common theme of these efforts has been a focus on the "shared basic assumptions that the group learned as it solved its problems of external adaptation and internal integration" (Schein, 1992, p. 12). In general, questionnaires purported to measure organizational *culture* tend to focus on a broader set of characteristics (e.g., Cameron & Quinn, 1999; Denison & Neale, 2000; Kotter & Heskett, 1992; O'Reilly, Chatman, & Caldwell, 1991) than questionnaires purported to measure organizational *climate* (e.g., Dillard, Wigand, & Boster, 1986; Johnson, 1996; Schneider et al., 1998; Witt & Boerkrem, 1989; Zohar, 2000; cf. Carr et al., 2003; Ostroff, 1993). Comparative organizational culture surveys also tend to focus on the "values-level" of culture (Ashkanasy, Broadfoot, & Falkus, 2000; Denison, 1996, 2000).

The current study builds on the organizational culture framework of Denison and colleagues (Denison, 1990; Denison & Mishra, 1995; Fey & Denison, 2003), which was developed using a combination of qualitative and quantitative investigations of organizational culture. We conceptualize organizational culture along four dimensions that have shown to relate to organizational effectiveness: involvement, consistency, adaptability, and mission. The learned responses to the problems of internal integration are observed by the traits of involvement and consistency. Survival in the external environment is characterized by the adaptability and mission traits. These respective traits describe the extent to which a company is customer focused and strategically oriented.

Taken together, the four traits measure "[t]he underlying values, beliefs, and principles that serve as a foundation for an organization's management system as well as the set of management practices and behaviors that both exemplify and reinforce those basic principles" (Denison, 1990, p. 2). This organizational culture model provides a systems approach to impacting organizational effectiveness (Denison, 2000). By focusing on the system as a whole, companies may be better able to satisfy their customers, but in the process also identify areas in need of improvement with respect to their mission, the interaction among employees, and the systems and structures that encourage efficient operations. In addition, a higher, broader, systems focus is more useful in understanding longer-term trends, whereas more specific and lower level measures may be better for understanding short-term impacts (Denison, 1990).

The *involvement* trait focuses on employees' commitment and sense of ownership, involvement in decisions that affect them, and team orientation. Effective organizations empower their employees, use teamwork, and continuously develop the capacity of their employees (Becker, 1964; Deal & Kennedy, 1982; Denison, 2000; Fey & Denison, 2003; Lawler, 1996; Likert, 1961; Peters & Waterman, 1982).

Consistency refers to the existence of organizational systems and processes that promote real alignment and efficiency over time. It is the focus on a common set of management principles, consensus regarding right and wrong ways to do things, and coordination and integration across the organization. "The fundamental concept is that implicit control systems, based on internalized values, are a more effective means of achieving coordination than external control systems that rely on explicit rules and regulations" (Denison, 1990, p. 9). Organizations are more effective when they are consistent and well-integrated (Saffold, 1988). Effective organizations combine involvement and consistency in a continual cycle such that "[i]nvolvement is used to generate potential ideas and solutions, which are then refined into a more precise set of principles" (Denison, 1990, p. 11).

Adaptability is the organization's capacity for internal change in response to external conditions (Denison & Mishra, 1995). Companies that are highly internally focused and integrated can have difficulty adapting to external market demands (Lawrence & Lorsch, 1967); hence it is important to ensure a capacity for creating change, understanding the customer and meeting their needs, and continuing to learn as an organization (Fey & Denison, 2003; Nadler, 1998).

Finally, *mission* refers to the degree to which an organization is clear on why it exists and where it is headed. Effective organizations pursue a mission containing economic and noneconomic objectives that provide meaning and direction for their employees (Denison & Mishra, 1995). More specifically, these organizations have a clear purpose and direction, goals and objectives, and a vision for the future (Fey & Denison, 2003; Mintzberg, 1987, 1994). Operationally, each of these four traits is comprised of three factors or indexes, as shown in Table 1.

CUSTOMER SATISFACTION

The purpose of this study is to relate the corporate culture model described above to customer satisfaction. Customer satisfaction is a key component of a successful and prosperous organization. It has been linked to higher profit margins and greater employee satisfaction, customer retention, and repeat purchases (Appiah-Adu & Singh, 1999;

TABLE 1
Denison model traits, indexes, and definitions

<i>Trait</i>	<i>Index</i>	<i>Definition</i>
Involvement		Employees are committed to their work, feel a sense of ownership, and have input.
	Capability development	The organization continually invests in the development of employees' skills in order to stay competitive and meet ongoing business needs.
	Team orientation	Value is placed on working cooperatively towards common goals to which all employees feel mutually accountable. The organization relies on team effort to get work done.
	Empowerment	Individuals have the authority, initiative, and ability to manage their own work. This creates a sense of ownership and responsibility towards the organization.
Consistency		The existence of organizational systems and processes that promote alignment and efficiency.
	Coordination/integration	Different functions and units of the organization are able to work together well to achieve common goals. Organizational boundaries do not interfere with getting work done.
	Agreement	The organization is able to reach agreement on critical issues. This includes the underlying level of agreement and the ability to reconcile differences when they occur.
	Core values	Members of the organization share a set of values that create a strong sense of identity and a clear set of expectations.
Adaptability		Organizational capacity to change in response to external conditions.
	Creating change	The organization is able to create adaptive change. The organization is able to read the business environment, quickly react to the current changes, and anticipate future changes.
	Customer focus	The organization understands and reacts to the customer, and anticipates their future needs. It reflects the degree to which the organization is driven by a concern to satisfy the customer.
	Organizational learning	The organization receives, translates, and interprets signals from the environment into opportunities for encouraging innovation, gaining knowledge, and developing capabilities.
Mission		The organization knows why it exists and where it is headed.
	Strategic direction	There is a clear strategy that gives meaning, purpose, and direction.
	Goals and objectives	Leadership has "gone on record" to create agreement about ambitious, but realistic goals that are understood and measured.
	Vision	There is a long-term vision that creates excitement and motivation and is not compromised by short-term thinking.

Berry & Parasuraman, 1992; Conrad et al., 1997; Jones & Sasser, 1995; Schneider & Bowen, 1995). Competitors within similar industries with the same types of technology, pricing strategies, etc., look increasingly to customer satisfaction to create a competitive advantage (Koch-Laabs, 2001). Organizations must consider customer satisfaction as a key leverage point to differentiate themselves from other organizations. In fact, customer loyalty may be a “strategic mandate” in today’s service markets (Ganesh, Arnold, & Reynolds, 2000).

An organization’s social environment—whether it is called “culture” or “climate”—is an important driver of customer satisfaction. For example, organizational climate has been found to mediate the relationship between human resource practices and customer satisfaction, supporting a social context model (Ferris et al., 1998) for predicting customer satisfaction (Rogg et al., 2001). In another study, Conrad et al. (1997) investigated the relationship between executives’ reports of the cultural “type” of their company and how much customer-focused activities they engaged in. Executives who said that their company was best described as a “clan” or an “adhocracy” (vs. a “market” or a “hierarchy”) reported the most customer-focused activities.

The current study extends existing research in several ways. First, we present an empirical test of the relationship between four organizational culture traits (measured by 12 indexes) and customer satisfaction. We extend existing research on this relationship by (a) allowing each culture trait to relate independently to customer satisfaction, and (b) obtaining customer satisfaction ratings from customers themselves. Second, while these methodological issues have been addressed in some facet-specific climate research, we supplement the existing literature by providing relationships between the broader attributes of an effective culture and customer satisfaction. Third, we test these relationships across two different companies in two different industries, yielding some information about the extent to which these relationships may generalize across organizations. And finally, we extend previous research on Denison’s model of organizational culture to include a focus on customer satisfaction.

Hypotheses

We hypothesize that each of the four organizational culture traits will relate to customer satisfaction. The trait of adaptability is related the most obviously to customer satisfaction, as it involves the capacity to respond to changing market demands and even includes “customer focus” as one of its indexes. Together, adaptability and mission represent an external focus, which—via the organization’s mission—include goals

and strategies to meet customer demands. Hence, mission should also relate to customer satisfaction. In theory, the traits of consistency and involvement are more internally focused and at first glance may not seem to relate clearly to customer satisfaction. However, through the focus on building shared values, systems, and an infrastructure (consistency) and maintaining employee functioning and ownership (involvement), the organization is equipped to serve the needs of customers better in the long run. Therefore, we also expect that organizations higher on the traits of consistency and involvement will have greater customer satisfaction.

Hypothesis 1: Business units with higher scores on the trait of involvement will also have more satisfied customers.

Hypothesis 2: Business units with higher scores on the trait of consistency will also have more satisfied customers.

Hypothesis 3: Business units with higher scores on the trait of adaptability will also have more satisfied customers.

Hypothesis 4: Business units with higher scores on the trait of mission will also have more satisfied customers.

While we hypothesize that all four organizational culture traits should relate positively to customer satisfaction, certain of these traits may have a stronger, more direct, relationship. For example, adaptability is explicitly customer focused. Therefore, it seems the most directly relevant to customer satisfaction as an outcome. Further, this study came about in part because the two focal organizations were specifically interested in improving customer satisfaction as a central component of their business strategy, which makes the mission trait clearly relevant. And mission—like adaptability—is externally focused. Therefore, mission should be considered second only to adaptability with respect to its relationship with customer satisfaction. As internally focused characteristics of organizational culture, involvement, and consistency should demonstrate a relatively weaker relationship with customer satisfaction. However, of the two, involvement—by way of empowering employees—should facilitate the capacity to satisfy customers. By contrast, consistency tends to oppose adaptability, the most customer focused of the four traits. In sum, the relationship between culture traits and customer satisfaction is hypothesized to show the following trend from strongest to weakest: adaptability, mission, involvement, and consistency.

Hypothesis 5: The four cultural traits will relate to customer satisfaction to varying degrees. The hypothesized order from strongest to weakest is: adaptability, mission, involvement, and consistency.

METHOD

We present results for two companies in different industries in order to understand better the generalizability of the relationship between organizational culture and customer satisfaction. For the first, we collected data from 32 regional home-building markets (a total of 2410 employees) with locations across the United States. These business units were surveyed in 2000–2001. The second organization consists of 148 American automobile dealerships (7975 employees) that were surveyed in the year 2000. Data for both organizations are analysed at the business-unit level of analysis.

Denison Organizational Culture Survey (DOCS)

The 60-item Denison Organizational Culture Survey (Denison & Neale, 2000) is comprised of four traits (involvement, consistency, adaptability, and mission), each of which contain three indexes, for a total of 12 indexes that contain five items each. (see Table 1 for a description of the traits and indexes). A sample item is “There is a long-term purpose and direction”. Responses are on a 5-point Likert-type scale ranging from “strongly disagree” (1) to “strongly agree” (5). Data from a separate sample of 30,808 employees across 160 organizations demonstrated good fit to the theorized model of organizational culture (Denison, Janovics, Young, & Cho, 2007). More specifically, the data fit a second-order factor model where the 60 items formed 12 indexes, which in turn formed four higher order traits, $\Delta\chi^2 = 122,715$; $df = 1692$; $RMSEA = .048$; $GFI = .88$; $AGFI = .87$; $CFI = .98$. This model fit better than an alternative model omitting the four higher order traits, $\Delta\chi^2(12) = 34,561.15$, $p < .001$.

We administered a paper-and-pencil version of the DOCS to both samples. The response rate was approximately 78% for the home-building markets. The exact number of employees in each dealership at the time of survey was not available, but the company estimated the response rate to be 80%.

We used the mean of each dealership (or home-building market) employees' perceptions to operationalize organizational culture, consistent with a “referent-shift consensus model” of group composition (Chan, 1998). For both samples, the referent is the business unit that we use in our analysis (i.e., the auto dealership or the home-building market). We report the agreement statistic $r_{WG(J)}$ (James, Demaree, & Wolf, 1984) and Intraclass Correlation Coefficients (ICCs) to justify this aggregation (see Table 2). Higher values of $r_{WG(J)}$ indicate more within-group agreement, and values greater than .70 are typically considered sufficient evidence to justify aggregation (George, 1990; James et al., 1984). A separate $r_{WG(J)}$

TABLE 2
Evidence for aggregating the Denison Organizational Culture Survey to the business-unit level

Index	<i>Home-building markets (N = 32)</i>				<i>Automobile dealerships (N = 148)</i>			
	$r_{WG(J)}$		ICC(1)	ICC(2)	$r_{WG(J)}$		ICC(1)	ICC(2)
	Mean	SD			Mean	SD		
Empowerment	.88	.03	.17	.92	.83	.07	.08	.83
Team orientation	.88	.04	.16	.91	.81	.09	.08	.83
Capability development	.87	.03	.15	.91	.84	.05	.08	.83
Core values	.88	.03	.11	.87	.84	.06	.07	.81
Agreement	.89	.03	.14	.90	.86	.06	.07	.79
Coordination and integration	.87	.04	.14	.90	.86	.04	.08	.83
Creating change	.87	.03	.13	.89	.85	.05	.08	.83
Customer focus	.87	.04	.11	.88	.87	.04	.09	.84
Organizational learning	.87	.03	.14	.90	.83	.06	.08	.83
Strategic direction and intent	.89	.04	.16	.91	.86	.06	.11	.87
Goals and objectives	.91	.03	.12	.89	.86	.06	.11	.87
Vision	.88	.03	.16	.91	.86	.05	.10	.86

was calculated for each index for each business unit for both samples, as outlined by James et al. (1984). The average $r_{WG(J)}$ values were in the high .80s for the 32 home-building markets and in the mid .80s for the dealerships. ICC(1) values indicate the percentage of variability that can be explained by group membership (Bryk & Raudenbush, 1982), and ICC(2) is an indicator of the reliability of the ratings. Due to unequal groups sizes between dealerships, which would upwardly bias the ICC(1) value, we used the formula for average group size provided by Blalock (1972) and reproduced in Bliese and Halverson (1998) in calculating ICC(1). The ICC(1) values indicate the DOCS indexes for both samples have a substantial amount of variance due to group membership (the mean ICC[1] was .14 and .09 for the home-building markets and auto dealerships, respectively). ICC(2) results demonstrated sufficient reliability in both samples.

Customer satisfaction

Customers who recently bought houses from the home-building company completed a customer satisfaction survey that was administered by an independent third party. We used the overall customer satisfaction question: “Thinking back to your overall experience with XYZ home-building company, how much of your experience was positive?” Eleven response

options ranged from 0% to 100% in increments of 10%. A response of 0% was coded as a “0”, a response of 10% was coded as a “1”, a response of 20% was coded as a “2”, and so on, up to the maximum of a “10” (100%) on the 11-option scale. The mean for this question was 8.48 ($SD = 0.51$) out of a possible range of 0–10. The response rate for this survey was 37%.

For the auto dealerships, customer satisfaction ratings were obtained using a national customer satisfaction survey administered by an independent research firm. To ensure that dealerships could not distort survey results, surveys were mailed directly to customers who had recently bought vehicles or had theirs serviced at participating dealerships. Two different surveys were administered, and we used the overall satisfaction question from each of them. The first survey focused on the sales and delivery experience, and the question read: “Based on your overall purchase/lease and delivery experience, how satisfied are you with *XYZ Dealership*?” This survey had a response rate of 50%. The mean for this item was 3.69 ($SD = 0.14$), with a possible range of 1–4. The second item focused on service: “Based on this service visit overall, how satisfied are you with *XYZ Dealership*?”, and had a response rate of approximately 35%. The mean for this item was 3.47 ($SD = 0.18$), again with a possible range of 1–4. Both questions used a 4-point response scale, with options ranging from “not at all satisfied” to “completely satisfied”, and higher scores representing greater satisfaction. We report results using a combined score that averages responses to both items. This combined score had a coefficient alpha reliability of .71 (mean = 3.58, $SD = 0.14$).

RESULTS

Descriptive statistics, correlations among DOCS scales, and correlations between the DOCS scales and customer satisfaction are provided in Tables 3 (home-building markets) and 4 (auto dealerships). Table 5 summarizes the results of Hypothesis tests 1–4. The organizational culture traits of involvement, consistency, adaptability, and mission related significantly to customer satisfaction in both samples (although the correlation for consistency was only marginally significant in the home-building markets; $r = .33$, $p < .10$). The trend of correlations for the home-building markets support Hypothesis 5, although the differences among the correlations did not reach statistical significance with a sample size of 32. In contrast to the home-building market results, the trait of consistency demonstrated the strongest relationship with customer satisfaction for the auto dealerships, followed by involvement, adaptability, and mission.

Table 6 shows results of multiple regression analyses regressing customer satisfaction on the four DOCS traits for the home-building markets. The overall equation was only marginally significant $p = .067$, which is not

TABLE 3
Business-unit-level descriptive statistics, scale intercorrelations, and coefficient alpha reliabilities for home-building markets

	<i>Mean</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Empowerment	3.72	0.26	(.94)															
2. Team orientation	3.92	0.27	.93	(.97)														
3. Capability development	3.82	0.24	.91	.94	(.90)													
4. Core values	3.90	0.20	.85	.87	.81	(.88)												
5. Agreement	3.66	0.23	.92	.92	.89	.92	(.94)											
6. Coordination	3.58	0.26	.95	.94	.90	.87	.90	(.96)										
7. Creating change	3.35	0.23	.83	.81	.84	.70	.82	.84	(.92)									
8. Customer focus	3.82	0.24	.78	.82	.78	.63	.73	.79	.82	(.91)								
9. Organizational learning	3.58	0.23	.94	.93	.94	.82	.91	.93	.91	.86	(.88)							
10. Strategic direction	3.93	0.25	.85	.85	.84	.80	.85	.86	.81	.82	.88	(.96)						
11. Goals and objectives	3.93	0.22	.86	.85	.86	.81	.88	.83	.77	.79	.86	.91	(.95)					
12. Vision	3.61	0.26	.86	.88	.86	.78	.84	.86	.83	.84	.89	.93	.92	(.94)				
13. Involvement	3.82	0.25	.97	.98	.97	.87	.93	.95	.85	.81	.96	.87	.88	.89	(.98)			
14. Consistency	3.72	0.22	.95	.94	.90	.96	.97	.96	.82	.75	.92	.87	.87	.86	.95	(.97)		
15. Adaptability	3.58	0.22	.90	.90	.90	.76	.86	.90	.95	.94	.97	.88	.84	.89	.92	.87	(.96)	
16. Mission	3.82	0.24	.88	.88	.87	.82	.88	.87	.82	.84	.90	.97	.97	.98	.90	.89	.90	(.98)
17. Customer satisfaction	3.58	0.14	.45	.41	.36	.15	.35	.44	.38	.59	.47	.50	.36	.50	.42	.33	.50	.47

N = 32; coefficient alpha reliabilities are provided in parentheses along the diagonal; for correlations > .35, *p* < .05; for correlations > .46, *p* < .01.

TABLE 4
Business-unit-level descriptive statistics, scale intercorrelations, and coefficient alpha reliabilities for automobile dealerships

	<i>Mean</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Empowerment	3.50	0.26	(.94)																
2. Team orientation	3.47	0.28	.92	(.95)															
3. Capability development	3.49	0.24	.91	.86	(.92)														
4. Core values	3.68	0.22	.91	.86	.87	(.90)													
5. Agreement	3.48	0.23	.91	.89	.90	.90	(.96)												
6. Coordination	3.45	0.25	.91	.90	.88	.87	.90	(.95)											
7. Creating change	3.31	0.25	.87	.83	.84	.79	.88	.87	(.93)										
8. Customer focus	3.72	0.22	.82	.82	.81	.83	.81	.83	.78	(.93)									
9. Organizational learning	3.34	0.25	.91	.86	.89	.87	.89	.88	.89	.80	(.93)								
10. Strategic direction	3.52	0.28	.89	.87	.85	.86	.86	.87	.84	.87	.87	(.97)							
11. Goals and objectives	3.56	0.28	.89	.88	.85	.84	.86	.85	.84	.85	.88	.94	(.97)						
12. Vision	3.40	0.28	.91	.88	.88	.86	.89	.90	.90	.85	.90	.95	.94	(.97)					
13. Involvement	3.49	0.25	.98	.96	.95	.91	.94	.93	.88	.85	.92	.90	.91	.93	(.96)				
14. Consistency	3.54	0.23	.95	.92	.92	.96	.97	.96	.88	.85	.92	.90	.88	.92	.96	(.98)			
15. Adaptability	3.46	0.23	.93	.90	.90	.88	.92	.92	.95	.91	.96	.91	.91	.94	.94	.94	(.97)		
16. Mission	3.49	0.27	.92	.89	.88	.87	.89	.89	.88	.87	.90	.98	.98	.93	.92	.94	.94	(.99)	
17. Customer satisfaction	3.47	0.18	.26	.23	.27	.26	.25	.34	.16	.32	.21	.24	.22	.20	.26	.30	.24	.23	(.71)

N = 148; coefficient alpha reliabilities are provided in parentheses along the diagonal; for correlations > .15, *p* < .05; for correlations > .20, *p* < .01.

TABLE 5
Correlations between DOCS scales and customer satisfaction

DOCS		Home-building markets (N = 32)	Automobile dealerships (N = 148)
Traits	Indexes	r	r
Involvement		.42*	.26**
	Empowerment	.45*	.26**
	Team orientation	.41*	.23**
	Capability development	.36*	.27**
Consistency		.33 [†]	.30**
	Core values	.15	.26**
	Agreement	.35 [†]	.25**
	Coordination	.44*	.34**
Adaptability		.50**	.24**
	Creating change	.38*	.16*
	Customer focus	.59**	.32**
	Organizational learning	.47**	.21*
Mission		.47**	.23**
	Strategic direction	.50**	.24**
	Goals and objectives	.36*	.22**
	Vision	.50**	.20*

DOCS = Denison Organizational Culture Survey; [†] $p < .10$, * $p < .05$, ** $p < .01$.

TABLE 6
Home-building markets: Regressing customer satisfaction on the DOCS traits

Overall equation: $R^2 = .28$; adjusted $R^2 = .17$; $df = 4.26$; $p = .067$				
	B	Std. error	β	p
(Constant)	27.23	18.52		.153
Involvement	-4.85	16.73	-0.21	.774
Consistency	14.13	16.14	0.53	.389
Adaptability	14.53	12.36	0.53	.251
Mission	-8.48	10.66	-0.34	.433

R^2 = squared multiple correlation; df = degrees of freedom; p = probability due to chance; B = unstandardized beta coefficient; *Std. error* = standard error of B ; β = standardized beta coefficient.

surprising given the small number of regions. While the results should be interpreted tentatively, the four traits explained 28% of the variance in customer satisfaction ratings. With this small sample, none of the unique effects of the traits approached significance.

Table 7 reports these results for the auto dealerships. The multiple regression equation for the four traits was statistically significant ($p < .05$), explaining 11% of the variance in the overall customer satisfaction scale.

The trait of consistency demonstrated the only significant unique effect, which was positive. Since the sample of auto dealerships was much larger, we also present multiple regressions using the DOCS indexes for that sample (see Table 8). In combination, the 12 indexes explained 28% of the variance in the overall satisfaction score ($p < .001$). At the index-level, coordination (part of the consistency trait) and customer focus (part of the adaptability trait) related positively to customer satisfaction. Interestingly, the vision index (part of the mission trait) and the creating change index (part of the adaptability trait) related *negatively* to customer satisfaction, controlling for the other indexes.

TABLE 7
Auto dealerships: Regressing customer satisfaction on the DOCS traits

Overall equation: $R^2 = .11$; adjusted $R^2 = .08$; $df = 4,143$; $p < .01$

	<i>B</i>	<i>Std. error</i>	β	<i>p</i>
(Constant)	2.89	0.19		.000
Involvement	-0.08	0.19	-0.15	.663
Consistency	0.48	0.20	0.78	.016
Adaptability	-0.13	0.18	-0.21	.472
Mission	-0.08	0.13	-0.15	.551

R^2 = squared multiple correlation; df = degrees of freedom; p = probability due to chance; B = unstandardized regression weight; *Std. error* = standard error of B . β = standardized beta coefficient.

TABLE 8
Auto dealerships: Regressing customer satisfaction on the DOCS indexes

	<i>B</i>	<i>Std. error</i>	β	<i>p</i>
(Constant)	2.67	0.21		.000
Empowerment	0.08	0.15	0.15	.586
Team orientation	-0.23	0.11	-0.46	.036
Capability development	0.07	0.12	0.12	.541
Core values	-0.11	0.14	-0.18	.409
Agreement	0.10	0.15	0.16	.510
Coordination and integration	0.57	0.12	1.03	.000
Creating change	-0.25	0.12	-0.44	.038
Customer focus	0.24	0.10	0.37	.023
Organizational learning	-0.05	0.12	-0.09	.694
Strategic direction and intent	0.10	0.15	0.20	.488
Goals and objectives	0.07	0.13	0.14	.583
Vision	-0.36	0.16	-0.72	.024

Overall equation: $R^2 = .28$; adjusted $R^2 = .22$; $df = 12,135$; $p < .001$. DV = dependent variable; R^2 = squared multiple correlation; df = degrees of freedom; p = probability due to chance; B = unstandardized regression weight; *Std. error* = standard error of B . β = standardized beta coefficient.

DISCUSSION

This study found that organizational culture relates significantly and positively to customer satisfaction. Nonetheless, the interpretation of this relationship differs somewhat between the correlation and regression results. We discuss both sets of analyses next, beginning with the bivariate correlations and following with the multiple regression results that show the unique effects of each trait or index.

With the organizational culture ratings from the companies' employees and customer satisfaction ratings from the customers themselves, the correlational findings were replicated across two companies from different industries, providing some support for Hypotheses 1–4. The observed relationships were stronger for the home-building markets than the auto dealerships. While differences among correlations within and between samples were not statistically significant, the pattern of results for the home-building markets was in the hypothesized order (strongest to weakest: adaptability, mission, involvement, consistency), providing tentative support for Hypothesis 5 within this sample. Conversely, for the auto dealerships, involvement and consistency appeared to be more important than adaptability and mission.

These findings suggest that the culture of an organization relates substantially to the satisfaction of its customers. By extension, diagnosing and changing an organization's culture may thus be a viable way to improve customer satisfaction. More specifically, this type of comparative analysis of organizational culture and related change efforts can be expected to relate to customer satisfaction across a range of companies, industries, and consumer markets. While these data are encouraging, it is also important to consider the results from the multiple regression analyses.

The overall multiple regression equation for the home-building company was only marginally significant and—with a sample size of 32—none of the traits provided statistically significant unique effects. For the auto dealerships, the trait of consistency demonstrated the only unique effect on customer satisfaction. In other words, it is the extent to which consistency is emphasized in excess of the other indexes that relates positively to customer satisfaction.

For the auto dealerships, the index-level regression analyses provide a more detailed follow-up on the results we found at the trait level. The results showed that the unique contribution of coordination—one of the indexes of consistency—was positively related to customer satisfaction. Therefore, we conclude that it is coordination in particular that carries the unique effect on customer satisfaction. That is, while higher scores on all of the organizational culture indexes are associated with greater customer satisfaction, it is important beyond this that employees are able to coordinate well to achieve

common goals. Similarly, the degree to which customer focus was emphasized in excess of the other indexes was also related positively to customer satisfaction, which makes intuitive sense.

While the customer focus finding is not surprising and is consistent with existing research on the relationship between service climate and customer satisfaction (Johnson, 1996; Schneider & Bowen, 1995; Schneider et al., 1998), our findings with respect to the consistency trait and the coordination index appear to make a unique contribution to the literature. In fact, we hypothesized that consistency would be the least-relevant trait, partly based on our own theory and partly based on the existing literature on organizational culture and climate. This finding appears to indicate that the ability to coordinate service delivery in a consistent way is a critically important aspect of customer satisfaction in auto dealerships.

This study also generated several seemingly counterintuitive findings. For example, an overemphasis on vision related negatively to customer satisfaction. The vision index taps a long-term versus short-term point of view. We speculate that while long-term vision may be important for sustained effectiveness, customers' satisfaction with the immediate sales experience is negatively affected when the dominant approach over-emphasizes a long-term perspective. A second counterintuitive finding showed that team orientation was negatively related to satisfaction with service, after accounting for the other indexes. It may be that customers appreciate having one point-person who is responsible for their service, rather than having a team where they are uncertain who is ultimately accountable to them. It may also be that employees who feel they are part of a service team in fact do not feel the same sense of accountability that less team-oriented service environments have. In addition, the creating change index also showed a significant and negative unique relationship with customer satisfaction. This is again supportive of the idea that consistency and coordination (vs. change) leads to satisfied auto dealership customers. Taken together, these findings suggest that satisfying customers requires not only promises and commitments that address a customer's wants and needs, but that it also requires delivering on those promises. The combination of customer focus and coordination is a powerful one, implying that both the front end and the back end of the supply chain must operate well in order to satisfy the customer. Unfortunately, we don't have the data to test these more specific interpretations.

This study has some limitations that should be considered when interpreting these results. First, the correlations between the organizational culture traits and customer satisfaction are fairly similar across the traits. The culture indexes and traits also have a large degree of intercorrelation, suggesting that—in general—respondents tend to perceive the business units as effective overall or not effective overall. This makes it important to

consider the bivariate correlations in combination with results from the multiple regression analyses that test the net impact of each trait (or index) on customer satisfaction, controlling for the sizeable overlap it has with the remaining traits (or indexes).

Second, a qualitative follow-up would clearly strengthen the conclusions we can draw from our quantitative results. This “depth of analysis” is a necessary aspect of the cultural diagnostics and organizational change process (Denison, 2000). In addition to providing a comparative framework for organizational culture research and practice, the DOCS provides organizational members and consultants with a starting point for identifying the more deeply held beliefs and assumptions that become targets for change in order for the organization to become more effective. It is the mutual investment in this total process that truly supports our framework as a model of organizational *culture*.

Third, research on this topic would benefit from a longitudinal or experimental investigation, particularly one that focuses on the change in culture and in effectiveness. Clearly, we cannot claim based on these results that culture *causes* customer satisfaction—we merely report an association between the two. And finally, we were also unable to obtain data on the local economic conditions of the organizations and business units under investigation. While we have no reason to believe the inclusion of such data would change the results substantively, it is nevertheless an alternative explanation of our results that remains to be ruled out.

Finally, it would be interesting to see future research on customer satisfaction that also includes a broad range of effectiveness criteria in the same sample. This, combined with a longitudinal design or a field experiment, would greatly increase our capacity to draw conclusions about how an organizations’ culture can be changed or harnessed to improve organizational effectiveness generally and customer satisfaction specifically.

In sum, we conclude that a relatively broad conception of the work environment can relate to rather specific outcomes such as customer satisfaction. This is particularly important considering that one of the largest drivers of this relationship for the auto dealerships, consistency, seems to be a cultural attribute that would not have been measured with a narrow-bandwidth measure of the environment that specifically targets service climate. At the same time, consistency was the least relevant trait for the home-building markets, indicating that the relative magnitude of each trait’s importance may vary across companies or industries. Our findings, taken together with existing research (Denison, 1984, 1990, 2000; Denison & Mishra, 1995; Kotter & Heskett, 1992), suggest that organizational culture can be a key lever for driving long-term organizational effectiveness, and that big-picture culture change efforts may manifest not only in outcomes

such as return on investment, assets, or sales, but also in customer satisfaction.

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