Do They See Eye to Eye? Management and Employee Perspectives of High-Performance Work Systems and Influence Processes on Service Quality

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Extant research on high-performance work systems (HPWSs) has primarily examined the effects of HPWSs on establishment or firm-level performance from a management perspective in manufacturing settings. The current study extends this literature by differentiating management and employee perspectives of HPWSs and examining how the two perspectives relate to employee individual performance in the service context. Data collected in three phases from multiple sources involving 292 managers, 830 employees, and 1,772 customers of 91 bank branches revealed significant differences between management and employee perspectives of HPWSs. There were also significant differences in employee perspectives of HPWSs among employees of different employment statuses and among employees of the same status. Further, employee perspective of HPWSs was positively related to individual general service performance through the mediation of employee human capital and perceived organizational support and was positively related to individual knowledge-intensive service performance through the mediation of employee human capital and psychological empowerment. At the same time, management perspective of HPWSs was related to employee human capital and both types of service performance. Finally, a branch’s overall knowledge-intensive service performance was positively associated with customer overall satisfaction with the branch’s service.

Keywords: strategic human resource management, high-performance work systems for service quality, human capital and motivation, employee performance, customer satisfaction

A large body of strategic human resource management (HRM) research suggests that the use of high-performance work systems (HPWSs), or systems of human resource (HR) practices designed to enhance employees’ competencies, motivation, and performance, is associated with lower employee turnover rates (e.g., Huselid, 1995), higher labor productivity (Datta, Guthrie, & Wright, 2005), lower injury rates and better safety performance (Zacharatos, Barling, & Iverson, 2005), and better company performance (e.g., Huselid, 1995). At the same time, however, several authors have raised concerns about some aspects of strategic HRM research. Prior research has primarily focused on managerial reports of the use of HPWS, ignoring the role of individual employees’ actual experiences with these systems (Lepak, Liao, Chung, & Harden, 2006). Further, extant strategic HRM research has predominantly taken a macro-level approach and focused on establishment or firm-level outcomes; to date, there is a “death of research aimed at understanding how multiple (or systems of) HR practices impact individuals [italics added]” (Wright & Boswell, 2002, p. 262). Moreover, the majority of the strategic HRM research has been conducted in manufacturing environments, neglecting the considerable presence of service factors, which now account for 60% of world gross domestic product (GDP) and dominate economies in most nations (e.g., 71% of the GDP in Canada, 73% in the United Kingdom, 74% in Japan, and 78% in the United States; The World Factbook, 2007).

The primary objective of this study was to address these issues. First, given that there may be a disconnection between what managers and companies say they do as formal practices of the HPWS and what individual employees actually experience, in this study we examined employee perspective with the HPWS in addition to the management perspective. Second, we integrated macro- and micro-level HRM research to examine the influence of...
HPWS on individual performance and to understand the psychological processes through which the influence materializes. Third, we examined whether unit-level employee overall service performance translates into an important performance metric for service organizations, specifically, customer satisfaction.

In what follows, we first integrate strategic HRM and the service management literature to discuss what an HPWS entails in the service context and then discuss the importance of understanding the system from the employees’ perspective as well as the psychological processes through which such a system operates to influence individual employees’ service performance and, ultimately, customer satisfaction. Figure 1 outlines the theoretical framework of the influence of a service-quality–oriented HPWS on employee service performance.

High-Performance Work System for Service Quality

Bowen and Ostroff (2004) noted that the content of work systems “should be largely driven by the strategic goals and values of the organization” and that “the foci of the human resource management practices must be designed around a particular strategic focus, such as service or innovation” (p. 206). The crux of this statement is that to be effective, work systems must reflect how employees add value, and this is achieved by linking the practices within a system toward some strategic anchor. Without an objective, work systems lack a clear direction for employees. Therefore, all components of the HPWS should be chosen and designed to achieve a specific organizational objective. This strategically focused approach is consistent with the argument that to be effective, work systems must reflect the nature of services, including simultaneity of service production and consumption, intangibility of service processes and outcomes, and customer involvement in service production (Bowen & Schneider, 1988), renders it impossible to do a quality system is aligned with the organization’s strategy (Becker & Gerhart, 1996; Huselid, 1995; Wright & McMahan, 1992).

As noted by management theorists, there are two basic strategies for service organizations. The first is to focus on minimizing costs and use a mass production approach in accordance with scientific Taylorism (Porter, 1980). Although reliance on technology may help reduce cost and improve efficiency of service (Levitt, 1972), it may not be a sustainable advantage, as it is easily imitable and, more importantly, the low-cost pressure may create a vicious circle where employees and customers are increasingly dissatisfied (Schlesinger & Heskitt, 1991). The other strategy focuses on providing high-quality service in order to enhance customer satisfaction and build a long-term relationship with customers (Gutek, 1995; Porter, 1980). Happy, long-term customers “buy more, take less of a company’s time, are less sensitive to price, and bring in new customers” (Reichheld, 1996, p. 57). Kellner (1995), for example, found that a service-quality–focused strategy contributed significantly to the fact that German banks performed better than U.S. banks in the 1980s. Other research has also shown a service differentiation strategy to be associated with higher performance of service firms (e.g., O’Farrell, Hitchens, & Moffat, 1993). Similarly, Rust, Moorman, and Dickson (2002) compared the financial returns for three types of strategies, including (a) cost cutting, (b) revenue expansion through customer-oriented quality improvements, and (c) dual emphasis on cost cutting and revenue expansion and found that firms adopting the revenue-expansion strategy performed the best in terms of profitability and stock returns.

The nature of services, including simultaneity of service production and consumption, intangibility of service processes and outcomes, and customer involvement in service production (Bowen & Schneider, 1988), renders it impossible to do a quality
control check after production to ensure quality as in the manufacturing setting (Schneider, White, & Paul, 1998). Therefore, the performance of front-line employees, or their behaviors of helping and serving customers to address customer needs (Liao & Chuang, 2004), directly influences customer satisfaction with the service quality. In order for front-line employees to provide high-quality service, organizations need to design a work system that ensures that employees have the knowledge, skills, and abilities, as well as the motivation, to meet customer needs. A few studies have explicitly examined the linkage between HRM practices and service quality. Schneider et al. (1998) proposed that service quality rests on a set of organizational “foundation issues” that support and facilitate front-line employee service delivery, which include internal service provided by support staff, efforts to remove obstacles to work, and employee participation and training. Using data from bank branches, Schneider et al. found that the foundation issues were positively associated with branch service climate, which was positively associated with customer evaluations of service quality. Batt (2002) found that high-involvement practices characterized by high skills, discretion, and incentives were associated with lower quit rates and subsequently higher sales growth of call centers. Liao and Chuang (2004) examined three HRM practices and found that employee involvement in decision making and service training were positively related to restaurant employees’ service performance, which in turn was positively related to customer satisfaction and loyalty.

Building on these studies as well as the frameworks of HPWSs described by Pfeffer (1998) and Zacharatos et al. (2005), we propose an HPWS for service quality and define it as a system of HR practices designed to enhance employees’ competencies, motivation, and performance in providing high-quality service to external customers. In this view, HPWS includes practices of extensive service training, information sharing, self-management service teams and participation, compensation contingent on service quality, job design for quality work, service-quality–based performance appraisal, internal service, service discretion, selective hiring, employment security, and reduced status differentiation. This conceptualization of the HPWS for service quality captures the foundation HRM issues deemed important for service delivery in Schneider et al.’s (1998) framework and includes the HR practice dimensions examined in prior strategic HRM studies in the service settings (Batt, 2002; Delery & Doty, 1996). In the current study, these practices are anchored with a goal to promote service quality. For example, extensive training emphasizes educating employees on how to provide quality service; performance appraisal uses service criteria; and contingent compensation links pay to service quality. These work practices, taken together, provide employees with the knowledge, skills, and abilities; resources; information; and discretion they need to meet customer demands, as well as the motivation to provide high-quality service.

Understanding the Employee Perspective of the High-Performance Work System

Focusing on employees as providers of services also dictates that particular attention be paid to employees’ actual experience of the HPWS for service quality. Wright and Boswell (2002) noted that “much of the macro HRM research empirically assumes invariability in HR practices across large groups of jobs within organizations” (p. 264) and has focused primarily on management perspective of the HR practices generally implemented for all of the employees in an organization. Few studies have examined the HPWS targeted to different employment groups, and even fewer have examined the HPWS actually experienced by individual employees. We argue that this is an oversight for several reasons.

First, different employee groups may not have identical experiences of HR practices. There is a long-standing tradition of variance in exposure to HR practices, such as compensation, training, and promotion opportunities across administrative boundaries such as exempt versus nonexempt status or managerial versus nonmanagerial status (Huselid, 1995). Companies may also use different HR practices to match the requirements of particular employee groups (Miles & Snow, 1984; Osterman, 1987). For example, Lepak and Snell (2002) showed that core employees received significantly greater exposure to a commitment-oriented work system and that noncore employee groups tended to be managed by work systems that convey lower levels of investment in employees. Relatedly, Melian-Gonzalez and Verano-Tacoronte (2006) found that the work systems used for core employees were more sophisticated than those used for other employee groups. Similarly, Lepak, Taylor, Tekleab, Marrone, and Cohen (2007) demonstrated that establishments provided higher levels of exposure to high-investment work systems for core employees, as compared with support employees, and that the differences were magnified in nonmanufacturing environments. The logic for differentiating work systems across employee groups is that work systems are used to match the level of investment needed to reflect the relative status of different employee groups and maximize their potential contributions to competitive success. Building on this logic and existing research, we anticipate that employees in groups of different employment status will experience differences in their exposure to the HPWS practices. Such between-group difference is expected to contribute to the variability in employees’ experiences with the HPWS.

Second, even within the same employee group, members who theoretically should share the same HPWS practices may be treated differently or have different perceptions or experiences of the practices in place. This within-group difference is another source of the variability in employees’ experiences with the HPWS. For instance, the organizational diversity literature has revealed earning differences between women and men and between White persons and people of color who are similarly qualified and working in the same job within the same organization, suggesting the existence of differential treatment toward different employees in management practices (e.g., Joshi, Liao, & Jackson, 2006; Pfeffer & Davis-Blake, 1987). The organizational justice literature has suggested that employees often form different evaluations on the allocations of resources, such as pay and promotion, the procedures used to arrive at these allocations, and the interpersonal treatment and information given to the employees as these procedures are carried out (e.g., see Colquitt, Conlon, Wesson, Porter, & Yee, 2001, for a review). Further, the leader—

1 We excluded the practices of selective hiring, employment security, and reduced status differentiation in our empirical testing of this study due to the nature of the sample. See the Measures section for a detailed explanation.
member exchange (LMX; Graen & Uhl-Bien, 1995) literature has proposed that leaders establish different social exchange relationships with different subordinates; employees who have a high-quality LMX with their supervisor have the advantages of ample resources, more training opportunities, premier assignments, emotional support, decision-making responsibilities, and cooperative interactions with the supervisor (Liden & Graen, 1980). Consistent with this view, Rousseau (2005) noted that individual employees negotiate their idiosyncratic employment arrangement, or “I-deals,” with employers. In addition, Bowen and Ostroff (2004) noted that

HRM practices can be viewed as a symbolic or signaling function by sending messages that employees use to make sense of and to define the psychological meaning of their work situation (e.g., Rousseau, 1995). All HRM practices communicate messages constantly and in unintended ways, and messages can be understood idiosyncratically, whereby two employees interpret the same practices differently (Guzzo & Noonan, 1994). (p. 206)

Taken together, these theoretical perspectives and empirical findings imply that HR practices may be implemented differently for employees, or at least that employees may perceive or experience differences in exposure to work practices. The lack of uniformity across employees in their experiential-based perceptions about the HPWS practices suggests that there will exist a disconnection between what management says about the HPWS practices generally implemented for a particular employee group (hereinafter referred to as management-HPWS) and the HPWS practices actually experienced by the individual employees in that group (hereinafter referred to as employee-HPWS). Therefore, it is necessary to examine employee-HPWS in addition to management-HPWS to understand the psychological process through which formal practices of HPWS influence individual employees’ human capital, motivation, and behaviors in service delivery.

Influence of Employee Perspective of the High-Performance Work System on Individual Service Performance

Next, we examined the influence process of employee-HPWS on employee performance. We argue that the employee-HPWS is positively related to employee service performance by enhancing employee human capital and motivation required for service delivery. Figure 1 depicts the proposed mediation relationships. Our focus on these mediating factors is in line with the prominent theory of job performance (Campbell, McCloy, Oppler, & Sager, 1993), which suggests that the direct determinants of individual performance are individuals’ human capital and motivation and that other individual differences, such as experiences and personality, and contextual factors such as HR interventions, indirectly influence job performance through their impact on the individuals’ human capital and motivation.

Human Capital

Human capital refers to employee knowledge, skills, and abilities that are valuable for the firm (e.g., Subramaniam & Youndt, 2005). Strategic HRM research has used human capital as a theoretical underpinning (Jackson & Schuler, 1995), with the argument that one important function of HRM is its “buying” and “making” of desirable employee knowledge, skills, and abilities, which can in turn be used to create value for the firm (e.g., Becker & Huselid, 1998; Delery & Shaw, 2001; Lado & Wilson, 1994; Snell, Youndt, & Wright, 1996). Despite its wide mention in empirical strategic HRM studies (e.g., Batt, 2002; Huselid, 1995), the role of human capital has rarely been examined explicitly as a mediator between work systems and performance outcomes.

In a service context, employees need to have a good knowledge about the services, products, and customer needs and to have the abilities and skills to meet customer needs. We argue that employee-HPWS, a key mission of which is to select and develop service talents through practices such as service-quality-focused hiring, training, information sharing, performance feedback, and so forth may enhance employee human capital for service delivery and subsequently service performance. Therefore, we propose the following:

Hypothesis 1: The positive relationship between employee-HPWS and employee service performance is mediated by employee human capital.

Motivation

Motivation refers to an individual’s direction, intensity, and duration of effort (Campbell et al., 1993). Whereas human capital provides the capabilities for employees to contribute, motivation deals with the extent to which employees are willing to utilize these capabilities. Jackson and Schuler (1995) pointed out that “the potential value of human capital can be fully realized only with the cooperation of the person” (p. 241). HRM practices need to effectively align the interests of employees and employers so that employees are willing to exert their effort (Delery & Doty, 1996). Yet, motivation has seldom been measured explicitly or tested in strategic HRM studies. In contrast, the importance of motivation has long captured psychology researchers’ attention. Two motivation constructs that are particularly related to individual employee job performance are psychological empowerment and perceived organizational support.

Psychological empowerment. Psychological empowerment refers to individuals’ self-motivating mechanisms and consists of meaning, competency, self-determination, and impact (Spreitzer, 1995; Thomas & Velthouse, 1990). Meaning is an individual’s perceived value of work compared with the individual’s personal goals and standards; competence is an individual’s confidence in his or her ability to perform the work satisfactorily; self-determination is an individual’s sense of control in initiating and changing actions; and impact is an individual’s perceived influence over important strategic, administrative, or operating outcomes.

Although psychological empowerment reflects individuals’ innate intrinsic task motivation, it can be influenced by external practices (Seibert, Silver, & Randolph, 2004; Spreitzer, 1995). We argue that HPWS may represent such empowering work practices. For examples, service-quality-focused performance feedback and information sharing may help employees perceive the service tasks to be meaningful and important; extensive service training and delegation of decision-making power may enhance employees’ confidence in their competence in service delivery; and increased...
discretion in customizing service delivery and handling customer complaints may increase employees’ perceived self-determination and impact.

We further argue that psychological empowerment will lead to better service performance. Research shows that psychological empowerment leads to employee commitment to and internalization of task goals (Kanter, 1983), persistence of effort in nonroutine situations and resilience in adversary situations (Bandura, 1977), initiative (Thomas & Velthouse, 1990), and innovative behaviors (Spreitzer, 1995). All of these characteristics may facilitate service performance, which requires employees to learn about the diverse needs of customers, handle the uncertainty customers introduce when participating in service, and adapt their interpersonal style and service offering to customer needs. Indeed, Gwinner, Bitner, Brown, and Kumar (2005) found intrinsic motivation to be positively related to employee adaptive service behaviors.

Whereas prior studies have demonstrated the positive impact of intrinsic motivation on performance criteria, the evidence concerning the role of extrinsic motivation is less convincing. Cognitive evaluation theory (Deci, 1975) suggests that extrinsic motivation regulates a behavior by way of external contingencies, diminishes feelings of autonomy, and activates a change in perceived locus of causality from internal to external, hence undermining intrinsic motivation. Ryan, Mims, and Koestner (1983), on the contrary, found that extrinsic rewards contingent on high-quality performance given in a supportive interpersonal context actually enhanced intrinsic motivation. However, Gwinner et al. (2005) found extrinsic motivation to be unrelated to employee customized service delivery. Given these inconclusive arguments and findings, we focused on intrinsic motivation in our hypothesis development and controlled for extrinsic motivation in our analyses.

**Hypothesis 2:** The positive relationship between employee-HPWS and employee service performance is mediated by employee psychological empowerment.

**Perceived organizational support.** Beyond psychological empowerment, we propose that another reason for employees to be motivated by the HPWS is a favorable social exchange with the organization. On the basis of the social exchange theory (Blau, 1964), Settoon, Bennett, and Liden (1996) argued that “positive, beneficial actions directed at employees by the organization and/or its representatives contribute to the establishment of high-quality exchange relationships that create obligations for employees to reciprocate in positive, beneficial ways” (p. 219). Perceived organizational support, or employees’ perceptions of the extent to which organizations value employees and care about their well-being (Eisenberger, Fasolo, & Davis-Mastro, 1990), is essential in forming such obligations (Shore & Wayne, 1993). Researchers have argued that when employees perceive a high level of organizational support, they may use behaviors valued by the organization as currency to reciprocate the benevolent treatment from the organization (Lambert, 2000; Shore et al., 2004). Similarly, Schneider and Bowen (1985) argued that service employees are likely to treat customers well if the organization treats the employees well.

Numerous efforts have examined the antecedents and outcomes of perceived organizational support. Such support has been shown to be influenced by organizations’ investment in employees through HR practices, such as training and development, and organizations’ recognition of individual achievement through practices such as promotions and salary increases (e.g., Wayne, Shore, Bommer, & Tetrick, 2002; Wayne, Shore, & Liden, 1997). In addition, perceived organizational support is found to play a key role in relating to employees’ commitment to the organization (Eisenberger et al., 1990; Settoon et al., 1996; Wayne et al., 1997), satisfaction (Shore & Tetrick, 1991), conscientiousness in performing tasks and innovation (Eisenberger et al., 1990), loyalty (Tetrick, Shore, Newton, & Vandenberg, 2007), and organizational citizenship behavior and lower intention to quit (Wayne et al., 1997).

Despite these efforts, to our knowledge, few strategic HRM studies have integrated perceived organizational support as a linkage between HPWS and employee performance. One exception was the study by Allen, Shore, and Griffeth (2003), which showed that service employees’ perceptions of participation in decision making, fairness of rewards, and growth opportunities were positively associated with their development of perceived organizational support, which, in turn, was positively associated with their job satisfaction and organizational commitment, as well as lower turnover.

Building on these rationales and findings, we argue that perceived organizational support may be a potential path by which HPWS influences employee performance in a service context. Practices such as extensive training reflect companies’ investment in employees; practices such as internal career opportunities, service discretion, and self-management service teams demonstrate management’s respect of employees’ opinions and initiatives; and practices such as service-quality–based performance appraisal and compensation show the recognition of employee service excellence. Therefore, we propose the following:

**Hypothesis 3:** The positive relationship between employee-HPWS and employee service performance is mediated by employee perceived organizational support.

**Influence of Management Perspective of High-Performance Work Systems on Individual Outcomes**

Thus far we have proposed hypotheses regarding the influences of employee-HPWS on individual outcomes. As noted above, employee-HPWS may differ from management-HPWS. However, this is not to suggest that there is no relationship between these two perspectives. We argue that as management-HPWS represents the HPWS practices generally implemented for a particular group of employees, to a certain extent it reflects the objective environment shaped by formal management practices. As a result, management-HPWS provides a contextual cue for employees to form their perceptions and experience of the work system. Therefore, we expect management and employee perspectives of the HPWS to be positively related.

At the same time, however, employee-HPWS may have a more proximal relationship with employee individual outcomes, because it is the employees’ actual experiences and perception of the context, not the context itself nor the cues obtained from the context, that directly determine their reactions (James, James, & Ashe, 1990; Schneider, 1990). Therefore, management-HPWS affects an em-
ployee to the extent that it affects the employee’s experience and perception of the HPWS. As a result, we propose that employee-HPWS mediates the effects of management-HPWS on employee human capital and motivation.

Hypothesis 4: The positive relationship between management-HPWS and individual employee human capital, psychological empowerment, and perceived organizational support is mediated by employee-HPWS.

Taken together, Hypotheses 1 through 4 suggest that management-HPWS influences employee-HPWS, which, in turn, impacts individual employees’ human capital, psychological empowerment, and perceived organizational support, and these factors further influence individual employee service performance.

Linking Employee Service Performance to Customer Satisfaction

Next, we propose that employee service performance may further influence customer satisfaction on two levels. First, at the individual level, employee service performance to a particular customer, or the one-on-one interaction between an employee and a customer, may directly affect the customer’s satisfaction with this particular service encounter and the customer’s decision regarding whether to continue to use the service of this particular employee (Gutek, 1995; Gutek, Bhappu, Liao-Troth, & Cherry, 1999). For example, by observing 191 bank tellers, Pugh (2001) found that individual tellers’ display of positive emotions was directly associated with their customers’ positive affect and subsequently with positive evaluations of service quality. Liao and Chuang (2007) found that a hairdresser’s individual-level service performance directly determines customers’ willingness to have a long-term service relationship with the hairdresser and the number of long-term customers the hairdresser maintains. Therefore, an individual employee’s service performance may directly affect customer satisfaction.

Second, a customer’s overall experience with a service unit may be shaped by the customer’s multiple encounters with multiple service employees in the unit (Liao & Chuang, 2004). For example, a banking customer may likely interact with different front-line employees on different visits and for different banking or investment needs. Thus, at the business-unit level of analysis, the overall service performance across the front-line employees may affect customer satisfaction with the unit’s overall service delivery. Whereas theoretically both individual-level and unit-level employee service performance may affect customer satisfaction, testing the individual-level effect requires an exact match between the employee and the customers he or she serves (see Liao & Chuang, 2007, for such a design and test). The current study did not include such matched data but instead assessed the individual customers’ satisfaction with the unit’s overall service. Therefore, with full acknowledgment of the theoretical and business relevance for the effect of individual-level employee service performance, in the current study we focused on the effect of unit-level employee service performance and proposed the following:

Hypothesis 5: A unit’s overall employee service performance is positively related to customer satisfaction with the unit’s overall service quality.

Method

Study Design and Participants

We tested the proposed theoretical framework using data from a national bank in Japan. All 92 branches of the bank participated in the study. In order to link information from multiple stakeholders involved in the service profit chain, test the temporal linkages among the study variables, and reduce common method bias, we collected information from five sources (headquarters, branch senior managers, employee supervisors, customer-contact employees, and branch customers), in two formats (surveys and archival data), and in three phases.

Specifically, at Time 1, branch management (including branch senior managers and employee supervisors) filled out a survey about the HPWS practices implemented in their branch for three employee groups of different employment status (group differences are explained in the Measures section). At Time 2, individual employees filled out a survey about their personal experiences of the work system. At Time 3, employees filled out another survey on variables including their psychological empowerment, extrinsic motivation, and perceived organizational support. We separated employee measures into these two surveys at different times to reduce common-method bias. In addition, at Time 3, employee supervisors provided evaluations of each individual employee’s human capital and service performance. The time interval between two adjacent phases ranged from 2 to 4 weeks. Concurrent with the data collection within the branches, customer satisfaction measures were collected from the branch’s external customers, and employee demographic information and branch characteristics, such as size, age, and local competition, were obtained from the bank headquarters’ archival data.

To solicit honest responses, we arranged for the marketing consulting company run by Keiko Toya to administer the entire data collection. All branch senior managers, supervisors, and employees of the bank were invited to participate in the study, and a stratified random sample of each branch’s external customers was selected to represent customers of different asset levels. The marketing consulting company precoded the surveys with branch and individual identification numbers and sent all of the surveys directly to the participants’ home together with a postage-paid return envelope addressed directly to Keiko Toya. The respondents were assured of confidentiality and that nobody from the bank would have access to their individual responses. To further reduce potential psychological stress, we did not include any question in the employee surveys pertaining to individuals’ names, locations, or personal demographic information and obtained these data directly from the bank’s headquarters. Upon returning their completed survey, the customers each received a payment in Japanese yen equivalent to about 10 U.S. dollars, while the bank’s managers, supervisors, and employees did not receive any payment.

With endorsement from the bank’s top management, we achieved high response rates for the branch manager and employee samples across the branches. A total of 292 (91%) branch managers filled out the Time 1 management survey, 1,149 (92%) employees filled out both of the two employee surveys, and 223 supervisors provided performance evaluations for 959 (77%) of the employees. We had a final usable sample with complete matched management–supervisor–employee information for 830 employees from 91 branches. We compared the 830 employees
included in the final sample with the excluded employees having incomplete information and found that the final sample had higher female representation and were younger than the unused sample. To account for the potential effects of gender and age, we controlled for these variables in all analyses. In addition, we obtained 1,772 usable customer responses from 75 branches, representing an overall response rate of 27%, which is comparable to the survey response rate from random survey sampling reported in the marketing literature (e.g., Seiders, Voss, Grewal, & Godfrey, 2005). We conducted $t$ tests of two-sample means and found that, in comparison with these 75 branches, the 16 branches with no customer data had fewer female employees and more competing banks in the neighborhood but no statistically significant difference for any of the other study variables. We controlled for these variables in all analyses.

Survey Translation Procedures

For measures that were originally in English, we followed an iterative translation procedure. First, Hui Liao worked closely with a Japanese linguist who teaches Japanese at a U.S. university to translate the surveys from English to Japanese. Second, Keiko Toya, who is a Japanese native and proficient in English, teaches marketing at a university in Japan, and has extensive consulting experience with the Japanese banking industry, checked the translation for accuracy, discussed the relevance and appropriateness of the questions in depth with focus groups of managers and employees from the bank, identified areas of concerns, and suggested questions to be deleted, added, and modified. Third, the Japanese linguist, in consultation with Hui Liao and Keiko Toya, worked to resolve these issues. Fourth, Keiko Toya’s business partner, who is a Japanese native with a U.S. master’s in business administration degree and consults with the Japanese banking industry, improved the readability of the questions through discussions with Keiko Toya.

Next, we describe the measures for the main study variables involved in the analyses of employee service performance and customer satisfaction, respectively, by each level of analysis. We then describe the measures for the control variables by each level of analysis.

Measures of Individual-Level Variables Relevant for Predicting Employee Service Performance

Employee-experienced high-performance work system. The employee measure assessed employees’ individual experiences of the work system. Employees answered questions on the basis of their personal experience and understanding of the HR practices on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Our measure of HPWS included eight practice dimensions that aim to enhance employee human capital, psychological empowerment, and obligation in delivering high-quality service. Table 1 reports the practice dimensions, scale sources, means, standard deviations, and coefficient alphas.

The first six practice dimensions were based on Zacharatos et al.’s (2005) framework, and the measures were primarily derived from the employee version of the HPWS used in Study 2 of Zacharatos et al. and adapted in the current study to have a service-quality focus. The dimensions include extensive service-training, information sharing, self-managed teams and task group participation, compensation contingent on service performance, job design, and service discretion.
training (6 items, e.g., “The branch supports me to join the customer service training program provided by the headquarters”), information sharing (8 items, e.g., “Customers’ suggestions on how to improve service quality is shared with me”), self-management service teams and participation (6 items, e.g., “Suggestions for improving customer service from employees like me are usually implemented in full or in part within this branch”), compensation contingent on service quality (8 items, e.g., “My pay is tied to the quality of service I deliver to the customers”), job design for quality work (5 items, e.g., “My job is designed to be simple and repetitive”; reverse-coded), and service-quality–based performance appraisal (4 items, e.g., “To what extent does your branch evaluate your performance based on a track record of your courteous service to customers”). Several items deemed irrelevant for the Japanese banking industry were dropped from Zacharatos et al.’s (2005) original scale (e.g., “Such things as my previous injuries and my alcohol and substance use were assessed before I was hired to work here”). We also supplemented Zacharatos et al.’s measures of the training and performance appraisal practices with items adapted from Delery and Doty’s (1996) measure of work systems for banking industries (e.g., “The training programs I went through in this branch prepared me to provide high-quality service”). In addition to these six dimensions, we included two practices deemed important for the service context. Internal service refers to the interdepartmental support provided to service employees and has been argued to influence front-line employees’ service delivery to external customers (Schneider et al., 1998). We used the two items reported in Schneider et al. (1998) to assess internal service (e.g., “Employees in the other departments of this branch cooperate well with me to get my job done”). Service discretion refers to the level of authority employees have in resolving customer complaints and customizing service offering and has been argued to influence employee prompt and responsive handling of customer complaints and employee adaptive service behaviors (Gwinner et al., 2005). We developed five items to assess service discretion (e.g., “I have the discretion to customize the service offering to meet customer needs”).

We dropped selective hiring, which was included in Zacharatos et al. (2005), because the bank has centralized staffing at the headquarters and thus the branches do not hire their own employees. We also dropped employment security and reduced status differentiation dimensions, included in Zacharatos et al., because as we explain later, as a standard practice across branches, the bank has clear hierarchical status differentiation for different groups of employees, and whether an employee has lifetime employment security depends on the group to which the employee belongs. Therefore, there would be no between-branches variance in formal management practices in terms of these three dimensions. In addition, because a goal of the current study was to examine the same set of HR practices from both the employee and management perspectives, we excluded these three dimensions from the measures of the employee perspective.

We then calculated a unitary index of employee-HPWS. This index approach has been recommended and widely used in strategic HRM research, as it is consistent with one of the fundamental principles of strategic HRM research, which argues that the impact of HR practices is best understood by examining the system of HR practices in place instead of examining HR practices individually (Becker & Huselid, 1998; Delery, 1998; Guthrie, 2001; Huselid, 1995; Lepak et al., 2006; Ostroff & Bowen, 2000; Wright & Boswell, 2002). We followed 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 first calculated the subscale scores, averaging across items of the same practice dimension (e.g., selective hiring), which was justified by the high interinternal consistency of the subscales; we then created the index of employee-HPWS, averaging across the eight practice dimensions, which again was justified by an alpha of .89 across the HR practices. Further, we conducted a principal factor analysis for the practices included in employee-HPWS. Only one factor had an eigenvalue of greater than 1, providing additional support for the unitary-index approach. Table 1 reports the factor loadings.

**Employee psychological empowerment.** In the second survey sent to employees, employees reported their individual psychological empowerment using Spreitzer’s (1995) 12-item scale adapted to the service context. The 5-point Likert scale (1 = strongly disagree; 5 = strongly agree) assessed employee perceived meaning (e.g., “The service work I do is meaningful to me”), competency (e.g., “I am self-assured about my capabilities to perform my activities in customer service”), self-determination (e.g., “I have considerable opportunity for independence and am free in how I do my job in serving customers”), and impact (e.g., “I have significant influence over what happens in my branch”) in service delivery. Alpha was .89.

**Employee perceived organizational support.** In the second employee survey, employees evaluated their perceived organizational support from the branch, using the eight-item perceived organizational support scale of Eisenberger, Cummings, Armeli, and Lynch (1997). Respondents indicated their agreement with each of the statements using a 7-point scale ranging from 1 (strongly disagree) to 7 (strongly agree) (e.g., “My branch cares about my well-being”). Alpha was .89.

**Employee human capital.** An employee’s human capital was evaluated by his or her direct supervisor using a five-item human capital scale by Subramianam and Younrd (2005) and Younrd, Subramianam, and Snell (2004). Participants responded on a 7-point scale ranging from 1 (strongly disagree) to 7 (strongly agree). The items were adapted to describe service related knowledge, skills, and abilities (e.g., “This employee is highly skilled in serving customers”). Alpha was .94.

**Employee service performance.** Employees’ direct supervisors evaluated two types of service performance for each employee on a 7-point scale (1 = highly unsatisfactory; 7 = highly satisfactory): general service performance and knowledge-intensive financial service performance. General service performance refers to the overall professional appearance and the reliability, responsiveness, assurance, and empathy displayed by employees in serving customers. It was assessed by 23 items adapted from the widely used service quality scale of Parasuraman, Zeithaml, and Berry (1994; e.g., “how satisfactory is this employee’s performance regarding providing services as promised?”). General service performance is applicable for all service sectors, and these service quality criteria have been used in numerous marketing studies (see Asubonteng & Mc Cleary, 1996, for a review). Knowledge-intensive service performance refers to the financial service that requires specialized professional knowledge and skills and is only relevant for the financial industry. We developed an 18-item scale
to assess employee performance in recommending, designing, and selling appropriate investment products, flexible/fixed-return products, pension plan products, loan products and mortgage products, managing customer tangible and intangible assets, handling irregular cases, and so forth. Alpha was .97 for general service performance and .96 for knowledge-intensive service performance.

Because employee supervisors provided the ratings for individual employees’ human capital, general service performance, and knowledge-intensive service performance in one survey and because knowledge-intensive service performance is a new scale, we conducted a series of confirmatory factor analyses to examine the discriminant validity of these three constructs. We first created item parcels for each scale in order to yield more stable parameter estimates (Kishton & Widaman, 1994; Yuan, Bentler, & Kano, 1997). For example, the 23 items of the general service performance scale were randomly assigned to five parcels, and the average item scores of the five parcels were used as indicators for general service performance. We found that the one-factor model fit the data poorly, χ²(54) = 4,218.44, non-normed fit index (NFI) = .77, comparative fit index (CFI) = .82, incremental fit index (IFI) = .82, and root mean square residual (RMSR) = .19. In contrast, the hypothesized three-factor model fit the data well, χ²(51) = 757.28, NFI = .96, CFI = .97, IFI = .97, RMSR = .045, and significantly better than the one-factor model, Δχ²(3) = 3,461.15, p < .001; better than an alternative two-factor model combining human capital and general service performance into one factor, Δχ²(2) = 315.39, p < .001; better than an alternative two-factor model combining human capital and knowledge-intensive service performance into one factor, Δχ²(2) = 3,284.2, p < .001; and better than an alternative two-factor model combining general service performance and knowledge-intensive service performance into one factor, Δχ²(2) = 3,130.62, p < .001. Further, we constrained the estimated correlation parameter (φij) between two of the three variables to 1.0 at a time and then performed chi-square difference tests on the values obtained for the constrained and unconstrained models (Anderson & Gerbing, 1988). All of the three chi-square difference tests revealed that the unconstrained models fit the data significantly better than did the constrained model, suggesting that the imposed constraint was unrealistic. In addition, we used the test recommended by Anderson and Gerbing (1988) as well as Bagozzi, Yi, and Phillips (1991) to examine whether the 95% confidence interval around the correlation of each pair of the factors contained the value of one (+1 or −1). We found that none of the 95% confidence intervals contained the value of one. Taken together, these results provided discriminant validity evidence that the three factors are distinct from one another.

Measures of Group-Level Variables Relevant for Predicting Employee Service Performance

To measure management’s assessment of the HPWS practices targeted to different employee groups at each branch, we asked all managers to fill out a survey consisting of three sections; the HR practice questions repeated in each section for three different groups of employees. In the bank evaluated in this study, employees are categorized into three groups with different official status, employment security, and advancement opportunities. Group 1, or “Sougoshoku” employees, is the group with the highest status; employees in this group enjoy a lifetime contract, have unlimited transferability to branches of their choice and promotion opportunities to management, and are mostly men. Members of Group 2, or “Ippanshoku” employees, have lower status, maintain a lifetime contract but limited transferability and fewer promotion opportunities to management, and are mostly women. Those in Group 3, or part-time employees, have the lowest status, no lifetime contract, and no transfer or promotion opportunities and are predominantly women. All three groups of employees have direct contact with customers. Because management may have different practices targeted to different groups, we measured management perspectives of HPWS for each group separately.

We conceptualize management-HPWS as an eight-dimension system corresponding to the employee-HPWS measures. The items were primarily adapted from the management version used in Study 1 of Zacharatos et al. (2005) and supplemented with items from Delery and Doty (1996) and Schneider et al. (1998), except for the service discretion dimension, which, as noted above, was mostly created for this study. On a 5-point scale ranging from 1 (strongly disagree) to 5 (strongly agree), branch managers answered questions about the formal HR practices for each of the three employee groups.

We then calculated the index scores of management-HPWS for the three groups of employees following a similar procedure used in calculating the employee-HPWS index score. The high internal consistency both within each practice dimension and across the eight dimensions, as well as the overall one-factor structure of the practices, empirically justified the index approach (see Table 1). In each branch, an average of three managers reported management-HPWS targeted toward the employee group.2 We aggregated the index scores across the managers of the same branch to form the measure of manager-HPWS for each employee group. Aggregation is justified by a high interrater agreement (r_wg(j); James, Demaree, and Wolf, 1984) that adjusted for a slight negative skew in the expected variance; the median r_wg(j) value was .97 for management-HPWS targeted toward Group 1 employees, .98 targeted toward Group 2 employees, and .97 targeted toward Group 3 employees. In addition, ICC_2(intraclass correlation), or the proportion of between-branch variance in the total variance, was significant for all three types of measures, with the values of .16, .11, and .17, respectively, which are comparable to the inflated median ICC_1 value of .12 reported in the organizational literature (see Bliese, 2000). Further, ICC_2, or the reliability of branch mean, was .38, .28, and .34, respectively. The relatively low ICC_2 values are a direct result of the low ICC_1 values and the very small number of managers from each branch. Low ICC_2 values suggest that it may be difficult to detect emergent relationships using branch means (Bliese, 2000); however, they should not prevent aggregation if aggregation is justified by theory and supported by high r_wg(j) (Chen & Bliese, 2002;
Kozlowski & Hattrup, 1992). Therefore, we proceeded with aggregation, acknowledging that the relationships between the management-HPWS and the other study variables may be underestimated.

**Measures of Variables Relevant for Predicting Customer Satisfaction**

*Individual-level customer overall satisfaction with branch service.* Branch customers provided evaluations of their satisfaction with the branch’s overall service using eight items to assess the key indicators of service quality for the Japanese banking industry (e.g., teller performance, visiting service provided to the customer’s home or workplace). Alpha for this scale was .88.

*Branch-level average employee service performance.* In order to examine how customer satisfaction is influenced by the overall service performance of the branch employees, we aggregated employee ratings of the branch’s overall general service performance and knowledge-intensive financial service performance to the branch level to represent the branch’s employee overall general service performance and knowledge-intensive service performance. Alpha was .96 for the former and .96 for the latter. The aggregation was justified by a high median \( r_{\text{wrg}(j)} \) of .89 and .92, respectively, for the two types of service performance.

**Control Variables**

*Individual-level control variables.* We controlled for employees’ age and gender at the individual employee level of analysis; information on these variables was obtained from the headquarters’ archival data. In addition, in assessing the effect of employee psychological empowerment or intrinsic motivation on employee service performance, we controlled for the influence of extrinsic motivation. We measured employee-perceived extrinsic motivation following the procedure described in Tyagi (1985). First, performance expectancy (\( E \); 6 items; alpha = .92), as well as the instrumentality (\( I \); 5 items; alpha = .84) and valence (\( V \); 5 items; alpha = .83) of extrinsic rewards for performance, were measured with items answered by employees adapted from Gwinner et al. (2005); then, the extrinsic motivation score (\( EM \)) was calculated by standardizing the score of

\[
EM = \left[ E \times \left( \sum_{k=1}^{n} I_k \times V_k \right) \right]^{1/2}
\]

When predicting a customer’s satisfaction with the branch’s overall service, we controlled for the customer’s gender, age, and total household asset as reported by the responding customer at the individual customer level of analysis.

*Group-level control variables.* We controlled for employees’ affiliation with a specific employment group at the group level, using the archival data from the bank’s headquarters (Group 1 = 1 if the employee belonged to employee Group 1; Group 2 = 1 if the employee belonged to employee Group 2; and Group 3 was used as the comparison group).

In addition, we controlled for the average ratings of employee-HPWS at the group level, which represents the employees’ shared experience of the HPWS within the same group in a branch. Through social interactions, employees of the same group may come to form certain common perceptions or psychological states, which may further influence employee attitudes and behavior above and beyond employee individual experience with the work system (e.g., Liao & Chuang, 2007; Ostroff & Bowen, 2000). Therefore, we aggregated employee-HPWS to the group level as a control variable in order to show that, after accounting for employee-shared experience of HPWS, an individual employee’s idiosyncratic experience with the HPWS (measured as a Level 1 variable, employee-HPWS) was significantly related to employee human capital, psychological empowerment, perceived organizational support, and performance. Aggregation is justified by a high \( r_{\text{wrg}(j)} \) adjusted for a small negative skew in the expected variance (James et al., 1984); the median \( r_{\text{wrg}(j)} \) value was .96.

*Branch-level control variables.* At the branch level, we controlled for the branch’s age, size, and number of competing banks in the neighborhood in all of the analyses. Information for these variables was provided by the bank’s headquarters. In addition, when testing Hypothesis 5 on the relationship between a branch’s overall employee service performance and customer satisfaction, we controlled for branch average management-HPWS (calculated by first assigning the management-rated HPWS score for a particular employee group to all of the employees in that group, then averaging the scores across all the employees in the branch), branch average employee-HPWS, and branch average employee human capital, psychological empowerment, extrinsic motivation, and perceived organizational support. We do not assume a high agreement across individuals on these variables within a branch; they are controlled for merely to demonstrate the effect of branch overall employee service performance on customer satisfaction beyond the potential effects of these variables on customer satisfaction at the branch level.

**Analytical Strategy**

In this study, employees were nested in employment groups, and employment groups were nested in branches. The theoretical models involving employee outcomes are also hierarchical, with constructs spanning three levels of analysis. Specifically, employee individual service performance, employee-HPWS, human capital, psychological empowerment, and perceived organizational support are conceptualized at the individual employee level of analysis; management-HPWS targeted at three different groups within the branch is conceptualized at the group level of analysis; and branch characteristics, such as size, age, and level of local competition, are conceptualized at the branch-level of analysis. In addition, customers are nested in branches. The theoretical models involving customer satisfaction as the outcome also have two levels, with individual customers’ satisfaction and demographic characteristics conceptualized at the individual customer level of analysis and branch collective service performance conceptualized at the branch level of analysis.

Therefore, we conducted three-level hierarchical linear modeling (HLM; Bryk & Raudenbush, 1992) to test Hypotheses 1 through 4, involving employee outcomes, and two-level HLM to test Hypothesis 5, involving customer outcomes. Before conducting the HLM analyses, we conducted a series of analyses of covariance (ANCOVAs), analyses of variance (ANOVAs), and group mean comparison tests to examine differences in employee experience with the work system across different groups, the
variance within the same group, and the divergence between manager and employee perspectives of the work system. These analyses, although not part of our formal hypothesis testing, serve to provide the empirical examination for the potential importance of focusing on employee individually experienced HPWS.

Results

Descriptive statistics, correlations, and alpha values for the study variables are presented in Table 2.

Employee–High Performance Work System: Differences Between Employee Groups, Variance Within a Group, and Divergence From the Management’s Perspective

Differences between employee groups. In order to understand whether there are significant differences in employee-HPWS among the three different employee groups, we conducted ANCOVA at the individual level, with group membership as the treatment variable and employee gender and age as the covariates. The results revealed that group membership was a significant factor in determining employee-HPWS, $F(2, 826) = 4.84, p < .0001$. We further conducted pairwise mean comparisons for employee Group 1, Group 2, and Group 3 across branches. The results revealed significant differences between Group 1 and Group 2 (for Group 1, $M = 3.49, SD = 0.02$; for Group 2, $M = 3.19, SD = 0.03$; $t(87) = 10.68, p < .001, n = 88$), between Group 2 and Group 3 (for Group 2, $M = 3.21, SD = 0.03$; for Group 3, $M = 3.03, SD = 0.04$; $t(70) = 3.80, p < .001, n = 71$), and between Group 1 and Group 3 (for Group 1, $M = 3.49, SD = 0.02$; for Group 3, $M = 3.05, SD = 0.04$; $t(73) = 10.68, p < .001, n = 74$). Across branches, Group 1 generally had the most favorable evaluations of the work system, followed by Group 2, and then Group 3, which is consistent with the company’s categorization of employment status.

Variance within a group. We also examined whether there were significant between-employee differences in participants’ experience of HPWS within employment status groups. Specifically, we followed the procedure recommended in Bryk and Raudenbush (1992) and performed an ANOVA using a two-level null HLM analysis (for Level 1, $n = 831$; for Level 2, $n = 253$), with employee individual experience of the work system as the outcome variable. The results showed that the within-group variance estimate was .15 and the between-group variance estimate was .03 ($p < .001$). This indicates that 17% of the variance in employee experience of HPWS resided between employee groups, whereas 83% of the variance resided within employee groups.

Divergence from the management’s perspective. Our data also allowed us to examine whether for a given employment group, there was a discrepancy between employee-HPWS and management-HPWS. First, we performed mean comparisons between management and employee perspectives of the work system. The results revealed that across the 253 employee groups in different branches, the group mean of management-HPWS for a certain group was 3.50 ($SD = 0.02$), and the group mean of employee-HPWS for the same group was 3.25 ($SD = 0.02$), which was significantly different from, and lower than, the management-HPWS, $t(252) = -10.58, p < .001, n = 253$.

This suggests that management generally tends to have a more positive evaluation of the work system than do the employees. On the other hand, the correlation at the group-level between management-HPWS for a group and the average employee-HPWS in that group was .39, and its 95% confidence interval does not include 0 or 1. These results suggest that overall there is a divergence between management-HPWS and the group mean of employee-HPWS, although the two perspectives are positively related to each other.

Three-Level Hierarchical Linear Modeling Predicting Individual Employee Outcomes

Hypotheses 1 through 3 predicted that employee-HPWS would positively influence employee service performance through the mediation of employee human capital, psychological empowerment, and perceived organizational support. We followed the four-step test procedures for mediation described in Kenny, Kashy, and Bolger (1998); controlled for the effects of management-HPWS and a variety of individual, group, and branch characteristics; and report the results in Tables 3 and 4. As a first step, employee-HPWS needs to be related to employee service performance. As shown in Model 2 and Model 5 in Table 4, employee-HPWS had a significant positive relationship with supervisor-rated employee general service performance ($\hat{g} = .48, p < .001$) and knowledge-intensive service performance ($\hat{g} = .24, p < .001$).

To test Hypothesis 1 regarding the role of human capital as the mediator, in the second step, we examined whether employee-HPWS was related to the mediator. As shown in Model 3 in Table 3, employee-HPWS was positively related to human capital ($\hat{g} = .51, p < .001$). Next, in testing the third and fourth steps, we included both employee-HPWS and the mediator in predicting general service performance and knowledge-intensive service performance. As reported in Models 3 and 6 in Table 4, employee-HPWS was no longer significant, yet human capital was significantly related to general service performance ($\hat{g} = .70, p < .001$) and knowledge-intensive service performance ($\hat{g} = .29, p < .001$). Therefore, Hypothesis 1 was supported.

We followed the same steps in testing Hypothesis 2 regarding the role of psychological empowerment as a mediator. As reported in Model 5 of Table 3, employee-HPWS was positively related to empowerment ($\hat{g} = .53, p < .001$). Models 3 and 6 in Table 4 showed that empowerment was not significantly related to general service performance but was significantly related to knowledge-intensive service performance ($\hat{g} = .14, p < .01$). Therefore, empowerment mediated the relationship between employee-HPWS and knowledge-intensive service performance, partially supporting Hypothesis 2.

Likewise, Hypothesis 3 was tested by first examining the relationship between employee-HPWS and the mediator, perceived organizational support, which was shown to be significant in Model 7 of Table 3 ($\hat{g} = 1.43, p < .001$). Next, in Models 3 and 6 of Table 4, whereas employee-HPWS became non-significant in predicting service performance, perceived organizational support was significantly

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3 Because not all branches had data for all three groups, the group means and sample size involved in the mean comparison tests were slightly different.
Table 2
Descriptive Statistics, Intercorrelations, and Internal Consistency of Study Variables

<table>
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<tr>
<th>Variable</th>
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<td>Individual level employee variables (N = 830)</td>
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<td>1. Employee gender</td>
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<td>2. Employee age</td>
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<td>3. Employee HPWS</td>
<td>3.25</td>
<td>0.43</td>
<td>-.31*</td>
<td>.05</td>
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<td>4. Supervisor rated employee human capital</td>
<td>4.52</td>
<td>1.20</td>
<td>.11*</td>
<td>-.04</td>
<td>.15*</td>
<td>.94</td>
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<td>5. Employee psychological empowerment</td>
<td>3.22</td>
<td>0.51</td>
<td>-.34*</td>
<td>.26*</td>
<td>.49*</td>
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<td>6. Employee extrinsic motivation</td>
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<td>1.00</td>
<td>-.45*</td>
<td>.07*</td>
<td>.42*</td>
<td>.04</td>
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<td>7. Employee POS</td>
<td>5.11</td>
<td>0.92</td>
<td>-.12*</td>
<td>-.08*</td>
<td>.65*</td>
<td>.18*</td>
<td>.27*</td>
<td>.24*</td>
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<td>8. Supervisor rated employee GSP</td>
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<td>0.96</td>
<td>.04</td>
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<td>.20*</td>
<td>.89*</td>
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<td>.23*</td>
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<td>9. Supervisor rated employee KSP</td>
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<td>-.63*</td>
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<td>.33*</td>
<td>.35*</td>
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<td>1. Employee Group 1</td>
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<td>2. Employee Group 2</td>
<td>0.35</td>
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<td>3. Employee Group 3</td>
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<td>0.46</td>
<td>-.48*</td>
<td>-.47*</td>
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<td>4. Management HPWS</td>
<td>3.50</td>
<td>0.36</td>
<td>.26*</td>
<td>.30*</td>
<td>-.59*</td>
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<td>5. Group average employee HPWS</td>
<td>3.25</td>
<td>0.31</td>
<td>.55*</td>
<td>-.15*</td>
<td>-.32*</td>
<td>.39*</td>
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<td>Individual level customer variables (N = 1,772)</td>
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<tr>
<td>1. Customer gender</td>
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<td>0.50</td>
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<td>.02</td>
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<tr>
<td>3. Customer total household asset</td>
<td>3.21</td>
<td>2.07</td>
<td>.08*</td>
<td>.45*</td>
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<td></td>
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<tr>
<td>4. Customer overall satisfaction with branch service</td>
<td>4.45</td>
<td>0.78</td>
<td>.05*</td>
<td>.27*</td>
<td>.17*</td>
<td>.88</td>
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<td>Branch level variables (N = 75)</td>
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<td>1. Branch age</td>
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</tr>
<tr>
<td>2. Branch size</td>
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<td>.46*</td>
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<tr>
<td>4. Branch average management HPWS</td>
<td>3.55</td>
<td>0.24</td>
<td>.12</td>
<td>-.02</td>
<td>.00</td>
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<tr>
<td>5. Branch average employee HPWS</td>
<td>3.33</td>
<td>0.14</td>
<td>-.02</td>
<td>-.17</td>
<td>-.03</td>
<td>.29*</td>
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<tr>
<td>6. Branch average human capital</td>
<td>4.48</td>
<td>0.58</td>
<td>.13</td>
<td>.18</td>
<td>-.12</td>
<td>.24*</td>
<td>.18</td>
<td>—</td>
<td></td>
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<tr>
<td>7. Branch average psychological empowerment</td>
<td>3.38</td>
<td>0.22</td>
<td>-.16</td>
<td>-.36*</td>
<td>-.13</td>
<td>.12</td>
<td>.44*</td>
<td>.03</td>
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<tr>
<td>8. Branch average extrinsic motivation</td>
<td>0.05</td>
<td>0.33</td>
<td>.00</td>
<td>-.07</td>
<td>.09</td>
<td>.25*</td>
<td>.49*</td>
<td>-.16</td>
<td>.51*</td>
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<tr>
<td>9. Branch average POS</td>
<td>5.17</td>
<td>0.39</td>
<td>-.10</td>
<td>-.09</td>
<td>.00</td>
<td>.23*</td>
<td>.73*</td>
<td>.26*</td>
<td>.24*</td>
<td>.16</td>
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<tr>
<td>10. Branch average overall GSP</td>
<td>5.05</td>
<td>0.30</td>
<td>-.16</td>
<td>-.07</td>
<td>.01</td>
<td>.15</td>
<td>.56*</td>
<td>.18</td>
<td>.49*</td>
<td>.39*</td>
<td>.53*</td>
<td>—</td>
<td></td>
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<tr>
<td>11. Branch average overall KSP</td>
<td>3.70</td>
<td>0.23</td>
<td>-.07</td>
<td>-.14</td>
<td>-.05</td>
<td>.04</td>
<td>.26*</td>
<td>-.13</td>
<td>.39*</td>
<td>.33*</td>
<td>.16</td>
<td>.51*</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>12. Branch average overall customer satisfaction</td>
<td>4.46</td>
<td>0.25</td>
<td>.12</td>
<td>-.14</td>
<td>-.36*</td>
<td>.04</td>
<td>.03</td>
<td>-.02</td>
<td>.19</td>
<td>.10</td>
<td>.06</td>
<td>.18</td>
<td>.37*</td>
<td>—</td>
</tr>
</tbody>
</table>

Note. Numbers 1–12 in the top row correspond to the variables in the respective sections of the table. Coefficient alpha values are presented in italics along the diagonal. Employee-HPWS = Employee individually experienced high performance work system; POS = perceived organizational support; GSP = general service performance; KSP = knowledge-intensive financial service performance; management-HPWS: Management’s perspective of the HPWS practices generally in use for an employee group of certain employment status. Branch average management-HPWS was calculated by averaging across branch employees the management-HPWS score assigned to the employees.

* Female = 1; male = 0.
* p < .05.
related to general service performance (\(\hat{y} = .06, p < .05\)) but was not significantly related to knowledge-intensive service performance. Therefore, Hypothesis 3 was partially supported, in that perceived organizational support mediated the relationship between employee-HPWS and general service performance.

We conducted Sobel (1982) tests and confirmed that the change in the significance of employee-HPWS in predicting general service performance due to the introduction of human capital (\(z = 4.09, p < .001\)) and perceived organizational support (\(z = 2.43, p < .05\)) was significant. Similarly, Sobel tests revealed that human capital (\(z = 3.93, p < .001\)) and psychological empowerment (\(z = 2.93, p < .01\)) significantly reduced the significance of employee-HPWS in predicting knowledge-intensive service performance.

In sum, employee human capital and perceived organizational support fully mediated the relationship between employee-HPWS and employee general service performance, whereas human capital and psychological empowerment fully mediated the relationship between employee-HPWS and employee knowledge intensive service performance, providing some support for Hypotheses 1 through 3.

We followed a similar procedure to test Hypothesis 4, which proposes that management-HPWS would influence employee human capital, psychological empowerment, and perceived organizational support through the mediation of employee-HPWS. As reported in Model 1 of Table 3, management-HPWS was not significantly related to employee-HPWS. Therefore Hypothesis 4 was not supported. As shown in Models 3, 5, and 7 of Table 3, management-HPWS was positively related to human capital (\(\hat{y} = .56, p < .01\)) but was insignificantly related to psychological empowerment or perceived organizational support. The results suggest that management-HPWS had a direct effect on individual employees’ human capital instead of a mediated effect through employee-HPWS.

**Two-Level Hierarchical Linear Modeling Predicting Customer Satisfaction**

Hypothesis 5 predicted that branch overall service performance would be positively related to customer overall satisfaction with the branch’s service. We conducted HLM analysis to test this hypothesis, treating customer satisfaction as an individual customer level outcome. This approach allowed us to achieve two goals, which could not be achieved if we had aggregated customer satisfaction to the branch level and used collective performance to predict aggregated customer satisfaction using an ordinary least squares regression. First, we are able to account for customers’ individual differences in age and gender, which have been shown to relate to customer satisfaction ratings (e.g., Liao & Chuang, 2004). Second, the number of customer respondents per branch ranged from 1 to 62, with an average of 24; HLM can account for this differential precision of information of each branch by using generalized least squares to estimate the fixed effects, which are typically reported as the final estimates of the impact of the predictors on the outcome variables (Hofmann, 1997). In the GLS procedure, branches with more observations, hence, more reliable and precise Level 1 estimates, receive more weight (Bryk & Raudenbush, 1992). Fixed effects can thus be viewed as robust values) with robust standard errors. Employee-HPWS = employee individually experienced HPWS; management-HPWS = management’s perspective of the HPWS practices generally in use for an employee group of certain employment status. Female = 1; male = 0. The omitted, comparison employee group consisted of part-time employees. Pseudo \(R^2\) values were calculated on the basis of the formula from Kreft and De Leeuw (1998).

\(^a\) Female = 1; male = 0. \(^b\) The omitted, comparison employee group consisted of part-time employees. \(^c\) Pseudo \(R^2\) values were calculated on the basis of the formula from Kreft and De Leeuw (1998).

\(* p < .05\) \(^{**} p < .01\) \(^{***} p < .001\).
implementing and what employees report they are experiencing in terms of the HPWS practices. We found that although the correlation between management-HPWS and group average employee-HPWS was positive overall, the managerial ratings were significantly higher than employee ratings of the HPWS. In addition, the effect of management-HPWS on individual employee-HPWS was not significant when they were entered into the three-level hierarchical linear model. Relatedly, our analyses revealed substantial variance in employee-HPWS among groups of employees with different status and among employees within the same group. These findings demonstrate the variability in HR practices across employees within the same unit, which has been largely ignored by prior strategic HRM research (Wright & Boswell, 2002). The findings thus provide empirical support for the arguments of Lepak and Snell (1999, 2002) that multiple work systems may exist within the same establishment and for the arguments of Guzzo and Noonan (1994) as well as Bowen and Ostroff (2004) that individual employees may experience and interpret the same set of HR practices differently.

A second major implication is that the results highlight areas of distinction and overlap between the impact of management perspective of the HPWS practices generally implemented and employee individual experience with the HPWS on individual employee outcomes. From the employee perspective, employee-HPWS had a direct positive impact on employee human capital, psychological empowerment, and perceived organizational support, which were in turn related to general and knowledge-intensive service performance. Human capital and perceived organizational support fully mediated the

<table>
<thead>
<tr>
<th>Level and variable</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
<th>Model 5</th>
<th>Model 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>4.59***</td>
<td>4.45***</td>
<td>4.83***</td>
<td>3.10***</td>
<td>3.03***</td>
<td>3.24***</td>
</tr>
<tr>
<td>Level 1: Individual level</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employee gender</td>
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<td>.70***</td>
<td>.05</td>
<td>-.38**</td>
<td>-.31*</td>
<td>-.57***</td>
</tr>
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<td>.01</td>
<td>.01**</td>
<td>.01**</td>
<td>.01**</td>
<td>.01**</td>
</tr>
<tr>
<td>Supervisor-rated employee human capital</td>
<td>.70***</td>
<td></td>
<td></td>
<td>-.24**</td>
<td></td>
<td>-.01</td>
</tr>
<tr>
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<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Employee Group 1a</td>
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<td>.15</td>
<td>.06</td>
<td>.48**</td>
<td>.57**</td>
<td>.46**</td>
</tr>
<tr>
<td>Employee Group 2b</td>
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<td>-.22</td>
<td>-.01</td>
<td>-.005</td>
<td>-.01</td>
<td>.03</td>
</tr>
<tr>
<td>Management-HPWS</td>
<td>.40**</td>
<td>.42**</td>
<td>.03</td>
<td>.33*</td>
<td>.35*</td>
<td>.19</td>
</tr>
<tr>
<td>Group average employee-HPWS</td>
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<td>.17</td>
<td>.02</td>
<td>.55***</td>
<td>.32*</td>
<td>.28*</td>
</tr>
<tr>
<td>Level 3: Branch level</td>
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<td></td>
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<tr>
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<td>.002</td>
<td>.000</td>
<td>.002</td>
<td>.002</td>
<td>.001</td>
</tr>
<tr>
<td>Branch size</td>
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<td>.01</td>
<td>.000</td>
<td>-.002</td>
<td>-.002</td>
<td>-.005</td>
</tr>
<tr>
<td>Number of competing banks in neighborhood</td>
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<td>-.01</td>
<td>.001</td>
<td>-.01**</td>
<td>-.01**</td>
<td>-.01*</td>
</tr>
<tr>
<td>Pseudo $R^2$</td>
<td>.06</td>
<td>.09</td>
<td>.80</td>
<td>.44</td>
<td>.45</td>
<td>.60</td>
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</tbody>
</table>

Note. For Level 1, $N = 830$; for Level 2, $N = 252$; and for Level 3, $N = 91$. In all models, all variables except for employee gender, employee Group 1, and employee Group 2 were grand-mean centered. Entries corresponding to the predicting variables are estimations of the fixed effects ($\gamma$ values), with robust standard errors. HPWS = high-performance work system.

a Female = 1; male = 0. b The omitted, comparison employee group consisted of Group 3, or part-time, employees. c Pseudo $R^2$ values were calculated on the basis of the formula from Kreft and De Leeuw (1998).

$^p < .05$. ** $p < .01$. *** $p < .001$. 

customer overall satisfaction ($\bar{y} = .34$, $p < .05$), providing some support for Hypothesis 5.

Discussion

The primary goal of this study was to examine how employee-HPWS affected individual performance in the service context. Although researchers in the area of strategic HRM research have suggested that management and employee perspectives might diverge (e.g., Bowen & Ostroff, 2004; Wright & Boswell, 2002), the current study is among the first to examine the difference and relationship between the management and employee perspectives of HPWS. In addition, in the strategic HRM literature, researchers have examined the link between the use of HPWS and a myriad of organizational performance outcomes at the firm level of analysis. However, organizations do not “perform”; individuals in organizations perform in ways that allow the organizations to achieve desirable performance outcomes (Kozlowski & Klein, 2000). Thus, individual performance remains an important performance criterion for management and psychology research to assess the effectiveness of work systems. The current study sheds light on the impact and influence process of a service-quality–oriented HPWS on individual performance provided to customers. The results provide several implications for research and practice.

Research Implications

One of the major implications of the findings for this study is that there is a disconnect between what management says they are

<table>
<thead>
<tr>
<th>Level and variable</th>
<th>Supervisor-rated employee general service performance</th>
<th>Supervisor-rated employee knowledge-intensive financial service performance</th>
</tr>
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<tbody>
<tr>
<td>Intercept</td>
<td>4.59***</td>
<td>3.10***</td>
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<tr>
<td>Level 1: Individual level</td>
<td></td>
<td></td>
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<tr>
<td>Employee gender</td>
<td>.55***</td>
<td>-.38**</td>
</tr>
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<td>Employee age</td>
<td>.01</td>
<td>.01**</td>
</tr>
<tr>
<td>Supervisor-rated employee human capital</td>
<td>.70***</td>
<td>-.24**</td>
</tr>
<tr>
<td>Level 2: Group level</td>
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<td></td>
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<td>Employee Group 1a</td>
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<td>Employee Group 2b</td>
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<td>-.005</td>
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<td>Management-HPWS</td>
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<td>Group average employee-HPWS</td>
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<tr>
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<td>Branch size</td>
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<td>-.002</td>
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<tr>
<td>Number of competing banks in neighborhood</td>
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<td>-.01**</td>
</tr>
<tr>
<td>Pseudo $R^2$</td>
<td>.06</td>
<td>.44</td>
</tr>
</tbody>
</table>
The relationship between employee-HPWS and general service performance, whereas human capital and psychological empowerment fully mediated the relationship between employee-HPWS and knowledge-intensive service performance. These results provide some support for the individual-level theory of job performance (Campbell et al., 1993), suggesting that individuals’ knowledge, skills, and abilities and motivation are proximal determinants of individual performance and that the employee experience with HR interventions influences job performance through its impact on the individuals’ knowledge, skills, and abilities and motivation. More importantly, the effects of employee-HPWS on these individual outcomes sustained after we accounted for the effects of management-HPWS and employee average perceptions of the HPWS within the group, demonstrating the utility of considering employees’ idiosyncratic experience with the HPWS above and beyond management perspective of the HR practices generally implemented for an employee group and the employees’ shared perceptions of the HPWS practices within the group.

Whereas employee-HPWS was directly related to both employee human capital and motivation (psychological empowerment and perceived organizational support), we found that management-HPWS was directly related only to employee human capital. One possible explanation of this finding is that some aspects of employee attributes (i.e., motivation) are more directly influenced by employee interpretation of the work system than are other aspects of employee attributes (i.e., human capital), and thus management-HPWS may have a stronger direct impact on the latter form of attributes. For example, providing training programs may positively influence employee human capital independent of employees’ perceptions of the systems. If the management invests in the development of employee competencies for service delivery, their human capital—their knowledge, skills, and abilities to provide quality service—should be positively affected, even if they are not aware of or do not perceive those investments as occurring. In contrast, influencing employee motivation to perform is dependent on employee personal understanding and interpretation of the HPWS practices.

Taken in combination, these results suggest that we should not assume homogeneity of employee experience with the HPWS across employees of different employment groups or even within the same group, nor should we assume an equivalence of the employee perspective with the management perspective. Thus, it is important to directly assess employees’ individual experiences with the work system in theoretical development and empirical testing of the effects of the HPWS on individual-level employee outcomes. Future research may also examine explicitly what gives rise to employees’ differential experiences by considering the potential antecedents we mentioned in this study, such as employment status, organizational justice, and leader–member exchange relationships. In addition, Bowen and Ostroff (2004) proposed a set of HR system meta-features that may influence the level to which employees build shared perceptions about the HR system, including visibility of the HR practices, understandability of the HR content, legitimate authority of the HR system, relevance of the HR system to the strategic goal, instrumentality of the HR system for employee consequences, validity of the HR practices, consistency of the HR messages, agreement among principal HR decision makers, and fairness of the practices. A concerted effort to assess the effects of these features may represent a promising avenue for future research.

Beyond examining the divergence between, and the relative impact of, management-HPWS and employee-HPWS on employee human capital and motivation and, in turn, on service performance,
we also examined the linkages between branch-level service performance and customer satisfaction. Of the two types of service performance, employees’ overall knowledge-intensive service performance at the branch level was positively related to customer satisfaction with branch overall service quality, whereas employee general service performance was not. This result suggests that all performance metrics might not be created equal in helping firms gain a competitive service advantage. The resource-based view of the firm (Barney, 1991) suggests that sustainable competitive advantage comes from a firm’s resources and capabilities that are valuable, rare, imperfectly imitable, and not substitutable. We surmise that the behaviors of general service performance, such as being courteous, attentive, and reliable to customers and having a neat, professional appearance may be strictly scripted, or required, behaviors in banking services and part of customers’ standard expectation of a service encounter; thus, it may be difficult for branches to compete for higher customer satisfaction on the basis of general service performance. Instead, superior knowledge-intensive service performance may be rarer and less imitable and hence help differentiate superior banking experiences from others and create a competitive advantage in service. We encourage future researchers examining HPWS to keep in mind what performance they are referring to in the specific context and to go beyond general performance metrics by paying attention to the special metrics that differentiate firms from their competitors.

We found that the HPWS, from both the management and the employee perspectives, did not have a significant relationship with customer satisfaction. The lack of a direct link between the two, however, does not imply that the HPWS is not important in customer service. The impact of the HPWS on customer satisfaction may be a distal effect, which is likely to be “transmitted through additional links in a causal chain” (Shrout & Bolger, 2002, p. 429). Schneider, Ehrhart, Mayer, Saltz, and Niles-Jolly (2005) also argued that researchers need not necessarily despair when key organizational variables do not seem to be related to the bottom line when investigating bivariate relationships. These authors called for the development of richer models with process variables, which may reveal that these key variables are indeed important, although not directly so. The current study does just that. By introducing employee service performance as the process variable, we bridge the gap between strategic HRM research and service management research. The indirect effect of the HPWS on customer satisfaction is consistent with the general argument of the strategic HRM literature that HPWS affects employee behaviors, which, in turn, affect organizational operational and financial performance (e.g., see Lepak et al., 2006; Ostroff & Bowen, 2000; Wright, Gardner, & Moynihan, 2003). This finding is also consistent with the growing evidence from the service linkage research, which suggests that through front-line employees’ service behaviors, internal organizational management transforms into desirable external customer outcomes (e.g., Heskett, Sasser, & Schlesinger, 1997; Liao, 2007; Liao & Chuang, 2004, 2007; Schneider et al., 1998; 2005).

Though not the main focus of this study, the results also provided some interesting implications regarding gender differences in service performance. We found that women were rated higher than men in general service performance, whereas the reverse was true for knowledge-intensive service performance. This finding is consistent with several lines of gender research. First, gender and personality theory suggests that men and women are predisposed to different orientations, with men being more instrumental and women being more expressive (Evans & Steptoe, 2003). Our measures of general service performance reflected more social, relational performance (i.e., reliability, responsiveness, assurance, and empathy), whereas knowledge-intensive service performance indicated technical performance. One interpretation of this finding is that women may excel in social relations, whereas men may excel in their technical performance. Second, gender role theory posits that because social norms prescribe women to be communal and men to be agentic, different genders are “prescribed” with different behaviors and will try to match themselves with the social norm (Heilman & Chen, 2005). This reinforces the tendency for women to perform well in social aspects of service and for men to perform well in the technical aspect of service. Alternatively, from the observers’ perspective, gender stereotypes analogous to the first two points may influence the way supervisors evaluate subordinates’ performance (Heilman & Haynes, 2005). Thus, men and women may be evaluated differently by supervisors who are predisposed to emphasize certain aspects of their performance. Therefore, the gender differences we observed here might not be a unique phenomenon in Japan. Nonetheless, research is needed to examine potential cultural influences in the role of gender on service performance.

Lastly, we found that employees in Group 1 had better knowledge-intensive financial service performance than did employees in Group 3 or Group 2 after a variety of antecedents of employee performance had been accounted for. We surmise that because Group 1 has the highest employment status, better performers are likely to be attracted to, selected by, and retained in this group (attraction–selection–attrition [ASA] theory; Schneider, 1987; Schneider, in press; Schneider, Goldstein, & Smith, 1995). Therefore, there seem to be other factors (e.g., availability of resources) that make Group 1 employees better performers beyond all of the individual, group, and branch factors that we have specified in this study. In any case, because we explicitly controlled for group membership in our analyses, we partialed out the effects of the unspecified factors associated with group membership on performance.

Practical Implications

The current study also offers several practical implications. Marketing research has shown that customer satisfaction is associated with customer intention to repurchase and spread positive word of mouth (e.g., Parasuraman, Zeithaml, & Berry, 1988) and with financial measures such as return on assets and stock prices (e.g., Ittner & Larcker, 1996). For example, as Liao and Subramony (2008) noted, marketing research has shown that a 1% increase in the American Customer Satisfaction Index (ACSI) score (Fornell, Johnson, Anderson, Cha, & Bryant, 1996) increases a medium-sized firm’s (e.g., with $54 billion in assets) future cash flow by $55 million and reduces the variability of the firm’s cash flow by more than 4% (Grucza & Rego, 2005). Thus, customer satisfaction can help firms increase both the volume and the stability of their future cash flow, hence creating greater shareholder value. Our findings suggest that a key factor related to customer satisfaction in the banking service context is branch employees’ knowledge-intensive service performance; the two
variables had a correlation of .37, with a 95% confidence interval ranging from .16 to .55, indicating that branch employee knowledge-intensive service performance accounted for between 3% and 30% of the variance in customer satisfaction. Thus, bank management may achieve desirable customer and organizational financial outcomes by providing high-quality professional service. Our results also provide concrete suggestions on how to improve knowledge-intensive service performance. By implementing a system of service-quality–oriented HPWS practices, employees may acquire the knowledge, skills, and abilities relevant for the delivery of superior professional service, become psychologically empowered to appreciate the significant meaning in the tasks, feel the competence and control they have in performing the tasks, and see the impact they can make on organizational success.

In addition, we found that branch employees’ general service performance was not significantly related to customer satisfaction. However, this does not suggest that general service performance is unimportant. In fact, a deviation from these typically standard and expected behaviors will result in customer dissatisfaction (Solomon, Surprenant, Czepiel, & Gutman, 1985). Thus, companies should not focus exclusively on employee knowledge-intensive performance, ignoring the necessity of employee general service performance. Our results suggest that implementing a service quality-oriented HPWS will likely help maintain a high level of general service performance. Under such a system, employees will acquire the human capital needed for general service performance and perceive a high level of organizational support which, in turn, motivates them to provide superior general service performance to customers as reciprocation to the organization’s favorable treatment.

These findings also suggest that management should pay particular attention to employees’ idiosyncratic experiences of the work system, which directly influence their level of human capital, psychological empowerment, perceived organizational support, and service performance. Because HR practices communicate messages on what management expects, supports, and rewards (Bowen & Ostroff, 2004; Schneider, 1990), management needs to improve communications and prevent well-intended HR practices from being misunderstood by employees. Increased dialogue between management and employees and regular use of employee surveys and discussion groups may help management better understand what employees actually experience in the workplace and reduce the discrepancy between management and employee perspectives.

Limitations and Future Research

We acknowledge that the study findings should be considered in light of several limitations. First, we conducted the analyses using data from establishments within a Japanese firm. As a result, there may be some concerns regarding the generalizability of these findings to other cultural contexts. At the same time, however, the conceptual arguments used to derive the hypotheses are not culturally bound, and the findings are consistent with the conceptual arguments developed throughout the strategic HRM literature. In addition, we explicitly controlled for factors such as employee employment status, the categorization of which is unique in the Japanese culture context, making the results about the key study variables interpretable in other culture contexts. Relatedly, this sample was based on 91 establishments from a single banking organization. It is possible that there may be a corporate culture that constrains the choice of HR practices used in the establishments and employees’ reactions to those practices. Thus, range restriction might have rendered the effects of the work system on employee and customer outcomes to be underestimated. At the same time, however, the compatibility across branches in terms of products, services, pricing, marketing strategies, and so forth helps reduce concerns about potential confounding effects due to differences on these factors. Nevertheless, future research needs to test the relationships across a wider array of organizations.

A second potential limitation of this study is that we focused only on an HPWS targeted toward service quality. In reality, organizations need to juggle multiple demands and achieve multiple goals simultaneously. For example, in the banking industry, service quality is a critical component of organizations’ success; meanwhile, organizations need to improve safety, reduce workplace discrimination and inequity, increase shareholder value, and act as responsible member of the community. Future theoretical and empirical work is needed to provide guidance on how to balance the needs and align the interests of different organizational stakeholders in designing the work system.

A third limitation is that although we obtained data from five rating sources in three time periods, because of practical constraints, we were not able to completely eliminate common method bias. In particular, employees provided evaluations of both their own experiences with the work system and their psychological empowerment and perceived organizational support, rendering the observed relationships among these variables subject to common source bias. However, conceptually it was necessary to have employees self-report these measures because it was the individuals’ idiosyncratic experience and perceptions that were of concern. In addition, we measured employee–HPWS and the other employee-rated variables at two separate times in two surveys, thus reducing the common method bias.

In addition, supervisors evaluated individual employees’ human capital as well as their service performance. On the one hand, the performance evaluation literature suggests that supervisory ratings of the different aspects of a subordinate often are subject to halo bias, which may explain the high correlation between the employee human capital and general service performance measures. On the other hand, the high correlation may suggest that human capital is a key driver of employee service performance (accounting for 80% of the variance in employee general service performance). This is reasonable, as an employee with high levels of service-related knowledge, skills, and abilities should be in a better position to provide more reliable, responsive, and confident service. Nonetheless, we call for future research to examine the relationship using ratings from different sources. We should note that even given the high correlation between human capital and employee general service performance, employee perceived organizational support still had a significant positive relationship with employee general service performance beyond the effect of human capital, providing convincing evidence for the importance of employee perceived organizational support, thus lending support to the social exchange theory.

A fourth limitation is the short time period under which this research took place. Although the data were collected at different points in time, it is possible that the effects of the work system on
individual employees may take longer to materialize. Longitudinal research that examines the relationship between HPWSs and the important outcomes over different lengths of time may provide unique insights into not only the nature of the relationships but also the time lag necessary to realize the benefits of the work systems. In addition, future research that adopts the field experiment methodology is especially needed to test the causal influences of the work systems on employee and organizational outcomes.

Lastly, we took a cross-level approach in the current study to fill the void in strategic HRM research by examining the effects and influence process of the macrolevel HPWS on microlevel employee performance outcomes. Future research, similar to that reported in Chen, Thomas, and Wallace (2005); DeShon, Kozlowski, Schmidt, Milner, and Weichmann (2004); and Ployhart, Weekley, and Baughman (2006), may model the exemplar multilevel research to examine simultaneously the impact and influence processes of HPWSs on performance outcomes at both the individual and unit levels of analysis and to test the homology (e.g., Chen, Bliese, & Mathieu, 2005) for the effects of such systems at multiple levels.

Concluding Remarks

Despite its limitations, the current study has a number of strengths. The key theoretical advancements include the following: (a) examining the differences and relationship between management and employee perspectives of the HPWS for service quality, (b) integrating various theoretical perspectives to propose a cross-level framework for the effects of HPWS on individual-level service performance, and (c) directly testing, rather than assuming, the intermediate mechanisms. The key empirical and methodological strength lies in the use of HLM to account for the hierarchical nature of our models and data and in the collection of data in two formats from three phases and five rating sources. Our study design reduced common-method bias and allowed us to examine simultaneously the interfaces between management, front-line employees, and customers and to examine how internal management practices and employee psychological processes influence important external performance criteria. The key practical implications relate to showing the greater importance of branch overall knowledge-intensive service performance over general service performance in influencing customer satisfaction and to demonstrating that the HPWS for service quality was directly, as well as indirectly, related to employee knowledge-intensive service performance.

In conclusion, this study bridges the gap between macrolevel and microlevel approaches to HRM and extends strategic HRM research to the service arena and to individual level processes and performance outcomes. The findings contribute to our understanding of how a service-quality–oriented HPWS influences individual service performance, in part, through the mediation of employee human capital, psychological empowerment, and perceived organization support, and highlight the importance of incorporating the employee perspective into the examination of HPWS.

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