TABLE 2
Definitions and Measures of HR Practices Constituting HPWS Index

HR Practices	Definitions	Measures	Sources	Domains
Selection based on fit	Selection based on employees' overall fit to an organization	Dummy	Collins & Smith (2006)	Ability-enhancing HR practices
Selection based on attitudes	Selection based on employees' commitment and loyalty to the job	Dummy	Collins & Smith (2006); Evans & Davis (2005)	
Selection based on ability	Selection based on employees' skills and professional experiences	Dummy	Takeuchi et al. (2007)	
Promotion from within	Selection preferring internal employees to external candidates, all else being equal	5-point Likert scale	Collins & Smith (2006)	
Job rotation	Lateral transfer of employees among different tasks on a regular basis	Dummy	Collins & Smith (2006)	
Extensiveness of training	The number of different kinds of training programs	Number ranging from 0 to 10	Sun et al. (2007)	
Profit sharing	Pay based on work group or organizational performance	Dummy	Collins & Smith (2006)	Motivation-enhancing HR practices
Employee stock ownership programs	Shares of stocks are available to all core employees through stock purchase plans	Dummy	Collins & Smith (2006)	
Broad-based stock option	Shares of stocks are available to all core employees through stock option plans	Dummy	Collins & Smith (2006)	
Performance-based annual salary	Employees' annual salary is linked to their performance in the job	Dummy	Takeuchi et al. (2007)	
Market-competitive pay	Pay level as compared to that of industry average	How high is your workplace's pay level as compared to that of the industry average? (rated from 1, "very low," to 5, "very high")	Collins & Smith (2006)	
Performance appraisal	Use of performance evaluations for employee development	Dummy	Collins & Smith (2006)	Opportunity-enhancing HR practices
Employee suggestion	Provision of opportunities for employees to suggest improvements in the ways tasks are performed	Dummy	Sun et al. (2007)	
Quality circle teams	Teams designed for work improvement in terms of customer satisfaction, product quality, cost reduction, and so on	Dummy	Huselid (1995)	
Autonomy	Degree to which work units have discretion in making task-related decisions	To what extent does your work unit have autonomy in making decisions on (1) working methods, (2) the pace of work, (3) the recruitment of new members, (4) member training? (rated from 1, "not at all," to 4, "very much")	Sun et al. (2007)	
Information sharing	The number of practices to share management-related information with employees	Number ranging from 0 to 9	Guthrie (2001)	

in multiple ways.[2] Consistent with our focus and definition of internal consistency, in the present study we measured the internal consistency of an establishment's implementation of an HPWS as the *SD* among the three AMO domain scores. That is, beginning with an index value for each of the three A, M, and O domains (which represents the mean level of intensity with which an establishment employed the practices within a particular domain), we computed internal consistency as the *SD* across these three scores (e.g., Oh, Kim, & Van Iddekinge, 2015). We took the reciprocal of this value so that higher scores represent higher internal consistency (e.g., Derfus, Maggitti, Grimm, & Smith, 2008). Given our use of industry-adjusted A, M, and O scores, our internal consistency measure essentially concerns the extent to which an establishment's relative intensities of use for the A, M, and O HR domains in its industry are similar across the three domains.

Market entry timing. A management representative in each establishment selected one of four descriptions of his or her establishment's entry timing modes for its main products or services: first mover, fast follower, fence sitter, or none of the above. The first mover was defined as one in which the establishment quickly responds to customers' unmet needs and early market signals and tries to pioneer offering new products to the market. The fast follower was defined as one in which the establishment carefully researches first-movers' activities and tries to catch up with first movers in a more efficient and planned way, but without pioneering new product development or markets. The fence sitter was defined as one in which the establishment occupies stable markets with existing products, and does not try to develop new products or enter new markets. We created four dummy variables that correspond to these four choices of market entry timing.

Product sales. The KLI provided the WPS data along with a financial information set. We used product sales divided by the total number of employees to account for establishment heterogeneity in terms of size. Given the potential for reciprocal relationships between an HPWS and establishment performance, and the time it takes for an HPWS to affect performance (Birdi et al., 2008; Wright, Gardner, Moynihan, & Allen, 2005), we used a two-year subsequent product sales ($t + 1$) model as a proximal outcome while controlling for current sales (t) (Autio, Sapienza, & Almeida, 2000; Kim & Ployhart, 2014).

Financial performance. We employed a ratio of operating profit to average total assets (ROA) as a financial performance measure. Because the distribution of financial performance had high skewness and kurtosis (skewness = 3.08, kurtosis = 281.32; Shapiro–Francia test $p < .05$), the variable was winsorized at the 1% level at both tails to reduce the influence of extreme values (e.g., Cheng, Ioannou, & Serafeim, 2014; Patel & Cooper, 2014). As with product sales, we used subsequent financial performance ($t + 1$) as a dependent variable with current financial performance (t) controlled for (Autio et al., 2000; Kim & Ployhart, 2014).

Control variables. Consistent with prior research, we controlled for establishment size measured by the total number of employees (logarithm) (Collins & Smith, 2006) and total assets (logarithm) (Shaw, Park, & Kim, 2013), because they may reflect the slack resources available for using an HPWS and may correlate with establishment performance. We also included the capital-to-labor ratio (logarithm of plant and equipment value divided by the total number of employees) to control for the potential impact of capital investment (Chadwick, Super, & Kwon, 2015). Lastly, we included establishment- and year-fixed effects in our regressions to control for unobserved heterogeneity between establishments and for annual trends that may affect establishment performance, respectively (Krause, Priem, & Love, 2015).

Analytic Strategy

Given the panel structure of our data, we used fixed-effects models to control for nonobserved fixed sources of confounding factors (Gerhart, 2013; see also, e.g., Bartel, 2004; Jones, Kalmi, & Kauhanen, 2010). Indeed, the Hausman tests (Baltagi, 1995) of

[2] An alternative test of complementary relationships among HR practices is the examination of interactions among the AMO domains (Cappelli & Neumark, 2001; Chadwick, 2010). However, since our study investigates the joint effect of vertical and horizontal fit, use of the moderation model would require us to test a four-way interaction effect among the three AMO domains and market entry timing mode. Due to insufficient power, this analysis proved intractable; the four-way interaction effect did not reach statistical significance. However, a three-way interaction involving the A × O term along with a fast follower (vs. a first mover) entry timing showed results consistent with our theory, providing partial support for our dual-alignment model. Results are available upon request.

the final model for each dependent variable revealed that fixed-effects specifications were preferred to random-effects specifications (product sales as a dependent variable: $\chi^2_{(19)} = 1594.84$, $p < .05$; financial performance as a dependent variable: $\chi^2_{(21)} = 909.12$, $p < .05$). In addition, we performed supplementary analyses to examine the robustness of our findings with regard to the centering approach for HPWS, the entry timing measure, and the control variables used in our study (see Appendix A).

RESULTS

In Table 3 we provide descriptive statistics, including within- and between-establishment *SD*s, of our study variables. Hypothesis 1 proposed that the relationship between an HPWS and subsequent product sales would be most positive among fast followers, followed by first movers, and then fence sitters. To compare the effects of an HPWS among these three entry timing modes, we examined two separate models with a first-mover and a fence-sitter entry timing dummy as a referent, respectively. In the first model, where a first-mover entry timing was a referent (i.e., Model 2 in Table 4), an HPWS was more positively associated with product sales among fast followers than among first movers ($B = .20$, 95% confidence interval [CI] [.04, .37], $p < .05$). In addition, as indicated by Model 3 in Table 4 with a fence-sitter entry timing as a referent, an HPWS was more positively associated with product sales among fast followers than among fence sitters ($B = .27$, 95% CI [.05, .49], $p < .05$). However, this relationship was not significantly stronger among first movers than among fence sitters ($B = .07$, 95% CI [–.13, .27], n.s.). To further probe the nature of the interaction, we calculated the effect of an HPWS on product sales for each of the three entry timing modes in Hypothesis 1 individually (Cohen, Cohen, West, & Aiken, 2003). As shown in Figure 2, the effect of an HPWS was significantly positive only under a fast-follower entry timing ($B = .21$, 95% CI [.06, .36], $p < .05$), whereas it was not significant under a first-mover ($B = .01$, 95% CI [–.11, .13], n.s.) or a fence-sitter ($B = -.14$, 95% CI [–.39, .11], n.s.) entry timing. Taken together, these results provide partial support for Hypothesis 1, though we found full support for the core part of our hypothesis concerning the most pronounced effect of an HPWS among fast followers.

Hypothesis 2 proposed that internal consistency of an HPWS would magnify the positive interactive effect of an HPWS with a fast-follower (vs. a first-mover and subsequently a fence-sitter) entry timing mode. As in testing for Hypothesis 1, we ran two models with different entry timing modes as a referent. Model 4 in Table 4, which used a first-mover entry timing mode as a referent, shows that the three-way interaction of an HPWS, fast-follower entry timing, and HPWS internal consistency were significant in predicting product sales ($B = .07$, 95% CI [.03, .11], $p < .05$). Specifically, when HPWS internal consistency was high, the interactive effect of an HPWS and fast-follower (vs. first-mover) entry timing was .61 (95% CI [.34, .88], $p < .05$), whereas when internal consistency was low, it was −.16 (95% CI [–.43, .11], n.s.); the difference between the two conditions was also significant (difference = .77, 95% CI [.34, 1.20], $p < .05$).

In addition, Model 5 in Table 4, which used a fence-sitter entry timing mode as a referent, indicates that the three-way interactive effect of an HPWS, fast-follower entry timing, and HPWS internal consistency was significant ($B = .07$, 95% CI [.01, .13], $p < .05$). Specifically, when HPWS internal consistency was high, the interactive effect of an HPWS and fast-follower (vs. fence-sitter) mode was .70 (95% CI [.29, 1.12], $p < .05$), but when internal consistency was low, it was −.10 (95% CI [–.52, .32], n.s.); the difference between these two conditions was also significant (difference = .80, 95% CI [.10, 1.50], $p < .05$). Hence, the core part of Hypothesis 2, concerning the interaction among an HPWS, fast-follower (vs. first-mover, fence-sitter) mode, and HPWS internal consistency, was supported. However, we note that the three-way interactive effect of an HPWS, first-mover (vs. fence-sitter) mode, and HPWS internal consistency on product sales was not significant ($B = .01$, 95% CI [–.05, .07], n.s.).

To facilitate interpretation of the results for Hypothesis 2, we plotted the simple slopes for the effect of an HPWS on product sales at one *SD* above and below the mean of HPWS internal consistency under each entry timing mode (Cohen et al., 2003). As shown in Figure 3, the effects of an HPWS on product sales significantly varied across the three entry timing modes when HPWS internal consistency was high; the effect of an HPWS was significantly positive under a fast-follower ($B = .54$, 95% CI [.30, .78], $p < .05$), rather than a first-mover ($B = -.04$, 95% CI [–.23, .15], n.s.) or a fence-sitter ($B = -.11$, 95% CI [–.82, .61], n.s.), entry timing. In terms of the economic effect, given the coefficient of an HPWS under the dual-alignment condition (i.e., a fast-follower entry timing and high internal consistency; .54), an establishment's implementation of an HPWS with an intensity at one *SD* (i.e., .39) above its industry mean

TABLE 3
Descriptive Statistics for Study and Control Variables

	Variable	*M*	Overall *SD*	Between *SD*	Within *SD*	1	2	3	4	5	6	7	8	9	10	11	12
1.	Log of workforce size	5.25	1.22	1.21	0.28												
2.	Log of total assets	11.51	2.32	2.33	0.38	.59											
3.	Capital to labor ratio	4.09	2.39	2.38	0.64	.05	.68										
4.	HPWS	0.00	0.39	0.33	0.22	.35	.43	.26									
5.	HPWS internal consistency	4.07	5.61	5.52	3.67	.00	.00	.01	.01								
6.	First-mover entry timing	0.51	0.50	0.40	0.34	.07	.13	.09	.16	.02							
7.	Fast-follower entry timing	0.29	0.45	0.36	0.32	−.03	−.04	−.02	−.07	.00	−.66						
8.	Fence-sitter entry timing	0.10	0.30	0.23	0.22	−.07	−.07	−.04	−.10	−.03	−.34	−.21					
9.	Other entry timing	0.10	0.30	0.25	0.20	.00	−.08	−.10	−.07	.01	−.34	−.21	−.11				
10.	Product sales (*t*)	6.29	1.67	1.58	0.47	.07	.76	.72	.31	.01	.11	−.04	−.03	−.09			
11.	Financial performance (*t*)	5.25	10.82	10.00	6.00	.02	.06	.04	.06	−.01	.06	.00	−.03	−.06	.18		
12.	Product sales ($t + 1$)	6.38	1.70	1.62	0.50	.10	.72	.68	.30	.01	.10	−.03	−.04	−.10	.90	.14	
13.	Financial performance ($t + 1$)	3.42	17.74	19.18	8.09	.01	.12	.14	.07	−.02	.05	.03	−.02	−.10	.16	.43	.21

Notes: $n = 3{,}456$ (establishment-year observations). Other entry timing indicates establishments that chose the "none of the above" option in the market entry timing measure. Product sales refer to log of product sales over the total number of employees; operating ROA was measured in percentage points. All correlations greater than $|.04|$ are significant at $p < .05$.

TABLE 4
Results of Fixed-Effects Regressions Predicting Subsequent Product Sales

	Dependent Variable (DV) = Product Sales ($t + 1$)				
	Model 1	Model 2	Model 3	Model 4	Model 5
Variable	**Main effects**	**Hypothesis 1a**	**Hypothesis 1b**	**Hypothesis 2a**	**Hypothesis 2b**
(Constant)	5.98* (0.42)	5.98* (0.42)	5.99* (0.42)	5.95* (0.42)	5.97* (0.42)
Product sales (t)	0.00 (0.04)	0.00 (0.04)	0.00 (0.04)	–0.01 (0.04)	–0.01 (0.04)
Log of workforce size	0.01 (0.05)	0.01 (0.05)	0.01 (0.05)	0.01 (0.05)	0.01 (0.05)
Log of asset	–0.01 (0.04)	–0.01 (0.04)	–0.01 (0.04)	0.00 (0.04)	–0.01 (0.04)
Capital to labor ratio	0.05* (0.02)	0.06* (0.02)	0.06* (0.02)	0.06* (0.02)	0.06* (0.02)
Other entry timing		–0.01 (0.06)	–0.02 (0.07)	–0.01 (0.06)	–0.02 (0.07)
Independent variables					
HPWS	0.06 (0.05)	0.06 (0.05)	0.06 (0.05)	0.06 (0.05)	0.06 (0.05)
First-mover entry timing	0.00 (0.06)		-0.01 (0.05)		–0.01 (0.05)
Fast-follower entry timing	0.09 (0.06)	0.09* (0.04)	0.08 (0.05)	0.08* (0.04)	0.08 (0.05)
Fence-sitter entry timing	0.03 (0.07)	0.00 (0.05)		–0.01 (0.05)	
HPWS internal consistency				0.00 (0.00)	0.00 (0.00)
Testing two-way interactions					
HPWS × First mover			0.07 (0.10)		0.08 (0.10)
HPWS × Fast follower		0.20* (0.09)	0.27* (0.11)	0.23* (0.09)	0.30* (0.11)
HPWS × Fence sitter		–0.15 (0.13)		–0.14 (0.14)	
HPWS × HPWS internal consistency				0.01 (0.01)	0.01 (0.01)
Testing three-way interactions					
First mover × HPWS internal consistency					0.00 (0.01)
HPWS × First mover × HPWS internal consistency					0.01 (0.03)
Fast follower × HPWS internal consistency				0.00 (0.01)	0.01 (0.01)
HPWS × Fast follower × HPWS internal consistency				0.07* (0.02)	0.07* (0.03)
Fence sitter × HPWS internal consistency				–0.02 (0.02)	
HPWS × Fence sitter × HPWS internal consistency				0.03 (0.05)	
Establishment fixed effects?	Yes	Yes	Yes	Yes	Yes
Year fixed effects?	Yes	Yes	Yes	Yes	Yes
R^2 (within)	0.071	0.075	0.074	0.084	0.083
F-value	14.01*	12.55*	12.48*	9.77*	9.57*

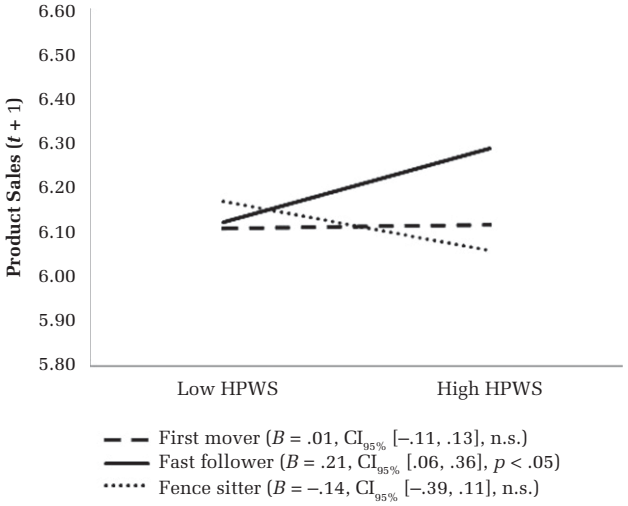
Notes: $n = 3{,}456$ (establishment-year observations). Other entry timing indicates establishments that chose the "none of the above" option in the market entry timing measure. Standard errors are in parentheses. R^2 (within) is the R^2 from the mean-deviated regression. The entry timing modes were effect coded in Model 1, which concerns the main effects of the study variables.

* $p < .05$

was, *ceteris paribus*, associated with a .21 (.54 × .39 = .21) increase in product sales (per employee) relative to the implementation of an HPWS at the industry mean (in dollar values, \$519.85 [thousands] to \$640.64 [thousands]). This represents an increase of 23.24% in product sales (per employee) ($= \frac{\$640.64\ [\text{thousands}\ - \$519.85[\text{thousands}}{\$519.85[\text{thousands}}$). In contrast, Figure 3 shows that when internal consistency was low, the effects of an HPWS on product sales did not significantly vary across the three entry timing modes.

Lastly, Hypothesis 3 concerned the mediating role of product sales between an HPWS (in conjunction with market entry timing modes and internal consistency) and subsequent financial performance. First, Model 6 in Table 5 indicates that product sales were positively related to financial performance ($B = 3.72$, 95% CI [3.02, 4.42], $p < .05$). Next, the results of the bootstrapping analysis (with 20,000 iterations) indicated that the three-way interaction of an HPWS, fast-follower (vs. first-mover) entry timing, and HPWS internal consistency was indirectly related to financial performance via product sales ($B = .26$, 95% CI [.05, .63], $p < .05$). Likewise, product sales also mediated the three-way interactive effect involving fast-follower (vs. fence-sitter) entry timing on financial performance ($B = .27$, 95% CI [.03, .72], $p < .05$). Thus, we found support for the core part of Hypothesis 3, involving fast-follower (vs. first-mover, fence-sitter) entry timing. However, we note that product sales did not significantly mediate the three-way interactive effect among an HPWS, first-mover (vs. fence-sitter) entry timing, and HPWS internal consistency on financial performance ($B = .03$, 95% CI [–.20, .25], n.s.).

FIGURE 2
Effects of an HPWS on Subsequent Product Sales Across Market Entry Timing Modes



As a supplementary analysis, we tested the conditional indirect effects of an HPWS on financial performance via product sales under various combinations of entry timing modes and internal consistency degrees. Table 6 shows that the indirect effect of an HPWS was significantly positive under fast-follower entry timing and high internal consistency ($B = 2.01$, 95% CI [.66, 4.39], $p < .05$), which was stronger than all other conditions of entry timing modes and internal consistency degrees. To gauge the practical significance of the indirect effect, we calculated a ratio of the indirect effect to the total effect (Alwin & Hauser, 1975; Sobel, 1982), along with an index of mediation (Preacher & Hayes, 2008). Under a fast-follower entry timing and high HPWS internal consistency, the ratio of the indirect effect was .42 ($= \frac{2.01}{2.01 + 2.74}$, given the direct effect of 2.74). Further, the index of mediation, which refers to an indirect effect computed by two standardized coefficients representing first-stage (a) and second-stage (b) paths, was .044 ($= ab\frac{\boldsymbol{\sigma}_X}{\boldsymbol{\sigma}_Y} = 2.01 \times \frac{.39}{17.74}$; σ indicates an *SD*). In terms of the economic effect, given the indirect effect coefficient of an HPWS under the dual-alignment condition (i.e., 2.01), an establishment's implementation of an HPWS with an intensity at one *SD* (i.e., .39) above its industry mean was, *ceteris paribus*, associated with a .78 ($2.01 \times .39 = .78$) increase in financial performance relative to the implementation of an HPWS at the industry mean (i.e., 3.42–4.20%). This represents an increase of 22.81% ($= \frac{4.20\% - 3.42\%}{3.42\%}$) in financial performance.

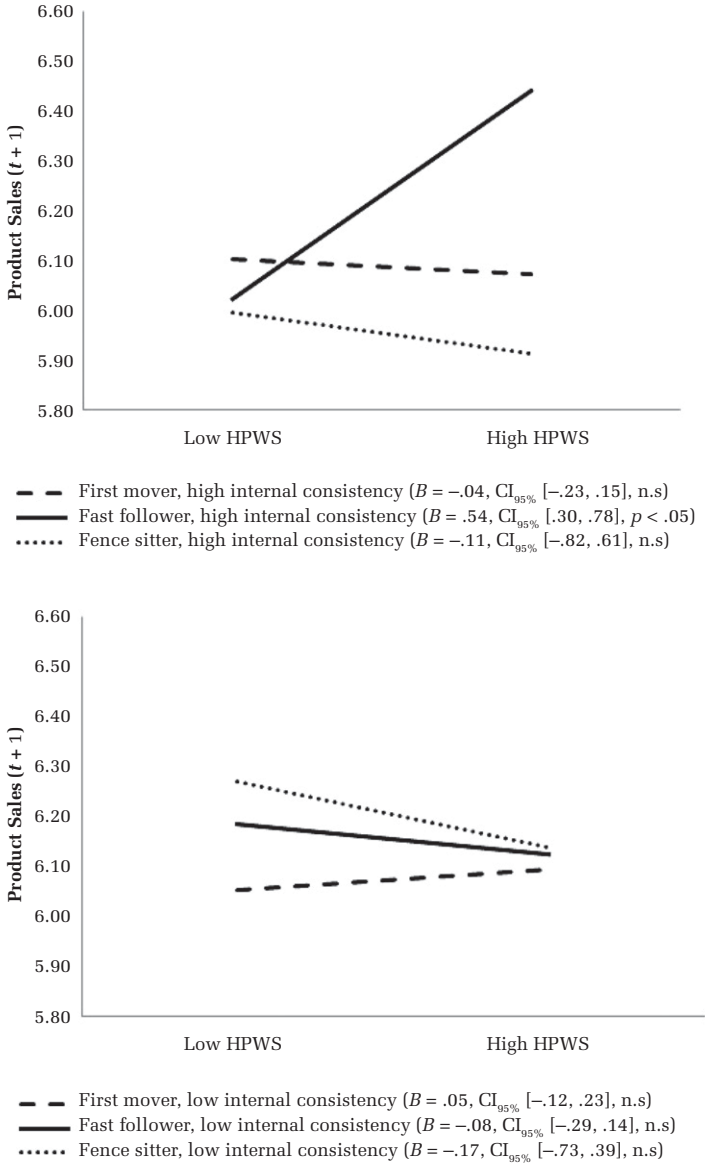
DISCUSSION

Based on a nationally representative four-wave panel sample of Korean establishments, our study provides support for a dual-alignment model of SHRM. An HPWS was more positively related to future product sales among establishments pursuing a fast-follower, relative to a first-mover or fence-sitter, entry timing mode. These performance benefits associated with vertical fit were more pronounced in the context of stronger horizontal fit—reflected in internal consistency in the implementation of practices across the AMO domains of the HPWS. Product sales then conveyed the dual-alignment effect of an HPWS on financial performance.

Theoretical Implications

Our study makes important contributions to SHRM scholarship. First, our study integrates and advances knowledge on two foundational concepts in SHRM—vertical and horizontal fit—by conceptualizing and demonstrating support for the interplay between these two types of fit in supporting superior organizational performance. The main mechanism by which HR systems contribute to an organization's performance is by supporting the contributions of employees—including their knowledge search and combination behaviors—that are required to implement business strategies (Kang, Morris, & Snell, 2007; Patel et al., 2013). Importantly, because employees' behaviors are a combined function of their abilities, motivation, and opportunities, the implementation of HR practices that target just one or two of the AMO domains may be insufficient to elicit the workforce contributions required to meet an organization's strategic needs (Delery & Gupta, 2016). Rather, the consistent use of complementary HR practices spanning all three of these AMO domains is more effective in achieving desired outcomes. Thus, we argue and find that an HPWS has the greatest positive impact on organizational performance when vertical fit is achieved through the external alignment of the HPWS with the organization's entry timing mode *and* when horizontal fit is achieved through high internal consistency in the implementation across the AMO domains of the HPWS. By demonstrating this dual-alignment effect, our study helps to address the core question in SHRM scholarship concerning when and how HR systems maximally influence organizational performance, as well as to account for the mixed evidence regarding the individual effect of either

FIGURE 3
Effects of an HPWS on Subsequent Product Sales Across Market Entry Timing Modes Under High versus Low Degrees of HPWS Internal Consistency



type of fit on organizational performance (Wright & Ulrich, 2017).

Second, by focusing on the vertical fit of an HPWS in relation to an organization's entry timing mode, we examine a key element of business strategy (Hambrick & Fredrickson, 2005) that has often been neglected in SHRM research. Prior research taking a contingency perspective within the SHRM literature has sought to establish the importance of vertical fit between organizations' HR systems and their broad strategic types, with several studies focusing on the alignment between various high-investment HR systems and strategic types focused on innovation or product quality (e.g., product differentiators, prospectors); this research has yielded inconclusive support (Wright & Ulrich, 2017). Our findings suggest that the value of vertical fit *within* a broader strategic type, such as new product development, may depend on the alignment of the HR system with more nuanced decisions surrounding staging, such as timing of product market entry (Hambrick & Fredrickson, 2005; Zott & Amit, 2008). In particular,

TABLE 5
Results of Fixed-Effects Regressions Predicting Subsequent Financial Performance

	DV = Financial performance (t + 1)					
Variable	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**
(Constant)	2.23 (6.63)	2.27 (6.56)	2.36 (6.60)	1.78 (6.57)	2.44 (6.62)	−20.33* (7.08)
Financial performance (t)	–0.25* (0.03)	–0.25* (0.03)	–0.25* (0.03)	–0.25* (0.03)	–0.25* (0.03)	–0.25* (0.03)
Log of workforce size	−1.57* (0.69)	−1.56* (0.69)	−1.57* (0.69)	−1.56* (0.69)	−1.54* (0.69)	−1.46 (0.85)
Log of asset	0.86 (0.57)	0.87 (0.57)	0.87 (0.57)	0.89 (0.57)	0.84 (0.57)	0.79 (0.67)
Capital to labor ratio	0.15 (0.32)	0.17 (0.32)	0.15 (0.32)	0.19 (0.32)	0.15 (0.32)	–0.07 (0.32)
Other entry timing		–0.30 (0.93)	–0.21 (1.11)	–0.30 (0.93)	–0.32 (1.11)	–0.24 (1.08)
Independent variables						
HPWS	1.10 (0.80)	1.09 (0.80)	1.11 (0.80)	0.99 (0.81)	0.91 (0.81)	0.69 (0.79)
First-mover entry timing	0.22 (0.93)		0.09 (0.87)		0.00 (0.87)	0.03 (0.85)
Fast-follower entry timing	–0.14 (0.97)	–0.37 (0.60)	–0.31 (0.89)	–0.35 (0.60)	–0.36 (0.90)	–0.64 (0.87)
Fence-sitter entry timing	0.24 (1.11)	–0.32 (0.88)		–0.29 (0.90)		
HPWS internal consistency				0.04 (0.05)	0.04 (0.05)	0.04 (0.05)
Testing two-way interactions						
HPWS × First-mover			–0.90 (1.67)		–0.42 (1.68)	–0.69 (1.64)
HPWS × Fast-follower		2.77* (1.41)	2.38 (1.84)	2.75 (1.42)	2.69 (1.86)	1.58 (1.81)
HPWS × Fence-sitter		−1.99 (2.18)		−2.03 (2.30)		
HPWS × HPWS internal consistency				–0.23 (0.16)	–0.28 (0.16)	–0.31 (0.15)
Testing three-way interactions						
First-mover × HPWS internal consistency					–0.11 (0.17)	–0.12 (0.16)
HPWS × First-mover × HPWS internal consistency					0.89 (0.50)	0.87 (0.49)
Fast-follower × HPWS internal consistency				–0.02 (0.12)	–0.10 (0.18)	–0.13 (0.18)
HPWS × Fast-follower × HPWS internal consistency				–0.03 (0.32)	0.66 (0.53)	0.39 (0.52)
Fence-sitter × HPWS internal consistency				0.00 (0.32)		
HPWS × Fence-sitter × HPWS internal consistency				0.18 (0.90)		
Product sales (t)						0.16 (0.60)
Product sales (t + 1)						3.72* (0.36)
Establishment fixed effects?	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects?	Yes	Yes	Yes	Yes	Yes	Yes
R^2 (within)	.051	.053	.053	.055	.057	.104
F-value	9.84*	8.78*	8.74*	6.18*	6.38*	11.21*

Notes: n = 3,456 (establishment-year observations). Other entry timing indicates establishments that chose the "none of the above" option in the market entry timing measure. Standard errors are in parentheses. R^2 (within) is the R^2 from the mean-deviated regression. The entry timing modes were effect coded in Model 1, which concerns the main effects of the study variables.

* $p < .05$

our findings suggest that an HPWS may have varied capacity to meet the strategic requirements of different entry timing modes, based on the distinct knowledge requirements associated with each, with an HPWS having its most positive effect under fast-follower entry timing. This, we suggest, is because the knowledge generation and utilization supported by an HPWS may not sufficiently extend beyond existing knowledge bases to tackle the high technical and market uncertainties facing first movers. In addition, an HPWS may exceed the knowledge requirements of fence sitters.

Third, despite the defining emphasis on the *system* effect in the SHRM literature, the field lacks evidence of the benefits associated with the use of complementary HR practices (Gerhart, 2012). Related, existing research on HPWSs has tended to assume complementarity in content and consistency in implementation across the entire HR system, with limited focus on actually assessing the presence or benefits of horizontal fit among the AMO domains in the HPWS (Chadwick, 2010). Our study advances the notion that examining various patterns of intensity in implementation across the AMO domains represents a

TABLE 6
Summary of Indirect Effects of an HPWS on Subsequent Financial Performance via Product Sales

Market Entry Timing Mode	HPWS Internal Consistency	Indirect Effect	95% Confidence Interval		Difference (Fast Follower & High Internal Consistency vs.)	95% Confidence Interval	
		B (*SE*)	LL	UL	*B (SE)*	LL	UL
Fast follower	High	2.01* (0.87)	[0.66	4.39]			
	Average	0.87* (0.38)	[0.34	2.03]	1.15* (0.63)	[0.10	2.61]
	Low	–0.28 (0.56)	[–1.56	0.70]	2.29* (1.26)	[0.19	5.22]
First mover	High	–0.15 (0.57)	[–1.38	0.97]	2.16* (1.02)	[0.71	5.10]
	Average	0.03 (0.27)	[–0.52	0.57]	1.99* (0.88)	[0.65	4.31]
	Low	0.20 (0.49)	[–0.68	1.32]	1.81* (0.96)	[0.40	4.59]
Fence sitter	High	–0.40 (1.48)	[–4.88	1.78]	2.41* (1.79)	[0.17	9.35]
	Average	–0.52 (0.60)	[–2.36	0.29]	2.53* (1.16)	[0.89	6.07]
	Low	–0.64 (1.10)	[–3.11	1.31]	2.66* (1.47)	[0.58	6.94]

Notes: $n = 3{,}456$. High and Low indicate one *SD* above and below the average, respectively. LL and UL = lower limit and upper limit of the confidence internal, respectively. All estimates were tested from 20,000 bootstrapping replications.

* $p < .05$

meaningful way to conceptualize alternative configurations of HR practices, and in so doing demonstrates support for the view that strong internal consistency can unlock the synergistic potential among AMO domains and augment the benefits of HPWS utilization.

Practical Implications

Our study also offers practical insights into the strategic value of HRM by demonstrating the significant but contingent benefits of an HPWS. Specifically, our results suggest that a one *SD* increase in HPWS may correspond to a 20% or more increase in sales and financial performance, and that these are not universal. Rather, such performance gains depend on both the alignment of an HPWS with an organization's entry timing mode and the extent to which the organization achieves consistent implementation of component HR practices spanning the A, M, and O domains of the HPWS. Thus, our research suggests that an HPWS should be implemented only after managers determine whether the key technical and market knowledge for successful strategy enactment is within reach of employees for assimilation and leveraging (e.g., fast followers); requires substantial trial and error, or partnering with various external parties (first movers); or is already codified, with low need for frequent updates (fence sitters). Our findings suggest that it is the first condition (i.e., among fast followers) in which an HPWS will have greatest capacity to support superior organizational performance. Further, even among fast followers, our results suggest that performance will be maximized when an organization uses an HPWS with high internal consistency across HR practices that develop (A), motivate (M), and empower (O) employees to engage in desired knowledge behaviors. Thus, HR managers in fast-follower organizations would be well advised to attend to all three AMO domains and to balance budget and resource allocations accordingly (see Gerhart, 2012: 158, regarding whether or how SHRM research can inform the importance of a *system* of HR practices).

Limitations and Future Research

We note several limitations of the present study. First, our results concerning the vertical fit between an HPWS and market entry timing modes may be affected by unexplored contextual factors that influence the validity or generalizability of our assumptions about organizations' entry timing modes. For example, strategy research has suggested that first-mover advantages may be more likely to occur and to be sustained in industries characterized by smooth (vs. abrupt) paces of technological and market change (Suarez & Lanzolla, 2007). Under these conditions, first movers may experience less technical and market uncertainty, thereby mitigating some of the limitations of an HPWS in this context. To the extent that these industry factors are time invariant, they will not influence our findings from fixed-effects specifications (Baltagi, 1995). However, future research should explicitly consider the influences of various environmental characteristics in examining the vertical fit of HR systems.

Second, our data did not allow us to examine the intervening knowledge-based mechanisms related to the effects of an HPWS. This omission is mitigated by prior research, which has demonstrated support

for the benefits of an HPWS in supporting organizations' knowledge-centered activities (Chang et al., 2014; Collins & Smith, 2006). Relatedly, it is possible that there are other theoretical mechanisms—such as organizational flexibility (Wright & Snell, 1998: 758)—through which an HPWS supports the requirements of different entry timing modes. For instance, research has suggested that an HPWS can increase organizational flexibility by broadening workforce competencies and fostering employees' discretionary behaviors in addition to their narrow, task-related contributions (Evans & Davis, 2005; Hong, Liao, Raub, & Han, 2016). High levels of organizational flexibility are thought to play more important roles for early market entrants (vs. fence sitters) because these actors pursue fast responses to early market signals or first-mover products. Thus, future research attention directed toward understanding additional mechanisms that explain the alignment between HR systems and entry timing modes is needed.

Third, we note a few measurement issues. The HPWS and market entry timing mode variables were measured by a single rater, though it seems likely that participating organizations would seek the most knowledgeable manager to complete the survey because this information was requested by the Korean government (Jung & Kim, 2016; Kim & Kang, 2013). Further, measurement error in the HPWS and entry timing data due to the use of a single rater would make it harder to detect the predicted effects by attenuating the relationship among variables, thus rendering our study a more conservative test of the dual-alignment effects that we examined (Gerhart, Wright, McMahan, & Snell, 2000; Siemsen, Roth, & Oliveira, 2010). In addition, we had to use binary responses for many of the HR practice items, although this is not uncommon in existing SHRM research (e.g., Kehoe & Wright, 2013; Shin & Konrad, 2017). As such, we were unable to capture nuances of how HR practices were applied (e.g., percentage of employees covered by training programs; percentage of incentive pay compared to total compensation). Thus, future research may benefit from the use of more objective data on HR and strategy-related variables, or survey measures with more detailed response scales, to more accurately gauge the effects of an HPWS.

Finally, given that we focused on a single type of HR system (i.e., HPWS) and found its performance effects only among fast followers, it would be informative to examine other types of HR systems and show how they interact with other market entry timing modes. For example, Collins and Kehoe (2017) examined the vertical fit between three different kinds of HR systems (i.e., engineering, commitment, and bureaucratic) and two generic innovation strategies (i.e., exploration focusing on new product development and exploitation focusing on current product improvement) within software organizations. They found that engineering, but not commitment, HR systems interacted with exploration innovation strategy toward higher profitability. Although their study did not examine entry timing modes per se, their results suggest the possible presence of alternative, less frequently examined HR systems that may fit different entry timing modes.

CONCLUSION

Integrating market entry timing research and SHRM scholarship, we proposed and found that the effects of an HPWS on an organization's performance are contingent upon its alignment with an organization's market entry timing mode, such that product sales and financial benefits associated with an HPWS are greater for organizations that adopt fast-follower, rather than first-mover or fence-sitter, entry timing. This effect was even stronger among organizations that achieved strong horizontal fit in the form of high internal consistency in the implementation of HR practices across the AMO domains. Our results extend existing SHRM scholarship by offering insights into the precise nature of the interplay between vertical fit and horizontal fit in explaining the effectiveness of HR systems in supporting organizational performance. Put another way, our study provides unique evidence for the idea that organizations may increase their sales and financial performance by implementing HR systems that comprehensively enhance employees' abilities, motivation, *and* opportunities to make contributions that are closely aligned with an organization's strategic goals. Future research would benefit from validating this idea in relation to various strategic goals and needs and alternative types of HR systems of the organization.

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The authors honor and pay tribute to his legacy in the field of strategic human resource management. He will be forever remembered, and forever missed.

APPENDIX A

ROBUSTNESS CHECK

We examined the robustness of our findings in the following three ways. First, although we had both conceptual and empirical reasons for our use of the industry mean in our standardization of the HR practices within the HPWS, we reran our analyses of the effects of the HPWS using the grand mean of the entire sample in the standardization of the HR practices. Second, our entry timing measure included a "none of the above" option in addition to the three entry timing modes (i.e., first-mover, fast-follower, and fence-sitter modes), which was already included in our analytic models as a control variable. Although not hypothesized, we explored the models after controlling for the two-way and three-way interactive effects of other entry timing with an HPWS, and HPWS internal consistency. Moreover, establishments in this other entry timing category could have had unique modes that were not captured by our three distinct modes of entry timing, but that could potentially influence our findings. Therefore, we examined the models without the 342 observations in the "none of the above" category. Third, although we used a range of control variables based on prior research, we noted that some of the correlations between them were rather large. Thus, as has been done in other research (Oh et al., 2015; Spector & Brannick, 2011), we explored the models without any control variables. As part of this effort, we also tested a model that included all of our study controls with the exception of workforce size (i.e., total number of employees), given that workforce size is already reflected in our product sales measure. In all of these auxiliary analyses, the direction and significance of effects were practically consistent with the results from the focal analyses reported in this study, indicating the robustness of our findings. Detailed results are available from the first author upon request.