

## STRATEGIC HUMAN RESOURCE MANAGEMENT IN SERVICE CONTEXT: TAKING CARE OF BUSINESS BY TAKING CARE OF EMPLOYEES AND CUSTOMERS

CHIH-HSUN CHUANG

Department of Business and Management National University of Tainan

HUI LIAO

Department of Management and Organizations, Robert H. Smith School  
of Business University of Maryland

Integrating the strategic human resource management research with the multiple-stakeholder view of organizational climate, in this study we propose that the human resource management practices of a high-performance work system enhance a business unit's market performance in the service context by facilitating 2 types of strategically targeted organizational climate: concern for customers and concern for employees, which further encourage employees to engage in cooperative behaviors with customers (service performance) and coworkers (helping behavior) that are essential in achieving superior market performance. The results based on the data collected from multiple sources of 133 stores in Taiwan in 2 phases largely supported the proposed theoretical framework and shed light on the influence mechanism of high-performance work system on organizational effectiveness in the service context.

The link between human resource (HR) practices and organizational effectiveness has received much attention. A basic premise of this research stream is that a system of internally coherent HR practices aligned with an organizational strategy, rather than individual HR practices used in isolation, may enhance organizational performance (see Lepak, Liao, Chung, & Harden, 2006, for a recent review). The literature has garnered much empirical evidence supporting that high-performance work systems (HPWS), or systems of HR practices that include “comprehensive

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Both authors contributed equally to this project; authorship is alphabetical by last names.

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Correspondence and requests for reprints should be addressed to Chih-Hsun Chuang, Department of Business and Management, National University of Tainan, Tainan 70005, Taiwan; [chctn@mail.nutn.edu.tw](mailto:chctn@mail.nutn.edu.tw), or Hui Liao, Department of Management and Organizations, Robert H. Smith School of Business, University of Maryland, 4506 Van Munching Hall, College Park, MD 20742; [hliao@rsmith.umd.edu](mailto:hliao@rsmith.umd.edu).

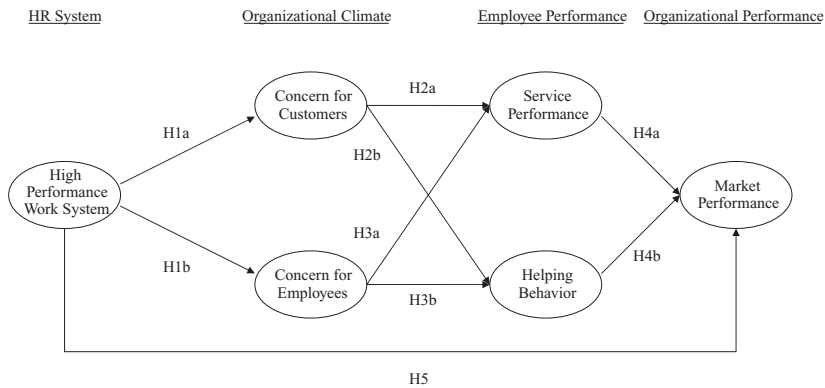
recruitment and selection procedures, incentive compensation and performance management systems, and extensive employee involvement and training” (Huselid, 1995, p. 635) and are designed to enhance employee ability, motivation, and opportunities to contribute (Batt, 2002; Boxall & Purcell, 2002), could enhance organizational performance (e.g., Huselid, 1995; Wright, Gardner, Moynihan, & Allen, 2005; Zacharatos, Barling, & Iverson, 2005). However, researchers generally agree that HR practices do not lead directly to organizational performance and have started examining the intermediate mechanisms to understand how HR practices affect organizational performance (e.g., Ferris, Authur, Berkson, Kaplan, Harrell-Cook, & Frink, 1998; Takeuchi, Lepak, Wang, & Takeuchi, 2007; Wright, Dunford, & Snell, 2001). The primary goal of this study is to further the examination of the mediation mechanisms between HPWS and organizational performance. Specifically, we aim to extend the literature in several ways.

First, although researchers have argued that HPWS could contribute to organizational performance if the system elicits employees to behave in a manner supportive of organizational goals (e.g., Ostroff & Bowen, 2000), prior studies have examined either employee in-role task performance or extra-role discretionary citizenship behavior. This study contributes to the literature by examining both types of behavior as the mediators because both behavior domains may uniquely contribute to overall organizational performance (Borman & Motowidlo, 1993).

Second, the ways employees behave may depend upon how they interpret features of the work environment, and organizational climate has been suggested to be a critical link between HR systems and employee performance (Ferris et al., 1998; Kopelman, Brief, & Guzzo, 1990; Ostroff & Bowen, 2000). It is likely that HR practices shape employee shared perceptions about the organizational climate, which in turn influence employee collective behaviors, and employee collective behaviors then contribute to organizational performance. Building upon the pioneering work of Burke, Borucki, and Hurley (1992) on a multiple-stakeholder perspective of work climate, we simultaneously investigated different types of climate targeted toward specific stakeholder groups. Corroborating Borucki and Burk (1999), we extend Burke et al.’s work (1992) from examining psychological climate perceptions at the individual level analysis to examining employee shared climate perceptions at the business-unit level analysis. We further extend Borucki and Burke’s (1999) unit-level investigation by examining a coherent HPWS as the antecedent of the unit’s climate and examining both collective in-role task performance and collective extra-role citizenship behavior as the consequences of the climate.

Third, with few exceptions (e.g., Batt, 2002; Liao & Chuang, 2004; Liao, Toya, Lepak, & Hong, 2009; Sun, Aryee, & Law, 2007), previous studies examining the HR practices-organizational performance relationship have mainly focused on blue-collar workers in manufacturing plants (e.g., Arthur, 1994; MacDuffie, 1995; Youndt, Snell, Dean, & Lepak, 1996; Zacharatos et al., 2005), despite the fact that service sectors account for about 70% of GDP in the United States (Bureau of Economic Analysis, 2007) and dominate the economy in many other nations and regions. This study contributes to the HR literature by investigating the influence mechanisms of HPWS in service settings. Given that service features are different from characteristics of the manufacturing sector, understanding the nature of services is essential to understand how HPWS operates in a service context (Batt, 2002). As Bowen and Schneider (1988) noted, compared to manufactured goods, services are less tangible; are produced, delivered, purchased and consumed simultaneously; and customers often participate in the production of their own services. These features imply that customer experience directly affects customer satisfaction, purchase decision, and loyalty, and that front-line employees have a tremendous burden of responsibility because customer interactions with them form the central part of customer experience. Therefore, HPWS in service organizations should not only focus on employees but also consider customer needs to achieve superior market performance in terms of sales, market share, and profitability. Therefore, in this study, we conceptualize HPWS as being composed of HR practices of staffing, training, employee involvement and participation, performance appraisals, compensation and rewards, and work-life balance and other caring practices that simultaneously attend to the employee-organization relationship (Fulmer, Gerhart, & Scott, 2003; Harter, Schmidt, & Hayes, 2002; Tsui, Pearce, Porter, & Tripoli, 1997) and the customer-organization relationship (e.g., Schneider & Bowen, 1985).

Taken together, the central thesis of this study is that HPWS serves to enhance the business unit's market performance in the service context by facilitating two types of strategically targeted organizational climate: concern for customers and concern for employees (Burke et al., 1992), which, in turn, encourage employees to engage in cooperative behavior with customers (service performance) and coworkers (helping behavior). Employee collective cooperative behaviors further contribute to the organization's market performance. Figure 1 depicts the study's overall theoretical framework. This framework is constructed at the business-unit level. Our unit-level analysis is appropriate on the one hand because variances in the use of HR systems as well as employee perceptions of such systems may exist between business units (Liao & Chuang, 2004). On the other hand, employee shared climate perceptions and collective



*Note.* The hypothesized partial mediated relationship is indicated by H5.

**Figure 1: Hypothesized Research Model.**

behaviors may emerge via bottom-up processes (Kozlowski & Klein, 2000) within the business unit. We empirically tested the proposed framework using data obtained from retail stores in Taiwan. In Taiwan, the service sectors, which account for more than 70% of GDP, play a pivotal role in promoting economic growth, and about 58% of Taiwanese employees work in service sectors where most of them have daily contact with customers (National Statistics, Republic of China [Taiwan], 2007a; 2007b). These data thus enable us to assess the external validity of the theoretical arguments primarily derived from Western research concerning the linkages among HPWS, organizational climate, employee behavior, and organizational performance.

In the following section, we articulate how HPWS engenders a positive climate of concern for customers and a positive climate of concern for employees, which further motivates two types of employee behaviors that are essential for achieving superior market performance.

#### *HPWS and Unit Climates*

James and James (1989) proposed that psychological climate, or an employee's cognitive evaluations or appraisal of the environment, reflects one single, overall factor indicating the degree to which the environment is viewed by the employee as beneficial or harmful to his or her well-being. Extending this work, researchers have argued that different climates can be formed in the same organization as a function of various strategic foci of the organization (e.g., Schneider, 1990). In particular, Burke and colleagues conceptualized work climate from the perspective

of a multiple stakeholder organization (Borucki & Burke, 1999; Burke et al., 1992; Burke, Borucki, & Kaufman, 2002), proposing that individual employees "may cognitively appraise their work environment in terms of what is significant or meaningful not only to their own well-being but also to the well-being of other relevant organizational constituencies (e.g., customers in a retail environment)" (Burke et al., 1992, p.718). Burke and colleagues thus differentiated two types of work climates and labeled them as "concern for customers" and "concern for employees". Using a large data set collected from a retail organization, Burke et al. (1992) demonstrated empirical evidence for the two-factor structure of individual employees' climate perceptions. Likewise, Schneider and Bowen (1992) argued that a positive climate for customer well-being and a positive climate for employee well-being are distinct, and further suggested that "an organization may have policies and practices that are positive in the sense that employees feel well-treated, but this would have little relationship to the service customers experience unless the organization also has policies and practices that promote service excellence" (p. 8).

Following the lead of Burke, Schneider, and colleagues, in this study we examine employee perceptions of the work environment in terms of the business unit's concern for customers and concern for employees. In addition, corroborating the work of Borucki and Burke (1999), we examine the multiple-stakeholder perspective of work climates at the business-unit level analysis, focusing on the shared climate perceptions among the employees from the same unit. Although employees attach their individual meanings when appraising the work environment, a shared perception may emerge in a unit through the processes of social information processing (Salancik & Pfeffer, 1978), socialization (Ostroff & Kozlowski, 1992), and attraction-selection-attrition (ASA, Schneider, 1975). Social information processing theory (Salancik & Pfeffer, 1978) argues that individuals use information gathered from their direct social contexts to interpret organizational practices, values, and norms. Given that members of the same unit are exposed to similar HR practices, they may possess shared information and form common perceptions regarding how much the unit cares about the customers and employees. Likewise, organizational socialization literature suggests that through interactions, employees may engage in collective sensemaking and develop relatively stable mental models, which may serve as the foundation to develop shared climate perceptions (Kozlowski & Bell, 2003). Further, rooted in the similarity-attraction paradigm (Byrne, 1971), the ASA perspective (Schneider, 1975) proposes that individuals of similar characteristics such as backgrounds, values, personalities, and interests are attracted by, selected to, and retained in the same work unit. Consequently, over time, homogeneity will increase in a unit, with individuals embracing similar climate perceptions.

Prior studies have provided empirical support for the formation of shared perceptions among employees of the same unit for specific climates such as service climate (e.g., Borucki & Burke, 1999; Schneider, 1990), innovation climate (e.g., Anderson & West, 1998), safety climate (e.g., Hofmann & Stetzer, 1996), and justice climate (e.g., Liao & Rupp, 2005). Therefore, we argue that business unit is an appropriate level to examine how members of the unit appraise the extent to which the unit shows concerns for its employees and customers.

Researchers have argued that HR practices play a key role in shaping employee climate perceptions about their work environment (Gelade & Ivery, 2003; Rogg, Schmidt, Shull, & Schmitt, 2001; Zacharatos et al., 2005). For example, Rousseau (1995) argues that HR practices serve a symbolic, or signaling, function by sending messages that help employees make sense of the psychological meaning of their work situation. Bowen and Ostroff (2004) also view HR practices as communication from the management to the employees that directly shapes how the employees interpret the strategic focus of the organization. Drawing on these theoretical arguments, as shown in Figure 1, in this study we examine concern for customers and concern for employees as the dual foci of the business unit and examine the relationship between HPWS and employee perceptions of the climates for customers and employees.

#### *HPWS and the Climate of Concern for Customers*

The climate of concern for customers refers to employees' shared perception of the policies, practices, and procedures regarding service quality provided to the customers in the focal unit (Borucki & Burke, 1999; Schneider, White, & Paul, 1998). The HR practices implemented in a business unit may signal to its employees the extent to which the unit values, expects, and rewards providing good service, thus influencing employees' climate perceptions about the unit's concern for customers' interests. Using a large retail sample, Borucki and Burke (1999) found that the importance management placed on service was positively related to employee shared perceptions of service climate. Several other studies have also recognized management support as a key factor to service quality (e.g., Johnson, 1996; Schmit & Allscheid, 1995). Although they did not examine HR practices directly, these studies provided evidence for the important role management may play in shaping employees' psychological evaluation about the unit's emphasis on customer service.

Schneider et al. (1998) was among the first to directly test the causal linkages between HR practices and employee shared perceptions about the climate for service or concern for customers. They proposed that employees' perceptions of how much the organization cares about

customers or service quality rest on their perceptions about a set of organizational “foundation issues” such as HR practices of involving employee in decision making and providing training that supports and facilitates employee service delivery. Their empirical analysis using data from a sample of bank branches revealed that these foundation issues indeed shaped branch-level climate for serving customers. Likewise, Salanova, Agut, and Peiró (2005) found from a sample of hotel and restaurant units that offering employees resources of training and autonomy made employees feel more engaged in serving customers, which in turn led to more positive employee shared perceptions of service climate in the unit.

Extending the work by Schneider et al. (1998) and Salanova et al. (2005), in this study we examine a more comprehensive set of HR practices of a HPWS based on the strategic human resource management (HRM) research. We argue that employees are more likely to perceive that the unit values, expects, and rewards the quality of service provided to the customers when the unit implements HPWS practices. Such practices may include selecting and training competent employees to make sure that they have the competencies to deliver high-quality service, motivating them to contribute exceptional effort in serving customers by linking performance appraisal and rewards to service quality and by implementing practices that promote employees’ work–life balance and physical and psychological well-being, and involving employees in decision making and allowing them to exercise individual discretion to respond promptly to customers’ diverse needs. Therefore, we propose:

*Hypothesis 1a:* HPWS is positively related to employees’ shared climate perception about the unit’s concern for customers.

#### *HPWS and the Climate of Concern for Employees*

The climate of concern for employees refers to the shared perceptions among employees about the extent to which they feel the unit values their contributions and cares about their well-being (Borucki & Burke, 1999; Eisenberger, Huntington, Hutchison, & Sowa, 1986; Rhoades & Eisenberger, 2002). HR practices inherently influence employees’ perceptions of a unit’s level of support (Whitener, 2001) because employees obtain favorable tangible and socio-emotional resources or receive unfavorable treatment from the unit through HR practices. HPWS, which consists of HR practices such as staffing via internal promotion, developing employee competencies via extensive training, involving employees in decision making, providing employees with fair performance appraisals, rewarding employees for superior performance, and providing flexible

work schedules and locations, as well as other practices to improve employee work-life balance and health, signals to the employees the unit's investment in employees' development, recognition of their contribution, and care in their well-being. These HR practices send a message to the employees that concern for employees is a strategic focus of the unit (Schneider & Bowen, 1992), and an accumulation over time of favorable treatments makes employees perceive that they are receiving a high level of support from the unit. Although the psychological perception of organizational support is originally constructed at the individual level (Eisenberger et al., 1986), a unit-level psychological climate will emerge when employees in the focal unit show perceptual agreement about whether the unit cares for them (James et al., 2008; Vandenberghe, et al., 2007). A recent study by Takeuchi, Chen, and Lepak (2009) was among the first to examine employee shared perception of organizational support at the business establishment/unit level. Consistent with the terminology of Borucki and Burke (1999) and the one used in this study, Takeuchi et al. labeled this aggregated construct as a climate of concern for employees. Using a sample of 76 Japanese establishments, they provided empirical evidence for sufficient agreement among employees of the same establishment about their perceptions of the establishment's concern for employees and found that HPWS practices implemented in the establishment were positively associated with the employees' shared perceptions regarding the establishment's concern for employees. Building upon and extending the work of Takeuchi et al., we examine the role of HPWS in shaping a climate of concern for employees in addition to shaping a climate of concern for customers. We propose that:

*Hypothesis 1b:* HPWS is positively related to employees' shared climate perception about the unit's concern for employees.

#### *Unit Climates and Employee Performance*

We next argue that unit climate is a proximal antecedent of employee performance, which is crucial for the unit's market performance. Borman and Motowidlo (1993) and Organ (1997) argued for extending the employee performance criterion domain beyond core job responsibilities to include both in-role task performance and extra-role contextual performance or organizational citizenship behavior (OCB). Both performance domains contribute uniquely to overall performance (Conway, 1999). In service settings, service performance, or helping customers and addressing customer needs (Liao & Chuang, 2004), is the primary responsibility of front-line employees and thus represents in-role task performance.



Meanwhile, OCB involves discretionary behavior that generally serves to lubricate the social machinery of the organization (Bateman & Organ, 1983; Smith, Organ, & Near, 1983), reduce friction, and increase efficiency (Borman & Motowidlo, 1993; Smith et al., 1983). Although OCB has been constructed at the individual level in most research (e.g., D'Amato & Zijlstra, 2008; Netemeyer, Boles, McKee, & McMurrian, 1997), researchers call for more attention to examine how unit-level OCB contributes to unit performance (Ehrhart, 2004; Koys, 2001; Podsakoff, Ahearne, MacKenzie, 1997).

No clear consensus is made in the literature on how many dimensions of citizenship behavior exist (LePine, Erez, & Johnson, 2002; Podsakoff, MacKenzie, Paine, & Bachrach, 2000), but the behavior of helping coworkers has been one of the most studied dimensions with the most consistent findings. Moreover, helping behavior has been identified as an important consideration when observing how citizenship behavior is expressed in Chinese culture (Farh, Earley, & Lin, 1997; Farh, Zhong, & Organ, 2004), where this study was conducted. Therefore, we focus on the helping dimension of OCB in this study. Extending the few prior studies that have linked organizational climates to either service performance (Borucki & Burke, 1999) or OCB (e.g., Schneider, Ehrhart, Mayer, Saltz, & Niles-Jolly, 2005) at the business-unit level of analysis, we examine the impact of a climate of concern for customers and a climate of concern for employees on both employee collective service performance and employee collective helping behavior as presented in Figure 1.

#### *Climate of Concern for Customers and Employee Performance*

Employees' behaviors at work (task and contextual performance) can be regarded as a reaction to their interpretations and appraisals of work environment (cf. D'Amato & Zijlstra, 2008). A positive unit climate of concern for customers makes employees perceive that superior service is expected, desired, and rewarded, thus providing a strong motivational force for employees to provide high-quality service in their service delivery. Indeed, prior research has found that a unit-level climate for service is positively associated with both unit-level (Borucki & Burke, 1999) and individual-level (Liao & Chuang, 2004) employee service performance. At the same time, concern for customers also elicits helping behavior between coworkers because the positive climate signals to employees that good customer service requires behaviors that go beyond typical in-role expectations (Schneider et al., 2005), as long as these behaviors support customer services. Coworker support and cooperation are essential in the delivery of excellent service by the whole group (Deeter-Schmelz & Ramsey, 2003; Netemeyer et al., 1997). For example, customers often

randomly ask a waiter or waitress who just passes by for a napkin or a glass of water without waiting for their in-charge waiter/waitress. With a more positive climate of concern for customers, a waiter/waitress is more likely to recognize the need and feel encouraged and willing to go above and beyond the call of duty, and thus is more likely to promptly attend to these customers' needs, which can highly contribute to the customers' overall service experience. Therefore, we propose:

*Hypothesis 2a:* Employees' shared climate perception of the unit's concern for customers is positively related to collective employee service performance.

*Hypothesis 2b:* Employees' shared climate perception of the unit's concern for customers is positively related to collective employee helping behavior.

#### *Climate of Concern for Employees and Employee Performance*

A climate of concern for employees also motivates employees to serve customers well and to help each other. Employees who receive inducements from the unit tend to have positive perceptions about the unit (Payne & Webber, 2006). In line with the norm of reciprocity (Gouldner, 1960), employees then feel obligated to respond positively and to repay their unit by performing well and even above expectations. It has been suggested that employees who are treated as valuable resources by their employing organization tend to treat customers as valuable (Heskett, Sasser, Jones, Loveman, & Schlesinger, 1994; Schneider & Bowen, 1985). Indeed, Vandenberghe et al. (2007) found that unit-level support perceptions of the customer-contact employees could encourage individual employees to help customers. Further, Borucki and Burke (1999) showed that employee shared perception of a retail store's concern for employees was positively associated with employees' collective service performance. Likewise, using a unit-level analysis, Schmit and Allscheid (1995) found that employees' shared appraisals of their work situations were positively related to their intentions to provide quality services. Consistent with the above assertion and empirical evidence, we propose that a shared perception about the unit's concern for employees would facilitate collective service performance of the unit's front-line employees.

In addition, empirical evidence also shows that employees are inclined to engage in extra-role, contextual performance if they perceive a high level of support from the organization (Rhoades & Eisenberger, 2002). For example, Piercy, Cravens, Lane, and Vorhies (2006) showed that salespersons' individual perceptions of the organization's concern for them could predict their OCB. Extending Piercy et al. from the individual

level of analysis to the unit level of analysis, we argue that once a shared perception about the unit's concern for employees is formed at the unit level, a shared reciprocal obligation will emerge at the unit level, which will induce not only in-role collective service performance but also collective employee behaviors to contribute beyond the call of duty and engage in helping behavior toward coworkers. Therefore, we propose:

*Hypothesis 3a:* Employees' shared climate perception of the unit's concern for employees is positively related to collective employee service performance.

*Hypothesis 3b:* Employees' shared climate perception of the unit's concern for employees is positively related to collective employee helping behavior.

#### *Employee Performance and Unit Performance*

For service units, front-line employees who are placed at the unit-customer interface and are directly responsible for service delivery play a pivotal role in enhancing unit performance. The performance behaviors of these employees are the services provided and constitute the central part of customer experience (Liao & Chuang, 2004). Their behaviors directly influence customer perceptions of service quality, the level of customer loyalty, and the amount of sales. Empirical evidence of the service profit chain (Heskett et al., 1994) research has shown that reliable, responsive, courteous, friendly, and helpful service performance promotes customer satisfaction and loyalty (e.g., Borucki & Burke, 1999; Liao, 2007; Liao & Chuang, 2004; Salanova et al., 2005; Schneider, Ashworth, Higgs, & Carr, 1996), which in turn improves a unit's market performance in terms of market share, sales growth, and profitability (Heskett et al., 1994; Reichheld & Sasser, 1990). Moreover, empirical studies also support a positive relationship between unit-level citizenship behavior and unit performance (Koys, 2001; Podsakoff et al., 1997; Podsakoff & MacKenzie, 1994; Schneider et al., 2005). Specifically, helping behavior among coworkers may contribute to a unit's success by improving coordination between group members and across work groups, enhancing coworker productivity, and improving the unit's ability to adapt to environmental changes (Podsakoff et al., 2000).

Based on these arguments and findings, in Figure 1 we hypothesize that front-line employees' collective service performance to customers and collective helping behaviors to coworkers are key factors influencing a business unit's market performance of sales growth, market share, and profitability. We focus on collective performance rather than individual performance in this study because of the joint impacts that employee

behaviors may have on the unit. Unit market performance is likely to be a reflection of the interactions of employee behaviors, and the cumulative interactions may create a stronger relationship with the unit's performance than the simple sum of individual performance (Ostroff & Bowen, 2000). For example, customers shopping in retail stores often interact with multiple front-line employees in a somewhat random fashion (i.e., their service encounters may involve any front-line employees who are in the store at the time of visit). Sales transactions are more likely to be completed smoothly and customer satisfaction is thus more likely to be higher in stores whose sales associates are cooperative toward the customers and each other across the board. Accordingly, the overall level of employee performance may contribute to the business unit's market performance (Liao & Chuang, 2004). Therefore, we propose:

*Hypothesis 4a:* Collective employee service performance contributes to the business unit's market performance.

*Hypothesis 4b:* Collective employee helping behavior contributes to the business unit's market performance.

#### *The Mediating Mechanisms of the HPWS-Unit Performance Link*

So far we have argued that the HR practices of a HPWS can facilitate dual climates of concern for customers and concern for employees, which in turn may encourage employees to engage in service performance and helping behavior that are essential for achieving superior market performance. Our hypothesized model is rooted from the insight that HPWS influences unit performance indirectly through unit climate and employee performance (Ferris et al., 1998; Kopelman et al., 1990; Ostroff & Bowen, 2000). Past studies provide preliminary evidence of unit climate playing as a critical link between HR systems and unit performance (e.g., Gelade & Ivery, 2003). We further differentiate two key climates in service settings based on the work of Burke et al. (1992) and Borucki and Burke (1999). In addition, past research provides evidence to construct service performance as a mediator of the unit climate–unit performance relationship, and we extend this literature by uniquely adding contextual performance to the investigation and extend the previous investigation of this mediated relationship from individual level of analysis (e.g., D'Amato & Zijlstra, 2008) to unit level of analysis. Taken together, we propose that the relationship between HPWS and the unit's performance is mediated by unit climates and collective employee performance. Our model shown as Figure 1 represents the type of long mediation chain as discussed in Taylor, MacKinnon, and Tein (2008) in which two layers of mediators

intervene in a series between an independent variable (i.e., HPWS) and a dependent variable (i.e., unit's performance).

This research does not, however, assert that all the effects of HPWS on unit performance are mediated by unit climate and employee behaviors. The HR system of a unit is likely to influence the unit's performance through other potential mediators (Kopelman et al., 1990; Ostroff & Bowen, 2000). For example, customer-contact employees are in great need of sales competency customer service competency, and product (or service) knowledge for successfully serving customers. Staffing helps obtain competent employees and fit them to the jobs, and training maintains and improves service competencies and keeps employees oriented toward the customers. In addition, customer-contact employees often need to address nonstandard and unpredictable customer needs, and then require immediate attention and creative personal judgment. Providing opportunities to use individual discretion may free them up to be more responsive to customer requests and take necessary actions to satisfy their customers (Batt, 2002). As our research model captures the *motivation* mediator of the HR-performance link, other *ability* and *opportunity* factors may also serve as mediators (Batt, 2002; Boxall & Purcell, 2002; Lepak et al., 2006). Therefore, we propose:

*Hypothesis 5:* Unit climates (i.e., climate of concern for employees and climate of concern for customers) and collective employee performance (i.e., collective service performance and collective helping behavior) partially mediate the relationship between HPWS and the business unit's market performance.

### *Method*

#### *Participants and Procedures*

The theoretical framework of this study was tested by collecting data over two time periods from the managers and employees of multiple service stores in Taiwan, including retail stores, hair and beauty salons, and restaurants and cafés. Because different sets of HR practices may be implemented to manage different groups of employees within the same organization (Lepak & Snell, 1999), we focused entirely on customer-contact employees. Only stores with at least five employees were invited to participate because HR practices are more likely to be present at larger stores (Wright & Boswell, 2002). In addition, we would include no more than three chain stores from a single company to increase the heterogeneity of HR practices in the sample.

To reduce common-method variance and make temporal inference of the studied variables, we obtained survey information from various sources at two different phases. In the first phase, a store manager was invited to rate items of HR practices for managing customer-contact employees. Sales associates of retail stores, stylists and assistants of hair and beauty salons, and waitstaff of restaurants and cafés were asked to assess two climate variables in their work environment and their customer knowledge. Employees who were not in regular contact with customers were excluded. Due to the complexity of data collection procedures and to increase participation rate, the first author and/or trained assistants visited stores personally to deliver packages of surveys and to explain the collection procedures. Surveys were collected later by research assistants. Each package given to a store contained one copy of the manager survey and 10 copies of the employee survey, and each survey was accompanied by an envelope. The store manager of each store was asked to designate an employee to collect sealed envelopes from employees to ensure anonymity. A total of 885 stores were solicited to participate, and 207 stores returned surveys, representing a response rate of 23%. After excluding stores that returned surveys from part-time employees only and those who returned fewer than five employee surveys, we had 194 manager surveys (1 survey per store) and 1,193 employee surveys from 194 stores.

Approximately 1 year later, two store managers from the same 194 stores were asked to rate the overall service performance and helping behavior of front-line employees and to report market performance of their stores. Twenty-one stores were either closed or moved, and they could not be found by searching through the yellow pages or the Internet. A total of 133 stores returned at least one survey, representing a response rate of about 69%. The final sample with complete information for all the study variables included 133 stores. Comparing the sample of 133 stores with the sample of the 61 stores that dropped out at the second phase, we found no statistically significant mean differences in store size, store age, concern for customers, and concern for employees between the two samples, but the former sample had a higher rating of HPWS than the latter (mean difference = .15,  $p < .05$ ). Therefore, we might have a restriction of range on the HPWS measure, which could cause the estimated effects of HPWS to be weaker than what might be in a more diverse sample.

Among the 133 stores, 114 stores returned two manager surveys, allowing us to split the sample so that the data of employee performance and market performance were from different managers. For the remaining 19 stores, which returned only one manager survey, employee performance and market performance measures were from the same manager. To alleviate concern of common-source bias, we conducted analyses using both the full sample of 133 stores and the sample of 114 stores and found that

both sets yielded highly similar results. Therefore, we retained the full sample to increase statistical power and estimation efficiency.

The final sample consisted of 71 retail stores, 24 hair and beauty salons, and 38 restaurants and cafés. Although the majority of them (90 stores) were chain affiliated, stores in our sample belonged to 76 different chains; 1 chain had three stores, 12 chains each had two stores, and the remaining 63 chains each had one store. The average number of employees per store was 13.34. There were a total of 828 employee respondents, with 71% female employees, 83% full-time employees, and 57% of employees have earned a high-school diploma.

The mean within-store response rate was about 66%, with 92 (or 69%) of the 133 stores having at least a 50% response rate. To alleviate concern of potential response bias, we compared the analytic results of the entire sample with the results for a sample from which we deleted the stores with the response rates lower than 50% (Schneider et al., 2005). Again we found no significant difference in the results using these two different samples. We thus retained the full sample of 133 stores in our formal analysis.

#### *Scale Development and Measure Translation*

Procedures were taken to ensure measurement validity. We developed the scale of HPWS by reviewing the literature and interviewing with several store managers and front-line employees. In addition, seven HR scholars and professionals were invited to validate the content of HR practices. The other scales were published measures. They were translated into Chinese by three HR researchers, and the back-translation procedures recommended by Brislin (1980) were followed. We then discussed the employee survey with several customer-contact employees to further improve the readability of the survey.

#### *Measures*

*High-performance work systems.* A total of 35 items (rated from 1 = *strongly disagree* to 5 = *strongly agree*) were used to measure HPWS, including six subscales (practices) of staffing, training, involvement/participation, performance appraisals, compensation/rewards, and caring. The full list of items is presented in the Appendix. Among them, nine items were adapted from the commitment-based HR configuration of Lepak and Snell (2002), and two items examining employee discretion were taken from Batt (2002). All subscales displayed good internal reliability, except for the subscale of involvement/participation for which  $\alpha$  was .61. Following the subscale aggregation approach, as supported

by Drasgow and Kanfer (1985) and used in prior strategic HRM studies such as Zacharatos et al. (2005), we calculated the mean scores of each subscale (practice) and used them as indicators of the latent variable HPWS in the confirmatory factor analysis (CFA). The overall  $\alpha$  was .92 across the subscales.

*Unit's climate of concern for customers.* Employees' perceptions about the store's concern for customers were rated with the seven-item global service climate scale developed by Schneider et al. (1998). A sample item was "the leadership shown by management in our store in supporting the service quality effort." Employees responded to these items on a 7-point scale ranging from 1 = *very poor* to 7 = *excellent*.

*Unit's climate of concern for employees.* The eight-item short form of the Survey of Perceived Organizational Support (Eisenberger et al., 1986) was employed to measure concern for employees at each store. These items (rated from 1 = *strongly disagree* to 5 = *strongly agree*) were reworded to focus on how customer-contact employees were treated as a whole. Sample items include "our store really cares about employees' well-being."

Concern for customers and concern for employees are theoretically distinguishable constructs (Borucki & Burke, 1999; Burke et al., 1992; Schneider & Bowen, 1992), and we conducted factor analyses to provide further evidence for their distinctiveness by using employee-level data ( $n = 822$  after deleting cases with missing values). We randomly split the 822 cases into two subgroups with 411 respondents each to conduct exploratory factor analysis and CFA, respectively. The items of concern for customers and concern for employees rated by the first group were submitted to a principal components analysis with varimax rotation. Two factors emerged with eigenvalues greater than 1 and appropriately represented the items of concern for customers and concern for employees, with primary loadings exceeding .65. The two factors accounted for 64.43% of the variance. We then used responses from the other group to run CFA to verify the factor structure of the climate items. Results showed that the two-factor model provided a significantly better fit than the one-factor model ( $\Delta\chi^2 = 676.15$ ,  $\Delta df = 1$ ,  $p < .01$ ). Moreover, the two sets of fit indexes showed that the two-factor model (root mean square error of approximation [RMSEA] = .08, non-normed fit index [NNFI] = .94, comparative fit index [CFI] = .95, parsimonious normed fit index [PNFI] = .78) fitted the data better than the one-factor model (RMSEA = .16, NNFI = .78, CFI = .81, PNFI = .68). In the two-factor model, all items significantly loaded on their respective latent constructs ( $p < .01$ ). From these results, we concluded that these items were reasonable measures of concern for customers and concern for employees, respectively, and the two climate constructs were distinct.



*Service performance.* Service performance was assessed with seven items adapted from Liao and Chuang (2004), which was originally developed by Borucki and Burke (1999). Items were reworded for managers to rate the service performance of their stores as a whole (1 = *strongly disagree* to 7 = *strongly agree*). An example item is that “our employees ask good questions and listen to find out what a customer wants.”

*Helping behavior.* Helping behavior was assessed with a seven-item helping subscale of citizenship behavior developed by Podsakoff et al. (1997). This scale has been applied to work groups and fits this study. Items were reworded for managers to rate the store employees’ overall helping behavior (1 = *strongly disagree* to 7 = *strongly agree*). A sample question is “our employees willingly give of their time to help coworkers who have work-related problems.”

*Market performance.* Managers were asked to rate their store market performance relative to that of other competitors for the past 12 months on a response format ranging from 1 = *much worse* to 5 = *much better*, by using Delaney and Huselid’s (1996) four-item scale (marketing, sales growth, profitability, and market share). The comparative method has been suggested to be more effective at eliciting responses than directly asking respondents to provide exact figures (Tomaskovis-Devey, Leiter, & Thompson, 1994). We used manager-reported measures to assess unit market performance because obtaining objective performance data of stores from over 100 different organizations was not feasible. Although there has been concern with the validity of subjective performance measures, Wall and colleagues recently demonstrated the convergent, discriminant, and construct validities of subjective performance measures judged against objective performance measures in research findings relating management practices and performance (Wall et al., 2004), suggesting that self-reported measures are useful in studies where objective ones are not available. They also estimated an average of .52 correlation between manager’s perceived and actual firm performance (Wall et al., 2004). Further, self-reported performance measures have often been employed in published studies on the HR-performance link (e.g., Delaney & Huselid, 1996; Sun et al., 2007; Takeuchi et al., 2007; Youndt et al., 1996) and are deemed acceptable to use in comparing the effectiveness of organizations providing different types of services and products (Delaney & Huselid, 1996; Takeuchi et al., 2007).

For those 114 stores returning two manager surveys in the second phase, we calculated average mean deviation (AD) index to determine the level of agreement among manager ratings of service performance, helping behavior, and market performance (Burke & Dunlap, 2002; Burke, Finkelstein, & Dusi, 1999). The AD index, which is particularly developed for situations with small numbers of raters and items, “involves

determining the extent to which each item rating differs from the mean (or median) item rating, summing the absolute values of these deviations (ignoring plus or minus signs), and dividing the sum by the number of deviations" (Burke & Dunlap, 2002, p. 160). We adopted an upper-limit cutoff of .83 ( $c/6$ , where  $c$  indicating the number of response options for a measure item) as suggested by Burke and Dunlap (2002) when a 5-point Likert scale is used, with smaller indices indicating stronger agreement among raters. The AD index for each item of service performance (ranged between .35 and .47), helping behavior (ranged between .40 and .51), and market performance (ranged between .36 and .48) all showed that two managers at the same store reached an acceptable level of agreement. Further, another index of interrater agreement  $r_{wg(I)}$  (James, Demaree, & Wolf, 1984) was calculated. The mean  $r_{wg}$  value was .91 for service performance, .88 for helping behavior, and .88 for market performance. These results provided evidence for the interrater agreement of the managers' ratings, hence increasing the confidence in using just one manager's ratings to represent the store's employee performance and market performance. We also computed intraclass correlation or ICC(1) and reliability of group mean or ICC(2) (Kozlowski & Klein, 2000). ICC(1) values were all significant for the three variables, with the values of .39 for service performance, .24 for helping behavior, and .37 for market performance. In addition, ICC(2) values for service performance, helping behavior, and market performance were .57, .39, and .54 respectively. The relative low ICC(2) values were comparable to other studies conducted in the service context with very small number of respondents from each unit (e.g., Liao et al., 2009). To reduce common-source bias, in our subsequent analyses we did not average two manager scores but rather split the sample to use one manager's evaluation of the employee performance and one manager's evaluation of the unit's market performance.

*Control variable.* Human capital has been recognized as an important resource that drives employees' contributions to the organization, and empirical evidence has provided support for the link between human capital and unit performance (e.g., Takeuchi et al., 2007). In the service context, the level of employees' customer knowledge is an important indicator of the employees' service human capital. To successfully interact with different types of customers and to help each other, customer-contact employees should have rich knowledge about customer characteristics and various strategies for meeting the diverse needs of different customers (Betten-court, Gwinner, & Meuter, 2001; Sujan, Sujan, & Bettman, 1988; Weitz, Sujan, & Sujan, 1986). Therefore, employees' customer knowledge may affect their performance by influencing their ability to serve customers and help coworkers. Therefore, we control for the effects of customer knowledge on collective service performance and collective helping behavior to

assess how organizational climates can influence employee behaviors beyond the effect of human capital. Store employees responded to five items (1 = *strongly disagree* to 5 = *strongly agree*) of the customer knowledge measure created by Bettencourt et al. (2001).

### *Data Aggregation*

Variables of interest in this study were conceptualized at the store level, which required an aggregation of two climates and customer knowledge rated by employees. We examined aggregation statistics, including ICC(1), ICC(2) (Kozlowski & Klein, 2000), and within-group agreement of multiple item  $r_{wg(J)}$  (James et al., 1984). The ICC(1) scores of concern for customers, concern for employees, and customer knowledge were .36, .33, and .14 respectively. The ICC(2) values for these variables were .80, .78, and .55 respectively. The mean  $r_{wg}$  values were .86 for concern for customers, .94 for concern for employees, and .92 for customer knowledge. These values are comparable to other studies on HPWS and unit climate (e.g., Liao & Chuang, 2004; Takeuchi et al., 2009). Based on the recommendation of Burke and Dunlap (2002), we also calculated AD index for these three variables. Given that a 7-point Likert scale was used, every item of concern for customers displayed a mean AD value below the threshold value of 1.17 (ranged between .62 and .76), showing acceptable levels of agreement among employees. Likewise, all values of mean AD about concern for employees (ranged between .47 and .60) and customer knowledge (ranged between .44 and .54) were below the threshold value of .83, given that a 5-point Likert scale was used for both constructs. These results provided sufficient support for aggregating the data to the store level of analyses.

### *Analyses*

We first used CFA to test whether each of the measurement items specified could load significantly onto the latent constructs with which they were associated and whether each construct was empirically distinct from the others. Then, as recommended by researchers (e.g., James, Mulaik, & Brett, 2006; MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002), we employed structural equation modeling, which provides a better balance of Type I error rates and statistical power by simultaneously testing both paths from an independent variable to a mediator and from the mediator to the dependent variable (MacKinnon et al., 2002) to examine the relationships proposed in the research model. Maximum likelihood estimation, which is an appropriate method for a sample size ranging from 100 to 200 (Hair, Anderson, Tatham, & Black, 1998), was used as the

estimation procedure. To increase the ratio of sample size to free parameter, we combined the scale items to create three "composite" indicators for concern for customers, concern for employees, service performance, and helping behavior, respectively, following the procedure by Mathieu and Farh (1991). The items included in each composite were listed in the Appendix.

In terms of testing the mediational hypotheses, MacKinnon et al. (2002) compared 14 methods to test mediation via simulations and concluded that the joint significance test provided the best balance of small Type 1 error and high statistical power. The test requires that the path from the independent variable to the mediator is statistically significant and the path from the mediator to the dependent variable, adjusted for the independent variable, is also significant. Nevertheless, as these authors pointed out, a limitation of the joint significance test is that it does not provide an estimate of the magnitude of the mediated/indirect effect; therefore, researchers may prefer using a product of coefficient test that is close to the joint significance test in accuracy and at the same time generates an estimate of the magnitude and statistical significance for the mediated/indirect effect. MacKinnon et al. (2002) further noted that a major difficulty in using product-of-coefficients tests is that distribution of the product of two regression coefficients is not normal as the tests often assume, leading to poor performance of the tests. As a result, several researchers have suggested that resampling procedure, which does not make distribution assumptions, be used to deal with the possibility of nonnormal distribution of the mediated effects (MacKinnon, Lockwood, & Williams, 2004; Shrout & Bolger, 2002). Bootstrap analysis is one such widely used resampling method and involves drawing a large number of bootstrap samples with replacement from the original data set and then estimating parameters in each bootstrap sample as in the original data. The distribution of the estimates from bootstrap samples can form confidence intervals to determine statistical significance of the mediated effects; if the  $(1 - \alpha)100\%$  confidence intervals do not contain the value of zero, then the mediated effects was significant at  $\alpha$  level (Taylor et al., 2008; Shrout & Bolger, 2002). Taylor et al. suggested that bootstrap analysis can be employed not only in the single-mediator situation but also in longer mediational chains in which the relationship between the predictor and the outcome is mediated by more than one layer of mediators, as the case in this study. Therefore, we adopted the bootstrap procedure to test the mediation Hypothesis 5. In particular, we used AMOS 17.0 (SPSS Inc., 2008) to perform a bootstrap on 1,000 samples, obtaining bias-corrected confidence intervals for each parameter in the model. The bias-corrected bootstrap has been recommended and employed in this study because this method tends to improve power in testing the mediated effects,

albeit it risks a little excess Type I error rate (MacKinnon et al., 2004). To balance the slight increase in Type I error rate, we supplement the bias-corrected bootstrap by performing a joint significance test, which is more conservative, to see whether each of the path coefficient in the mediation chain is statistically nonzero.

### *Results*

Table 1 presents the means, standard deviations, correlations, and coefficient  $\alpha$  of all the studied constructs. As shown in Table 1, all hypothesized pairs of relationships were statistically significant.

### *Measurement Model Analyses*

The results of CFA indicated that the hypothesized seven-factor model fit the data well ( $\chi^2 = 306.17$ ,  $df = 231$ ,  $p < .01$ , RMSEA = .05, NNFI = .96, CFI = .97, PNFI = .75). For evidence of discriminant validity, we compared the hypothesized measurement model with a five-factor model in which concern for customers and concern for employees were combined as unit climate, and service performance and helping behavior were combined as employee performance. Chi-square difference tests indicated that the hypothesized seven-factor model provided a better fit for the data than the five-factor model ( $\Delta\chi^2 = 374.87$ ,  $\Delta df = 11$ ,  $p < .001$ ), suggesting that constructs used in this study were distinct.

An examination of the correlation matrix of the latent variables suggests a relatively high level of correlation between unit-level concern for customers and concern for employees ( $r = .76$ ,  $p < .01$ ). We separated these two climate variables in our analyses primarily based on their distinct theoretical conceptualization and that previous research has treated them as two different factors (Borucki & Burke, 1999; Burke et al., 1992). We further tested their discriminant validity in our data following the suggestions of Fornell and Larcker (1981) and Netemeyer, Johnston, and Burton (1990). The variances extracted by concern for customers and concern for employees were compared with the squared correlation between these two latent constructs. The variance extracted estimates of concern for customers and concern for employees were .94 and .88, respectively, and both exceeded the square of the correlation between these two constructs ( $\Phi^2 = .58$ ), showing evidence of discriminant validity. Further, the phi coefficient was significantly less than 1 (standard error = .04). After using standard error to create a confidence interval, the confidence interval was shown to not include a value of 1 (Jöreskog & Sörbom, 1993). These statistics, together with the CFA results, offer support for the distinctiveness of concern for customers and concern for employees.

TABLE 1  
*Means, Standard Deviations, and Correlations*

Variables	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Market performance	3.27	.79	(.85)												
2. Service performance	5.82	.75	.30	(.92)											
3. Helping behavior	5.58	.66	.36	.60	(.84)										
4. Concern for customers	4.94	.69	.27	.46	.45	(.94)									
5. Concern for employees	3.52	.45	.26	.38	.47	.76	(.89)								
6. High performance work systems	3.84	.48	.25	.43	.34	.39	.38	(.92)							
7. HPWS-staffing	4.20	.53	.19	.28	.17	.25	.36	.63	(.81)						
8. HPWS-training	3.03	1.58	.28	.26	.21	.27	.13	.72	.25	(.98)					
9. HPWS-involvement	3.70	.47	.00	.34	.22	.29	.26	.55	.28	.20	(.61)				
10. HPWS-performance	4.12	.50	-.01	.34	.27	.26	.24	.75	.52	.34	.43	(.74)			
11. HPWS-compensation	3.89	.56	.24	.31	.30	.37	.37	.77	.57	.36	.42	.63	(.84)		
12. HPWS-caring	3.96	.57	.13	.23	.18	.22	.35	.69	.50	.28	.43	.62	.67	(.82)	
13. Customer knowledge	3.58	.28	.19	.42	.49	.51	.48	.29	.19	.18	.15	.26	.33	.19	(.87)

*Note.* Correlations with an absolute value greater than .17 are significant at  $p < .05$  (2-tailed). Scale reliability estimates ( $\alpha$ ) are presented in parentheses on the diagonal.  $n = 133$ .

Next, the measurement of each construct was assessed by examining the estimated factor loadings for statistical significance and by examining the composite reliability and the variance extracted from that construct. The relationship between each indicator variable and its respective latent variable was statistically significant ( $p < .01$ ). The composite reliability, which depicts the degree to which they “indicate” the common latent construct (Hair et al., 1998: 612), ranged from .68 to .98. The variance extracted measure, which represents the overall amount of variance in the indicators that are accounted for by the latent construct (Hair et al., 1998: 612), ranged from .46 to .94.

### *Structural Model Analyses*

The fit of the structural model was assessed by adding the predicted paths to the measurement model. Because we hypothesized a partial mediation model, a direct path from HPWS to market performance was added, indicating that part of the causal effect of HPWS on the unit's market performance was direct, whereas a separate part of the causal effect passed through unit climates and employee collective performance (James et al., 2006). The hypothesized research model (Figure 1) achieved an acceptable fit with this data ( $\chi^2 = 365.50$ ,  $df = 239$ , RMSEA = .06, NNFI = .94, CFI = .95; PNFI = .75). In reviewing the structural parameter estimates, we found that the coefficients of the path from HPWS to market performance ( $\gamma_{51} = .07$ ,  $p = .48$ ), of the path from concern for customers to helping behavior ( $\beta_{41} = .21$ ,  $p = .12$ ), and of the path from concern for employees to service performance ( $\beta_{32} = -.01$ ,  $p = .94$ ) were nonsignificant. In addition, no significant path existed between customer knowledge and helping behavior. We retained the direct link between HPWS and market performance for further analyses but deleted the other three nonsignificant structural paths from the hypothesized model for parsimony. The revised model was refit to the data, resulting in a better parsimony index ( $\chi^2 = 370.81$ ,  $df = 242$ , RMSEA = .06, NNFI = .94, CFI = .95; PNFI = .76), and the increase in  $\chi^2$  was not statistically significant ( $\Delta\chi^2 = 5.31$ ,  $\Delta df = 3$ , *ns*).

As depicted in Figure 2, we found a strong, positive relationship between the measure of HPWS and concern for customers ( $\gamma_{11} = .43$ ,  $p < .001$ ) as well as a strong, positive relationship between the measure of HPWS and concern for employees ( $\gamma_{21} = .51$ ,  $p < .001$ ), thus supporting Hypotheses 1a and 1b. The coefficient of the path from concern for customers to service performance was significant ( $\beta_{31} = .38$ ,  $p < .001$ ), but not the relationship between concern for customers and helping behavior. Hypothesis 2a was supported but not Hypothesis 2b. On the other hand, no significant path existed between concern for employees and service

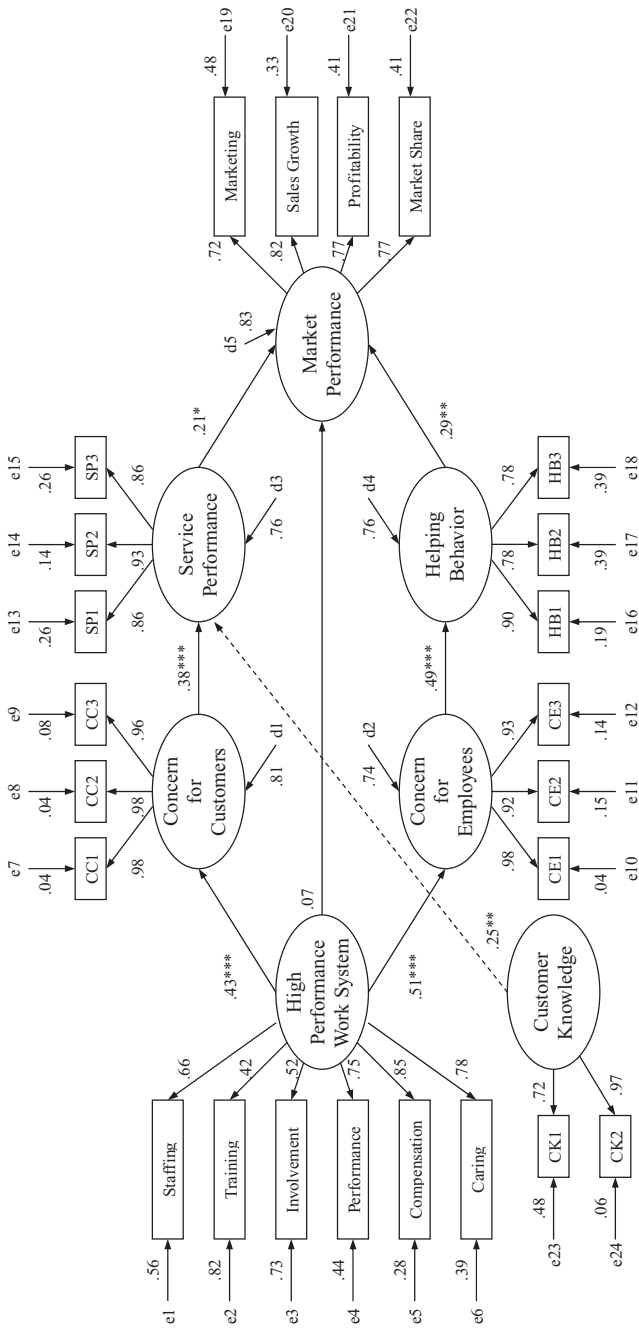


Figure 2: Results From the Revised Structural Model.



performance, failing to support Hypothesis 3a. Meanwhile, the coefficient of the path from concern for employees to helping behavior was significant ( $\beta_{42} = .49, p < .001$ ), supporting Hypothesis 3b. Moreover, we found statistically significant and positive coefficients for the paths between service performance and market performance ( $\beta_{53} = .21, p < .05$ ) and between helping behavior and market performance ( $\beta_{54} = .29, p < .01$ ). The results supported both Hypothesis 4a and Hypothesis 4b.

### *Mediation Analysis*

The above analyses showed that the mediators were significantly related to both HPWS and the unit's market performance. To examine whether unit climates and collective employee performance mediated the relationship between HPWS and market performance, we performed a bias-corrected bootstrap analysis to calculate the confidence intervals for the direct effects and the mediated effects, as recommended by MacKinnon and colleagues (MacKinnon et al., 2004; Taylor et al., 2008). For the revised model (Figure 2), 1,000 bootstrap samples were generated and bias-corrected confidence intervals for each of the bootstrap estimates were formed.

In examining such a long chain mediation model, a joint significance test reveals that each of these paths in the revised model (HPWS  $\rightarrow$  concern for customers, concern for customers  $\rightarrow$  service performance, service performance  $\rightarrow$  market performance; HPWS  $\rightarrow$  concern for employees, concern for employees  $\rightarrow$  helping behavior, helping behavior  $\rightarrow$  market performance) was significantly nonzero,<sup>1</sup> thus providing evidence for mediation (MacKinnon et al., 2002; Taylor et al., 2008). Moreover, bootstrap analysis provides estimates of the mediated effect and confidence intervals. The indirect effect of HPWS on collective service performance ( $\gamma_{11} \times \beta_{31}$ ) was .164, whereas the mediated or indirect effect of HPWS on collective helping behavior ( $\gamma_{21} \times \beta_{42}$ ) was .247. Neither 95% confidence interval includes zero.<sup>2</sup> In addition, the mediated effect of HPWS on the unit's market performance ( $\gamma_{11} \times \beta_{31} \times \beta_{53} + \gamma_{21} \times \beta_{42} \times \beta_{54}$ ) was .106, with a 95% confidence interval ranging from .052 to .202.

<sup>1</sup>The 95% confidence intervals of these paths were HPWS  $\rightarrow$  concern for customers (.281, .583), concern for customers  $\rightarrow$  service performance (.156, .574), service performance  $\rightarrow$  market performance (.007, .440); HPWS  $\rightarrow$  concern for employees (.356, .625), concern for employees  $\rightarrow$  helping behavior (.310, .643), helping behavior  $\rightarrow$  market performance (.028, .560).

<sup>2</sup>The 95% confidence intervals of the indirect effect of HPWS  $\rightarrow$  concern for customers  $\rightarrow$  service performance and the indirect effect of HPWS  $\rightarrow$  concern for employees  $\rightarrow$  helping behavior were (.064, .295) and (.142, .381) respectively.

We conclude that mediation was present because the mediated or indirect effect of HPWS on market performance was significantly different from zero (Shrout & Bolger, 2002; Taylor et al., 2008).

Next we computed the magnitude of the indirect effect by using Alwin and Hauser's (1975) formula. The total effect of HPWS on unit market performance is equal to the estimate taken from the reduced form equation that includes HPWS as the only independent variable (Alwin & Hauser, 1975). Therefore, we fit a structure model in which HPWS was the exogenous construct and market performance was the endogenous construct and found that the standardized regression coefficient of the HPWS-market performance relationship was .233 ( $p < .05$ ). The percentage of the total effect that was mediated through unit climate and collective employee performance was about 45% (.106/.233). The results suggest that 1 standard deviation increase in HPWS was associated with .23 standard deviation increase in the market performance, and the intervening variables transmitted 45% of the effect. Therefore, the partial mediation hypothesis proposed in Hypothesis 5 was supported.<sup>3</sup>

The squared multiple correlations or  $R^2$  for structural equations was .19 for the climate of concern for customers, .26 for the climate of concern for employees, .24 for both service performance and helping behavior, and .17 for market performance, suggesting that a moderate amount of variance in these variables was accounted for by our model specifications.

### *Discussion*

The main purpose of this study is to investigate the intermediate linkages between HR practices and organizational performance in the service context. Although previous studies have provided preliminary empirical evidence, we extend the literature by integrating different types of organizational climate and various domains of employee behavior in our research framework. In particular, we propose that HR practices of a HPWS can facilitate a climate of concern for customers and a climate of concern for employees, which motivate employees to engage in cooperative behaviors toward customers and coworkers, and then contribute to a business unit's market performance.

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<sup>3</sup> Although the direct path from HPWS to market performance was nonsignificant ( $\beta_{s1} = .074$ ) in the revised structural model, unit climate and collective employee performance did not account for 100% of the total effect, thus indicating partial mediation. Moreover, from a conceptual point of view, concern for customers, and concern for employees unlikely mediate all the effect of HPWS on market performance as discussed previously. Accordingly, our empirical results supported partial mediation. We thank one of the anonymous reviewers for the insightful suggestion.

*Main Findings and Implications for Research*

The results largely supported our theoretical framework and offer several implications for the strategic HRM research. First, we found that managers' reports of HPWS were positively related to employees' reports of the store's concern for customers and concern for employees. This finding provides evidence for the multiple stakeholder perspective of work climates (Borucki & Burke, 1999; Burke et al., 1992), which argues that employees may cognitively appraise their work environments in terms of the significance both to their own and to the customers' well-being. Our findings also extended Burke and colleagues' work by demonstrating HPWS as the antecedents of multiple work climates and showing that the HR practices of a HPWS were positively associated with employee perceptions about the extent to which the organization cares about the employees as well as the customers.

Second, we found that the climate of concern for customers mediated the relationship between HPWS and employee service performance, whereas the climate of concern for employees mediated the relationship between HPWS and employee helping behavior provided to coworkers. Researchers have argued that employees' perceptions and interpretation of the HR practices, rather than the actual HR practices themselves, directly influence employee attitude and behavior (cf. Gerhart, Wright, & McMahan, 2000; Wright et al., 2005). This study provides empirical evidence for this notion by showing that climates mediated the relationships between HPWS and employee behaviors. Our study also adds to the limited research that has examined climate as the mediating mechanism between HPWS and employee attitudes (i.e., Takeuchi et al., 2009) by examining dual climates simultaneously, by including manager-evaluated employee collective performance as the outcome, and by extending the investigation to the service context. The results suggest that when employees perceive that the store expects, supports, and rewards excellent service through implementing HPWS practices, they are more likely to provide high-quality service to customers. This finding also provides evidence for the motivational effect of service climate (Liao & Chuang, 2007) and corroborates past research that shows a positive relationship between service climate and collective service performance (e.g., Borucki & Burke, 1999). In addition, the results suggest that when employees perceive that the store values their contributions and cares about their well-being via supportive HR practices, they reciprocate with cooperative behavior toward coworkers. This finding extends prior investigation by Piercy et al. (2006) on the relationship between individual perception of an organization's concern for employees and employee OCB at the individual level of analysis to demonstrate a positive relationship between the shared perceptions of the

climate of concern for employees and employee helping behavior at the business-unit level of analysis.

Third, we found that both types of employee behaviors (i.e., service performance and helping behavior) contribute to the business unit's market performance in terms of market share, sales growth, and profitability. In addition, the long-chain mediation tests revealed that a unit's HPWS was indirectly and positively related to the unit's market performance first via establishing favorable dual climates of concern for employees and concern for customers, and then via motivating employee service performance and helping behavior. Because our research model involves a three-path mediation model (Taylor et al., 2008), the path coefficients for the indirect effect tend to be substantially lower than would be observed for a traditional two-path mediation model. Nonetheless, our proposed intervening variables transmitted 45% of the effect of HPWS on the unit's market performance. Accordingly, we conclude that the mediating roles of the dual climates of concern for customers and concern for employees as well as employee cooperative behaviors toward customers and coworkers are substantial and should not be neglected. This finding thus adds to the growing yet still much limited literature on the specific mechanism through which HPWS contributes to business performance and sheds light on the specific process in the service context.

There are also a couple of intriguing findings that were not consistent with our expectations. First, we did not find a significant relationship between the climate of concern for customers and employee behavior of helping coworkers. A possible explanation for this finding is that, because in this study service was primarily provided by an individual employee, front-line employees did not have much opportunity to help each other in serving customers. It is also plausible that other forms of OCB may be more closely associated with a unit's climate of concern for customers in service organizations (Borman & Motowidlo, 1993). For example, employees who perceive that the unit takes service quality seriously may take initiatives to improve service delivery by engaging in voice behavior (LePine & Van Dyne, 2001) such as providing information about customer needs and making constructive suggestions to management (Bettencourt et al., 2001). We encourage future studies to explore the relationship between the climate of concern for customers and other forms of OCB behaviors.

Second, we also found a lack of significant relationship between concern for employees and service performance, which is inconsistent with the results of Borucki and Burke (1999). The nonsignificant finding is not rare. Among the few studies that included job performance as an outcome variable, employee perceptions of the organization concerns for them have sometimes failed to predict in-role performance ratings (e.g.,

Settoon, Bennett, & Liden, 1996; Wayne, Shore, & Liden, 1997). The nonsignificant relationship might be attributed to the issue of measurement (Sowinski, Fortmann, & Lezotte, 2008). As used in Takeuchi et al. (2009), the scale used in this study focused on a global perception of the extent to which an organization cares about and values its employees. Borucki and Burke (1999), on the other hand, measured several aspects of organizational practices. It leaves future research to investigate how measurement or other factors may affect the relationship between the climate of concern for employees and service performance.

### *Study Strength and Limitations*

In addition to its theoretical extensions and implications, this study contributes to the literature methodologically in terms of its study design. First, although scholars have recognized the importance of HR practices in fostering organizational climate and encouraging employee performance in the service context (Borucki & Burke, 1999; Schneider & Bowen, 1992), prior studies typically used data from stores of the same organization, in which HR practices tend to be relatively homogenous. The lack of sufficient variability might have resulted in nonsignificant findings (e.g., Liao & Chuang, 2004). This study collected data from a larger number of stores from different organizations, allowing greater variability in the measure of HR practices in our sample, and then to have greater statistical power to detect the effects of HPWS.

Second, as noted in Wright et al. (2005), past research has primarily relied on asking retrospective questions or collecting concurrent data to examine the relationship between HR practices and performance, making it impossible to draw causal conclusions. In this study, a store manager rated HR practices and employees rated climate variables respectively in the first phase, and collective employee performance and unit market performance were mostly assessed by different managers in the second phase. Although not a longitudinal study, this predictive design gave us more confidence to rule out the possibility of reverse causality among variables. In addition, collecting data from various sources further reduced common method bias and assisted our examination of the associations of HR practices with employee climate perceptions, employee performance, and unit performance.

Third, conducting this study in Taiwan can be considered a strength as well. People in Taiwan increasingly care about their interests as consumers and request better services. The government agency Consumer Protection Commission supervises and directs the pertinent ministries and agencies to carry out consumer protection mechanisms, and other nonprofit groups such as Consumers' Foundation also strive to defend the rights of

customers. Due to growing importance of services and intense competition in service organizations, customer services have drawn much attention from practitioners and scholars. More and more companies establish customer service centers to handle customer requests and track customer satisfaction either by themselves or by consultants. In academia, research regarding customer services and the employees–customers interaction in Taiwanese context has gradually received attention (e.g., Liao & Chuang, 2007; Tsai & Huang, 2002). Further, given that the theoretical arguments of this study were basically drawn from Western research, our findings provide external validity evidence for the application of these theories in the Chinese setting that differs from the typical Anglo-American environment.

We also acknowledge that this study has several limitations. First of all, there might be additional factors to consider in managing a service organization. For example, leadership can play a critical role in shaping the climate of concern for customers (Schneider et al., 2005; Liao & Chuang, 2007) and encouraging salesperson performance (MacKenzie, Podsakoff, & Rich, 2001). Store managers may be influential in communicating information about management policies and practices directed toward customers and reinforcing these management practices (Borucki & Burke, 1999). Given poor leadership, HPWS is less likely to have strong impacts on climate perceptions and employee performance. We encourage future research to examine the role of leadership in the relationship between HPWS and organizational performance.

Moreover, we could not verify the interrater reliability of HPWS measures (Gerhart et al., 2000) because we only had one manager per store to provide information of HR practices. Nevertheless, using a single rater might be less of a concern in this sample because our focus was on the HR practices of small stores (the mean number of employees was 13.34) rather than those of large-scale companies. In their reply to Huselid and Becker (2000), Gerhart et al. (2000) showed that reliability was likely to be significantly higher in smaller units. Despite debating on how many respondents are needed to assess HR practices, researchers basically agree that the most knowledgeable rater(s) should assess HR practices (Gerhart et al., 2000; Huselid & Becker, 2000). In keeping with this advice, store managers of our sample were very familiar with the HR practices implemented in their individual stores. In addition, we focused exclusively on the HR practices for customer-contact employees rather than those for all employees. This focus increased the accuracy in the managers' evaluations given that HR practices might vary for different types of employees (Wright & Boswell, 2002).

Another potential weakness of this study is that we were unable to obtain objective measures of unit performance. Although perceptual performance measures have been supported to use in research, particularly

for certain levels of analysis such as business units where objective measures are not feasible (Tomaskovis-Devey et al., 1994; Wall et al., 2004), manager-reported market performance cannot be translated into a meaningful metric, such as the dollar increases associated with one-standard-deviation increase in the use of HPWS (Datta, Guthrie, & Wright, 2005; Huselid, 1995). As a result, the impact of the findings may be limited. Nonetheless, the large body of literature linking employee service performance and extra-role behavior with desirable sales and financial performance (e.g., Borucki & Burke, 1999; Schneider et al., 2005) can be seen as lending support to link employee behaviors and objective market performance. Moreover, the marketing research shows that, on average, market share has a positive effect on business profitability (Szymanski, Bharadwaj, & Varadarajan, 1993), and in the “chain of marketing productivity” (Rust, Ambler, Carpenter, Kumar, & Srivastava, 2004), market performance is linked to financial performance and firm value. In addition, given that the managers in our sample were intimately familiar with the day-to-day functioning and performance of their stores, there was a high agreement between the two managers from the same unit about the store’s performance and that prior research has shown a positive, significant association between objective measures and manager’s subjective evaluation of organizational performance (Tomaskovis-Devey et al., 1994; Wall et al., 2004), the managers’ report of market performance used in our study should to some extent reflect the store’s effectiveness. Still, we encourage future studies obtain objective performance data.

Finally, although we have provided compelling theoretical arguments and empirical evidence supporting the mediating effect of organizational climate in the HPWS–performance relationship after controlling the effect of employees’ customer knowledge, we recognize that there are other potential mediators. HPWS may influence organizational performance by enhancing employees’ ability and motivation and providing them opportunities to perform jobs well (Batt, 2002; Boxall & Purcell, 2002; Lepak et al., 2006). Future research exploring other mediating mechanisms to replicate and extend our findings or even examining mediators that reflect ability–motivation–opportunity aspects simultaneously can provide more comprehensive insights.

### *Managerial Implications*

The findings of this study raise several important implications for managers to consider. From the standpoint of people management, our results suggest that building good relations with employees and with customers via implementing HPWS practices may be associated with increased organizational performance.

Facing today's global competition, whether a company can survive and thrive to a large extent depends on the company's market performance in marketing, sales growth, profitability, and market share. This study adds to the growing body of service linkage research and demonstrates that front-line employees, who make contact with customers on a daily basis and largely determine customer perceptions of service quality, play a critical role in a unit's market performance. In particular, service organizations may gain better market performance by enhancing front-line employees' task and contextual performance. Specifically, we found that 1 standard deviation increase in employee service performance and helping behavior was associated with .50 standard deviation increase in manager's report of the unit's market performance. Given the estimate of a .52 correlation between manager's perceived and actual firm performance (Wall et al., 2004), we can expect one standard deviation increase in employee service performance and helping behavior was associated with .26 standard deviation increase in the unit's actual market performance. In Taiwan, a *CommonWealth*<sup>4</sup> top 500 service company's average annual sales growth is about \$38.65 million ( $SD = \$249.63$  million), the average profit after tax is about \$15.74 million ( $SD = \$109.95$  million), and the average profit margin ratio (profitability) is around 5.14% ( $SD = 17.01\%$ ; *CommonWealth*, 2008<sup>5</sup>). Therefore, one standard deviation increase in employee service performance and helping behavior could potentially boost these bottom line measures by approximately \$64.90 million for sales growth, \$28.59 million for profit after tax, and 4.42% for profit margin ration. Although they were drawn from large companies, these estimates suggested that employee behaviors of serving customers and helping coworkers could make a significant impact on organizational bottom-line measures.

Our study also offers concrete suggestions on how to elicit these beneficial employee behaviors. We found that the HR practices of HPWS may play an important role. Specifically, the HPWS practices can foster a climate of concern for customers that facilitates good service performance and a climate of concern for employees that motivates helping behavior among coworkers. HR, as a core function of internal management, has

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<sup>4</sup>Having received over 15 awards from the Society of Publishers in Asia since 2005 and other major awards, *CommonWealth* is known as the most influential business periodical in Taiwan. *CommonWealth* has collected financial information of the top 500 companies in service industry each year since 1986.

<sup>5</sup>*CommonWealth* provided information of profit after tax and profit margin ratio. Sales growth was computed from sales and sales growth rate. We keyed in all figures of the 500 companies for the Year 2007 and calculated the statistics (mean and standard deviation) by using SPSS. The figures were presented in Taiwanese dollars and were converted into US dollars at an exchange rate of 32.5 Taiwanese dollars to 1 US dollar.



traditionally taken an internal orientation (Schneider & White, 2004) with a predominant focus on attending to internal employees' well-being. Our results suggest that it is beneficial for HR managers to work across functional boundaries. In particular, HR managers may work closely with the marketing department, utilizing the intimate knowledge marketing managers have on external customers to gain a better understanding of customer needs and expectations. Such cross-functional cooperation efforts may help HR managers to better design and implement a comprehensive HPWS of practices such as staffing, training, employee involvement, compensation and performance management practices with specific attention to the interests of not only the employees but also the customers.

In conclusion, this study demonstrates that HRM practices of a HPWS may facilitate both the climate of concern for customers and the climate of concern for employees, which may respectively encourage employees to engage in cooperative behaviors with customers and coworkers that are essential in achieving superior market performance. These findings integrate the strategic HRM research with the multiple-stakeholder view of organizational climate by Burke et al. (1992) and shed light on the influence mechanism of HPWS on organizational effectiveness in the service context.

## REFERENCES

- Alwin DF, Hauser RM. (1975). The decomposition of effects in path analysis. *American Sociological Review*, 40, 37–47.
- Anderson NR, West MA. (1998). Measuring climate for work group innovation: Development and validation of the team climate inventory. *Journal of Organizational Behavior*, 19, 235–258.
- Arthur JB. (1994). Effects of human resource systems on manufacturing performance and turnover. *Academy of Management Journal*, 37, 670–687.
- Bateman TS, Organ DW. (1983). Job satisfaction and the good soldier: The relationship between affect and employee "citizenship." *Academy of Management Journal*, 26, 587–598.
- Batt R. (2002). Managing customer services: Human resource practices, quit rates, and sales growth. *Academy of Management Journal*, 45, 587–597.
- Bettencourt LA, Gwinner KP, Meuter ML. (2001). A comparison of attitude, personality, and knowledge predictors of service-oriented organizational citizenship behaviors. *Journal of Applied Psychology*, 86, 29–41.
- Borman WC, Motowidlo SJ. (1993). Expanding the criterion domain to include elements of contextual performance. In Schmitt N, Borman WC (Eds.), *Personnel selection in organizations* (pp. 71–98). San Francisco: Jossey-Bass.
- Borucki CC, Burke MJ. (1999). An examination of service-related antecedents to retail store performance. *Journal of Organizational Behavior*, 20, 943–962.
- Bowen DE, Ostroff C. (2004). Understanding HRM-firm performance linkages: The role of the "strength" of the HRM system. *Academy of Management Review*, 29, 203–221.
- Bowen DE, Schneider B. (1988). Services marketing and management: Implications for organizational behavior. *Research in Organizational Behavior*, 10, 43–80.

- Boxall P, Purcell J. (2002). *Strategy and human resource management*. New York: Palgrave Macmillan.
- Brislin RW. (1980). Translation and content analysis of oral and written material. In Triandis HC, Berry JW (Eds.), *Handbook of cross-cultural psychology* (pp. 398–444). Boston: Allyn & Bacon.
- Bureau of Economic Analysis. (2007). Value added by industry as a percentage of gross domestic product (release date: April 29, 2008). Industry Economic Accounts. (accessed September 30, 2008 at [http://www.bea.gov/industry/gpotables/gpo\\_action.cfm?anon=72557&table\\_id=22073&format\\_type=0](http://www.bea.gov/industry/gpotables/gpo_action.cfm?anon=72557&table_id=22073&format_type=0)).
- Burke MJ, Borucki CC, Hurley AE. (1992). Reconceptualizing psychological climate in a retail service environment: A multiple-stakeholder perspective. *Journal of Applied Psychology*, 77, 717–729.
- Burke MJ, Borucki CC, Kaufman JD. (2002). Contemporary perspectives on the study of psychological climate: A commentary. *European Journal of Work and Organizational Psychology*, 11, 325–340.
- Burke MJ, Dunlap WP. (2002). Estimating interrater agreement with the average deviation index: A user's guide. *Organizational Research Methods*, 5, 159–172.
- Burke MJ, Finkelstein LM, Dusig MS. (1999). On average deviation indices for estimating interrater agreement. *Organizational Research Methods*, 2, 49–68.
- Byrne DE. (1971). *The attraction paradigm*. New York: Academic Press.
- CommonWealth. (2008). Top 500 service enterprises. May 7, 307–327. (Chinese)
- Conway JM. (1999). Distinguishing contextual performance from task performance for managerial jobs. *Journal of Applied Psychology*, 84, 3–13.
- D'Amato A, Zijlstra FRH. (2008). Psychological climate and individual factors as antecedents of work outcomes. *European Journal of Work and Organizational Psychology*, 17, 33–54.
- Datta DK, Guthrie JP, Wright PM. (2005). Human resource management and labor productivity: Does industry matter? *Academy of Management Journal*, 48, 135–145.
- Deeter-Schmelz DR, Ramsey RP. (2003). An investigation of team information processing in service teams: Exploring the link between teams and customers. *Journal of the Academy of Marketing Science*, 31, 409–424.
- Delaney JT, Huselid MA. (1996). The impact of human resource management practices on perceptions of organizational performance. *Academy of Management Journal*, 39, 949–969.
- Drasgow F, Kanfer R. (1985). Equivalence of psychological measurement in heterogeneous populations. *Journal of Applied Psychology*, 70, 662–680.
- Ehrhart MG. (2004). Leadership and procedural justice climate as antecedents of unit-level organizational citizenship behavior. *PERSONNEL PSYCHOLOGY*, 57, 61–94.
- Eisenberger R, Huntington R, Hutchinson S, Sowa D. (1986). Perceived organizational support. *Journal of Applied Psychology*, 71, 500–507.
- Farh JL, Earley PC, Lin SC. (1997). Impetus for action: A cultural analysis of justice and organizational citizenship behavior in Chinese society. *Administrative Science Quarterly*, 42, 421–444.
- Farh JL, Zhong CB, Organ DW. (2004). Organizational citizenship behavior in the People's Republic of China. *Organization Science*, 15, 241–253.
- Ferris GR, Authur MM, Berkson HM, Kaplan DM, Harrell-Cook G, Frink DD. (1998). Toward a social context theory of the human resource management-organization effectiveness relationship. *Human Resource Management Review*, 8, 235–264.
- Fornell C, Larcker D. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18, 39–50.

- Fulmer IS, Gerhart B, Scott KS. (2003). Are the 100 best better? An empirical investigation of the relationship between being a "great place to work" and firm performance. *PERSONNEL PSYCHOLOGY*, 56, 965–993.
- Gelade GA, Ivery M. (2003). The impact of human resource management and work climate on organizational performance. *PERSONNEL PSYCHOLOGY*, 56, 383–404.
- Gerhart B, Wright PM, McMahan G. (2000). Measurement error in research on the human resources and firm performance relationship: Further evidence and analysis. *PERSONNEL PSYCHOLOGY*, 53, 855–872.
- Gouldner AW. (1960). The norm of reciprocity: A preliminary statement. *American Sociological Review*, 25, 161–178.
- Hair JF, Anderson RE, Tatham RL, Black WC. (1998). *Multivariate data analysis* (5th ed.). Englewood Cliffs, NJ: Prentice-Hall.
- Harter JK, Schmidt FL, Hayes TL. (2002). Business-unit-level relationship between employee satisfaction, employee engagement, and business outcomes: A meta-analysis. *Journal of Applied Psychology*, 87, 268–279.
- Heskett JL, Sasser WE, Jones TO, Loveman GW, Schlesinger LA. (1994). Putting the service profit chain to work. *Harvard Business Review*, 72, 164–175.
- Hofmann DA, Stetzer A. (1996). A cross-level investigation of factors influencing unsafe behaviors and accidents. *PERSONNEL PSYCHOLOGY*, 49, 307–339.
- Huselid MA. (1995). The impact of human resource management practices on turnover, productivity, and corporate financial performance. *Academy of Management Journal*, 38, 635–672.
- Huselid MA, Becker BE. (2000). Comment on "Measurement error on research on human resources and firm performance: How much error is there and does it influence effect size estimates." *PERSONNEL PSYCHOLOGY*, 53, 835–854.
- James LR, Choi CC, Ko CE, McNeil PK, Minton MK, Wright MA, Kim K. (2008). Organizational and psychological climate: A review of theory and research. *European Journal of Work and Organizational Psychology*, 17, 5–32.
- James LR, Demaree RG, Wolf G. (1984). Estimating within-group interrater reliability with and without response bias. *Journal of Applied Psychology*, 69, 85–98.
- James LA, James LR. (1989). Integrating work perceptions: Explorations into the measurement of meaning. *Journal of Applied Psychology*, 74, 739–751.
- James LR, Mulaik SA, Brett JM. (2006). A tale of two methods. *Organizational Research Methods*, 9, 233–244.
- Johnson JW. (1996). Linking employee perceptions of service climate to customer satisfaction. *PERSONNEL PSYCHOLOGY*, 49, 831–851.
- Jöreskog KG, Sörbom D. (1993). *LISREL 8: Structural equation modeling with the SIMPLIS command language*. Chicago: Scientific Software International.
- Kopelman RE, Brief AP, Guzzo RA. (1990). The role of climate and culture in productivity. In Schneider B (Ed.), *Organizational climate and culture* (pp. 282–318). San Francisco: Jossey-Bass.
- Koys DJ. (2001). The effects of employee satisfaction, organizational citizenship behavior, and turnover on organizational effectiveness: A unit-level, longitudinal study. *PERSONNEL PSYCHOLOGY*, 54, 101–114.
- Kozlowski SJ, Bell BS. (2003). Work groups and teams in organizations. In Borman WC, Ilgen DR, Klimoski RJ (Eds.), *Handbook of psychology* (pp. 333–375). New York: Wiley.
- Kozlowski SJ, Klein KL. (2000). A multilevel approach to theory and research in organizations: Contextual, temporal, and emergent processes. In Klein KJ, Kowolowski SJ (Eds.), *Multilevel theory, research, and methods in organizations* (pp. 3–90). San Francisco: Jossey-Bass.

- Lepak DP, Liao H, Chung Y, Harden EH. (2006). A conceptual review of human resource management systems in strategic human resource management research. In Martocchio JJ (Ed.), *Research in personnel and human resources management* (Vol. 25, pp. 217–271). Oxford, UK: Elsevier.
- Lepak DP, Snell SA. (1999). The human resource architecture: Toward a theory of human capital allocation and development. *Academy of Management Review*, 24, 31–48.
- Lepak DP, Snell SA. (2002). Examining the human resource architecture: The relationships among human capital, employment, and human resource configurations. *Journal of Management*, 28, 517–543.
- LePine JA, Erez A, Johnson DE. (2002). The nature and dimensionality of organizational citizenship behavior: A critical review and meta-analysis. *Journal of Applied Psychology*, 87, 52–65.
- LePine JA, Van Dyne L. (2001). Voice and cooperative behavior as contrasting forms of contextual performance: Evidence of differential relationships with big five personality characteristics and cognitive ability. *Journal of Applied Psychology*, 86, 326–336.
- Liao H. (2007). Do it right this time: The role of employee service recovery performance in customer-perceived justice and customer loyalty after service failures. *Journal of Applied Psychology*, 92, 475–489.
- Liao H, Chuang A. (2004). A multilevel investigation of factors influencing employee service performance and customer outcomes. *Academy of Management Journal*, 47, 41–58.
- Liao H, Chuang A. (2007). Transforming service employees and climate: A multi-level multi-source examination of transformational leadership in building long-term service relationships. *Journal of Applied Psychology*, 92, 1006–1019.
- Liao H, Rupp DE. (2005). The impact of justice climate and justice orientation on work outcomes: A cross-level multifoci framework. *Journal of Applied Psychology*, 90, 242–256.
- Liao H, Toya K, Lepak DP, Hong Y. (2009). Do they see eye to eye? Management and employee perspectives of high-performance work systems and influence processes on service quality. *Journal of Applied Psychology*, 94, 371–391.
- MacDuffie JP. (1995). Human resource bundles and manufacturing performance: Organizational logic and flexible production systems in the world auto industry. *Industrial and Labor Relations Review*, 48, 197–221.
- MacKenzie SB, Podsakoff PM, Rich GA. (2001). Transformational and transactional leadership and salesperson performance. *Journal of the Academy of Marketing Science*, 29, 115–134.
- MacKinnon DP, Lockwood CM, Hoffman JM, West SG, Sheets V. (2002). A comparison of methods to test mediation and other intervening variables effects. *Psychological Methods*, 7, 83–104.
- MacKinnon DP, Lockwood CM, Williams J. (2004). Confidence limits for the indirect effect: Distribution of the product and resampling methods. *Multivariate Behavioral Research*, 39, 99–128.
- Mathieu JE, Farh JL. (1991). Further evidence for the discriminate validity of measures of organizational commitment, job involvement, and job satisfaction. *Journal of Applied Psychology*, 76, 127–133.
- National Statistics, Republic of China (Taiwan) (2007a). Statistical abstract of national accounts (last update on August 22, 2008). Gross domestic product by kind of activity (accessed September 30, 2008 at <http://eng.stat.gov.tw/ct.asp?xItem=15062&ctNode=3567>).

- National Statistics, Republic of China (Taiwan) (2007b). Employed person by industry (accessed September 30, 2008 at <http://eng.stat.gov.tw/ct.asp?xItem=12683&ctNode=1609>).
- Netemeyer RG, Boles JS, McKee DO, McMurrian R. (1997). An investigation into the antecedents of organizational citizenship behaviors in a personal selling context. *Journal of Marketing*, 61, 85–98.
- Netemeyer RG, Johnston MW, Burton S. (1990). Analysis of role conflict and role ambiguity in a structural equation framework. *Journal of Applied Psychology*, 75, 148–157.
- Organ DW. (1997). Organizational citizenship behavior: It's construct clean-up time. *Human Performance*, 10, 85–97.
- Ostroff C, Bowen DE. (2000). Moving HR to a higher level: HR practices and organizational effectiveness. In Klein KJ, Kowowski SJ (Eds.), *Multilevel theory, research, and methods in organizations* (pp. 211–266). San Francisco: Jossey-Bass.
- Ostroff C, Kozlowski SW. (1992). Organizational socialization as a learning process: The role of information acquisition. *PERSONNEL PSYCHOLOGY*, 45, 849–874.
- Payne SC, Webber SS. (2006). Effects of service provider attitudes and employment status on citizenship behaviors and customers' attitudes and loyalty behavior. *Journal of Applied Psychology*, 91, 365–378.
- Piercy NF, Cravens DW, Lane N, Vorhies DW. (2006). Driving organizational citizenship behaviors and salesperson in-role behavior performance: The role of management control and perceived organizational support. *Journal of the Academy of Marketing Science*, 34, 244–262.
- Podsakoff PM, Ahearne M, MacKenzie SB. (1997). Organizational citizenship behavior and the quantity and quality of work group performance. *Journal of Applied Psychology*, 82, 262–270.
- Podsakoff PM, MacKenzie SB. (1994). Organizational citizenship behaviors and sales unit effectiveness. *Journal of Marketing Research*, 3, 351–363.
- Podsakoff PM, MacKenzie SB, Paine JB, Bachrach DG. (2000). Organizational citizenship behaviors: A critical review of the theoretical and empirical literature and suggestions for future research. *Journal of Management*, 26, 513–563.
- Reichheld FF, Sasser WE. (1990). Zero defections: Quality comes to services. *Harvard Business Review*, 68, 105–111.
- Rhoades L, Eisenberger R. (2002). Perceived organizational support: A review of the literature. *Journal of Applied Psychology*, 87, 698–714.
- Rogg KL, Schmidt DB, Shull, C, Schmitt, N. (2001). Human resource practices, organizational climate, and customer satisfaction. *Journal of Management*, 27, 431–449.
- Rousseau DM. (1995). *Psychological contracts in organizations: Understanding written and unwritten agreements*. Thousand Oaks, CA: Sage.
- Rust RT, Ambler T, Carpenter GS, Kumar V, Srivastava RK. (2004). Measuring marketing productivity: Current knowledge and future direction. *Journal of Marketing*, 68, 76–89.
- Salancik GJ, Pfeffer J. (1978). A social information processing approach to job attitudes and task design. *Administrative Science Quarterly*, 23, 224–253.
- Salanova M, Agut S, Peiró JM. (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.
- Schmit MJ, Allscheid SP. (1995). Employee attitudes and customer satisfaction: Making theoretical and empirical connections. *PERSONNEL PSYCHOLOGY*, 48, 521–536.
- Schneider B. (1975). Organizational climates: An essay. *PERSONNEL PSYCHOLOGY*, 28, 447–5479.

- Schneider B. (1990). The climate for service: Application of the construct. In Schnedier B (Ed.), *Organizational climate and culture* (pp. 383–412). San Francisco: Jossey-Bass.
- Schneider B, Ashworth S, Higgs AC, Carr L. (1996). Design, validity, and use of strategically focused employee attitude surveys. *PERSONNEL PSYCHOLOGY*, 49, 695–705.
- Schneider B, Bowen D. (1985). Employee and customer perceptions of service in banks: Replication and extension. *Journal of Applied Psychology*, 70, 423–433.
- Schneider B, Bowen D. (1992). Personnel/human resources management in the service sector. In Rowland KR, Ferris GR (Eds.), *Research in personnel and human resources management* (pp. 1–30). Greenwich, CT: JAI Press.
- Schneider B, Ehrhart MG, Mayer DM, Saltz JL, Niles-Jolly K. (2005). Understanding organization-customer links in service settings. *Academy of Management Journal*, 48, 1017–1032.
- Schneider B, White SS. (2004). *Service quality: Research perspectives*. Thousand Oaks, CA: Sage.
- Schneider B, White SS, Paul, MC. (1998). Linking service climate and customer perceptions of service quality: Test of a causal model. *Journal of Applied Psychology*, 83, 150–163.
- Settoon RP, Bennett N, Liden RC. (1996). Social exchange in organizations: Perceived organizational support, leader-member exchange, and employee reciprocity. *Journal of Applied Psychology*, 81, 219–227.
- Shrout PE, Bolger N. (2002). Mediation in experimental and nonexperimental studies: New procedures and recommendations. *Psychological Methods*, 7, 422–445.
- Smith CA, Organ DW, Near JP. (1983). Organizational citizenship behavior: Its nature and antecedents. *Journal of Applied Psychology*, 68, 653–663.
- Sowinski DR, Fortmann KA, Lezotte DV. (2008). Climate for service and the moderating effects of climate strength on customer satisfaction, voluntary turnover, and profitability. *European Journal of Work and Organizational Psychology*, 17, 73–88.
- SPSS Inc. (2008). *AMOS 17.0 (Computer Software)*. Chicago: SPSS Inc.
- Sujan H, Sujan M, Bettman JR. (1988). Knowledge structure differences between more effective and less effective salespeople. *Journal of Marketing Research*, 25, 81–86.
- Sun LY, Aryee S, Law KS. (2007). High-performance human resource practices, citizenship behavior, and organizational performance: A relational perspective. *Academy of Management Journal*, 50, 558–577.
- Szymanski DM, Bharadwaj SG, Varadarajan, PR. (1993). An analysis of the market share-profitability relationship. *Journal of Marketing*, 57, 1–18.
- Takeuchi R, Chen G, Lepak DP. (2009). Through the looking glass of a social system: Cross-level effects of high performance work systems on employees' attitudes. *PERSONNEL PSYCHOLOGY*, 62, 1–29.
- Takeuchi R, Lepak DP, Wang H, Takeuchi K. (2007). An empirical examination of the mechanisms mediating between high-performance work systems and the performance of Japanese organizations. *Journal of Applied Psychology*, 92, 1069–1083.
- Taylor AB, MacKinnon DP, Tein JY. (2008). Tests of the three-path mediated effect. *Organizational Research Methods*, 11, 241–269.
- Tomaskovis-Devey D, Leiter J, Thompson S. (1994). Organizational survey nonresponse. *Administrative Science Quarterly*, 39, 439–457.
- Tsai WC, Huang YM. (2002). Mechanisms linking employee affective delivery and customer behavioral intentions. *Journal of Applied Psychology*, 87, 1001–1008.
- Tsui AS, Pearce JL, Porter LW, Tripoli AM. (1997). Alternative approaches to the employee-organization relationship: Does investment in employees pay off? *Academy of Management Journal*, 40, 1089–1121.

- Vandenberghe C, Bentein K, Michon R, Chebat JC, Tremblay M, Fils J. (2007). An examination of the role of perceived support and employee commitment in employee-customer encounters. *Journal of Applied Psychology*, 92, 1177–1187.
- Wall TD, Michie J, Patterson M, Wood SJ, Maura S, Clegg CW, et al. (2004). On the validity of subjective measures of company performance. *PERSONNEL PSYCHOLOGY*, 57, 95–118.
- Wayne SJ, Shore LM, Liden RC. (1997). Perceived organizational support and leader-member exchange: A social exchange perspective. *Journal of Applied Psychology*, 40, 82–111.
- Weitz BA, Sujan H, Sujan M. (1986). Knowledge, motivation, and adaptive behavior: A framework for improving selling effectiveness. *Journal of Marketing*, 50, 174–191.
- Whitener E. (2001). Do “high commitment” human resource practices affect employee commitment? A cross-level analysis using hierarchical linear modeling. *Journal of Management*, 27, 515–535.
- Wright PM, Boswell WR. (2002). Desegregating HRM: A review and synthesis of micro and macro human resource management research. *Journal of Management*, 28, 247–276.
- Wright PM, Dunford BB, Snell SA. (2001). Human resources and the resource based view of the firm. *Journal of Management*, 27, 701–721.
- Wright PM, Gardner TM, Moynihan LM, Allen MR. (2005). The relationship between HR practices and firm performance: Examine causal order. *PERSONNEL PSYCHOLOGY*, 58, 409–446.
- Youndt MA, Snell SA, Dean JW, Lepak DP. (1996). Human resource manager, manufacturing strategy and firm performance. *Academy of Management Journal*, 39, 836–866.
- Zacharatos A, Barling J, Iverson RD. (2005). High-performance work systems and occupational safety. *Journal of Applied Psychology*, 90, 77–93.

## APPENDIX

### *Measure Items of Selected Variables*

#### *High-Performance Work System*

The following items refer to the managing practices of *customer-contact employees* employed by your store. Please indicate the extent of your agreement or disagreement about each statement.

#### *Staffing*

1. The store selects the best all around candidates when recruiting employees.\*
2. The store places priority on candidates' potential to learn when recruiting employees.\*
3. Recruitment emphasizes traits and abilities required for providing high quality of customer services.

4. Internal candidates have the priority for job openings.
5. Qualified employees have good opportunities for promotion.

### *Training*

6. The store provides an orientation program for newcomers to learn about the company.
7. The store continuously provides training programs.\*
8. The store invests considerable time and money in training.\*
9. Training is comprehensive, not limited to skill training.\*
10. High quality of customer services is emphasized in training.

### *Involvement & Participation*

11. If a decision made might affect employees, the store asks them for opinions in advance.
12. Employees are often asked to participate in work-related decisions.
13. Employees have discretion in handling customers' additional requests.+
14. Employees have discretion in settling customer complaints without reporting to a supervisor or other specialists.+
15. Employees are allowed to make necessary changes in the way they perform their work.\*
16. The store fully supports employees with necessary equipment and resources for providing high quality of customer services.
17. The store does not share information with employees (e.g., store operation, sales, etc.). (R)

### *Performance Appraisals*

18. Performance appraisals provide employees feedback for personal development.\*
19. Performance appraisals are based on multiple sources (self, coworkers, supervisors, customers, etc.).\*
20. Performance appraisals are based on objective, quantifiable results.
21. Supervisors do not get together with employees to set their personal goals. (R)
22. Satisfying customers is the most important work guideline.
23. Meeting customers' needs is emphasized in performance appraisals.



*Compensation/Rewards*

24. On average the pay level (including incentives) of our employees is higher than that of our competitors.
25. Employee salaries and rewards are determined by their performance.
26. The store rewards employees for new ideas for improving customer services.
27. The store provides a variety of benefits.\*
28. The store does not attach importance to the fairness of compensation/rewards. (R)
29. Employees receive monetary or nonmonetary rewards for great effort and good performance.
30. The store gives special rewards to employees who are excellent in serving customers.

*Caring*

31. The store considers employee off-work situations (family, school, etc.) when making schedules.
32. The store cares about work safety and health of employees.
33. The store cares about work–life balance of employees.
34. The store has its ways or methods to help employees alleviate work stress.
35. The store has formal grievance procedures to take care of employee complaints or appeals.

*Unit's Climate of Concern for Customers**Composite 1 (CC1)*

1. The efforts to measure and track the quality of the work and service in our store.
2. The leadership shown by management in our store in supporting the service quality effort.
3. The job knowledge and skills of employees in our store to deliver superior quality service.

*Composite 2 (CC2)*

4. The effectiveness of communication efforts of the management to both employees and customers.
5. The tools, technology, and other resources provided to employees to support the delivery of superior quality service.

*Composite 3 (CC3)*

6. The overall quality of service provided by our store.
7. The recognition and rewards employees receive for the delivery of superior work and service.

*Unit's Climate of Concern for Employees**Composite 1 (CE1)*

1. Our store cares about employees' opinions.
2. Our store shows very little concern for employees. (R)
3. Our store would forgive employees' honest mistakes.

*Composite 2 (CE2)*

4. Our store really cares about employees' well-being.
5. Our store is willing to help if employees need a special favor.
6. Our store strongly considers employees' goals and values.

*Composite 3 (CE3)*

7. Help is available from our store when employees have a problem.
8. If given the opportunity, our store would take advantage of employees. (R)

*Service Performance**Composite 1 (SP1)*

1. Our employees are able to help customers when needed.
2. Our employees explain items' (services') features and benefits to overcome customers' objections.
3. Our employees point out and relate item (service) features to customers' needs.

*Composite 2 (SP2)*

4. Our employees approach customers quickly.
5. Our employees suggest items (services) customers might like but did not think of.

*Composite 3 (SP3)*

6. Our employees ask good questions and listen attentively to find out what a customer wants.
7. Our employees are friendly and helpful to customers.

*Helping Behavior**Composite 1 (HB1)*

1. Our employees help each other out if someone falls behind in his/her work.
2. Our employees "touch base" with other coworkers before initiating actions that might affect them.
3. Our employees encourage each other when someone is down.

*Composite 2 (HB2)*

4. Our employees willingly share their expertise with other coworkers of the store.
5. Our employees take steps to try to prevent problems with other coworkers.

*Composite 3 (HB3)*

6. Our employees willingly give of their time to help coworkers who have work-related problems.
7. Our employees try to act like peacemakers when other coworkers have disagreements.

*Customer Knowledge**Composite 1 (CK1)*

1. We have a number of strategies for dealing with different customers and situations.
2. We only use one or two strategies to meet customer needs. (R)
3. We can use a different approach for dealing with almost every customer service situation.

*Composite 2 (CK2)*

1. Our knowledge of different types of customers is very broad.

2. Because we know a lot about customers, it is easy for us to identify different customer types.

*Note.* R indicates reverse-coded items. For the construct of *High Performance Work System*, nine items marked with \* are adapted from Lepak and Snell (2002). Reproduced with permission from the *Journal of Management*, published by the Southern Management Association; two items marked with + are adapted from Batt (2002). Reproduced with permission of the author. Items for *Unit's Climate of Concern for Customer* are from Schneider, White, and Paul (1998). Copyright 1998 by the American Psychological Association. Reprinted with permission. Items for *Unit's Climate of Concern for Employees* are adapted from Eisenberger, Huntington, Hutchison, and Sowa (1986). Copyright 1986 by the American Psychological Association. Reprinted with permission. Items for *Service Performance* are from Liao and Chuang (2004), which were adapted from Borucki and Burke (1999). Reproduced with permission from the *Journal of Organizational Behavior*, and the *Academy of Management Journal*. Items for *Helping Behavior* are adapted from Podsakoff, Ahearne, and MacKenzie (1997). Copyright 1997 by the American Psychological Association. Reprinted with permission. Items for *Customer Knowledge* are adapted from Bettencourt, Gwinner, and Meuter (2001). Copyright 2001 by the American Psychological Association. Reprinted with permission.