Links Among High-Performance Work Environment, Service Quality, and Customer Satisfaction: An Extension to the Healthcare Sector

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EXECUTIVE SUMMARY

Healthcare managers must deliver high-quality patient services that generate highly satisfied and loyal customers. In this article, we examine how a high-involvement approach to the work environment of healthcare employees may lead to exceptional service quality, satisfied patients, and ultimately to loyal customers. Specifically, we investigate the chain of events through which high-performance work systems (HPWS) and customer orientation influence employee and customer perceptions of service quality and patient satisfaction in a national sample of 113 Veterans Health Administration (VHA) ambulatory care centers. We present a conceptual model for linking work environment to customer satisfaction and test this model using structural equations modeling (SEM). The results suggest that (1) HPWS is linked to employee perceptions of their ability to deliver high-quality customer service, both directly and through their perceptions of customer orientation; (2) employee perceptions of customer service are linked to customer perceptions of high-quality service; and (3) perceived service quality is linked with customer satisfaction. Theoretical and practical implications of our findings, including suggestions of how healthcare managers can implement changes to their work environments, are discussed.

For more information on the concepts in this article, please contact Dr. Scotti at prof_djs@fdu.edu. Work on this project was partly supported by a grant from the U.S. National Science Foundation (NSF), Innovation and Change Division. Conclusions do not necessarily represent the views of the NSF. We acknowledge the Veterans Health Administration (VHA) Office of Quality and Performance for providing data used in this study. The views expressed in this article do not necessarily represent the views of the Department of Veterans Affairs, the VHA, or the United States government.
Healthcare managers seek to improve overall system effectiveness by strengthening their value chain, thereby increasing customer retention and market share. Better knowledge of conditions in the work environment that drive service quality excellence and customer satisfaction is valuable to healthcare managers. It is becoming clear that strategic human resource practices that result in high-performance work environments are linked with important organizational outcomes—such as service quality, customer satisfaction, and loyalty—in a wide variety of commercial industry contexts (Dean 2004). Evidence also is accumulating that customer-oriented work climates produce superior service quality and customer satisfaction, operating independently (Henning-Thurau 2004) or in conjunction with high-performance human resource practices in proprietary firms in retail services industries (Schneider, White, and Paul 1998; Yoon, Beatty, and Suh 2001).

In contrast, the mission, design, and resource constraints of health services organizations may differ meaningfully from those of firms operating in the broader services domain, and many health services providers are public or not-for-profit entities, rather than for-profit enterprises. It should be noted, however, that the existence and magnitude of such differences may be anchored more in *a priori* beliefs than empirical evidence (Rainey and Bozeman 2000). The goal of this study is to determine whether the research evidence regarding the importance of work climate can be extended to the healthcare industry. We investigated the chain of events through which aspects of work climate, specifically high-performance work systems (HPWS) and customer orientation, influence employee and customer perceptions of service quality and their ultimate impact on patient satisfaction in 113 Veterans Health Administration (VHA) centers.

The roles of HPWS and customer-oriented work climates as catalysts for superior service quality and increased patient satisfaction have received little empirical investigation within the healthcare environment. This study offers empirical justification for the dimensions of the work environment that contribute to high performance in a healthcare setting and yields findings that can be used to guide healthcare managers in their efforts to design and enhance their organizational practices.

In the following sections, we provide the theoretical foundations of our linkage model, define the constructs and measures used, present our results, and discuss the practical implications and limitations of our research.

**Theoretical Foundation**

Linkage research examines and tests the “chain of events” that is set into motion when a strategic or operational intervention is introduced by management. The origins of linkage research are rooted in the research of Benjamin Schneider and his coinvestigators, who demonstrated that employee perceptions of human resource practices were connected to customer perceptions of their service experience.
in retail banking. James Heskett and his collaborators added momentum and depth to the genesis of linkage research by extending Schneider's models to include an emphasis on customer loyalty and profitability (see Pugh et al. 2002 and Dean 2004 for excellent overviews of the subject). Despite considerable progress in specifying and empirically testing various linkage models, the specific matrix of strategic human resources management (HRM) practices that drive the "chain reaction" remains unsettled. Progress may lie in adopting a systems view of HRM that considers the overall configuration of HRM practices that best fit particular strategies (e.g., enhancing service effectiveness), rather than examining the effects of individual practices on organizational performance (Bowen and Ostroff 2004). Extending our understanding of how such an array of HRM practices may interact with the creation of a customer-oriented work climate to spur the chain reaction is also desirable. Figure 1 shows the conceptual model to be tested in the present study. Next, we discuss the theoretical and empirical underpinnings associated with each path in our model.

**Linkages Among HPWS, Customer Orientation, and Employee Perceptions of Service Quality**

HPWS, also referred to in the literature as high-involvement work systems and high-performance organizations (Nadler and Gerstien 1992; Lawler, Mohrman, and Ledford 1995), represents an interrelated and aligned set of core characteristics, including involvement, empowerment, trust, goal alignment, training, teamwork, communications, and performance-based rewards. Organizations that provide enabling work environments will have employees who can devote their efforts to meeting the needs and expectations of customers, thereby improving service quality (Pugh et al. 2002; Schneider and Bowen 1985). The work of prior investigators offers compelling empirical evidence that bundling complementary sets of human resource practices closely resembling HPWS (e.g., facilitative management, resources, training, communications, teamwork, aligned goals, and rewards) positively affects employees' perceptions of their ability to deliver high-quality services to their customers in a variety of for-profit, retail service settings, including insurance (George 1990; Hallowell, Schlesinger, and Zornitsky 1996), banking (Schneider, Parkington and Buxton 1980; Schneider and Bowen 1985), and telecommunications (Batt 2002). In the healthcare context, nurse perceptions of their ability to serve patients have been conceptually linked to their work conditions (Newman, Maylor, and Chansarkar 2001), and employee development practices have been empirically connected with hospital staff productivity (Goldstein 2003). Accordingly, the assumed connection between HPWS and employee perceptions of service quality occupies a root position in our posited chain of linkages.

Customer orientation is defined as the importance that service providers place on their customers’ needs and expectations relating to a firm’s service offerings (Kelly 1992). A compre-
hensive commitment to total quality would involve service-enabling HRM practices and a focus on customers. Schneider and Bowen (1993) found a link between human resource practices and customer service orientation and also found that both were related to employee and customer perceptions of service quality. They concluded that service-enabling HRM practices and a service-oriented climate were distinct but interrelated organizational dynamics. Consequently, customer orientation can be viewed as a construct that partially mediates the linkage between HPWS and perceptions of service quality. We, therefore, hypothesize (as shown in Figure 1) that HPWS will affect employee perceptions of service quality both directly (H1) and indirectly via its effects on (H2) and through (H3) customer orientation (i.e., a mediated effects model).

**Links Among Employee Perceptions of Service Quality, Customer Perceptions of Service Quality, and Customer Satisfaction**

Common among linkage research studies is the merging of data collected from employees and consumers, with a particular focus on assessing the degree of congruence between each group’s attitudes toward service quality. Various studies have shown an association between employee and customer perceptions of service quality delivered and received in commercial retail service settings (Schneider, Parkington, and Buxton 1980; Schneider and Bowen}
A link between employee and patient perceptions of service also was observed in a study of hospital inpatient encounters (Nelson et al. 1989). This connection is supported by the argument that service providers, by virtue of their close contact with customers, are reliable commentators on consumer needs and expectations (Hennig-Thurau 2004). The simultaneous provision and receipt of healthcare in a high-contact, face-to-face, professional-service context obscures the boundary between employee and customer/patient. Patients must participate in the care delivery process and are often cocreators of their own service. Therefore, the perceptions of employees and customers regarding service quality are rooted in a common foundation.

The role of customer perceptions of service quality as an antecedent of overall customer satisfaction has been extensively researched and is widely accepted in the services marketing literature (Anderson, Fornell, and Lehmann 1994; Churchill and Surprenant 1982; Cronin and Taylor 1992; Rust and Oliver 1994). More recently, evidence has emerged supporting the existence of a causal connection between service quality perceptions and patient satisfaction judgments in the healthcare context (Bigne, Moliner, and Sanchez 2003; Marley, Collier, and Goldstein 2004; Woo et al. 2004). As a result, there is ample theoretical and empirical justification to hypothesize affirmative links between employee-perceived and customer-perceived service quality (H4) and between customer-perceived service quality and customer satisfaction (H5) as the terminal path in our model.

Finally, we are interested in the link between customer satisfaction and customer loyalty. Conventional logic argues that a customer who is satisfied with the quality of services received will be more likely to declare intentions to engage in repeat consumption. Although evidence exists to support this premise in commercial retail firms (Hallowell 1996; Rust and Zahorik 1993) as well as in outpatient services rendered by not-for-profit hospitals (Baker and Taylor 1997), the link between customer satisfaction and loyalty has not been consistently established in the literature. Several studies suggest that we should be cautious about assuming linkage between customer satisfaction and loyalty (Dean 2004). The factors that influence customer satisfaction may differ from those that determine customer loyalty (Reichheld 1996). Moreover, behavioral intentions expressed at the point of service may not reliably predict actual behavior (Storbacka, Strandvik, and Gronroos 1994).

In light of the fact that this is a study involving the Department of Veterans Affairs (VA) healthcare network, in which U.S. service veterans receive free healthcare, we felt that incorporating customer loyalty into our model was inappropriate. The rest of our model should be applicable to private and for-profit healthcare organizations, but customer loyalty in a publicly funded free service would probably not yield generalizable information. For this reason we do not include loyalty in our model, but the nature and strength of its connection...
with customer satisfaction is discussed later when we present our results.

**METHODS**

**Study Participants and Procedure**

This study is part of an ongoing research project with the VA and is focused on how changes to the work environment can affect quality and customer service. The research reported here draws on responses from an existing 2001 VHA survey of its employees and from an existing 2001 VHA customer service survey of its patients.

A total of 74,662 responses to the confidential and anonymous employee survey (72 percent response rate) were received from employees in 147 VHA medical facilities across the United States. Of the 71,526 respondents that provided demographic information, 56 percent were professional and technical staff (versus administrative and back-office workers), the overwhelming majority of whom (approximately 89 percent) were clinical personnel, primarily nurses and technical support staff. This survey asked for employee observations and opinions on a wide variety of topics regarding their work experiences. However, a wave of recent VHA reorganizations introduced unreliability in matching various types of data at the facility level. Therefore, we confined our analyses only to those facilities for which employee survey data could be reliably paired with other facility data for 2001. This yielded usable data from 113 VHA facilities—specifically, responses of 59,464 employees. We then aggregated the data by averaging the individual responses for each item within each of the 113 VHA facilities.

Our data collection procedure closely matches that described in Harmon et al. (2003).

We also used responses from an existing 2001 VHA customer service survey of its ambulatory care patients at those same 113 facilities. This customer survey followed a stratified, random sampling design that resulted in a total of 212,874 respondents (an average of approximately 5.8 percent of the total ambulatory care patients of these facilities; with samples ranging from 478 customers of the smallest facility to 10,608 customers of the largest). This survey asked for customer observations and opinions on a wide variety of topics regarding the care they received at the VHA. We then aggregated the data by averaging the individual responses for each item within each of the 113 VHA facilities.

**Study Measures and Analysis**

**Independent Variables**

The measure we used to assess strategic human resource practices, HPWS, is a ten-item scale derived from the VA employee survey that has been previously tested and validated (see Harmon et al. 2003 for a fuller explanation of how this scale was derived and validated through a series of confirmatory factor analyses). These items asked employees to what degree they believed that their workplace exhibited the characteristics commonly associated with high-performance work practices (goal alignment, communication, involvement, empowerment, teamwork, training, trust, creativity, performance enablers, and performance-based rewards). Responses to all employee
survey items were made on a Likert-type scale, with 1 as “strongly disagree,” and 5 as “strongly agree.” Table 1 lists these ten items along with their facility means and standard deviations. The ten-item scale exhibited a Cronbach’s alpha estimate of reliability of .97.

**Customer orientation** was measured by three items from the VHA employee survey that assessed the degree to which employees believed their organization was geared toward accommodating its customers: (1) “Products, services and work processes are designed to meet customer needs and expectations”; (2) “Customers are informed about the process for seeking assistance, commenting, and or complaining about products and service”; and (3) “Customers have access to information about products and services.” The Cronbach’s alpha estimate of reliability for this five-point, three-item scale was .95.

**Employee-perceived service quality** (Employee PSQ) was measured with a two-item scale derived from the employee satisfaction survey that reflects employees’ ability to deliver high-quality customer service at their workplace. The two items were (1) “How would you rate the overall quality of work done in your work group?” and (2) “Overall, how would you rate the quality of service provided to veterans by your facility or office?” The Cronbach’s alpha index of reliability for this two-item, five-point scale was .85.

### Table 1

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean</th>
<th>S.D.</th>
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<tbody>
<tr>
<td>1. Employees are rewarded for providing high quality products and services to customers.</td>
<td>2.61</td>
<td>0.24</td>
</tr>
<tr>
<td>2. Managers let employees know how their work contributes to the organization’s mission and goals.</td>
<td>3.04</td>
<td>0.18</td>
</tr>
<tr>
<td>3. Employees are kept informed on issues affecting their jobs.</td>
<td>3.09</td>
<td>0.19</td>
</tr>
<tr>
<td>4. Sufficient effort is made to get the opinions and thinking of people who work here.</td>
<td>2.70</td>
<td>0.20</td>
</tr>
<tr>
<td>5. Employees have a feeling of personal empowerment and ownership of work processes.</td>
<td>2.61</td>
<td>0.19</td>
</tr>
<tr>
<td>6. A spirit of cooperation and teamwork exists.</td>
<td>3.08</td>
<td>0.18</td>
</tr>
<tr>
<td>7. There is trust between employees and their supervisors/team leaders.</td>
<td>2.85</td>
<td>0.19</td>
</tr>
<tr>
<td>8. I am given a real opportunity to improve my skills in the organization.</td>
<td>3.19</td>
<td>0.17</td>
</tr>
<tr>
<td>9. I feel encouraged to come up with new and better ways of doing things.</td>
<td>3.10</td>
<td>0.16</td>
</tr>
<tr>
<td>10. Conditions in my job allow me to be about as productive as I could be.</td>
<td>3.15</td>
<td>0.13</td>
</tr>
</tbody>
</table>

**Dependent Variables**

**Customer-perceived service quality** (Customer PSQ) was measured with a two-item scale derived from the customer satisfaction survey. The two
items (both on five-point response scales ranging from “poor” to “excellent”) were (1) “Overall, how would you rate the quality of your most recent visit?” and (2) “Overall, how would you rate the quality of care you have received over the past two months?” The Cronbach’s alpha index of reliability for this two-item, five-point scale was .98, indicating high levels of item intercorrelation and scale reliability.

Customer satisfaction was measured by a single item from the VHA customer survey: “All things considered, how satisfied are you with your healthcare in the VA?” (1 as “completely dissatisfied” and 7 as “completely satisfied”). Although it is often assumed that multiple-item (or scale) measures of satisfaction are preferred, recent evidence suggests that single-item measures of global satisfaction are as good or better (Nagy 2002; Wanous, Reichers, and Hudy 1997).

Preliminary data analysis was conducted using the SPSS 12.0 software package, and hypotheses were tested using the AMOS 5.0 software package for structural equations modeling (SEM). Structural equations modeling offered us two distinct advantages over traditional regression techniques: (1) SEM allowed us to simultaneously calculate both direct and indirect effects of the independent variables, and (2) SEM provided us with statistical tests to determine the relative fit to the data of our hypothesized model against alternative models and hypotheses (Schumaker and Long 1996).

RESULTS

Table 2 depicts the correlations between the measures used in this study, along with their means and standard deviations. The results of the SEM analyses are presented in Figure 2. As can be seen, the results provide support for our hypotheses that (1) HPWS is linked to employee perceptions of their ability to deliver high-quality customer service, both directly (H1) and through their perceptions of customer orientation (H2 and H3); (2) employee perceptions of customer service is linked to customer perceptions of high-quality customer service (H4); and (3) perceived service quality is linked with customer satisfaction (H5). Further, the overall fit for the structural equations model (chi-square of 6.9, $df = 5$; $p > .05$; CFI = .99; RMSEA = .06) is excellent, indicating that this model accurately reflects the underlying data and that no significant indirect or direct effects are present in the model except those that are hypothesized.

HPWS had a strong direct effect ($β = .74$) on employee perceptions of whether the organization is oriented toward customer service. Further, HPWS had both a direct effect ($β = .21$) on employee perceptions of being enabled to provide high-quality customer service and a total path effect on this variable (i.e., both direct and indirect through the customer-orientation path) of $β = .60$.

We also found a significant relationship ($β = .66$) between employee perceptions and customer perceptions of service quality. Further, 44 percent of the variance in customer perceptions of service quality can be explained by
knowing the employees’ perceptions. Finally, as expected, customers’ perceptions of service quality is a strong driver of their satisfaction, with a direct effect of $\beta = .73$. Fully 53 percent of the variance in customer satisfaction can be explained by the other variables in the model.

Considered collectively, a significant portion of customer satisfaction can be explained through employee perceptions that managers at their facilities empower employees and create a positive enabling environment for them to deliver high-quality customer service. HPWS were found to have a total path effect on customer satisfaction of $\beta = .29$. This means that all the “ripple effects” of HPWS on customer orientation and employee and customer perceptions add up to a sizeable effect. Specifically, our results show that for every 1 standard deviation increase in HPWS (i.e., from the 50th percentile to the 84th percentile), a facility will show an associated .29 standard deviation increase in customer satisfaction.

Several post-hoc analyses were performed to supplement the SEM model. First, computational limitations prevented us from adding specific service attributes that may have contributed to formation of quality perceptions directly to the model. However, supplemental analysis revealed the strongest correlates of Customer PSQ were courtesy/respect, confidence/trust in provider, communication, and clinic efficiency ($r = .70$, .53, .53, and .50, respectively; $p < .05$ for all). These findings are largely consistent with those obtained from a study of hospital inpatients conducted by Scotti and Stinerock (2003). Second, because of generalizability concerns, we did not add customer loyalty directly to our model. However, we did find a strong correlation ($r = .73$, $p < .001$) between customer satisfaction and patients’ responses to the following question that closely maps customer loyalty: “If you could have free care outside the VA, would you choose to come here again” (1 as “definitely would not”, and 4 as “definitely would”).

**Table 2**

Descriptive Statistics and Correlation Coefficients for Study Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>S.D.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. High-performance work systems (1–5)</td>
<td>2.90</td>
<td>0.17</td>
<td>.97</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Customer orientation (1–5)</td>
<td>3.59</td>
<td>0.13</td>
<td>.74*</td>
<td>.95</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Employee-perceived service quality (1–5)</td>
<td>4.16</td>
<td>0.13</td>
<td>.60*</td>
<td>.68*</td>
<td>.85</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Customer-perceived service quality (1–5)</td>
<td>3.83</td>
<td>0.14</td>
<td>.29*</td>
<td>.37*</td>
<td>.66*</td>
<td>.98</td>
<td></td>
</tr>
<tr>
<td>5. Customer satisfaction (1–7)</td>
<td>5.69</td>
<td>0.13</td>
<td>.14</td>
<td>.25*</td>
<td>.50*</td>
<td>.73*</td>
<td>n/a</td>
</tr>
</tbody>
</table>

Notes:
1. * denotes that the correlation is statistically significant at $p < .05$
2. Scale reliabilities (Cronbach’s alpha) are listed in parentheses on the diagonal.
3. Sample size for all correlations is 113 facilities.
Third, using a measure of average treatment cost reported in Harmon et al. (2003), we found that patient resource consumption was negatively correlated with perceived service quality ($r = -0.23$, $p < 0.05$) and satisfaction ($r = -0.30$, $p < 0.01$). In other words, facilities with higher customer-perceived service quality and customer satisfaction tended to also have lower treatment expenditures. Lastly, it should be noted that we ran the SEM model with patient count included as a covariate to determine whether the size of the facility affected the relationships in the model. We found that patient count had a non-significant relationship with patient perceptions of service quality, did not account for additional variance in the model, and did not change the values of any of the hypothesized paths between constructs. Thus, we can be confident that the relationships we found apply to facilities of varying sizes.
DISCUSSION
Contributions of the Study
We are aware of no published studies that have empirically verified the entire chain of effects from organizational practices to service quality to customer satisfaction in a healthcare setting. The linkage model tested in our study offers convincing statistical support for the substance and sequence of events that connect organizational practices with patient attitudes. Moreover, the study underscores and adds empirical weight to the role played by service quality as a variable that integrates the connections between organizational and consumer behavior within a healthcare context.

The relationship between HPWS and cost efficiency was established in a recent study using VHA facilities as the research setting (Harmon et al. 2003). Our investigation extends this research by demonstrating a strong link between HPWS and patient perceptions of service quality and satisfaction using a similar set of VHA facilities. Further, we found in this study that enhancing service quality and customer satisfaction, rather than inflating costs, contributed to cost efficiency. We have also shown that the influence of HPWS on customer outcomes is partially mediated by customer orientation and is fully mediated by employees’ perceptions of the quality of service they are capable of delivering.

Prior research on the determinants of patient satisfaction has focused on inpatient encounters. Our study focuses on ambulatory care centers, a setting that has received relatively little attention, notwithstanding the fact that the majority of healthcare is delivered on an outpatient basis. To the extent that most HRM practices and customer service attitudes examined in this study hold relevance to inpatient services as well, we have reason to believe the results should be transferable to acute care rendered to confined patients.

Implications for Managers
The findings reveal that specific sets of managerial practices—HPWS and customer orientation—function as engines that propel the evolution of a work environment in which the perceptions of employees are aligned with the service experiences they provide to patients and translate into enhanced patient satisfaction. The interrelated practices constituting HPWS and customer orientation represent organizational factors that are amenable to direct managerial intervention and control in implementing a competitive service strategy for high-contact healthcare encounters.

To foster a high-performance work environment with a strong customer orientation, the importance of customer service must be incorporated into the mission statement. Management must continuously emphasize the importance of customer service, clearly define customer service objectives, and solicit input from patients regarding their perceptions of service encounters. Once achieved, a customer-oriented work environment must be reinforced by strategic HRM practices that nurture a high-performance climate of service excellence. Several managerial actions are conducive to cultivating customer-oriented high-performance work systems.
The service climate of a healthcare organization is determined by the people that it hires. Accordingly, the centrality of customer service to the organization’s mission should be reflected in job advertisements, job descriptions, and job interviews (Crotts, Dickson, and Ford 2005). After the process of recruitment and selection of service employees is complete, managers must continue to inculcate a strong sense of service responsibility through orientation and training programs; senior managers should be present at these sessions to add visible credibility to and emphasize the importance of service excellence. Once hired and acculturated, service providers must be empowered to address, and if possible to resolve, patient complaints on a real-time basis, while being recognized and rewarded for doing so. Naturally, reasonable limits should be imposed on such empowerment to preserve an appropriate balance between clinical discipline and patient comfort.

A willingness to listen to the customer is one of the defining features of a customer-oriented work climate. Having heard the voice of the customer, health services managers should promptly communicate information needed to help healthcare providers improve their level of service quality. Our study supports the argument that service providers, by virtue of their frequent and close contact with patients, are reliable sources of insight into the needs and expectations of their customers. Managers should explicitly acknowledge this truth and survey the opinions of front-line providers as part of their regular market research activities.

We invite the manager’s attention to the importance of team building. Based on her study of surgical in-patients, Gittell (2002) found that “relational coordination” (analogous to teamwork) among service providers is most likely to influence customer satisfaction and loyalty in settings where the provider-client interface is characterized by reciprocal interdependence between tasks, high levels of operational uncertainty, and time-constrained demands for service delivery. Health services organizations clearly exhibit these characteristics; therefore, the need for managers to foster a spirit of teamwork and interdepartmental cooperation is paramount.

Early strides toward elevating customer service will be short-lived if performance is not properly reinforced. A percentage of pay and bonuses should be based on the accomplishment of service objectives, and a clear message should be communicated to front-line employees that promotions will be predicated on customer satisfaction. If bonuses are to be awarded based on team performance, then the team members should be involved in hiring decisions that will affect their group.

We conclude by pointing out that managers must measure progress along the way, recognizing that changing their organization’s work environment takes time and dedicated effort.

Limitations of the Study
Several limitations of our findings should be acknowledged. First, even
though considerable diversity existed across the VHA facilities involved in this study, all the organizations are part of a single, large, government organization. The extent to which similar results would be obtained in the private sector remains unclear. Second, employee and customer perceptions were conveniently obtained from existing survey data. Even though the face, content, and construct validities of our survey-based measures appeared to be very good, the measurement instruments themselves were not specifically constructed with the study’s purposes in mind, and a separate validation study of the HPWS measure was not performed before the analyses. Third, HPWS and service quality were assessed solely through perceptual measures, which are subject to assessors’ distortions, rather than through more objective indicators. Although it can be argued that how employees perceive work practices may be the most valid measure to use for this line of inquiry, and that employees and customers are “subject-matter experts” on service quality, we are unable to confirm with this study how well these perceptions reflect reality. Finally, the research design advises caution in drawing inferences about causality, because multiple, time-ordered perceptual measures necessary to establish causal relationships were not used.

Future Research
We advocate further research that examines linkages in acute care inpatient settings as well as research comparing results in public healthcare systems (e.g., the VHA, state and municipal systems) with those obtained in not-for-profit and for-profit healthcare organizations. While most of the variables specified in our model are relevant to a range of settings, the discrete linkages quite likely vary in strength. Furthermore, future research should seek to illuminate the multidimensional drivers of perceived customer service quality and their relative importance. Enhanced understanding of the aspect-level determinants of service quality assessments would offer practicing healthcare managers greater instruction on where and how resources should be directed.

In addition, the question remains whether customer satisfaction leads to superior economic returns on investment. It is well established that satisfied customers represent the potential for repeat service utilization and also are a valuable source of referrals and ideas for new business opportunities. Moreover, retaining a current customer is less costly than recruiting a new one (Rust and Zahorik 1993). Thus, strategies that succeed at retaining customers should ultimately result in higher profits (or surpluses) through enhanced patronage combined with reduced operating expenses. Further research is needed to test the linkage between patient satisfaction and financial performance and to elaborate the sequence paths that form any such connection.

Notes
1. The employee survey asked workers about their overall satisfaction with the VA, their appraisal of service quality, and their perceptions about
various dimensions of work climate, such as rewards/recognition, involvement, development, innovation, customer orientation, supervision, planning/measurement, respect/fairness, diversity, information/communication, conditions/resources, and teamwork.

2. The customer survey asked veterans to evaluate various aspects pertaining to the nature and quality of their service experiences during recent visits to a VA clinic, including waiting time, clinic organization, communication, courtesy, involvement in decisions, continuity of care, and confidence/trust in providers, culminating in global appraisals of quality and satisfaction.

3. Cronbach's alpha is a statistical index that measures how well a set of items measures a single unidimensional underlying construct. Cronbach's alpha ranges from 0 to 1.0, with 1.0 indicating the highest level of reliability or confidence one has in the measure being used. If the various items measuring a construct are highly correlated, leading to an alpha approaching 1.0, this is evidence that the measure is reliable, because all of the items are measuring the same construct.

References


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PRACTITIONER APPLICATION

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In this era of heightened market competition and consumerism, it is critical to the success of healthcare organizations to understand the major drivers of patient and employee perceptions of service quality. Creating a work climate that leads to high levels of perceived service quality and patient satisfaction should be a top priority for healthcare managers. But what is the correct path to follow? The article by Scotti, Harmon, and Behson brings us one more step toward mapping the course we should travel in this journey.

This article examines the effects of work environment on healthcare service quality and customer satisfaction. The authors study the sequence of events through which HPWS and customer orientation affect employee and customer perceptions of service quality and their resulting effect on patient satisfaction in 113 VHA centers. Although the research findings may be principally applicable to VHA facilities, they provide lessons that apply and extend to the general healthcare industry: There is a link between work environment and employee perceptions of delivering high-quality customer service, and there is a link between employee perceptions of customer service, customer perceptions of high-quality customer service, and customer satisfaction.

In addition to the findings that HPWS had a strong direct effect on employee perception, one of the article’s most interesting results related to the “ripple effects” of HPWS and customer orientation. These factors are shown to exert a progressive influence, as their impact manifests itself through subsequent linkages in the chain model. As demonstrated by the authors, a significant portion of customer satisfaction can be explained through employee perceptions that managers at their respective organizations empower employees and thus develop a positive supportive environment that provides the framework for exceptional high-quality customer service.

The authors have raised our awareness of the interplay between the work environment and customer satisfaction. With limited existing research that has tested the relationship between organizational work environment, service quality, and customer satisfaction, the authors identify several opportunities for healthcare executives to make practical use of the study findings. They emphasize the necessity of a complete and deep understanding of a high-performance work environment,
and the importance of hiring for attitude, making communication produce results, and aligning performance for sustained customer service.

In summary, this research demonstrates the link between the workplace, service quality, and customer satisfaction in the ambulatory care environment, an area of focus that needs to be high on the radar screens of practicing healthcare executives.