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**Service-Oriented High-Performance Work Systems and Service Role Performance:  
Applying Integrated Extended Self and Psychological Ownership Framework**

**Abstract**

How do organizations build an internal capability or processes to implement a service excellence strategy and thereby create sustained competitive advantage? Drawing on an integrated extended self and psychology of ownership framework as well as Bowen and Ostroff's (2004) HR system strength perspective, this study examines processes linking perceived service-oriented high-performance work systems (HPWS) and overall service role performance. Multi-wave data obtained from 530 employees and 53 supervisors in the hospitality industry were used to test our hypotheses. Multilevel structural equation modeling (MSEM) results revealed that higher levels of supervisor customer orientation strengthened the perceived service-oriented HPWS-employee customer orientation relationship leading to job-based psychological ownership. In turn, job-based psychological ownership related to overall service role performance and together with employee customer orientation, sequentially mediated the influence of perceived service-oriented HPWS on overall service role performance. We interpret our findings as providing initial evidence of an alternative motivational pathway through which an HR system influences performance in a frontline service role.

**Keywords:** perceived service-oriented high-performance work systems, customer orientation, job-based psychological ownership, overall service role performance

## Introduction

*‘Understanding how a customer-oriented strategy can be effectively disseminated is important because managers are forced to rely on their employees to implement the strategy and ensure customer satisfaction.’ Hartline, Maxham, and McKee (2000: 36)*

Service organizations have increasingly adopted a service excellence strategy which considers meeting the needs and expectations of customers a central plank in their drive to create sustained competitive advantage. Consequently, the much-documented influence of the quality of employees’ service delivery interactions in implementing a service excellence strategy (Heskett et al., 2015), has sustained research interest in understanding the motivational drivers of their service role performance (Subramony and Pugh, 2015; Wirtz and Jerger, 2016). In contrast to service climate (Bowen and Schneider, 2014), we focus in this study on the motivational driver of customer orientation, a state-like individual difference variable which describes frontline employees’ posture toward satisfying customer needs (Zablah et al., 2012). Consistent with the attributes of service such as intangibility, heterogeneity, and customer co-production of the service (Parasuraman et al., 1985), a flurry of research has shown employee customer orientation to relate to customer-oriented behaviors and ultimately, the financial viability of service organizations (Brady and Cronin, 2001; Hartline et al., 2000; Subramony et al., 2021; Susskind et al., 2003; Zablah et al, 2012).

Although much is now known about the construct, the extant research evidences a number of unresolved issues. First, while research has examined contextual factors such as leadership and standards of service delivery (Bowen and Schneider, 2014; Liaw et al., 2010; Stock and Hoyer, 2005; Susskind et al, 2003), we do not yet have a comprehensive understanding of how

organizations can systematically instill this work-related attitude or value into their frontline employees. Stock and Hoyer's (2005) suggestion that managers may use customer orientation as a selection criterion and/or training to instill positive customer-oriented attitudes underscores a role for strategic human resource management (SHRM) in fostering employee customer orientation. From an SHRM perspective, employee customer orientation constitutes an internal capability that organizations can develop and leverage to facilitate implementation of their service excellence strategy (Becker and Huselid, 2006). Additionally, given the role of leaders in modeling and therefore inculcating appropriate work-related attitudes or values (Brown et al., 2005), it is important to understand whether supervisor customer orientation complements a strategically-focused human resource (HR) system such as service-oriented high-performance work systems (HPWS) to create a strong situation (Bowen and Ostroff, 2004; Ostroff and Bowen, 2016) thereby fostering employee customer orientation. The first objective of this study, therefore, is to examine whether perceived service-oriented HPWS relate to customer orientation and whether this relationship is moderated by supervisor customer orientation.

While employee customer orientation has been shown to relate to myriad customer-oriented behaviors, only a minority of research has examined how it is related to these outcomes (Aryee et al., 2019; Donovan et al., 2004; Gazzoli et al., 2013). As service-oriented HPWS aims to transform the self-concept of frontline employees by fostering internalization of customer-oriented values, it is important to examine whether this self-concept is manifested in their extended self as job-based psychological ownership, a sense of ownership of the customer service role (Brown et al., 2014). While psychological ownership has been shown to be fostered by a strategically-focused HR system and relates to myriad work outcomes (Chang et al., 2012), there is a dearth of SHRM research on this construct. Accordingly, a second objective of this

study is to examine whether employee customer orientation enables frontline employees to extend the customer service role into their self-concept and manifested in job-based psychological ownership (Pierce and Jussila, 2011; Pierce et al., 2001, 2003) which, in turn, leads to overall service role performance. Taken together and drawing on an integrated extended self and psychology of ownership theory (incorporating an HR system strength perspective), we propose and test a model of how perceived service-oriented HPWS can be used to develop a self-concept-based internal capability that can be deployed to implement a service excellence strategy.

By addressing these two interrelated questions, our study contributes to the literature in three ways. First, despite the role of leaders and HR systems in shaping employees' experience of work and their attitudinal and behavioral reactions, there is a dearth of research that has examined how they jointly influence employee customer orientation (Bowen and Schneider, 2014; Jiang et al., 2015). Although HR practices signal or communicate the strategic focus on customer excellence as in this context, the extent to which employees understand and respond to this message is much contingent upon the immediate leader's emphasis on service excellence to create a strong situation (Bowen and Ostroff, 2004) in support of customer-centric attitudes and behaviors. As a process issue, supervisor customer orientation will help bridge the gap between intended and implemented HR system (Fu et al., 2020; Khilji and Wang, 2006; Sikora and Ferris, 2014). This is because a supervisor high in customer orientation facilitates articulation of the intended message of service excellence, models HR-system expectations for customer-related behaviors, and reinforces the HR-system expectations for excellence in the service delivery process (Nishii and Paluch, 2018). By examining the interactive effect of perceived service-oriented HPWS and supervisor customer orientation on employee customer orientation, our

study contributes to SHRM research that examines both content (HR practices) and process (way in which HR practices are communicated) issues in the implementation of HR systems. As Bowen and Ostroff (2004: 206) noted ‘HRM content and process must be integrated effectively in order for prescriptive models of strategic HRM actually to link to firm performance.’

Second, by integrating extended self and psychology of ownership theory to examine job-based psychological ownership as a mediator of the employee customer orientation-overall service role performance relationship, we extend the sparse research that addressed the question of why employee customer orientation relates to its documented customer-oriented behaviors (Aryee et al., 2019; Donavan et al., 2004; Gazzoli et al., 2013). The feeling of ownership of the customer service role imbues frontline employees with a sense of responsibility to understand and customize the service delivery to meet the needs of customers. Although extended self and psychological ownership theories have been hypothesized to foster feelings of ownership for both physical and nonphysical objects, there is a dearth of research that has applied it to the customer service role (Fritze et al., 2020; Peck and Shu, 2018) as well as in SHRM research. Consequently, our integrated self-concept theory provides an opportunity to expand the motivational mechanisms through which the effects of HR systems are transmitted to employee performance.

Lastly, by operationalizing service role performance as an overall construct that captures three indicators of performance in service contexts (i.e., service performance, proactive customer service performance, and customer-focused voice), this study contributes to a broader conceptualization of service role performance. Research has shown that overall constructs of job performance produce more accurate and robust estimate of the relationship between role performance and other variables than narrowly defined criteria (Hoffman et al., 2007). From a

practical perspective and in light of the varied service delivery behaviors needed to satisfy the increasingly diverse needs of customers (Bowen, 2016), a broader conceptualization of service role performance provides a parsimonious model for promoting performance in service contexts.

### **Theoretical framework and hypotheses development**

Consistent with its strategic partner status (Barney and Wright, 1998; Jiang and Messersmith, 2018), SHRM research has focused on how HR systems can be used to build a strategically appropriate internal capability which can then be deployed to create sustained competitive advantage. Against this backdrop and to account for how a service-oriented HPWS can be used to build a self-concept-based internal capability, we draw on an integrated extended self and psychology of ownership framework. Psychological ownership draws its conceptual heritage from the notion of possessions and particularly, its impact on the self. Drawing on James' (1890: 291-92) observation that 'a man's SELF is the sum total of all that he CAN call his....,' Belk (1988) conceived of the extended self as the sum total of the possessions that inform one's sense of self. As Belk (1988) argues, the extended self is not limited to external objects or personal possessions that connote the self (me) but also, a sense of possession that connotes what is mine. This feeling of 'mineness' (Etzioni, 1991) motivates individuals to control the object, invest time in the object, and thereby, coming to intimately know the object.

Informed by the theoretical foundations of the extended self (Peck and Shu, 2018), Pierce and colleagues' (2001, 2003) argued that psychological ownership, a cognitive-affective state that describes feelings of ownership for a variety of objects, both tangible and intangible, is fostered by the preceding three sources (control of, investment of time, and intimately knowing the target). Underpinned by an integrated extended self and psychological ownership framework,

and consistent with linkage research in service management (Hong et al., 2013; Schneider et al., 2005; Wiley, 1996), our proposed model examines customer orientation and job-based psychological ownership as linkage variables (self-concept-based internal capability) in the relationship between perceived service-oriented HPWS and overall service role performance. In addition, we complement our theoretical framework by drawing on Bowen and Ostroff's (2004) notion of HR system strength to examine supervisor customer orientation as a boundary condition of the relationship between service-oriented HPWS and customer orientation. This is because by reinforcing the strategic focus on customer excellence, the interaction of supervisor customer orientation and perceived service-oriented HPWS not only creates a strong situation but also, addresses content and process issues in SHRM research.

### *Perceived service-oriented HPWS, customer orientation, and job-based psychological ownership*

As a strategically-focused HR system, service-oriented HPWS describes a set of practices that enhance employees' abilities, motivation, and opportunities to perform, and which, synergistically operate to enhance individual and organizational performance in a service context (Appelbaum et al., 2000; Jiang et al., 2012; Liao et al., 2009). While research has either focused on actual or perceived HPWS, we focused in this study on the latter and define it as the extent to which employees perceive HPWS and its components to be available in their organization (Jiang et al., 2017). This is because as Nishii et al. (2008: 528) observed, 'meaningful variability exists within organizations— in terms of employees' perceptions of and reactions to HR practices...ignoring this variability...may be hurting our ability to understand the process through which HR practices become linked to performance.' Building on the work of Nishii et al. (2008), research has adopted a 'what,' (content of HR practices), 'how' (divergent outcomes of HR content depending on how they are framed and perceived by employees), and 'why'



(potential discrepancies in the way employees judge the motivations for implementing HR practices) approaches to the conceptualization and measurement of perceived HPWS (Wang et al., 2020). Thus, in addition to our focus on employees perceived HPWS, we adopted a what or content approach to perceived HPWS because it better captures the reality of the social environment in which employees operate and therefore, proximal to their work-related attitudes and behaviors (Beijer et al., 2021; Jiang and Messersmith, 2018; Meijerink et al., 2021; Nishii and Wright, 2008; Van Beurden et al., 2021; Wright and Nishii, 2013).

Although linkage research primarily focuses on service climate as a driver of the mechanisms linking contextual variables, customer outcomes, and financial performance (Hong et al., 2013; Schneider et al., 2005), in this study, we focused on customer orientation for two reasons. First, it dovetails with the integrated extended self and psychology of ownership theory that underpin our study and second, it reflects an individual level manifestation of the customer-centric values fostered by service climate. As an individual attitudinal variable and as previously noted, customer orientation describes the premium a frontline employee places on understanding and meeting the needs and expectations of customers in the service delivery process (Susskind et al., 2003). Our expectation that perceived service-oriented HPWS will relate to customer orientation is underpinned by the view that customer orientation is a learned attitude/value (Saxe and Weitz, 1982). Consequently, the dimensions of extensive service training, performance appraisal based on service quality, decentralized decision-making, service quality-focused performance feedback, and compensation based on service quality (Chuang and Liao, 2010; Jiang et al., 2015; Liao et al., 2009) collectively signal an organization's customer-centric orientation which can be learned or internalized by frontline employees. For example, in addition to using customer orientation as a selection criterion (Stock and Hoyer, 2005), service

organizations can inculcate this value through extensive customer service training which can then be reinforced by service quality-focused performance feedback and compensation contingent upon service quality. Collectively, these practices constitute a service organization's efforts to transform the self-concept of frontline employees into individuals who embrace a sense of responsibility for understanding and satisfying the needs and expectations of customers (cf. Liao and Chuang, 2007). Although research has yet to examine the influence of perceived service-oriented HPWS on employee customer orientation, research at the unit level has shown customer-oriented culture (Guenzi et al., 2011) and standards for service delivery (Susskind et al., 2003) to relate to employee customer orientation.

We also predict customer orientation to relate to job-based psychological ownership, a state in which an employee feels ownership of his or her job and subsequently, it becomes a part of their extended self (Fritze et al., 2020; Pierce et al., 2009). This is because both customer orientation and job-based psychological ownership in a service context reflect a frontline employees' responsibility for understanding and customizing the service delivery to meet the needs and expectations of the customer. Integrating the extended self and psychology of ownership theory leads us to expect employee customer orientation to relate to job-based psychological ownership for three reasons. First, the centrality of customer orientation to a frontline employee's self-concept allows them to invest their self into the customer service role and output from the role is considered as stemming from the self (Belk, 1988) thereby, engendering a sense of ownership of the customer service role. Second, the time and effort a customer-oriented frontline employee invests in understanding the needs and expectations of customers enables them to intimately know the role, which therefore engenders incorporation of the role into their self-concept. Lastly, and because of their accumulated experience of dealing

with customers, frontline employees with high customer orientation are able to read or sense the needs of customers which gives them control of how to customize the service delivery to meet their needs and expectations. This exercise of control enables frontline employees to assume responsibility for the service delivery and thereby, ownership of the customer service role or job-based psychological ownership (Pierce and Jussila, 2011; Pierce et al., 2001, 2003). Thus, while the psychology of ownership denotes ‘This is mine,’ our integrated extended self and psychology of ownership theoretic framework suggests that customer orientation enables frontline employees to manifest this identity in ‘This is me’ to denote the development of psychological ownership (Hillenbrand and Money, 2015). Accordingly, we posit:

*Hypothesis 1:* Perceived service-oriented HPWS are related to job-based psychological ownership indirectly through employee customer orientation.

### *Job-based psychological ownership and overall service role performance*

Although frontline service role performance is typically classified as prescribed or discretionary, the increasingly diverse needs and expectations of customers suggest that frontline employees may have to engage in a variety of behaviors in order to enhance the customer experience (Bowen, 2016; Griffin et al., 2007; Schepers and van der Borgh, 2020). Consequently, we adopted a broader conceptualization of service role performance to reflect frontline employees’ in-role or service performance as well as the increasing focus on discretion (proactive customer service performance) and creativity or innovation (customer-focused voice), which collectively constitute overall service role performance. Overall service role performance therefore entails both prescribed and discretionary behaviors that a frontline employee engages in to meet the expectations and needs of customers as well as improve the customer delivery experience (Bowen, 2016; Subramony et al., 2021).

We posit job-based psychological ownership to relate to overall service role performance because as an integral part of the extended self (Dittmar, 1992), job-based psychological ownership instils an ethic of responsibility for protecting and enhancing the service role as a target of ownership (Brown et al., 2014; Peck et al., 2021). Fritze and colleagues (2020: 2) suggest that ‘The psychological appropriation of objects helps people create and maintain their self-concepts, so they come to be considered as personal belongings.’ As part of their self-concept, job-based psychological ownership motivates employees to invest themselves in the service role thereby, acquiring in-depth information and knowledge about customers such as characteristics of different customer types and strategies for dealing with customer needs (Bettencourt et al., 2001), leading to enhanced service performance.

Furthermore, and in order to maintain continuity of their self-identity, job-based psychological ownership motivates employees to nurture the service role by engaging in self-initiated actions and taking charge of customer-related issues. In effect, the desire to ensure continuity in their self-identity leads employees to consider the future of their job as representing their future (Belk, 1988; Pierce et al., 2003). Additionally, it enables them to sustain their enthusiasm and interest despite the challenges entailed in initiative taking or as in this context, proactive customer service performance. Rank and colleagues (2007: 364) define this construct as ‘individuals’ self-started, long-term-oriented, and persistent service behavior that goes beyond explicitly prescribed performance requirements.’ Fusion of the future job with that of the future of employees will also motivate them to protect the interests of customers by engaging in stewardship behaviors like customer-focused voice. Lam and Mayer (2014: 638) also describe customer-focused voice as ‘behaviors that aim to promote, encourage, or cause changes such as

developing and making recommendations to management concerning issues that affect customers.’

Taken together and consistent with the notion of the extended self, job-focused psychological ownership not only defines one’s attributes but also communicates these attributes to others (Belk, 1988). Consequently, the performance implications of ownership are motivated by a desire to reinforce this positive self-identity. In support of our arguments, research has reported psychological ownership to relate to both prescribed and discretionary behaviors (Avey et al., 2009; Dawkins et al., 2017; Peng and Pierce, 2015; Wang et al., 2019; Zhang et al., 2021), sales performance (Brown et al., 2014), voice (Xiong et al., 2019), and stewardship behaviors (Peck et al., 2021).

*Hypothesis 2:* Job-based psychological ownership is positively related to overall service role performance.

Thus far, we have argued that (i) job-based psychological ownership is predicted by perceived service-oriented HPWS but indirectly through employee customer orientation, and (ii) as a self-concept motivational construct, job-based psychological ownership relates to overall service role performance. Taken together, we now posit that employee customer orientation which is manifested in an extension of the self into job-based psychological ownership, transmits the influence of perceived service-oriented HPWS to overall service role performance. As previously argued, investing one’s self into the customer service role, intimately knowing this role, and exercising control over it, are fundamental to the development of ownership feelings (Brown et al., 2014; Peck et al., 2021; Pierce et al., 2001, 2003). As a manifestation of the self, individuals with a strong ownership feeling become intrinsically motivated to assume

responsibility for the customer service role thereby, making it more proximal to overall service role performance relative to employee customer orientation.

*Hypothesis 3:* Perceived service-oriented HPWS are indirectly related to overall service role performance through the serial motivational pathways of employee customer orientation and job-based psychological ownership.

*Moderating role of supervisor customer orientation*

Although research has shown supervisor attributes to transform or shape the self-concept of employees through, for example, social learning (Bandura, 1986), we focus in this study on its moderating influence on the relationship between perceived service-oriented HPWS and customer orientation. As an agent of the organization, employees consider the supervisor as an embodiment of the organization (Eisenberger et al., 2010) hence, his/her customer orientation may reflect the organization's emphasis on service excellence and the resulting service climate (Bowen and Schneider, 2014) or customer orientation climate (Grizzle et al., 2009). We expect supervisor customer orientation to moderate the perceived service-oriented HPWS-employee customer orientation relationship because it reinforces the service excellence message inherent in perceived service-oriented HPWS. As Bowen and Ostroff (2004) noted, HR systems constitute communication mechanisms in that they signal important messages about organizational values. To build the internal capability to implement a service excellence strategy, it is important that the organization and its agents communicate unambiguous messages that convey the premium attached to service excellence. Thus, the congruence between the value attached to service excellence inherent in perceived service-oriented HPWS and supervisor customer orientation creates a strong situation (Bowen and Ostroff, 2004). This is because such a situation reflects distinctiveness (event-effect relationship is visible), consistency (time does not alter event-effect

relationship), and consensus (agreement among employees regarding event-effect relationship). Consequently, it enhances understanding and removes ambiguity thereby, motivating employees to incorporate customer orientation (an individual level manifestation of a service excellence strategy) into their self-concept.

In contrast, low supervisor customer orientation signals a weak situation (lacking distinctiveness, consistency, and consensus) and therefore, conveys mixed messages regarding the value an organization attaches to service excellence (Bowen and Ostroff, 2004). This undermines the organization's efforts to transform the self-concept of employees into purveyors of service excellence as reflected in high employee customer orientation. Following Kepes and Delery (2007), we refer to the negative synergistic effects between low perceived service-oriented HPWS and supervisor customer orientation as a deadly combination. This is because they work against each other to undermine employee customer orientation. Although we are not aware of research that has examined the moderating influence of supervisor customer orientation on the relationship between perceived service-oriented HPWS and employee customer orientation, research has shown supervisor embodiment of an organization to moderate the link between quality of relationships and perceived organizational support (Eisenberger et al., 2014).

*Hypothesis 4:* Supervisor customer orientation moderates the relationship between perceived service-oriented HPWS and employee customer orientation such that this relationship becomes stronger at high but not low levels of supervisor customer orientation.

*Conditional indirect effect*

We posit the mediating role of customer orientation in the relationship between perceived service-oriented HPWS and job-based psychological ownership to be conditional upon supervisor customer orientation. As previously argued, supervisor customer orientation has a

synergistic effect with perceived service-oriented HPWS because it reinforces the organization's premium attached to service excellence leading to enhanced employee customer orientation. This is consistent with Bowen and Ostroff's (2004) call for research to address both content and process issues to engender the strong situation necessary to effectively implement HPWS. Consequently, at high levels of supervisor customer orientation, the relationship between perceived service-oriented HPWS and employee customer orientation becomes stronger (because of the resulting strong situation) reinforcing one's self-definition in terms of the customer service role. Drawing on our integrated extended self and the psychology of ownership framework, the resulting enhanced employee customer orientation is then incorporated into an employee's self-concept and manifested in job-based psychological ownership (cf., Brown et al., 2014; Pierce et al., 2009) of 'This is who I am' (Hillenbrand and Money, 2015: 149).

*Hypothesis 5:* The indirect effect of perceived service-oriented HPWS on job-based psychological ownership through employee customer orientation is conditional upon supervisor customer orientation such that this relationship is stronger as supervisor customer orientation increases.

Following the preceding theoretic logic, we also expect the indirect effect of perceived service-oriented HPWS on overall service role performance through the sequential mediating mechanisms of customer orientation and job-based psychological ownership to be conditional upon supervisor customer orientation. Specifically, a high level of supervisor customer orientation fosters a facilitative context (or a strong situation) complementing the influence of perceived service-oriented HPWS on employee customer orientation. Drawing on our integrated extended self and psychology of ownership framework, we predict that the centrality of customer orientation to frontline employees' self-concept will be manifested in an extension of the self-



concept into job-based psychological ownership. Thus, the enhanced levels of employee customer orientation and the resulting job-based psychological ownership together, transmit the influence of perceived service-oriented HPWS onto overall service role performance.

*Hypothesis 6:* The indirect relationship between perceived service-oriented HPWS and overall service role performance through the sequential mediation of employee customer orientation and job-based psychological ownership is conditional upon supervisor customer orientation such that this relationship is stronger as supervisor customer orientation increases.

## **Method**

### *Sample and procedures*

Data for this study were collected in South Korea as part of a larger study on sustainable management of human resources in the hospitality industry. An earlier paper based on this dataset employed self-determination theory to examine mutuality in the employment relationship. Although perceived service-oriented HPWS is common to both papers, they addressed distinct issues, are underpinned by different theories, and cannot therefore, be meaningfully combined into one coherent paper. To reduce common method bias, data were collected at three points over a five-month period from employees and supervisors employed in the hospitality industry. We randomly selected 25 three- to five-star hotels from a list of star-rated hotels published by the Korea Tourism Association. However, 10 declined to participate in the survey; therefore, this study is based on data obtained from the 15 hotels that participated in our study and located in major cities in South Korea.

A survey coordinator was appointed in each participating organization who drew up a list of employees and their supervisors. Attached to each questionnaire was a letter that explained the

objectives of the survey and assured respondents of the confidentiality of their responses. To effectively match responses across the three time points, each respondent was assigned a code written at the top right-hand corner of the questionnaires.

At Time 1, we invited a total of 720 employees across the 15 hotels to respond to a paper-and-pencil questionnaire that asked them to report their demographic characteristics, perceived service-oriented HPWS, and customer orientation. A total of 650 usable questionnaires were returned from employees. At Time 2, which took place four weeks later, the same employees rated their job-based psychological ownership, and other variables not germane to our purposes in this study yielding responses from 570 employees. At Time 3, which took place four weeks after Time 2, supervisors were requested to rate their customer orientation and to assess the three indicators of overall service role performance of each of their ten employees who participated in the survey. Across the three time points, employees returned their completed questionnaires sealed in self-addressed envelopes to the survey coordinator and were later collected by the lead author. Supervisors' completed questionnaires were collected directly by the lead author on agreed dates for visits to each of the participating hotels.

In total, we received completed and usable questionnaires from 530 employees and 53 supervisors representing a 73.6% response rate. The number of employees in each of the 53 departments ranged from 10 to 63. Pertaining to the demographic composition of our sample, 49% were female reported an average organizational tenure of 6.31 years ( $SD = 4.82$ ), an average subordinate-supervisor tenure of 3.50 years ( $SD = 2.71$ ), and an average age of 33.44 years ( $SD = 6.67$ ). Regarding educational attainment, majority of employees reported holding a postgraduate (46.8%) or undergraduate degree (28.5%). Supervisors were predominantly male (81.1%), reported an average age of 42.47 years ( $SD = 4.67$ ), a mean organizational tenure of

9.49 years ( $SD = 4.27$ ), and an average supervisory position of 5.02 years ( $SD = 2.72$ ). In terms of education, 77.4% of supervisors indicated that their highest educational level was a postgraduate degree.

### *Measures*

The questionnaires were administered in Korean but were originally constructed in English following Brislin's (1986) translation/back translation procedure. Unless otherwise noted, all measures used a five-point Likert scale ranging from (1) 'strongly disagree' to (5) 'strongly agree.'

*Perceived service-oriented HPWS.* Perceived service-oriented HPWS was measured in Time 1 using the 35-item scale reported by Chuang and Liao (2010). Although Chuang and Liao (2010) described their measure as HPWS, it was designed to assess organizational 'foundation issues' that support and facilitate service delivery. Accordingly, their measure was strategic-focused and assesses an organization's concern for customers and employees. We therefore labelled their measure as service-oriented HPWS. Employees were asked to indicate the extent to which they perceive their department to use the six bundles of HRM practices, i.e., staffing, training, involvement/participation, performance appraisals, compensation/rewards, and caring, to manage frontline employees. We made slight adjustments to the original item wording to make them appropriate for the hotel industry (e.g., replacing 'the store' with 'the department'). Sample items are 'My department selects the best all-round candidates when recruiting employees,' 'My department continuously provides training programs,' 'Satisfying customers is the most important work guideline,' and 'My department rewards employees for new ideas for improving customer services.' Based on prior SHRM research (Aryee et al., 2012; Liao et al.,

2009), the six dimensions were summed to create a unitary measure of HPWS. The scale's alpha reliability was .94.

*Employee customer orientation.* We used a five-item scale reported by Susskind and colleagues (2003) to measure customer orientation in Time 1. Sample items are 'When performing my job, the customer is most important to me,' and 'I believe that providing timely, efficient service to customers is a major function of my job.' The scale's alpha reliability was .85.

*Supervisor customer orientation.* Supervisors rated their customer orientation in Time 3 using the same five-item scale reported by Susskind and colleagues' (2003). The scale's alpha reliability was .84.

*Job-based psychological ownership.* We used a five-item scale reported by Mayhew et al. (2007) to measure job-based psychological ownership in Time 2. Sample items are 'This is MY job.' and 'I feel a very high degree of personal ownership for this job.' The scale's alpha reliability was .88.

*Overall service role performance.* We used 21 items to assess the three sub-dimensions of overall service role performance: service performance, proactive customer service performance, and customer-focused voice. Supervisors rated the overall service role performance of each of their subordinates who participated in the study in Time 3. A seven-item scale reported by Liao and Chuang (2004) was used to measure service performance. A sample item is 'This employee is able to help customers when needed.' Response options ranged from (1) 'highly unsatisfactory' to (7) 'highly satisfactory.' The scale's alpha reliability was .89. Proactive customer service performance was measured with a seven-item scale developed by Rank and colleagues (2007). A sample item is 'This employee proactively checks with customers to verify

that customers' expectations have been met or exceeded.' Response options ranged from (1) 'strongly disagree' to (7) 'strongly agree.' The scale's alpha reliability was .89. A seven-item version of Lam and Mayer's (2014) eight-item scale was used to measure customer-focused voice. A sample item is 'This employee speaks up and encourages others in this work unit to get involved in issues that affect customers.' The item 'This employee says something to his/her supervisor when he/she discovers potential customer service problems' was inadvertently omitted. Response options ranged from (1) 'never' to (5) 'always.' The scale's alpha reliability was .84. We averaged the three sub-dimensional scores to form the scale score of overall service role performance. The alpha reliability for the overall service role performance scale was .93.

*Controls.* We controlled for the demographics of gender (0 = male; 1 = female), education (coded from (1) 'completed senior secondary school' to (5) 'completed PhD degree'), and subordinate-supervisor tenure (measured in years) because they have been shown to relate to the core variables in our study (McIntyre et al., 2009; Van Dyne and Pierce, 2004).

#### *Data analysis*

As our respondents were nested in different teams and the theoretical model had a team-level construct, we used multilevel structural equation modelling (MSEM) in Mplus 8.2 software (Muthén and Muthén, 1998-2018) to estimate the hypothesized relationships. According to Preacher et al. (2016), the conventional approach to testing multilevel moderation does not separate lower- and higher-level effects into their orthogonal components thereby conflating different levels of effects by combining them into single coefficients. They therefore suggested that researchers 'examine all possible multilevel moderation effects—effects that have different meanings and offer unique theoretical insights (pp.189-90).' Following their suggestion, we divided the interaction effect of perceived service-oriented HPWS and supervisor customer

orientation on employee customer orientation into a cross-level component and a team-level component (cf. Preacher et al., 2016: 192). For the indirect effect of perceived service-oriented HPWS on overall service role performance, we divided this effect into an individual-level component and a team-level component (Preacher et al., 2010).

In our MSEM analysis, we adopted an intercepts-and-slopes-as-outcomes model and selected the analytical type of ‘two-level random’ with maximum likelihood estimation.<sup>1</sup> To test the cross-level interaction effect and minimize the potential for multicollinearity, we group-mean centered the level-1 predictor (i.e., perceived service-oriented HPWS) and grand-mean centered the level-2 moderator (i.e., supervisor customer orientation). Additionally, we grand-mean centered the control variables. To derive the 95% confidence intervals of the hypothesized indirect and conditional indirect effects, we employed the Monte Carlo simulation method (Preacher and Selig, 2012) using Mplus software. Specifically, we first estimated the path coefficients and obtained their covariance matrix, and then used the coefficients and covariances to carry out the simulation with 20,000 repetitions.

## Results

### *Measurement model analysis*

We adopted several procedures to demonstrate the construct validity of our measures. First, we calculated average variance extracted (AVE) values for each of our main research variables (Fornell and Larcker, 1981). As shown in Table 1, these variables had AVE values higher

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<sup>1</sup> Our data comprised 530 employees drawn from 53 departments nested in 15 hotels. Before testing our hypotheses, we first conducted a 3-level null model for our main research variables to estimate their employee-level, department-level, and hotel-level variances. Results show that all hotel-level variances were nonsignificant (all  $p > .05$ , the average level-3 ICC1 = .041). Therefore, we used two-level instead of three-level structural equation modelling to test our hypotheses.

than .50, and the square root of these values were also higher than the corresponding inter-construct correlations. Second, we examined the convergent validity of each measure by separately conducting confirmatory factor analyses (CFAs). All items and sub-dimensions of our measures had standardized factor loadings higher than .50 (all  $p < .001$ ), supporting the convergent validity of these measures. Third, we examined discriminant validity by comparing a four-factor measurement model (comprising four individual-level constructs: perceived service-oriented HPWS, employee customer orientation, job-based psychological ownership, and overall service role performance) with a number of parsimonious models (Anderson and Gerbing, 1988).<sup>2</sup> As perceived service-oriented HPWS and overall service role performance had multiple items and sub-dimensions, we formed item parcels based on their sub-dimensions in order to maintain an adequate indicator-to-factor ratio and yield stable parameter estimates (Landis et al., 2000; Little et al., 2002). The CFA results showed that the four-factor measurement model fits the data well ( $\chi^2 = 507.06$ ,  $df = 146$ ,  $p < .001$ , CFI = .93, TLI = .92, RMSEA = .07, SRMR = .05) and showed a superior fit to the alternative factor models, including a three-factor model in which perceived service-oriented HPWS and employee customer orientation were combined into one factor, a three-factor model in which employee customer orientation and job-based psychological ownership were combined into one factor, a two-factor model in which all employee-rated constructs were combined into one factor, and the one-factor model in which all constructs were combined into one factor (all  $\Delta\chi^2$  were significant at the level of  $p < .001$ ). Taken together, the AVE values and CFA results supported the convergent and discriminant validity of our measures.

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<sup>2</sup> The four-factor measurement model comprised four individual-level constructs and the sample size was 530. As supervisor customer orientation was a team-level construct and the sample size was only 53, we did not include it in CFA model comparisons.

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 INSERT TABLE 1 ABOUT HERE  
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*Hypothesis testing*

Table 2 and Figure 1 show the results of unstandardized path estimates from the MSEM analysis. In predicting job-based psychological ownership and overall service role performance, we controlled for employees' gender, educational attainment, and subordinate-supervisor tenure. The MSEM results showed that perceived service-oriented HPWS had a positive relationship with employee customer orientation ( $\gamma = .39, p < .001$ ), and employee customer orientation had a positive relationship with job-based psychological ownership ( $\gamma = .37, p < .001$ ) at individual level. The results of Monte Carlo simulation presented in Table 3 showed that the indirect effect of perceived service-oriented HPWS on job-based psychological ownership was significant through the mediation of employee customer orientation (estimate = .145, 95% CI [.091, .207]). These results supported Hypothesis 1. The MSEM results also revealed that job-based psychological ownership had a positive relationship with overall service role performance ( $\gamma = .22, p < .001$ ) at individual level, which supported Hypothesis 2.

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 INSERT TABLES 2 AND 3 ABOUT HERE  
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 INSERT FIGURE 1 ABOUT HERE  
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We also hypothesized that perceived service-oriented HPWS relate to overall service role performance indirectly through the sequential mediation of employee customer orientation and job-based psychological ownership. As predicted (Hypothesis 3), the Monte Carlo simulation revealed support for the sequential mediation of employee customer orientation and job-based psychological ownership at individual level (estimate = .032, 95% CI [.017, .051]). Although we did not propose a formal hypothesis for the team-level indirect effect of the aggregated service-oriented HPWS on overall service role performance, our Monte Carlo simulation results showed that the team-level indirect effect was also significant (estimate = .356, 95% CI [.036, .738]).

Pertaining to the hypothesized moderating effect of supervisor customer orientation, Table 2 shows that the cross-level interaction term of perceived service-oriented HPWS and supervisor customer orientation was significant in predicting employee customer orientation ( $\gamma = .21, p = .007$ ). To probe the pattern of this moderating effect, we employed the Johnson-Neyman technique to plot the confidence band for the simple slope of perceived service-oriented HPWS on employee customer orientation at the observed range of supervisor customer orientation (Bauer and Curran, 2005). As shown in Figure 2, the relationship (i.e., simple slope) between perceived service-oriented HPWS and employee customer orientation was nonsignificant when supervisor customer orientation was below 3.21. However, this relationship became positive and significant when supervisor customer orientation was above 3.21. The MSEM results and the confidence band supported Hypothesis 4. In our MSEM analysis, the estimated team-level interaction effect of aggregated service-oriented HPWS and supervisor customer orientation on employee customer orientation was nonsignificant ( $\gamma = -.09, p = .632$ ). As our hypothesis testing was mainly based on the individual-level and cross-level effects, the nonsignificant team-level interaction effect did not alter support for our hypotheses.

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INSERT FIGURE 2 ABOUT HERE

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To test our hypothesis that the indirect effect of perceived service-oriented HPWS on job-based psychological ownership through the mediation of employee customer orientation is conditional upon supervisor customer orientation, we calculated the index of moderated mediation (Hayes, 2015). As shown in Table 3, the estimate of the index of moderated mediation was significant (estimate = .079, 95% CI [.021, .144]), suggesting support for Hypothesis 5. We also calculated the index of moderated mediation to test the hypothesis that the indirect effect of perceived service-oriented HPWS on overall service role performance through the sequential mediation of employee customer orientation and job-based psychological ownership is conditional upon supervisor customer orientation. Table 3 shows that the estimate of the index of moderated mediation was significant (estimate = .017, 95% CI [.004, .034])<sup>3</sup>, suggesting support for Hypothesis 6.

#### *Supplemental analysis*

We tested three alternative models to ascertain the rigorously of the mediating roles of employee customer orientation and job-based psychological ownership. First, we added an individual-level direct path from perceived service-oriented HPWS to overall service role performance and a team-level direct path from aggregated service-oriented HPWS to overall service role performance. The individual-level and team-level paths were nonsignificant (individual level:  $\gamma = .05$ ,  $p = .320$ ; team level:  $\gamma = .28$ ,  $p = .426$ ) and did not alter our results.

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<sup>3</sup> The index of moderated mediation of Hypothesis 6 was the product of three coefficients: (1) the cross-level interaction between perceived service-oriented HPWS and supervisor customer orientation on employee customer orientation; (2) the individual-level effect of employee customer orientation on job-based psychological ownership; (3) the individual-level effect of job-based psychological ownership on overall service role performance.

Second, we added an individual-level and a team-level direct path from perceived service-oriented HPWS to job-based psychological ownership. While these direct paths were significant (individual level:  $\gamma = .42, p < .001$ ; team level:  $\gamma = .54, p < .001$ ), they did not alter our results as our hypotheses were still supported. Third, we added an individual-level and a team-level direct path from employee customer orientation to overall service role performance. The team-level direct path was nonsignificant ( $\gamma = -.44, p = .584$ ). Although the individual-level direct path was significant ( $\gamma = .09, p = .039$ ), job-based psychological ownership still had a significant mediating effect on the relationship between employee customer orientation and overall service role performance (estimate = .070, 95% CI [.039, .107]). Collectively, results of the three alternative models indicate that adding these direct paths to our model did not influence our findings as our hypotheses continued to receive support. As including non-theory-informed direct effects may violate the principle of parsimony (Aguinis et al., 2017), we reported the results based on our original theoretical framework (see Figure 1).

As our overall service role performance comprised three performance measures, we respectively treated each of these measures as an outcome variable. The individual-level results showed that job-based psychological ownership significantly related to service performance, proactive customer service performance, and customer-focused voice ( $\gamma = .29, p < .001$ ;  $\gamma = .22, p < .001$ ;  $\gamma = .15, p < .001$ ). The team-level results showed that job-based psychological ownership did not significantly relate to service performance and proactive customer service performance ( $\gamma = .52, p = .056$ ;  $\gamma = .49, p = .070$ ) at the  $p < .05$  significance level, but significantly related to customer-focused voice ( $\gamma = .35, p = .034$ ). In these models, all of the other paths remained significant and had quite similar estimates as the estimates in our formal theoretical model.

## Discussion

Given the recognition of service excellence as a competitive strategy, the issue of how organizations can build and leverage an appropriate internal capability to implement this strategy has attracted a flurry of SHRM research (Jiang and Messersmith, 2018). Drawing on an integrated extended self and the psychology of ownership framework as well as content and process issues in SHRM research, this study proposed and examined a model of how perceived service-oriented HPWS can be used to build a self-concept-based internal capability that can be deployed to promote overall service role performance. The MSEM results revealed that: (i) perceived service-oriented HPWS are related to job-based psychological ownership indirectly through employee customer orientation; (ii) perceived service-oriented HPWS are related to overall service role performance indirectly through the sequential mediation of employee customer orientation and job-based psychological ownership, and (iii) these mediated relationships are conditional upon supervisor customer orientation such that they are more positive as supervisor customer orientation increases. We discuss the implications of these findings in the succeeding sections.

### *Theoretical implications*

Although employee customer orientation has been shown to constitute a motivational driver of role-based performance (Zablah et al., 2012), research has not examined how a coherent set of strategically-focused HR practices or HPWS can be used to develop employee customer orientation as an internal capability. Consistent with Stock and Hoyer's (2005) suggestion that organizations should use customer orientation and/or training to instill positive customer-oriented attitudes, our findings revealed perceived service-oriented HPWS to relate to employee

customer orientation. The dimensions of perceived service-oriented HPWS such as extensive service training, performance appraisal based on service quality, and compensation based on service quality signal the premium the organization attaches to service excellence, which subsequently shapes employees' orientation to the service delivery. This relationship is analogous to the demonstrated influence of service-oriented HPWS on service climate at the unit level (Jiang et al., 2015) as well as Chuang and Liao's (2010) finding that HPWS related to a climate of concern for customers. The positive significant interaction between supervisor customer orientation and perceived service-oriented HPWS on employee customer orientation underscores the importance of ensuring coherent messages in shaping employee customer orientation (Bowen and Ostroff, 2004). As agents of the organization, supervisors are expected to embody the values of the organization. Consequently, high supervisor customer orientation and perceived service-oriented HPWS reflect a positive synergy that shapes employee customer orientation. In addition to demonstrating the notion of fit in the strategic HRM literature (Kepes and Delery, 2007), it also highlights the importance of addressing content and process issues in order to create a strong situation to ensure unambiguous communication of the strategic focus of the organization. This is necessary if organizations are to use an HR system to build and deploy the internal capability needed to create sustained competitive advantage.

Our finding that employee customer orientation is related to overall service role performance indirectly through job-based psychological ownership extends prior research that has shown employee customer orientation to directly relate to its documented service delivery behaviors (Zablah et al., 2012). Drawing on an integrated extended self and psychology of ownership framework, we argued that employee customer orientation and the underlying notion of responsibility for customizing the service delivery to meet the needs and expectations of

customers, enables employees to invest themselves in as well as come to intimately know the job. These conditions enable employees to incorporate the job into their self-concept as manifested in job-based psychological ownership. Our findings also extend prior research on the antecedents of job-based psychological ownership (Peng and Pierce, 2015) by providing initial evidence of the role of perceived service-oriented HPWS in motivating frontline employees to incorporate the customer service role into their self-concept, which is then manifested in the extended self or job-based psychological ownership.

While prior research has shown job- or organization-based psychological ownership to relate to performance, research has focused on individual indicators of role performance (Avey et al., 2009; Dawkins et al., 2017; Liu et al., 2012; Van Dyne and Pierce, 2004; Wang et al., 2019). Extending this stream of research, our findings revealed that job-based psychological ownership relates to a broader conceptualization of service role performance as well as the constituent indicators of our overall service role performance. Our findings further revealed that the conditional indirect effect of perceived service-oriented HPWS on overall service role performance (through the sequential paths of employee customer orientation and job-based psychological ownership) accounted for the individual performance indicators of service performance, proactive customer service performance, and customer-focused voice. Given that these performance indicators have been explained via different motivational lenses, our integrated extended self and psychology of ownership framework provides a parsimonious framework to account for this broader conceptualization of performance in the service delivery process. Additionally, support for the conditional indirect effect we uncovered underscores the utility of our integrated extended self and psychological ownership framework (with its incorporation of HR system perspective) in accounting for individual level performance effects

of service-oriented HPWS. This finding dovetails with marketing research that employed psychological ownership to account for the influence of brand-centered HRM on brand citizenship behavior and customer satisfaction (Chang et al., 2012) and that showed the construct to relate to stewardship behavior (Peck et al., 2021).

*Practical implications*

The findings of this study suggest three key implications for implementation of a service excellence strategy. First, the conditional indirect effect of perceived service-oriented HPWS on overall service role performance suggests that organizations must ensure they have the requisite infrastructure to effectively use an HPWS to develop a strategically appropriate internal capability. This infrastructure must entail top management as well as supervisors who understand and model strategically appropriate service-related attitudes. This is necessary to ensure the communication of unambiguous messages to facilitate frontline employees' internalization of customer-centric values leading to customer orientation. Pertaining to supervisors, organizations should ensure that supervisors buy into these values or are included in leadership development programs and reinforced with appropriate rewards. Additionally, organizations will need to consider the diffusion of these values as an exercise in transforming the self-concept of frontline employees and will need to have not only supervisors but also expert peers modeling these values.

Second, the finding that employee customer orientation relates to overall service role performance indirectly through job-based psychological ownership has implications for coordinating systems used to deliver service excellence. The increasingly diverse needs and expectations of customers suggests that service role behaviors cannot be completely prescribed. This implies that rather than relying on formal coordinating systems, organizations must consider

informal systems such as psychological ownership to coordinate the service delivery. In this task, they must provide service delivery discretion, so that employees can assume ownership of the customer service role with its inherent responsibility for meeting the needs and expectations of customers leading to enhanced levels of service quality.

Lastly, although research has continued to distinguish between prescribed and discretionary service role performance, our findings suggest a parsimonious model for promoting overall service role performance. This requires a broader conceptualization of the service role which will require organizations to train supervisors in how to observe and appraise the different forms of role performance (Griffin et al., 2007). Additionally, organizations must use an expanded selection criteria and extensive and diverse forms of customer service-related training to equip employees to perform these roles. The increased requirement that frontline employees perform diverse roles should be accompanied by appropriate incentive systems that align employee interests with those of the organization.

### *Limitations and directions for future research*

Despite its multi-source and multi-wave design, our study has a number of limitations. First, while our focus on job-based psychological ownership counterbalances the predominant focus on organization-based psychological ownership, our failure to examine both types of ownership limits the extent to which our findings contribute to a more comprehensive understanding of ownership targets in organizational contexts. Since the job role is embedded in an organization, it is intuitively plausible that feelings of ownership of the job can be transferred to the organization. Indeed, Peng and Pierce (2015) reported organization-based psychological ownership to mediate the influence of job-based psychological ownership on employee work outcomes. Similarly, our neglect to examine the dysfunctional consequences of ownership



constrains a more complete understanding of the behavioral consequences of the construct (Wang et al., 2019). Future research should build on the work of Peng and Pierce (2015) and examine a multi-level model of the interrelationship between job and organization-based psychological ownership as well as their positive and negative performance outcomes, and boundary conditions.

Second, the South Korean context of our study with its high collectivism may constrain the generalizability of our findings to other cultural contexts because it may have implications for the notion of possession and its incorporation into the self-concept. As Belk (1989: 129) observed, 'In individualistic societies, we need only elicit individuals' self-perceptions to assess the extended self, while in societies with more aggregate identities, perceptions of group identity are more relevant.' Despite the potential impact of cultural values on the incorporation of target of ownership into the self-concept, research in non-western contexts (Asatryan and Oh, 2008; Liu et al., 2012; Wang et al., 2019) has underscored the utility of psychological ownership. Future research that examines job-based psychological ownership using a cross-cultural sample will be better placed to illuminate our understanding of the role of cultural values in this research domain.

Third, although we examined a multidimensional and therefore broader conceptualization of service role performance, we did not examine its influence on customer-related outcomes and their impact on the financial performance of service organizations. Future research may need to ascertain the contribution of this broader measure relative to individual indicators of performance in predicting the financial performance of service organizations. This research must necessarily adopt a multilevel or homologous perspective to examine how these relationships operate at different levels. Fourth, despite support for the moderating role of supervisor customer

orientation, for practical reasons, data on this variable were collected in Time 3. In contrast, data on perceived service-oriented HPWS and employee customer orientation were collected in Time 1. Although this temporal discrepancy may be mitigated by the fact that we treated supervisor customer orientation as a moderator rather than a predictor, we urge future research to collect data on this construct in Time 1.

Lastly, while multiple perspectives have been employed to account for motivational underpinnings of the HR system-performance relationship, there is a dearth of research on psychological ownership. Although our findings support the integrated extended self and psychological ownership framework, there is a need to examine the added value of psychological ownership relative to such other motivational constructs as work engagement and organizational commitment in accounting for the HR system-performance relationship. As a self-concept, job-based psychological ownership (as well as organization-based psychological ownership) is imbued with personal resources (e.g., accountability, self-efficacy, belongingness) which can be invested in the work role to engender work engagement. Alternatively, work engagement, which reflects self-investment in the job role has been shown to foster job-based psychological ownership (Wang et al., 2019). Future research should not only examine the distinctiveness of the aforementioned motivational constructs but anchored in an appropriate theory, also examine how they interrelate to transmit the effects of an HR system onto performance.

### **Conclusion**

Drawing on an integrated extended self and psychology of ownership framework, we addressed the question of how perceived service-oriented HPWS can be used to develop a self-concept-based internal capability leading to enhanced overall service role performance. We

found that perceived service-oriented HPWS indirectly relate to job-based psychological ownership through employee customer orientation, but this is conditional upon supervisor customer orientation. We also found that the influence of perceived service-oriented HPWS on overall service role performance through the sequential motivational mechanisms of employee customer orientation and job-based psychological ownership is conditional upon supervisor customer orientation. Taken together, our findings provide initial evidence for how an HR system can be used to develop a self-concept-based internal capability. We highlight implications of these findings for the dissemination and implementation of a customer-oriented strategy to create sustained competitive advantage.

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**Table 1.** Descriptive statistics and correlations of variables

Variables	Mean	SD	AVE	1	2	3	4	5	6	7	8
1. Gender	.49	.50	—	—							
2. Education	2.51	.87	—	-.16**	—						
3. Subordinate-supervisor tenure	3.50	2.71	—	-.07	-.02	—					
4. Perceived service-oriented HPWS	3.41	.52	.65	-.01	.00	-.05	(.94)				
5. Supervisor customer orientation	4.18	.66	.54	-.09	-.08	-.03	.13**	(.84)			
6. Employee customer orientation	3.87	.65	.55	.06	.04	-.02	.36**	.03	(.85)		
7. Job-based psychological ownership	3.49	.71	.60	.10*	-.01	.01	.49**	.04	.49**	(.88)	
8. Overall service role performance	4.37	.73	.73	-.01	.10*	-.12**	.21**	.27**	.19**	.27**	(.93)

Note.  $n = 530$  employees and 53 teams. Alpha reliabilities are shown on the diagonal.

\* $p < .05$ . \*\* $p < .01$ .

**Table 2.** MSEM results of the theoretical model

	Dependent variables								
	Employee customer orientation			Job-based psychological ownership			Overall service role performance		
	Estimate	SE	p	Estimate	SE	p	Estimate	SE	p
<i>Level-2 Independent variables</i>									
Group mean of PHPWS	.77***	.14	<.001						
Supervisor customer orientation	-.04	.06	.530						
Group mean of PHPWS × supervisor customer orientation	-.09	.20	.632						
Group mean of employee customer orientation				1.03***	.13	<.001			
Group mean of job-based psychological ownership							.45*	.21	.030
<i>Level-1 Independent variables</i>									
Gender				.10*	.05	.043	-.06	.05	.217
Education				.02	.03	.453	.06*	.03	.033
Subordinate-supervisor tenure				.01	.01	.310	-.01	.01	.137
PHPWS	.39***	.06	<.001						
Employee customer orientation				.37***	.05	<.001			
Job-based psychological ownership							.22***	.04	<.001
<i>Cross-level interaction</i>									
PHPWS × supervisor customer orientation	.21**	.08	.007						
Level-2 $R^2$		.38			.65			.12	
Level-1 $R^2$		.19			.31			.10	

*Note.*  $n = 530$  employees and 53 teams. Unstandardized estimates were reported.  $SE$  = standard error. PHPWS = perceived service-oriented HPWS. Supervisor customer orientation and control variables were grand-mean centered; PHPWS was group-mean centered. Group mean of PHPWS was reintroduced back into the level-2 model following the suggestion of Hofmann and Gavin (1998, p. 630).

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

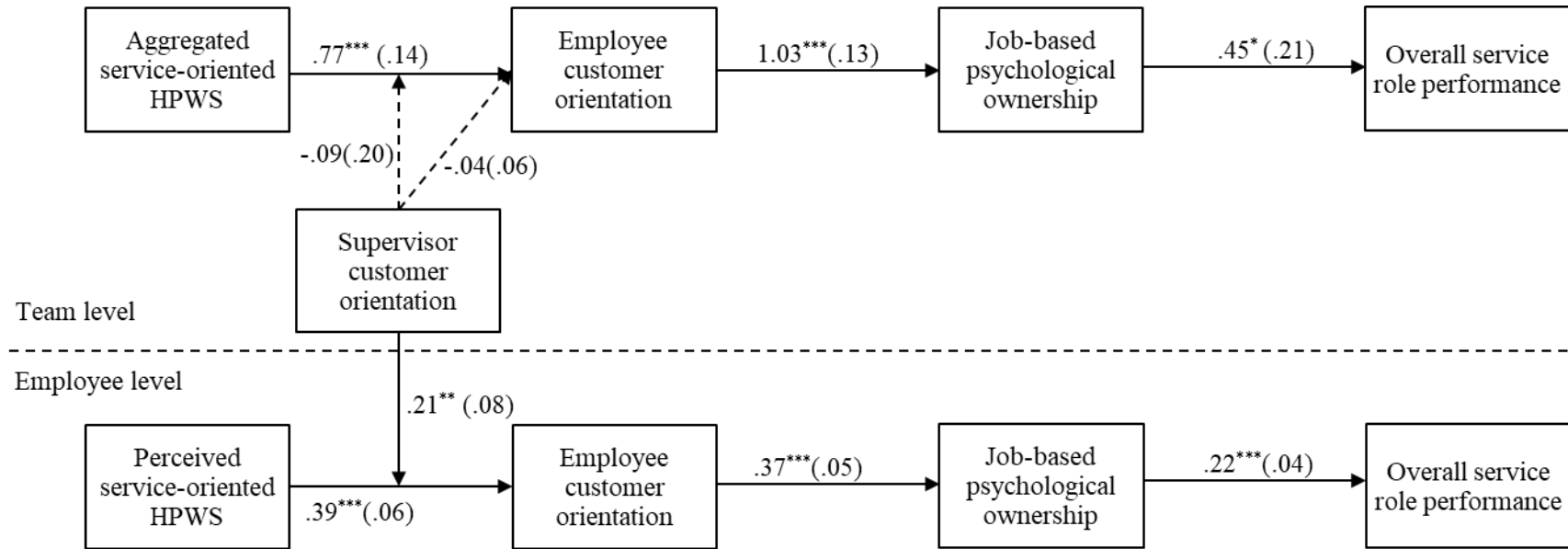


**Table 3.** Indirect effects and conditional indirect effects

	Individual level			Team level		
	Estimate	95% CI		Estimate	95% CI	
		Lower	Upper		Lower	Upper
<i>Indirect effects</i>						
<i>H1</i> : PHPWS → employee customer orientation → JBPO	.145*	.091	.207	.790*	.477	1.142
<i>H3</i> : PHPWS → employee customer orientation → JBPO → overall service role performance	.032*	.017	.051	.356*	.036	.738
<i>Conditional indirect effects</i>						
<i>H5</i> : PHPWS → employee customer orientation → JBPO						
Index of moderated mediation	.079*	.021	.144			
High level of supervisor customer orientation (+1 <i>SD</i> )	.196*	.122	.283			
Low level of supervisor customer orientation (−1 <i>SD</i> )	.093*	.034	.158			
<i>H6</i> : PHPWS → employee customer orientation → JBPO → overall service role performance						
Index of moderated mediation	.017*	.004	.034			
High level of supervisor customer orientation (+1 <i>SD</i> )	.043*	.023	.069			
Low level of supervisor customer orientation (−1 <i>SD</i> )	.020*	.007	.037			

*Note.*  $n = 530$  employees and 53 teams. CI = confidence interval. PHPWS = perceived service-oriented HPWS. JBPO = job-based psychological ownership. Unstandardized estimates were reported with 3 digits after the decimal point because some estimates were close to zero. The tests of indirect and conditional indirect effects were based on the level-1 estimations.

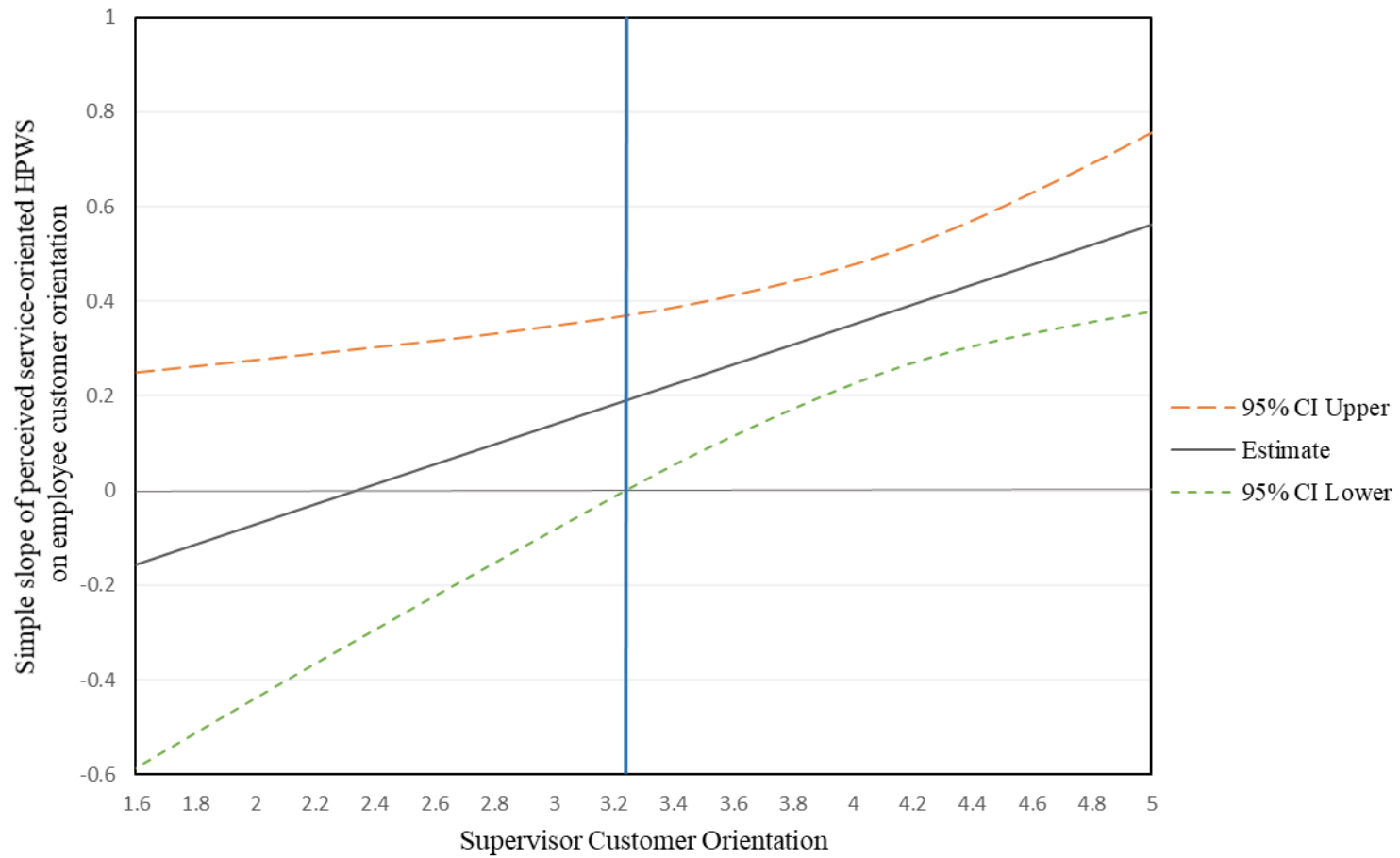
\*  $p < .05$ .



Note.  $n = 530$  employees and 53 teams. Unstandardized path estimates and standard errors (in parentheses) were reported.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ , two-tailed test.

**Figure 1.** The theoretical model with MSEM results.



**Figure 2.** Region of significance for the simple slope of perceived service-oriented HPWS on employee customer orientation