TO FIT IN OR STAND OUT? COMPETING DRIVERS OF HIGH-PERFORMANCE WORK SYSTEMS ADOPTION AND CONSEQUENCES IN NEW AND ESTABLISHED FIRMS

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ABSTRACT

This study explores the antecedents of high-performance work systems (HPWS) and the consequences of HPWS adoption by juxtaposing external (i.e., institutional pressure) and internal (i.e., resource constraints and strategic goals) environmental factors. Although prior research has suggested that focal firms' internal and external factors, separately, may influence their decision-making in adopting HPWS as well as the consequences of their decisions, I propose that the juxtaposition of internal and external factors helps researchers gain a fine-grained understanding of the competing goals of the focal firms. Drawing on insights from the institutional theory and contingency theory, I argue that although firms universally experience industry peers' HPWS use as a key external factor, focal firms' firm age and market entry timing may serve as the key internal factors that create variations in their decisions to adopt HPWS and consequences. Using nationally representative longitudinal data on 3,317 firm-year observations from seven waves of data between 2005 and 2017, I find that firms of different ages (i.e., new vs. established firms) and market entry timing groups (i.e., first-movers vs. late-movers) are motivated differently when their industry peers increase or decrease the use of HPWS. Also, I find that the performance consequences of a focal firm's HPWS adoption decisions are a function of whether the firm is a first-mover or a late-mover, in combination with the level of its industry peers' HPWS use.

BIOGRAPHICAL SKETCH

Joonyoung Kim earned his Bachelor of Business Administration (BBA) degree from Korea University in February of 2010. After working as a human resource management consultant, he entered and earned his Master of Industrial and Labor Relations (MILR) degree from Cornell University in December of 2018. He entered the MS/PhD program in the School of Industrial and Labor Relations (ILR) in August of 2019 and is in his third year in the Human Resource Studies department. Joonyoung's research focuses on how organizations achieve competitive advantage through adopting a set of systematic HR practices. As the overarching research stream, he studies strategic human resource management (SHRM) and investigates how and when organizations elicit intended firm-level outcomes through the design and implementation of HR systems. He is particularly interested in the intersection between HR and entrepreneurship research. For example, he examines how and when HR systems may benefit or hinder the performance of new firms.

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INTRODUCTION

While a substantial amount of literature has documented the positive effects of high-performance work systems (HPWS) on firm performance, there remains a great deal of variance in organizations' use of HPWS (Chadwick et al., 2013; Shin & Conrad, 2017). Several recent studies have noted the gap between the widely studied efficacy of HPWS and the number of organizations that are adopting HPWS in reality (e.g., Arthur et al., 2016; Kaufman, 2015). However, comparatively less attention has been devoted to what drives different levels of HPWS adoption across organizations (Chadwick & Flinchbaugh, 2021; Kim et al., in press). Without understanding the underlying antecedents driving organizations' decisions to adopt (or not adopt) HPWS, it may be difficult to understand the causes of the variation across organizations.

Prior research has offered evidence of the path-dependent nature of HPWS adoption, showing that the use of HPWS may be influenced by the imprinting effects of the prior use of HR systems (e.g., Baron et al., 2001; Hannan et al., 1996). Scholars in this research stream have found that the prior use of HR systems not only influences future decisions to adopt HR systems but also results in performance differences. For instance, Baron et al. (2001) found that when firms change the employment models that they have embraced since their founding, employee turnover is increased, adversely affecting firm performance. In addition, a separate research stream suggests that broader business environments (e.g., business strategy; Arthur, 1992; Miles & Snow, 1984) shape organizations' decisions to adopt HPWS. That is, organizations are likely to demonstrate greater HPWS adoption when pursuing business strategies that are particularly well aligned with HPWS. Indeed, research has found that HR systems are likely to contribute to organizational performance when they are well aligned with the organization's strategic goals

(e.g., Collins & Kehoe, 2017; Delery & Doty, 1996). We know that organizations' employment of HPWS is not an isolated decision, nor is it one made at a single point in time, and these lines of work underscore the importance of organizational readiness and strategic fit as key drivers of HPWS adoption and associated consequences.

Recently, Jiang et al. (in press) have provided a different perspective on the relevance of the business environment in driving organizations' high-investment human resource systems (HIHRS) adoption by focusing on industry peers' use of HIHRS. In particular, the authors theorized how legitimacy, which is defined as a "generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions" (Suchman, 1995, p. 574), may serve as the key underlying factor that drives focal organizations to follow their industry peers. Drawing upon institutional theory, the authors found that greater HIHRS use by industry peers predicted increased HIHRS use by a focal organization in the subsequent period. In addition to demonstrating the importance of legitimacy (i.e., institutional pressure) as a driver of HR systems adoption, Jiang et al.'s (in press) findings highlighted an important tension facing organizations as they make decisions about human resource management (HRM) within the broader industry contexts in which they are embedded. Industry peers' HIHRS use was positively related to focal firms' HIHRS use and indeed seemed to set the stage for focal organizations to enjoy legitimacy benefits following the adoption of HIHRS. A focal firm's HIHRS use was more positively associated with the likelihood of receiving employer certifications when industry peers' HIHRS use was high than when it was low. In contrast, industry peers' greater use of HIHRS also appeared to diminish the potential for HIHRS adoption to result in a competitive advantage because a focal firm's investment in HIHRS did

not distinguish itself from its peers under such conditions. This tension highlights the presence of potentially competing goals which may shape variance not only in the outcomes—but also in the adoption of HR systems across organizations. More directly, it raises important questions about which firms are the most likely to be driven by aspirations for legitimacy—relative to other goals—as they make decisions concerning HR systems adoption.

In the present paper, I seek to understand this tension by applying a contingency perspective of legitimacy and distinctiveness to investigate the aspirations entailed in focal firms' decisions to adopt HPWS (i.e., antecedents of HPWS), and in the consequences of their decisions. By doing so, I seek to understand how and when organizations' decisions to adopt HPWS and their consequences vary across firms. As suggested by prior research, focal firms' internal (e.g., business strategy) and external environmental factors (e.g., institutional contexts), separately, are likely to influence their decision-making in adopting HR systems as well as the consequences of their decisions. However, I believe that the juxtaposition of external and internal environmental factors helps researchers gain a more fine-grained understanding of the focal firms' competing goals, which shape both the decisions to adopt HPWS and the subsequent performance implications. That is, when juxtaposing external and internal environments, external environmental factors (e.g., institutional pressure) serve as the context in which all types of firms are universally embedded, and internal environmental factors (e.g., resource constraints, strategic goals) shape the experiences that each type of firm uniquely encounters as a function of the associated internal factors.

As Jiang et al. (in press) suggested, industry peers' HPWS use may serve as an external context which may exert institutional pressures on focal firms to adopt HPWS to gain legitimacy and fit into the institutional context. Here, I attempt to identify the conditions under which firms

respond differently to the universal institutional contexts and what consequences these variations entail. Institutional theory research has shown that not all firms equally experience and respond to institutional pressures from their environments (see, e.g., Dobbin et al., 2011, for an illustration of how firms respond differently to institutional pressures to adopt diversity programs). In particular, focal firms need to balance tensions between legitimacy and distinctiveness (Jiang et al., in press) and negotiate between competing demands on the use of their finite resources, both of which are likely to influence how they experience and respond to industry peers' HPWS use. In other words, if some firms follow their industry peers' HPWS use more strongly than other firms—despite the fact that those firms operate in the same industry where the level of institutional pressure is presumably the same—it is reasonable to assume certain factors are causing variations in how firms experience and respond to institutional pressures.

In this regard, while I build on Jiang et al.'s (in press) findings by also focusing on industry peers' HPWS use as a key external environmental factor, I investigate how firm age and market entry timing serve as the key internal environmental factors that create variations in firms' decisions to adopt HPWS and the consequences of these decisions. As suggested by Jiang et al. (in press), industry peers' HPWS use may represent the institutionalized norms and standards within the industry, which set the stage for focal firms to enjoy legitimacy benefits following HPWS adoption. However, firm age and market entry timing may shape the contexts in which focal firms operate and differentiate the ways in which they experience the institutional pressure to follow institutionalized norms and standards. First, firm age is closely associated with the circumstances that focal firms face when dealing with such institutional pressures. For instance, new firms generally lack legitimacy and are resource constrained (Hannan & Freeman,

1984; McMullen & Shepherd, 2006; Stinchcombe, 1965) compared with their established peers. As such, while new firms in general may be more strongly motivated to gain legitimacy, they lack the resources required to adopt HPWS. Therefore, depending on firm age, focal firms may respond differently to industry peers' HPWS use, and their responses may have distinct performance implications.

Second, market entry timing, which concerns the timing of entry into markets (Zott & Amit, 2008), is another critical strategic element that shapes how focal firms experience industry peers' HPWS use. An organization can choose to be either a first-mover or a late-mover, and strategy researchers have long sought to understand whether, when, and how firms can create competitive advantages through their decisions on when to enter the market (Lieberman & Montgomery, 1988). At the heart of these investigations are the trade-offs that first-movers and late-movers face between uncertainty and distinctiveness (Ghemawat, 1991). That is, first-movers seek distinctiveness by introducing first-to-market products and services at the cost of increasing their exposure to the uncertainty of new markets where the success of new business offerings is not proven nor guaranteed (Miller & Folta, 2002). Conversely, late-movers seek to learn from other firms' successes and failures in order to develop improved products and services by following the actions of other firms that have succeeded and avoiding those that proved to be failures (Boeker, 1989). Therefore, first-movers may seek to make decisions that add distinctive value whereas late-movers are likely to be driven by decisions that are less risky when there are precedents that they can learn from.

For these reasons, I argue that firm age and market entry timing—both individually and in combination—uniquely influence the competing goals faced by organizations, with particularly relevant consequences for the role of strategic priorities (e.g., legitimacy,

distinctiveness) and circumstances (e.g., resource constraints) in firms' decisions to adopt HPWS. Then, following the contingency perspective, I develop a theory regarding the ways the performance implications of HPWS adoption vary across organizations—specifically theorizing about the contexts in which HPWS use is likely to be more or less effective depending on whether the strategic requirement of the firm is on distinctiveness or risk reduction. For instance, my theoretical and empirical findings suggest that new/late-movers may have the strongest incentive to follow their industry peers in adopting HPWS because they have significant legitimacy aspirations (as new firms) and their strategic priority is to follow and imitate other firms (as late-movers). In contrast, new/first-movers' incentive to follow their industry peers in adopting HPWS was not as strong as that of new/late-movers because their strategic priority is to break out of the existing industry domains and present distinct business offerings (as first-movers). I further suggest that the extent to which focal firms benefit from HPWS use depends on their market entry timing and the prevalence of HPWS among their industry peers. For example, I predict that first-movers may benefit the most from HPWS use when their industry peers' HPWS use is low because of the increased distinctiveness gained by HPWS adoption under these conditions. Conversely, I predict that late-movers are likely to benefit more when their industry peers' HPWS use is high than when it is low because late-movers' strategic requirement is to reduce risk and follow what has been proven by other firms to be effective in the industry.

This study attempts to make several contributions to the strategic human resource management (SHRM) literature. First, its major contribution is to focus on the juxtaposition of external (i.e., industry peers' HPWS use) and internal environmental factors (i.e., firm age and market entry timing) to further the scholarly understanding of the antecedents of HPWS. Extant

research has built a compelling case for the independent roles of internal (e.g., business strategy) and external (e.g., institutional pressure) factors as drivers of HR systems adoption. However, I contribute by juxtaposing both internal and external factors to investigate their joint effects. That is, I suggest that focal firms' internal characteristics may influence the ways in which they distinctly experience external factors. In doing so, I offer additional nuance to existing insights and findings on the role of legitimacy and other aspirations as a driver of HPWS adoption. My findings shed light on the ways focal firms negotiate the competing objectives they face as a function of their internal circumstances with the industry context against which a firm is situated and perceived relative to its peers. Second, relatedly, I aim to gain a more fine-grained understanding of the HPWS–firm performance link, by exploring how the combination of external and internal environmental factors influences the way in which HPWS use contributes to the competitive advantage of focal firms. Specifically, upon building on recent findings related to the influence of industry peers' use of HR systems, I analyze the contingent effects of industry peers' HPWS use and market entry timing in predicting the relationship between focal firms' HPWS use and their product sales. In this regard, I offer a contingency perspective to understand when focal firms' competing objectives are likely to carry more weight in organizations' decision-making and are likely to influence the outcomes of HPWS adoption. Third, I advance the research on entrepreneurial management by expanding the still limited understanding of HPWS use in new firms. Rather than applying assumptions underlying HPWS use developed in the large body of SHRM literature focused on established firms (or not making the distinction between new and established firms), I explicitly recognize that the unique needs and challenges of new firms differentially shape the adoption and consequences of HPWS. Specifically, I acknowledge that, relative to established firms, new firms lack legitimacy and

resources, which influences the conditions surrounding HPWS adoption decisions and the implications of these decisions for firm performance. Lastly, in terms of practical contributions, I demonstrate the conditions under which focal firms are more likely to invest in HPWS and benefit from HPWS use. Surrounded by external and internal contexts, firms face competing objectives which not only shape the decisions they make but also affect the consequences of these decisions. My findings suggest that, under circumstances where focal firms' strategic requirements (i.e., being distinct vs. reducing risks) are well aligned with the institutional context (i.e., high vs. low industry peers' HPWS use), focal firms may gain greater benefits by using HPWS.

THEORETICAL BACKGROUND AND HYPOTHESES

HPWS

HPWS represent an investment in organizations' human resources with mutually reinforcing HR practices aimed at supporting the abilities, motivation, and opportunities of employees to contribute to the organizations' goals (Jiang et al., 2012). First, HPWS involve ability-enhancing HR practices (e.g., selective staffing, comprehensive training) that support the development of employees' knowledge, skills, and abilities (KSAs) which they can use to contribute to their organizations. Second, motivation-enhancing HR practices (e.g., competitive pay, performance appraisal) are used to incentivize specific performance behaviors and to strengthen employees' commitment to the organizations' goals through investments in social exchange relationships (Takeuchi et al., 2007). Third, opportunity-enhancing HR practices (e.g., empowerment, employee participation) are designed to increase opportunities for employees to translate their KSAs into value-creating contributions (Jiang et al., 2012). In sum, HPWS may benefit firm performance by enhancing the contributions of employees.

Institutional Theory and Anticipated Legitimacy Benefits of HPWS

While research suggests HPWS may offer an effective means to support firm performance, HPWS use is not without costs as they require a significant amount of investment (Pfeffer, 2007), raising the question of why some firms still use HPWS despite its resource-intensive nature. Although the core reason for this is undeniably the enhancement of employee contributions via HPWS, I suggest that HPWS may also serve as a source of legitimacy, when HPWS use is prevalent in the industry. That is, I draw on insights from institutional theory and suggest that an important factor likely to influence firms' HPWS adoption is the relative prevalence of HPWS among their industry peers. When HPWS is widely used in the industry, HPWS are likely accepted as the standard in the industry, and it has been shown that the likelihood of adopting a certain practice grows along with its prevalence among the relevant population (DiMaggio & Powell, 1983; Dobbin et al., 2011; Eisenhardt, 1988; March, 1981; Scott, 1987).

Considerable research on institutional theory has established that the prevalence of management practices in the industry predicts the contagion of these practices among government organizations (e.g., Tolbert & Zucker, 1983), financial institutions (e.g., Haveman, 1993), hospitals (e.g., Burns & Wholey, 1993), and other populations (Dobbin et al., 2011). Most of these findings are based on the legitimacy benefit argument that "organizations that incorporate societally legitimated rationalized elements in their formal structures maximize their legitimacy and increase their resources and survival capabilities" (Meyer & Rowan, 1977, p. 352). Zuckerman (1999) has suggested that there is also a penalty involved when organizations deviate from the industry standard, because organizations who do so may fail to be recognized as legitimate in the eyes of stakeholders, which can lead to financial loss (Jeong & Kim, 2019;

Suchman, 1995). For instance, by conforming to the industry norm of HPWS, focal organizations may have relatively less difficulty attracting and retaining key talents because "employer legitimacy" is increased by the adoption of industry norms (Jennings et al., 2009). Both prospective and incumbent employees look to an organization's HR practices for indicators of "employing identity" (Baron, 2004) which signals "how well an employer will allow them to meet their employment goals" (Williamson, 2000). Therefore, as HPWS are used to a greater extent in an industry, firms in that industry are likely to derive a stronger legitimacy benefit from increasing their own use of HPWS. Although the legitimacy effects of HR systems have not been widely investigated, a recent study by Jiang et al. (in press) found a positive relationship between a focal firm's adoption of HIHRS and its industry peers' use of HIHRS. The authors suggested legitimacy effects as the theoretical explanation for their findings. That is to say, when certain HR systems are widely spread in the industry, adoption of such HR systems may deliver legitimacy benefits to focal organizations. In this regard, because HPWS use may shape external stakeholders' perceptions of a focal organization, the extent to which industry peers are using HPWS is an important factor in shaping this effect. For these reasons, I expect a positive relationship between industry peers' HPWS use and a focal firm's HPWS use.

> *Hypothesis 1. Industry peers' HPWS use will be positively related to the change in a focal firm's HPWS use.*

Integrating a Contingency Theory Perspective

The aforementioned benefits of HPWS and the influence of industry peers' HPWS use are likely to vary based on the type of firm and its individual circumstances. According to contingency theory, the optimal strategic decisions of an organization are not universal because they are determined by the idiosyncratic external and internal factors that distinguish it (Donaldson, 2001). Drawing on contingency theory, I argue that a focal firm's adoption of

HPWS, as a function of industry peers' HPWS use, is influenced by two key contingencies: firm age and market entry timing. Because firm age is closely associated with the circumstances experienced by focal firms (e.g., level of legitimacy and available resources) while market entry timing shapes their strategic priorities (e.g., distinctiveness or risk reduction), both firm age and market entry timing may influence focal firms' decisions regarding the adoption of HPWS. Therefore, firms of different ages (i.e., new vs. established firms) and market entry timing groups (i.e., first-movers vs. late-movers) will react differently when their industry peers increase or decrease their use of HPWS. In this regard, my predictions based on contingency theory represent the idea that firms' tendency to follow their industry peers' HPWS use depends on their firm age, and their market entry timing, as well as the combination of these two contingencies.

Firm Age as a Contingency

Firm age, which is defined as the length of time that an organization has existed since its founding (Bakker & Josefy, 2018), has been considered an important factor in regard to organizational survival (e.g., Stinchcombe, 1965) and in regard to the differences between firms in structures, processes, and strategies (e.g., Ruef & Scott, 1998). Because new firms are generally more in need of legitimacy and face more severe resource constraints than their established peers, I argue that new firms are more likely to be influenced by industry peers' HPWS use in their HPWS adoption decisions. That is to say, relative to established firms, new firms lack legitimacy and clearly defined roles, tasks, and networks (Bruderl & Schussler, 1990; Hannan & Freeman, 1984; Stinchcombe, 1965). Although legitimacy is relevant for all organizations regardless of firm age (Suchman, 1995), legitimacy hurdles and challenges are the greatest for new firms because they are resource constrained and face extreme uncertainty

(Fisher et al., 2016; McMullen & Shepherd, 2006). This uncertainty is especially problematic for new firms because their lack of past operating history (e.g., financial history) makes it difficult for them to access the resources required to exploit opportunities (Zimmerman & Zeitz, 2002). As an organization's past track record of performance may result in justifiable confidence in the eyes of external stakeholders (Starr & MacMillan, 1990), new firms must find ways to gain legitimacy without the track record that often represents a firm's experience and performance (Hannan & Freeman, 1984; Stinchcombe, 1965). Therefore, new firms are likely to put more effort and time into their relationships with stakeholders because they need to prove their desirability. Because of the drawbacks experienced by new firms, these firms tend to have a greater need for legitimacy than their established peers (Zimmerman & Zeitz, 2002). New firms who acquire legitimacy are more likely to survive and grow (Aldrich & Fiol, 1994; Harman & Freeman, 1989; Meyer & Rowan, 1977; Scott, 1994; Zucker, 1987) because legitimacy is a resource that is important for the acquisition of other resources such as top managers, employees, and financial resources (Zimmerman & Zeitz, 2002). Once new firms have established their legitimacy within an institutional context (e.g., industry), they can focus on other goals such as scaling their operation (Lumpkin & Dess, 2001).

Gaining legitimacy in the eyes of potential job candidates and incumbent employees is another critical hurdle that new firms need to overcome. New firms typically encounter significant challenges in convincing potential and current employees that they are legitimate employers (Jennings et al., 2009; Leung et al., 2006). By achieving legitimacy, new firms are more likely to succeed in attracting and retaining a competitive workforce.

In contrast, established firms' relatively weaker aspirations for legitimacy make industry peers' HPWS use a weaker influence on their HPWS adoption decisions than it is for new firms.

As a function of having experience in the industry, established firms have a higher level of recognition and legitimacy, which they accumulate through the development of routines, organizational processes, and relationships in the form of alliances and partnerships (Carr et al., 2010; Delmar & Shane, 2004; Zahra, 2008). Consequently, relative to new firms, established firms' decision to adopt (or not adopt) a certain practice may be less about gaining legitimacy and more about functional need (see e.g., Tolbert & Zucker, 1983, for a distinction between institutional pressure and functional need as factors in the adoption of a management practice). For instance, if an established firm decides to adopt HPWS, it may be because it considers HPWS an effective HR system that aligns well with the firm's preestablished routines and processes rather than because of an interest in the potential legitimacy effects of HPWS.

In sum, the pursuit of legitimacy is more critical for new firms than for established firms because it affects the effectiveness and efficiency of the relationships with transactional partners (e.g., customers, suppliers, and venture capital) as well as the likelihood of attracting and retaining talented employees. In order to achieve legitimacy, a new firm must demonstrate its desirability by conforming to formal and informal institutional rules and regulations (Deephouse, 1996; Webb et al., 2009), which include institutionalized management practices (DiMaggio & Powell, 1983; Webb et al., 2009) such as HPWS. Therefore, I hypothesize:

> *Hypothesis 2. Firm age will moderate the relationship between industry peers' HPWS use and the change in a focal firm's HPWS use, such that this relationship will be more positive for new firms than for established firms.*

Market Entry Timing as a Contingency

Concerning the timing of a firm's entry into markets, an organization can choose to be either a first-mover or a late-mover. Firms that pursue a first-mover strategy attempt to introduce a product to the market before their competitors do (Maidique & Patch, 1982). First-movers may

gain a competitive advantage by creating a temporary monopoly in the market during the period preceding the adoption of new products by competitors (Boeker, 1989). The first-mover strategy can be pursued not only through introducing new products to the market, but also by introducing new processes or practices (Kerin et al., 1992; Lieberman & Montgomery, 1990). Because a first-mover's success depends on its innovativeness enabling it to be the first to the market and on its ability to perform better than its slower competitors, a first-mover aims to gain superior market insight, entrepreneurial prowess, and competitive creativity (Boeker, 1989; Boyd & Bresser, 2008). Because firms that compete based on innovativeness need to be in the best position to take advantage of opportunities in rapidly changing industries, a first-mover seeks highly creative and innovative employees in all business domains (Chandler & Hanks, 1994). For instance, a new first-mover is expected to exhibit a high level of functional expertise in R&D (Boeker, 1989), marketing, and technical skills (Bentley, 1990). Similarly, a first-mover is more likely to sustain first-mover advantages by preempting competitors in the acquisition of scarce assets (Lieberman & Montgomery, 1988), which include both non-mobile (e.g., real estate) and mobile (e.g., employees) resources. Lieberman and Montgomery (1988) suggested that when a first-mover successfully preempts competitors in acquiring scarce human resources, it garners economic rents as long as employees' mobility is restricted by switching costs. For instance, Chadwick (2017) has suggested that focal firms may accumulate positive returns from investing in their employees because these investments increase the costs of switching employers from the employees' perspective. This suggests that first-movers can outcompete their competitors by acquiring, motivating, and retaining the best talent.

Unlike first-movers whose strategic priority is to be at the cutting edge of the industry to introduce innovative products to the market before competitors, the most important aspect of

late-movers' strategy is to learn from other firms' successes and failures to develop an improved and more reliable product (Boeker, 1989). If the late-mover strategy is successfully executed, the response delays associated with entering the market later than first-movers may be advantageous because delays allow for the resolution of market and technological uncertainties (Boyd & Bresser, 2008; Lieberman & Montgomery, 1988; Lilien & Yoon, 1990). In this regard, the important point of distinction between first-movers and late-movers is that for late-movers, being at the cutting edge of the industry may not be a strategic priority. In other words, instead of trying to preempt competitors in the acquisition of the most creative and innovative employees in all business domains, a late-mover is more likely to be careful in selecting the business domains in which to invest. The success of late-movers hinges on their ability to efficiently exploit and refine existing organizational capabilities.

Joint Effects of Firm Age and Market Entry Timing

While firm age and market entry timing may independently influence focal firms' decisions to adopt HPWS, the interaction between the two may also affect these decisions. Because firm age is associated with the circumstances encountered by focal firms (e.g., level of resources and legitimacy), while market entry timing influences their strategic priorities (e.g., distinctiveness or risk reduction), the juxtaposition of firm age and market entry timing provides insights into the ways different types of firms uniquely experience the external environment, which I explain in detail below.

First-Movers vs. Late-Movers among New Firms. Among new firms, I predict that late-movers will have a stronger aspiration than first-movers to follow their industry peers' HPWS use because of the differences in their strategic priorities and circumstances. In other words, although new firms, in general, are expected to seek legitimacy, the aspiration to blend

into the industry by following other firms may be weaker, on average, for new/first-movers than new/late-movers, because of the unique circumstances faced by these two types of firms.

First, as new firms, new/first-movers are less constrained by the existing domains of the industry (e.g., technologies and customer base; Polidoro & Yang, in press) than their established peers because new firms lack experiences and capabilities accumulated within the industry. At the same time, as first-movers, being different from other firms with innovative products is a key strategic priority for new/first-movers. The desire to differentiate themselves from others is not only strategic in nature, but can also be explained by the value that is likely to be espoused by the decision-makers of new/first-movers (Jacqueminet & Durand, 2020). Given that a new/first-mover seeks to introduce revolutionary products that are different from what has been previously offered in the market, any element that could compromise distinctiveness would not appear attractive to its decision-makers (Zuzul & Tripsas, 2020). In contrast, new/late-movers' strategic priority, as late-movers, is to benchmark and imitate other firms (Chen, 1996; Fu & Tietz, 2019). Therefore, new/late-movers may have a strong incentive to adopt HPWS if they are considered a good fit to the industry and widely used as an institutionalized standard. In sum, new/first-movers' strategic priority involves *standing out* from others whereas new/late-movers' strategic priority entails *fitting in* and following the best practices that are widely spread in the industry.

In addition, although both new/first-movers and new/late-movers are generally resource-constrained as new firms, new/first-movers compete based on innovativeness, which requires significant and risky investments in multiple business domains (Levinthal & March, 1981, 1993; March, 1991). Therefore, new/first-movers are likely to face competing needs for resources, and thus an investment in HPWS—which is resource-intensive (Cappelli & Neumark, 2001; Pfeffer, 2007)—may not be their highest priority (Deb et al., 2017). For instance, the decision makers of

a new/first-mover may prioritize investment in R&D and technologies over an investment in HPWS, in order to introduce their first-to-market products before their competitors. Conversely, given new/late-movers' strategic priority to benchmark and imitate other firms, they have an incentive to hire and retain employees who possess the industry-specific KSAs that can result in the transfer of knowledge regarding operations, strategies, and customers (Finlay & Coverdill, 2002; Gardner, 2005; Rao & Drazin, 2002). Therefore, given that potential and current employees with industry-specific human capital are likely to contribute to new/late-movers' successful benchmarking of their industry peers, new/late-movers have an incentive to follow their industry peers in adopting HPWS as a means to attract and retain employees.

For the reasons mentioned here, I predict that among new firms, new/late-movers will be more likely to follow their industry peers' HPWS use than new/first-movers. Therefore, I hypothesize:

> *Hypothesis 3a. There will be a three-way interaction between industry peers' HPWS use, firm age, and market entry timing in the prediction of the change in a focal firm's HPWS use, such that among new firms, the relationship between industry peers' HPWS use and the change in a focal firm's HPWS use will be more positive for late-movers than for first-movers.*

First-Movers vs. Late-Movers among Established Firms. The differences between new and established firms may distinctly influence how each type of firm pursues its market entry strategy. Among established firms, I predict the opposite pattern seen in new firms, whereby established/first-movers have a stronger aspiration than established/late-movers to follow their industry peers' HPWS use. That is to say, relative to new/first-movers who may seek to introduce revolutionary products, established/first-movers are more likely to prioritize offering innovative products and services within the context of the existing industry domains.

Established firms, in general, devote their attention to an industry they know well and

where they have relevant capabilities (Cyert & March, 1963; Levinthal, 1997; Polidoro & Yang, in press). That is, because established firms have existing streams of revenue within an industry, they are reluctant to invest in different areas (e.g., Reinganum 1983; Henderson, 1993). Additionally, as firms age and accumulate expertise in certain domains, they become better at absorbing knowledge in those domains (Cohen & Levinthal, 1990). This greater ease in acquiring knowledge and succeeding in subsequent activities strengthens the incentive for established firms to focus on the industry where they have accumulated capabilities (Polidoro & Yang, in press). As a result, established firms use "building blocks derived from previous 'good' solutions even though so doing contributes to inertia" (Levinthal, 1991, p. 140). As such, established/first-movers are likely to be constrained by established and existing industry domains (e.g., technologies and customer base; Polidoro & Yang, in press), which contrasts with the aforementioned characteristics of new/first-movers whose aspiration is to break out of (as opposed to build upon) existing industry domains. In this regard, for established/first-movers, industry peers represent a relevant reference point for decisions regarding the extent of their investment in key business domains. From the perspective of HR, established/first-movers are likely to target key talent within the industry who will be able to contribute to the firms' strategic priority to be at the cutting edge of the industry. Consequently, it is likely that established/first-movers will invest in HPWS when their industry peers' increase their HPWS use because not doing so may lead to a disadvantageous position in attracting, motivating, and retaining key talent. In other words, to the extent that HPWS are prevalent in the industry, an investment in HPWS may be the necessary cost of doing business for established/first-movers. Given established/first-movers' strategic priority to offer innovative products and services, they have a strong incentive to adopt HPWS as a means to attract, motivate, and retain the best talent in the

industry.

In contrast, relative to established/first-movers, established/late-movers are not necessarily motivated to be at the cutting edge of the industry nor strive to preempt competitors in the acquisition, motivation, or retention of the most competitive workforce in the industry in all business domains. Because the strategic priority of late-movers is to efficiently exploit and refine existing organizational capabilities by learning from other firms' successes and failures, the aspiration of established/late-movers to follow industry peers' HPWS use involves benchmarking other firms, which is distinct from established/first-movers' aspiration to engage in competition for talent by scanning and following the extent of their industry peers' HPWS use. In other words, for established/first-movers, it may be critical to be mindful of their competitors' level of investment in all business domains because resources allocated to a certain business domain represent those same resources not allocated to other business domains. For instance, if established/first-movers invest a significantly higher level of resources in R&D than their peers at the cost of falling short on their level of investment in HPWS, they may be investing in R&D more than required at the cost of losing key talent to competitors who have superior levels of HPWS. Conversely, established/late-movers are not required to follow their industry peers in all business domains. For instance, rather than following their industry peers' HPWS use, established/late-movers may prioritize marketing and sales to convince their customers their products (that are slightly modified imitations of existing products) are worth the purchase (Boeker, 1989). In this regard, for established/late-movers, investment in HPWS may or may not be their investment priority, depending on what their focus is, which is distinct from established/first-movers who will consider investment in HPWS as the minimum cost of doing business when HPWS are prevalent in the industry. Accordingly, industry peers' HPWS use may

not drive an established/late-mover's HPWS adoption as strongly as it does an established/first-mover. Therefore, I hypothesize:

> *Hypothesis 3b. There will be a three-way interaction between industry peers' HPWS use, firm age, and market entry timing in the prediction of the change in a focal firm's HPWS use, such that among established firms, the relationship between industry peers' HPWS use and the change in a focal firm's HPWS use will be more positive for first-movers than for late-movers.*

Contingent Implications Regarding the Effects of HPWS on Product Sales

The juxtaposition of external (i.e., industry peers' HPWS use) and internal (i.e., market entry timing) environmental factors not only has implications regarding organizations' decisions to adopt HPWS but also provides insights into the effects of HPWS adoption on firm performance. That is to say, market entry timing is associated with focal firms' strategic requirements (i.e., distinctiveness vs. risk reduction) for achieving success. Therefore, the extent to which HPWS use contributes to firm performance may depend on whether or not HPWS use is aligned with those strategic requirements, which may be determined in concert with industry peers' HPWS use. Below, I elaborate how focal firms' HPWS use shapes their effectiveness in achieving their strategic goals, depending on industry peers' HPWS use and on market entry timing.

Effects of HPWS on Product Sales

I examine the effect of HPWS on focal firms' product sales due to the universal strategic importance of product sales across the firms in my sample. Although profitability-related measurements (e.g., net profit, operating profit) are often used to assess the performance of established firms, these measurements are less applicable to new firms. By definition, new firms lack profit histories and are not generally expected to exhibit high levels of profitability during the initial years of their existence (Walsh & White, 1981). In contrast, product sales are

indicative of technical quality, market acceptance, and the perception of differentiated advantages (Feeser & Wilard, 1990). Therefore, product sales are likely to accurately reflect firm performance in both new and established firms, while profit measurements may underestimate the performance of new firms. In addition, product sales represent the strategic goals pursued by both first-movers and late-movers. First-movers' strategic priority is to acquire and lock in large customer bases earlier than their peers (Golder & Tellis, 1993), which enables first-movers to preempt scarce resources by increasing the switching costs of customers and by facilitating long-term agreements with suppliers (Lieberman & Montgomery, 1988). Because a high volume of product sales signals that a firm is successful in attracting customers and meeting market demand with its products and services (Decker & Gruber, 2015), product sales are relevant to first-mover advantages. Similarly, late-movers' success depends on the extent to which they are able to attract first-movers' customer bases by introducing superior-quality or lower-priced products than first-movers. As such, a high volume of product sales indicates that late-movers have succeeded in attracting the existing customers of first-movers or that they have successfully infiltrated into a growing market by capturing a significant portion of the market share. In either case, product sales reflect late-movers' firm performance.

Furthermore, product sales are one of the first items in firms' financial statements (i.e., top line) that are considered a key driver of shareholder value (Financial Accounting Standards Board, 2000; Ghosh et al., 2005; Penman, 2004; Srivastava, 2014; Zhang, 2005). They are more readily understood by financial statement users than profit measures (Wagenhofer, 2014) and they are less vulnerable to distortion (Feeser & Willard, 1990). As such, prior SHRM studies have widely used product sales to measure firm performance (e.g., Collins & Smith, 2006; Han et al., 2019). For these reasons, I expect that the differential effects of HPWS use with respect to

market entry timing, industry peers' HPWS use, and the combination of both of these factors will be well manifested via product sales.

Industry Peers' HPWS Use and Representation of HPWS Adoption

When industry peers' HPWS use is high, this generally indicates that HPWS has penetrated and gained traction in the industry, which suggests that a majority of industry peers have found HPWS to be effective in their organizations. Therefore, when HPWS are prevalent in an industry, a focal organization's HPWS adoption indicates conformance to the norm, and constitutes a basis for legitimacy. Simply put, when HPWS are widely used among industry peers, a focal organization's adoption of HPWS is likely to be seen as a legitimate decision that satisfies the minimum expectation of industry stakeholders with regards to HRM. For instance, given that a high level of HPWS use among industry peers fosters the expectations concerning HR practices and employment relationships in the industry, individuals, including top talent desired by employers, will expect HPWS when they enter (or remain in) an employment relationship with a focal firm. In contrast, when HPWS are rare in the industry, a focal organization's HPWS adoption may not indicate conformance to the norms nor a baseline expectation. Rather, HPWS adoption under these circumstances may serve as the basis for a distinct employment relationship and/or a means to elicit desired employee attitudes and behaviors that are unique in the industry. For instance, if a focal firm is using HPWS to elicit employee behaviors that are well aligned with the firm's strategy (e.g., service climate; Jiang et al., 2015), HPWS may confer unique benefits to that firm because few other firms are using HPWS.

The aforementioned representation of industry peers' HPWS use and the associated implications for a focal firm's HPWS adoption decisions are important because they are closely

tied to the strategic requirements that focal firms need to satisfy in order to succeed. That is to say, the different circumstances created by industry peers' high or low HPWS use have different implications for the effectiveness of focal firms' HPWS use in meeting their strategic goals, depending on the firms' strategic requirements. For instance, if a focal firm's strategic requirement is to fit in, HPWS adoption may bring performance benefits under circumstances where HPWS use represents conformance to industry norms. In contrast, if a focal firm's strategic requirement is to stand out, HPWS adoption may be beneficial when HPWS serve as a basis for differentiation. Below, I elaborate on these differing circumstances created by industry peers' HPWS use and discuss how they interact with the focal firms' HPWS use and with their strategic requirements.

Joint Effects of Industry Peers' HPWS Use and Market Entry Timing

I argue that market entry timing is closely associated with the strategic requirements that focal organizations must satisfy in order to succeed. That is to say, first-movers are required to achieve distinctiveness from other firms whereas late-movers are required to reduce the risk of their investment by learning from other firms' successes and failures.

Building on this logic, I argue that first-movers will reap greater benefits from increased HPWS use when HPWS can help them achieve greater levels of distinctiveness (i.e., when industry peers' HPWS use is low). For first-movers, adopting HPWS when few others are doing so may create distinct employment relationships that are attractive to prospective and incumbent employees and elicit desired employee attitudes and behaviors that are uniquely valuable in the industry. In contrast, when industry peers' HPWS use is high, first-movers' HPWS use does not convey distinctiveness, and therefore the positive effects of HPWS on product sales will be weaker than when industry peers' HPWS use is low.

Late-movers, on the other hand, may reap greater benefits from increased HPWS use when the effectiveness of HPWS is already proven by other firms (i.e., when industry peers' HPWS use is high), as they are able to reduce the risk of investing in HPWS when there are precedents allow them to benefit from other firms' prior learning. When industry peers' HPWS use is low, HPWS are likely not a set of HR practices that is well-accepted and standardized in the industry, and thus, late-movers' strategic requirements that involve learning from other firms' successes and failures are not achieved by adopting HPWS.

I expect that industry peers' HPWS use and market entry timing will exert similar patterns of influence on both new and established firms with regard to the effect of focal firms' HPWS on product sales, although the logic underlying these patterns may differ for new firms and established firms. That is to say, I predict that the same end (performance consequences) can be achieved by firms in different age groups (new vs. established firms) if they belong to the same market entry timing category (first-movers vs. late-movers) and are influenced by the same level of industry peers' HPWS use (high peer use vs. low peer use). In other words, the performance consequences of a focal firm's HPWS adoption decisions will be a function of whether the firm is a first-mover or a late-mover, in combination with the level of its industry peers' HPWS use, but the diverse aspects of such performance implications will unfold differently between new and established firms. It is important to note that the driving influence of market entry timing and its interaction with industry peers' HPWS use in predicting the effects of a focal firm's HPWS use on product sales does not negate the critical relevance of firm age. Rather, I make the same predictions on the end state of performance regardless of firm age because firm age influences the circumstances (e.g., resource availability; level of legitimacy) faced by focal firms, as opposed to market entry timing, which is tied to the strategic

requirements that confer performance benefits (or losses) depending on whether focal firms satisfy these requirements with their actions. Below I explain how industry peers' HPWS use, market entry timing, and firm age influence the effects of a focal firm's HPWS use on product sales.

First-movers. First-movers' success depends on the extent to which they can be distinct from competitors (Boeker, 1989). This strategy requires hiring the best talent and accessing cutting-edge knowledge in the industry (Lieberman & Montgomery, 1988), which is well-aligned with the characteristics of HPWS. That is to say, HPWS are generally considered a "high-road" HR system (Gerhart, 2007; Ostroff & Bowen, 2016) that represents an organization's active investments in its employees. An employer's investment in an employee–organization relationship not only influences the likelihood of being the employer of choice for prospective and current employees, but it also stimulates certain employee attitudes and behaviors that are desired by focal firms (Tsui et al., 1997), which in turn affects organizational performance.

On this basis, the extent to which first-movers' HPWS use will derive performance benefits likely depends on whether HPWS use serves as a source of differentiation consistent with the first-movers' strategic requirements to be successful. Hence, when industry peers' HPWS use is low, first-movers' HPWS use may be beneficial because it indicates that few other firms in the industry are using HPWS, and thus, focal firms are employing a set of desirable HR practices that are not widely available among other firms. First-movers' HPWS use under these circumstances may serve as a basis for differentiation via two related but functionally distinct mechanisms: (1) offering distinctive employment relationships to prospective and current employees that allow for the attraction and retention of a competitive workforce and (2) eliciting

unique and valuable employee attitudes and behaviors that are supported as a function of HPWS.

First, when HPWS are less prevalent in the industry, the use of HPWS is likely to confer an advantage in attracting prospective job candidates as well as in retaining current employees because HPWS use offers a distinctive employment relationship that is not offered by other firms (Jennings et al., 2009). For example, early in its history as a first-mover, Google pioneered the use of HPWS, including a rigorous selection process, pay-for-performance, competitive pay, extensive training, and self-managed teams (Finkle, 2012). This set the stage for an employment relationship that was unique in the industry. Google's innovative and open culture prompted by its HR practices enabled the attraction and retention of the best talent in the labor market (CNNMoney.com, 2009) whose combined leading skills and motivation offered a source of competitive advantage to the company (Finkle, 2012).

Second, literature on HPWS has documented how HPWS elicit employee attitudes and behaviors that are aligned with focal firms' strategic requirements. In this regard, when HPWS are not prevalent in an industry, the use of HPWS is likely to confer an advantage by eliciting unique employee attitudes and behaviors that are rare in other firms if such attitudes and behaviors are supported as a function of HPWS. To the extent that HPWS elicit employee attitudes and behaviors that are not only valuable to first-movers but also unique in the industry, focal firms' HPWS use may confer a competitive advantage when industry peers' HPWS use is low.

In contrast, when HPWS are already prevalent among their industry peers, first-movers' HPWS use will become less beneficial because it will no longer provide first-movers with the distinct advantage of being the employer of choice, or elicit employee attitudes and behaviors that are rare in other firms. Therefore, the positive effects of a focal firm's HPWS use on product

sales will decrease as industry peers' HPWS use increases. For instance, Google's HPWS use demonstrates how the influence of focal firms' HPWS use may vary as a function of the level of industry peers' HPWS use. As explained above, Google's active investments in HR practices in its early days once served as a source of distinctiveness when such practices were rare in the industry. However, since Google's approach proved successful, their HR model has become the norm for other high-tech companies (Finkle, 2012; Gillett, 2018; Jiang et al., in press). Although Google continues to make significant investments in HR (Kelly, 2021; Lombardo, 2017), its HR system is no longer unique because other high-tech companies now have similar HR systems.

Although I expect these predictions to hold for both new and established/first-movers, there are meaningful differences in the resource positions and strategic requirements of these firms that are worth noting. For instance, the key differences between new/first-movers and established/first-movers lie in their resource availability and the nature of the distinct products and services they offer. First, new/first-movers are generally resource-constrained as new firms, with multiple investment priorities as a first-mover (e.g., HR, marketing, technology). Therefore, any investments that do not translate to distinctiveness may be a suboptimal resource allocation because making an investment in one area requires pulling those resources away from other core activities. For instance, if a new/first-mover is operating in an industry where HPWS are prevalent, investing in HPWS may not offer distinctive value, and thus, such an investment may be considered suboptimal if focal firms could have achieved an additional level of differentiation by investing those same resources in other business domains.

Second, compared to other types of firms, new/first-movers are more likely to succeed by providing disruptive business offerings and breaking out of the established norms and standards. For instance, a number of investigations regarding the success of Uber (e.g., Aversa et al., in

press) have found that Uber succeeded by bulldozing into a market (Solon, 2017) and disrupting the status quo in terms of the rules of employment, customer-base, price systems, distribution, and even regulations. Although there is some debate about whether Uber's approach (e.g., its employment model for drivers) was necessarily better than that of other firms (or even ethical), it is clear that the strength of Uber's business model can be attributed to the disruptions the company brought to the industry. The aforementioned strategic requirements for new/first-movers to be successful (investing in business domains where distinctive value can be added and presenting unique and disruptive business offerings), explain why new/first-movers are likely to benefit from using HPWS when industry peers' HPWS use is low. When HPWS are rare in the industry, new/first-movers' HPWS use may contribute to attracting and retaining talented employees while simultaneously eliciting employees' creative attitudes and behaviors that are associated with the development and launch of innovative products and services (Chang et al., 2014). In contrast, an increase in industry peers' HPWS use may reduce such benefits because HPWS no longer serves as a basis for differentiation.

Established/first-movers, on the other hand, are generally not as resource-constrained as new/first-movers, and their larger size and market power give them leverage in negotiating the acquisition of additional resources (Zahra, in press). Therefore, established/first-movers are more likely than new/first-movers to have the slack organizational resources to avoid compromising ongoing commitments to their existing investments (Carr et al., 2010). In this regard, investing in HPWS when industry peers' HPWS use is high may not be a suboptimal resource allocation. That is to say, when HPWS are widely used among industry peers, industry stakeholders such as incumbent and prospective employees may expect HPWS as the baseline employment arrangement. Specifically, HPWS consist of HR practices such as rigorous selection processes,

competitive salary and benefits, extensive training programs, and employee participation in company decision-making. Given that these practices are generally desired by employees, both incumbent and prospective employees may expect that they will be the recipients of these HR practices at their current organizations or when they move to other organizations. Not investing in HPWS when they are expected as the baseline employment arrangement is likely to result in failure to attract talented job candidates and/or losing current employees. Thus, for established/first-movers, investing in HPWS when industry peers' HPWS use is high is a cost of doing business, which is still a required investment but not sufficient to confer any special competitive advantage (Batt, 2002). From the resource-based view perspective (Barney, 2001), such an investment is *valuable* in that it helps established/first-movers compete against others firms, but not *rare* because HPWS are already being widely used within the industry.

In addition, unlike new/first-movers, established/first-movers generally succeed by leveraging the organizational capabilities (Helfat, 1994) they have accumulated within the industry they are familiar with (Polidoro & Yang, in press). Therefore, established/first-movers' strategic requirements for success are likely to be less disruptive than those of new/first-movers, such that established/first-movers may succeed by conforming to the industry norms rather than breaking out of the industry norms and standards by forgoing the organizational capabilities they have accumulated in the industry over a long period of time. For instance, since Uber is currently a leading company in the ride-sharing industry that has been operating for more than ten years, it is now an example of an established/first-mover, even though it was a new/first-mover when it was founded in 2009. Uber's focus is no longer on disrupting industry norms and standards (which currently are mostly established by Uber itself). Rather, the company has been continuing its ongoing investments (e.g., promotions for drivers) to provide superior and more efficient

services than late-movers such as Lyft (Bogage, 2016).

Despite the aforementioned differences in resource positions and strategic requirements, I predict that both types of firms will benefit more when industry peers' HPWS use is low and benefit less as industry peers' HPWS increases. However, it is worth noting these differences because they are associated with the distinct representation of investing in HPWS when HPWS are prevalent in the industry. For new/first-movers, such an investment is a suboptimal allocation of resources that could be better spent in other business domains. For established/first-movers, it is a cost of doing business that is still necessary but not sufficient to confer a competitive advantage.

Late-movers. Late-movers' success depends on their ability to learn from other firms' successes and failures (Lieberman & Montgomery, 1988; Shankar et al., 1998). Therefore, formal and informal industry standards represent a sound starting point for late-movers' strategic investments. Unlike first-movers who are strategically required to explore innovative business offerings at the cost of making risky investments as well as significant amounts of time and trials-and-errors (Schoonhoven et al., 1990; Henderson, 1999), late-movers are likely to succeed by making incremental improvements, which require the refinement of existing business offerings and investments that are less risky where relatively certain and immediate outcomes are expected (Henderson, 1999; March, 1991). In this regard, any investments whose effectiveness is not yet proven in the industry may be considered risky for a late-mover. In an HR context, late-movers' investment in HPWS when few other firms are using HPWS may be a risky investment because its associated costs and benefits are not yet proven in the industry.

On this basis, HPWS use is likely to be more beneficial for late-movers when the effectiveness of HPWS has been proven by other firms, which makes investment in HPWS less

risky. In other words, a wide prevalence of HPWS use in the industry may indicate that a majority of firms have found HPWS to be effective in that industry. Early work in the SHRM literature explained how firms develop their HR systems via learning and evolution. For instance, Baird and Meshoulam (1988) proposed five developmental stages for HR systems (i.e., initiation, functional growth, controlled growth, functional integration, and strategic integration) and emphasized that HR systems must pass through each stage in the sequence. Because it is important to learn from each stage and establish the "knowledge, procedures, and programs that will serve as the basis for the next stage" (p. 121), late-movers may benefit from the prior experience of other firms that have already gone through the learning process. In other words, to the extent that the how of HPWS has already been ironed out in the industry, late-movers may benefit from using HPWS when there are precedents for using HPWS in the industry.

In addition, first-movers' and late-movers' strategic positioning requires different levels of risk-taking and different types of knowledge. Because innovation is the key success factor for first-movers, a high level of risk-taking is not only inevitable but is in fact required for their success (Jackson & Schuler, 1995). That is to say, first-movers are required to engage in high-risk investments (e.g., technological exploration), and their financial returns are potentially large if these investments are successful (Henderson, 1999). In order to develop and launch innovative products and services before competitors do, first-movers generally need employees with cutting-edge knowledge in all business domains, including R&D, market research, engineering, and general management (Snow & Hrebiniak, 1980). In contrast, success for late-movers' strategy requires low-risk investments (e.g., refinement of existing technologies) where the returns are relatively certain and immediate (Levinthal & March, 1993; Levitt & March, 1988). Because late-movers' success generally relies on serving "unmet customer needs by creating

slightly modified imitations of existing products" (Boeker, 1989, p.495), they can achieve a competitive advantage by exploiting current firm knowledge, especially through maintaining high levels of efficiency and reliability in the production of existing products (Boeker, 1989; Govindarajan, 1989; Levinthal & March, 1993; March, 1991; McGee et al., 1995). In other words, because late-movers' strategic positioning does not require them to gain access to cutting-edge knowledge in the industry, late-movers' investment in HPWS under circumstances where such investment is risky without the guarantee of high returns, may represent the removal of resources from other business domains (e.g., R&D, marketing) industry peers may be focusing on.

For these reasons, among late-movers, a focal firm's HPWS use will be more positively related to product sales when industry peers' HPWS use is high. In addition to the benefit of HPWS use that stems from engaging in a relatively less risky investment, late-movers may use HPWS as a means to benchmark their industry peers. By adopting HPWS when they are widely used in the industry, late-movers can leverage their HR systems to attract talent away from other firms (and retain current employees) because they at least satisfy the institutionalized HR practices and employment relationships that are expected by incumbent and prospective employees when they enter or remain with focal firms.

In contrast, low industry peers' HPWS use indicates that the effectiveness of HPWS is not proven by other firms. Therefore, late-movers' investment in HPWS under these circumstances may be riskier than when industry peers' HPWS use is high, and the expected benefits are likely not certain or immediate. As such, I predict that a late-mover's HPWS use will be less positively related to product sales when industry peers' HPWS use is low than when it is high. To be clear, I am not arguing that it is impossible for late-movers to differentiate

themselves through unique HR systems and gain a competitive advantage. Instead, I posit that late-movers are more likely to succeed when they leverage their "late-mover advantages" (e.g., Shankar et al., 1998) or take advantage of "first-mover disadvantages" (e.g., Lieberman & Montgomery, 1988) by learning from the mistakes discovered by industry pioneers. Although it is possible for a late-mover to succeed by introducing new practices because doing so will indeed result in differentiation, I assume that, on average, actions that are more closely aligned with a firm's strategic requirements have a higher possibility of success. Specifically, if HPWS are not widely used in an industry, this may indicate either one of two scenarios: (1) HPWS are not considered to be effective in the industry or (2) HPWS' effectiveness is not yet proven by incumbent organizations. In the former scenario, a late-mover's adoption of HPWS will have a negative impact on its product sales because HPWS are not a good fit for the industry. Because HPWS represent a standardized category of HR practices, it is reasonable to assume that the effectiveness of HPWS will manifest differently depending on the industry. For instance, because of the high cost (e.g., high pay level) and loss of production time (e.g., worker autonomy), "high-road" HR systems such as HPWS may not be a good fit for an industry where cost leadership is important (Gerhart, 2007). In the latter scenario, where the effectiveness of HPWS is not yet proven, it is possible for a late-mover to increase its product sales by adopting HPWS. However, that success requires significant time, investments, and the continuous iteration of trials and errors, which are generally undertaken by first-movers, not late-movers (Henderson, 1999). Therefore, on average, late-movers will benefit by imitating and improving upon HPWS after their effectiveness has been proven by industry peers.

The key difference between new/late-movers and established/late-movers is in the level of legitimacy held by focal firms. Because new/late-movers are new, by definition, they have

little legitimacy in their industry. One of their success factors is to gain acceptance from industry stakeholders to increase legitimacy and be seen as legitimate firms. In this regard, the adoption of HPWS when they are prevalent in the industry not only represents benchmarking of a well-proven HR system, but it also works in favor of new/late-movers by increasing their legitimacy. As Haunschild and Miner (1997) have suggested, the fact that a large number of industry peers are adopting a certain practice in itself enhances the legitimacy of the practice. According to the institutional perspective, firms can gain legitimacy by conforming to the management practices that are expected in their institutional environments (e.g., Meyer & Rowan, 1977; Scott & Meyer, 1994; Zimmerman & Zeitz, 2002). HR systems such as HPWS are no exception from such management practices that are likely to derive legitimacy benefits when they are considered the standard and the norm in the eyes of industry stakeholders. For instance, Jennings et al. (2009) noted that when new law firms enter the market, they generally offer employees the possibility of promotion from an associate to a partner, which is considered a typical HR practice in the legal industry. By adopting an HR practice that is institutionalized in the industry, new/late-movers can put themselves in a less disadvantageous position for attracting and retaining talented employees than when they lack HR practices that are expected by the stakeholders. That is to say, new/late-movers, in general, are inherently less favored as an employer than their established peers because their lack of legitimacy and track records makes it difficult to convince prospective and incumbent employees that they are legitimate employers (Jennings et al., 2009; Katz et al., 2000; Leung et al., 2006). Therefore, by investing in HPWS when they are considered the standard in the industry (i.e., when industry peers' HPWS use is high), new/late-movers may gain performance benefits as a function of their increased legitimacy.

In contrast, as a function of being established, established/late-movers have past track records and preexisting relationships with industry stakeholders that form the basis of their legitimacy (Zimmerman & Zeitz, 2002). Therefore, the performance benefits that established/late-movers gain from adopting HPWS when they are prevalent in the industry are less about legitimacy and more about benchmarking the HR system that is proven in the industry. However, despite their different reasons, both new/late-movers and established/late-movers will benefit more from HPWS use when industry peers' HPWS use is high and benefit less as industry peers' HPWS use decreases.

Summary. In sum, for first-movers, a focal firm's HPWS use will be more positively related to product sales when industry peers' HPWS use is low than when it is high. Because first-movers' success depends on being distinct from others, the value of an investment in HPWS is contingent on the level of their industry peers' HPWS use. When their industry peers' HPWS use is low, first-movers' HPWS adoption may serve as a source of distinctiveness and competitive advantage that is aligned with their strategic requirements. In contrast, when their industry peers' HPWS use is high, first-movers' HPWS adoption is not likely to confer a competitive advantage, because such investment is no longer a source of distinctiveness.

For late-movers, a focal firm's HPWS use will be more positively related to product sales when their industry peers' HPWS use is high than when it is low. Because late-movers' success relies on following well-established practices in the industry as a less risky investment and on gaining knowledge that enables incremental improvements, using HPWS when they are prevalent in the industry is well aligned with late-movers' strategic requirements. In contrast, late-movers' HPWS use when the effectiveness of HPWS is not yet proven by other firms involves inevitable uncertainty in the expected outcomes, which is not aligned with late-movers'

strategic requirements. Therefore, I hypothesize:

> *Hypothesis 4. There will be a three-way interaction between a focal firm's HPWS use, industry peers' HPWS use, and market entry timing such that among first-movers, a focal firm's HPWS use will be more positively related to product sales when industry peers' HPWS use is low, whereas among late-movers, a focal firm's HPWS use will be more positively related to product sales when industry peers' HPWS use is high.*

METHODS

Sample

The dataset used for this study is a Human Capital Corporate Panel (HCCP) survey conducted by the Korean Research Institute for Vocational Education and Training (KRIVET). The data were collected using the stratified sampling method to represent Korean for-profit firms from a variety of industries. KRIVET used a unique organizational identifier to link the HCCP data with archival firm-level financial performance data from the Korean Information Service (KIS), the Korean equivalent of Standard & Poor's COMPUSTAT. The HCCP dataset has been updated biennially since 2005 and includes facts regarding firms' general information, HR practices, business characteristics and environment, workforce characteristics, and financial information. In particular, the HCCP survey includes multiple waves of extensive and detailed questions regarding HR practices. These questions are on the topic of work design, recruitment, training, promotion, job rotation, performance appraisal, compensation, benefits, employee participation, and task autonomy.

The longitudinal and rich nature of the HCCP dataset makes it suitable for this study, because my theories and predictions involve various external (i.e., industry peers' HPWS use) and internal (i.e., firm age and market entry timing) environmental factors that serve as the drivers of the antecedents and consequences of HPWS. In addition, this dataset allows me to capture not only HPWS adoption but also changes in both industry peers' and focal firms'

HPWS use over time. Furthermore, by measuring firm performance based on financial accounting data from KIS, the concerns regarding perceptual bias, intentional distortion (Tsui, 1990), or common-method bias (Podsakoff et al., 2003) arising from using subjective data are mitigated. KRIVET administered the HCCP survey using on-site interviews. HR managers and strategy managers answered the firm-level questions (e.g., general company information, questions about HR practices and firm strategies), while financial performance data including product sales were provided by KIS. In total, the sample included 3,317 firm-year observations from seven waves of data between 2005 and 2017.

Measures

HPWS Use

I selected items consistent with HPWS measures that have been used previously in SHRM literature to capture the (1) ability-enhancing, (2) motivation-enhancing, and (3) opportunity-enhancing aspects of HPWS. Ability-enhancing HR practices include selection, job rotation, and training. I measured the selection ratio by dividing the total number of new hires by the total number of applicants (Messersmith et al., 2018). Job rotation items are consistent with the items Collins and Smith (2006) used to measure the utilization of development-focused job rotation including the provision of career path opportunities and job rotation programs to expand the skills of employees. Consistent with Messersmith et al. (2018) and with Sung and Choi (2014), I measured training investment by dividing a firm's total training expenses by the number of full-time employees. HR practices that measure the intensity of motivation-enhancing aspects of HPWS include compensation, benefit, and performance appraisal. Compensation items were used in Takeuchi et al. (2007) and Sun et al. (2007) and include the average annual salary for full-time employees and the utilization of compensation based on individual, group,

and firm-level performance. Benefit items include the average benefit level for full-time employees (Shaw et al., 2013). Performance appraisal items are consistent with those used by Baik et al. (2019), and measure the extent to which firms have adopted performance appraisal systems based on balanced scorecards, competency evaluations, and performance feedback. Opportunity-enhancing HR practices include employee participation and quality circle teams. The employee participation items used in this study are consistent with Sun et al. (2007) and capture whether employee suggestion programs were being used in organizations. To measure the level of quality circle teams, I measured whether organizations implemented teams designed for work improvements (Han et al., 2019). To construct an HPWS index, I followed two steps. First, in line with other SHRM studies (see, e.g., Han et al., 2019; Kim & Ployhart, 2018), I standardized all HR practices by z-transformation and averaged those standardized scores of HR practices within each ability-, motivation-, and opportunity-enhancing HR dimension. Next, I created an HPWS index by computing a mean of the standardized scores of the three HR dimensions. Consistent with the approach taken by Jiang et al. (in press), I used the change in HPWS—measured as the difference between year *t*'s HPWS use and year *t* – 1's HPWS use—when examining the influence of industry peers' HPWS use on focal firms' HPWS use (Hypotheses 1, 2, and 3) by controlling for the focal firms' HPWS use in the previous year (*t* – 1).

Industry Peers' HPWS Use

The following two steps were adopted to measure the use of HPWS by industry peers. First, I used Korean Standard Industrial Classification (KSIC) codes to categorize all firms into 21 industries. Second, the average yearly scores of HPWS use were calculated for firms included in the same industry. These scores of HPWS use in a specific year for each industry were used to

operationalize industry peers' HPWS use for each firm. This approach for operationalizing industry peers' HPWS is consistent with Jiang et al. (in press). Industry peers' HPWS use in the previous year ($t - 1$) was used to examine the influence of industry peers' HPWS use on the focal firms' subsequent HPWS use (Hypothesis 1, 2, and 3). However, industry peers' HPWS use in the same year (t) was used to examine the moderating effect of industry peers' HPWS use on the relationship between focal firms' HPWS use and product sales (Hypothesis 4).

Firm Age

To capture the number of years since a firm's founding, firm age was calculated as the number of years that elapsed between the firms' incorporation and the year the HCCP survey was administered. For instance, if a firm was incorporated in 1990 and if 2005 was the year that the HCCP survey was conducted, the age of the firm in that particular year was 15.

Market Entry Timing

Respondents from each firm selected one of the following three descriptions of their organization's market entry timing modes for its products or services: (1) develop and introduce new products/services before competitors to lead the market, (2) enter markets by selectively developing new products/services on the basis of the performance of leading companies, or (3) improve existing products/services in a stable market rather than entering a new market with new products/services. The first response was coded as "first-movers," and the second and third responses were coded as "late-movers." Using the first-mover as a reference group, I created a dummy for late-movers to be included in the analysis.

Although some scholars have distinguished between "fast-followers" and "fence-sitters" by focusing on the differences in the competitive scope in which fence-sitters generally operate within a narrower scope than fast-followers to remove market disturbances (e.g., Han et al.,

2019; Peña & Villasalero, 2010), I combined those two market entry timing modes into the single category of late-movers because of their theoretical similarities, which are relevant to my theorization and predictions. That is to say, the key feature that I identified to distinguish late-movers from first-movers concerned late-movers' strategic priority and the requirement to reduce risks by learning from other firms' successes and failures and following what has been proven by other firms. In this regard, both fast-followers and fence-sitters' strategic success relies on intentionally entering the market later than first-movers, "after the initial market and technological uncertainties have been resolved" (Lieberman & Montgomery, 1998, p. 1113). Because of the similarities between fast-followers and fence-sitters, many strategy and organizational theory scholars have used a dichotomous (i.e., first-movers vs. late-movers) rather than a trichotomous (i.e., first-movers vs. fast-followers vs. fence-sitters) operationalization of market entry timing (e.g., Lieberman & Montgomery, 1988, 1998; Makadok, 1998; Miller & Folta, 2002; Robinson et al., 1992; Shankar et al., 1998).[1]

Product Sales

Respondents reported their total amount of product sales for each wave during the 12-year period (2005−2017). I used subsequent product sales ($t + 1$) to allow a time gap between the predictor and the dependent variable.

Control Variables

To control for alternative factors that are likely to influence both the focal firm's change

[1] I conducted an additional analysis by using a trichotomous variable for market entry timing (first-movers vs. fast-followers vs. fence-sitters) and obtained consistent results. Regarding the antecedents of HPWS (Hypothesis 3), among new firms, the relationship between industry peers' HPWS use and the change in a focal firm's HPWS was more positive for both fast-followers and fence-sitters than for first-movers. Among established firms, the relationship between industry peers' HPWS use and the change in a focal firm's HPWS use was more positive for first-movers than for both fast-followers and fence-sitters. With regard to the performance consequences (Hypothesis 4), among first-movers, a focal firm's HPWS use was more positively related to product sales when industry peers' HPWS use was low, whereas among both fast-followers and fence-sitters, a focal firm's HPWS use was more positively related to product sales when industry peers' HPWS use was high.

in HPWS use as well as the firm's performance, I included a variety of control variables consistent with prior literature. First, I controlled for firm size, measured by the total number of employees (e.g., Collins & Smith, 2006; Han et al., 2013; Jiang et al., in press) and total assets (e.g., Han et al., 2019; Shaw et al., 2013) because they may reflect the slack resources available in the firm and may correlate with the adoption of formal HR systems (Jackson & Schuler, 1995) and firm-level outcomes. Second, I included unionization to control for the potential influence of labor unions on HR systems (Liu et al., 2009) and firm performance (Doucouliagos & Laroche, 2003). Third, because research has shown that the presence of an HR department may not only influence the adoption of HR systems (Diamantidis & Chatzoglou, 2011; Wright et al., 1998) but also firm performance (Chadwick et al., 2016; Welbourne & Cyr, 1999). I included a control for the presence of an HR department in each firm. Fourth, I controlled for the previous year's operating profit because firm performance may influence the adoption of HR systems (Shin & Konrad, 2017) and future performance (Wright et al., 2005). To avoid bias and estimation problems associated with the inclusion of a lagged version of the dependent variable (i.e., product sales, Allison, 2009, 2015; Halaby, 2004; Vaisey & Miles, 2017), I controlled for the previous year's operating profit to account for prior firm performance. Lastly, I included firm- and year-fixed effects in the regressions to control for unobserved heterogeneity between firms and for time heterogeneity (Bliese et al., 2020).

Analytic Strategy

Because of the nested nature of the longitudinal data, I used mixed-effects models by the maximum likelihood estimator conducted in *Stata 16* to test my hypotheses. Mixed-effects models can be used with nested data, even if no group-level effects are expected or evident, and failing to use mixed-effects to model nested data can increase the risk of type I and type II errors

(Bliese et al., 2018). For these reasons, mixed-effects models have been the most popular method to account for the nested nature of this type of data (see, e.g., Bauer & Sterba, 2011, who found that 94% of psychological studies between 2006 and 2011 used mixed-effects models for nested data). Although mixed-effects models limit the ability to control for firm fixed effects, using fixed-effects is infeasible because the key variable of my hypotheses, market entry timing, is time-invariant. In fixed-effects models, time-invariant variables are absorbed by the intercept and thus cannot be included in the model to predict the outcome (Certo et al., 2017). Furthermore, although another key variable of my hypotheses, firm age, is technically not time-invariant because the firm age of each firm increases by one every year, there is no between-firm variance. That is to say, since all firms age by one every year, the within-firm variance—which is the variance that fixed-effects models are accounting for—is identical across all firms. Since the key aim of this paper is to investigate how different firm ages (i.e., between-firm variance) interact with other variables to predict the outcome of interest, mixed-effects models are preferred over fixed-effects models to account for both within-firm and between-firm variability.

ANALYSES AND RESULTS

Descriptive statistics and correlations are provided in Table 1. Table 2 presents the results for Hypothesis 1. Model 1 in Table 2 includes only the control variables. The results showed that firm size was more significantly related to the change in HPWS use (b = .06, SE = .02, p = .002, b = .11, SE = .03, p = .000, and b = .15, SE = .03, p = .000, for 300-999 employees, 1,000–1,999 employees, and more than 2,000 employees, respectively). In addition, unionization (b = .03, SE = .01, p = .000) and the presence of an HR department (b = .07, SE = .02, p = .000) were positively related to the change in the focal firm's HPWS use, suggesting that firms with a labor union and an HR department are more likely to experience an increase in their HPWS use. In

addition, I found that the previous year's HPWS use was negatively related to the change in the focal firm's HPWS use ($b = -.60$, $SE = .02$, $p = .000$). I proposed that the change in HPWS use of a focal firm is related to their industry peers' use of HPWS in the previous year (Hypothesis 1). Model 2 in Table 2 shows that industry peers' previous HPWS use had a significant and positive relationship with the change in HPWS use of the focal firm ($b = .36$, $SE = .11$, $p = .001$). Therefore, these results provide support for Hypothesis 1.

Table 1. Descriptive statistics and correlations

Variable	M	SD	N	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Focal firm's HPWS use	.00	.39	3,317													
2. Focal firm's previous HPWS use	.03	.39	2,501	.49***												
3. Industry peers' HPWS use	.00	.15	3,293	.37***	.07***											
4. Industry peers' previous HPWS use	.02	.14	2,839	.08***	.35***	.21***										
5. Focal firm's HPWS change	.00	.39	2,501	.50***	−.50***	.30***	−.28***									
6. Market entry timing	.69	.46	3,262	−.12***	−.12***	−.01	.00	.00								
7. Firm age	.00	17.43	3,317	.10***	.11***	.16***	.20***	−.05	−.01							
8. Subsequent product sales	850.00	3396.23	2,725	.17***	.16***	.07***	.02	.00	−.10***	.14***						
9. Firm size	.80	.96	3,317	.30***	.28***	.02	.00	.03	−.15***	.19***	.43***					
10. Total assets	2251.36	16155.25	3,317	.11***	.13***	.06***	.06**	−.02	−.09***	.09***	.64***	.29***				
11. Unionization	3.90	.89	3,316	.10***	.08***	.02	.01	.03	−.12***	−.05**	−.01	−.07***	.01			
12. Presence of HR department	.67	.47	3,317	.28***	.23***	.05**	.02	.01	−.13***	.06***	.15***	.35***	.09***	.03		
13. Previous firm profit	2.09	1.90	2,559	.31***	.28***	.17*	.09	−.01	−.18***	.21***	.48***	.61***	.34***	.01	.33***	
14. Time	4.02	1.98	3,317	.04*	.14***	.10***	.43***	−.20***	.06***	.19***	−.02	−.07***	.01	−.04*	.12***	.01

Note: HPWS = High-performance work systems. Previous firm profit refers to log of previous year's profit.
* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 2. Results of mixed-effects panel regressions predicting focal firm's HPWS change

	Dependent Variable (DV) = Focal Firm's HPWS Change				
Variable	**Model 1 Controls**	**Model 2 Main effects**	**Model 3 Two-way interaction**	**Model 4 Two-way interaction**	**Model 5 Three-way interaction**
(Constant)	−.19 (.04) [.000]	−.14 (.05) [.001]	−.14 (.05) [.002]	−.14 (.05) [.002]	−.15 (.05) [.001]
Firm size: 300-999 employees	.06 (.02) [.002]	.06 (.02) [.000]	.06 (.02) [.000]	.06 (.02) [.000]	.06 (.02) [.000]
Firm size: 1000-1999 employees	.11 (.03) [.000]	.12 (.03) [.000]	.12 (.03) [.000]	.12 (.03) [.000]	.13 (.03) [.000]
Firm size: More than 2000 employees	.15 (.03) [.000]	.17 (.03) [.000]	.17 (.03) [.000]	.17 (.03) [.000]	.17 (.03) [.000]
Total assets	.00 (.00) [.462]	.00 (.00) [.322]	.00 (.00) [.335]	.00 (.00) [.335]	.00 (.00) [.308]
Unionization	.03 (.01) [.000]	.03 (.01) [.000]	.03 (.01) [.000]	.03 (.01) [.000]	.03 (.01) [.000]
Presence of HR department	.07 (.02) [.000]	.07 (.02) [.000]	.07 (.02) [.000]	.07 (.02) [.000]	.08 (.02) [.000]
Previous firm profit	.01 (.01) [.128]	.00 (.01) [.537]	.00 (.01) [.547]	.00 (.01) [.534]	.00 (.01) [.515]
Focal firm's previous HPWS use	−.60 (.02) [.000]	−.62 (.02) [.000]	−.62 (.02) [.000]	−.62 (.02) [.000]	−.62 (.02) [.000]
Independent variables					
Industry peers' previous HPWS use		.36 (.11) [.001]	.33 (.12) [.005]	.34 (.13) [.008]	.32 (.13) [.018]
Market entry timing: Late-mover		−.01 (.02) [.490]	−.01 (.02) [.494]	−.01 (.02) [.456]	.00 (.02) [.780]
Firm age		.00 (.00) [.746]	.00 (.00) [.567]	.00 (.00) [.755]	.00 (.00) [.715]
Testing two-way interactions					
Industry peers' previous HPWS use X Firm age			.00 (.00) [.299]		.00 (.00) [.378]
Industry peers' previous HPWS use X Market entry timing				.04 (.10) [.672]	.04 (.10) [.683]
Firm age X Market entry timing					.00 (.00) [.943]
Testing three-way interaction					
Industry peers' previous HPWS use X Firm age X Market entry timing					−.01 (.01) [.048]
Firm fixed effects?	Yes	Yes	Yes	Yes	Yes
Year fixed effects?	Yes	Yes	Yes	Yes	Yes

Note: N = 1,911. Standard errors reported in parentheses. p-values reported in brackets (two-tailed tests). HPWS = High-performance work systems. Previous firm profit refers to log of previous year's profit.

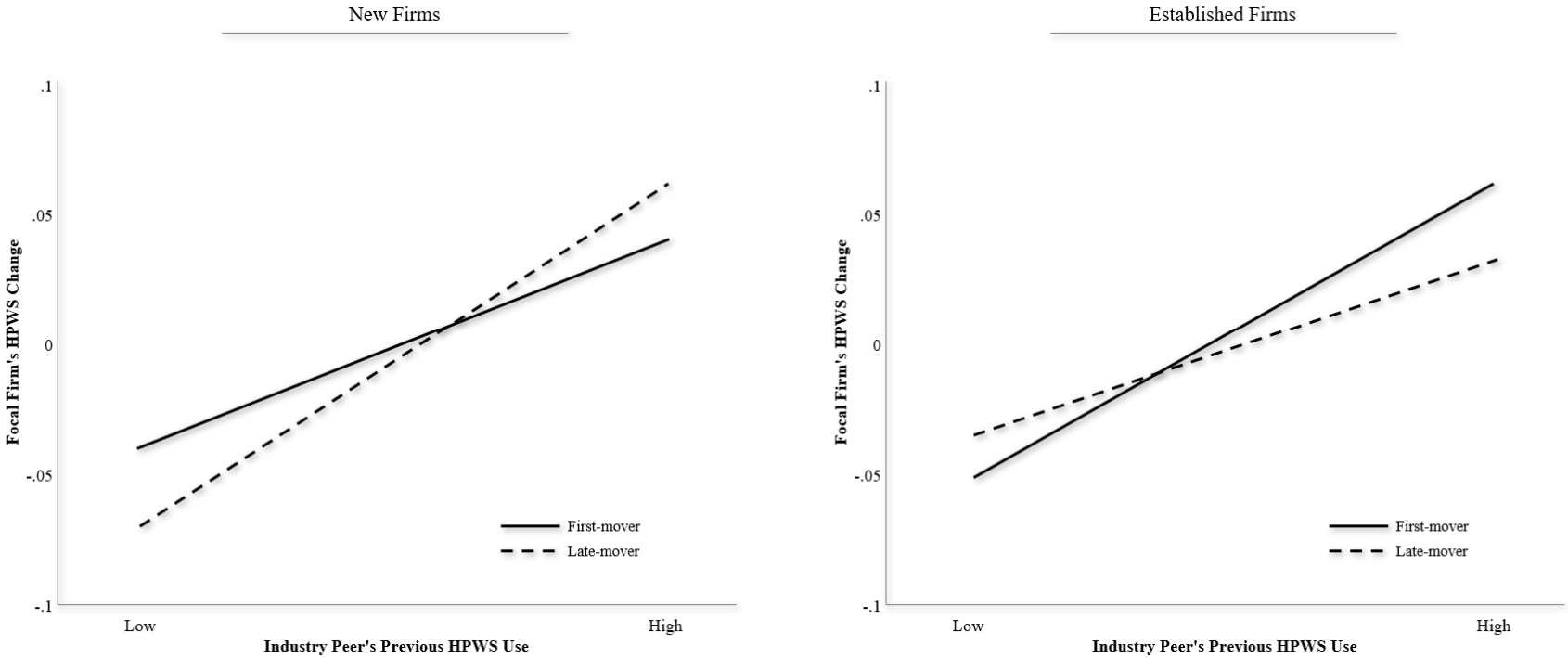
Hypothesis 2 predicted the moderating effects of firm age on the relationship between industry peers' prior HPWS use and the change in HPWS use of the focal firm. However, the coefficient for the interaction term was not significant in Model 3 in Table 2, (b = .00, SE = .00, p = .299). As such, Hypothesis 2 was not supported.

Model 5 in Table 2 indicates that the three-way interactive effect of industry peers' previous HPWS use, firm age, and market entry timing was significant (b = −.01, SE = .01, p = .048). To facilitate the interpretation of these results, I plotted the simple slopes for the effect of industry peers' previous HPWS use on the focal firm's HPWS change at one SD above (i.e., established firms) and below (i.e., new firms) the mean firm age under each market entry timing mode. As shown in Figure 1, the effects of industry peers' previous HPWS use on the focal firm's HPWS change varied across market entry timing modes, and more importantly, the pattern was distinct between new firms and established firms. Among new firms, the effect of industry peers' previous HPWS use on the focal firm's HPWS change was more positive among late-movers (b = .48, SE = .12, p = .000) than among first-movers (b = .24, SE = .14, p = .085). However, among established firms, the effect of industry peers' previous HPWS use on the focal firm's HPWS change was more positive among first-movers (b = .38, SE = .17, p = .021) than among late-movers (b = .23, SE = .15, p = .119). Hence, Hypothesis 3, concerning the interaction among industry peers' previous HPWS use, firm age, and market entry timing, was supported.[2] Using the regression coefficients for the effect of industry peers' previous HPWS use on the new/late-movers' HPWS change (b = .48) and established/first-movers' HPWS change (b = .38), I calculated the effect of one SD increase in industry peers' previous HPWS use on the focal

[2] I conducted a subgroup analysis, separately for new firms and established firms to examine whether industry peers' previous HPWS use and market entry timing interact in predicting focal firms' HPWS change. The patterns were consistent with those found from three-way interactions and simple slopes (see Figure A1 in Appendices).

firm's HPWS change for new/late-movers and for established/first-movers. With all other variables held at their means, for new/late-movers, one SD increase in industry peers' previous HPWS use was associated with a .17 SD increase in the focal firm's HPWS change. Therefore, if industry peers' previous HPWS use increases from low (1SD below the mean) to high (1SD above the mean), a new/late-movers' HPWS change is increased by .34 SD. For established/first-movers, one SD increase in industry peers' previous HPWS use was associated with a .14 SD increase in the focal firm's HPWS change. That means, if industry peers' previous HPWS use increases from low (1SD below the mean) to high (1SD above the mean), an established/first-movers' HPWS change is increased by .27 SD.

Figure 1. Effects of industry peers' previous HPWS use on focal firm's HPWS change by firm age and market entry timing



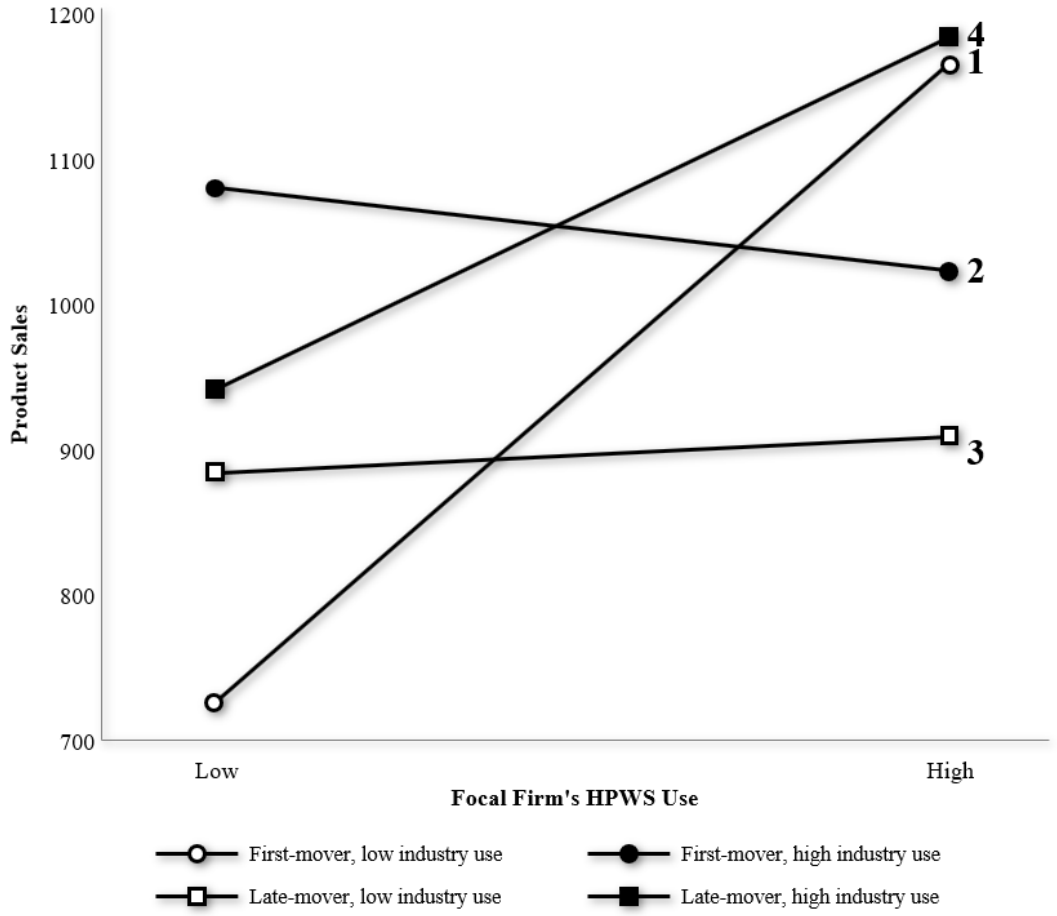
Hypothesis 4 predicted the three-way interactive effects of the focal firm's HPWS use, industry peers' HPWS use, and market entry timing on product sales. Model 5 in Table 3 indicates that the three-way interactive effect of the focal firm's HPWS use, industry peers' HPWS use, and market entry timing was significant (b = 2981.30, SE = 1499.54, p = .047). To facilitate the interpretation of these three-way interactive effects, I plotted the simple slopes for the effect of a focal firm's HPWS use on product sales at one SD above and below the mean of industry peers' HPWS use. As shown in Figure 2, for first-movers, the effects of a focal firm's HPWS use on product sales were greater when industry peers' HPWS was low (line 1) than when it was high (line 2). In fact, when industry peers' HPWS use was high, first-movers' HPWS use had a negative effect on product sales, as indicated by line 2. In contrast, as predicted, this pattern was the opposite for late-movers. That is, for late-movers, the effects of a focal firm's HPWS use on product sales were greater when industry peers' HPWS use was high (line 4) than when it was low (line 3). Therefore, these results provide support for Hypothesis 4.

Table 3. Results of mixed-effects panel regressions predicting focal firm's product sales

	Dependent Variable (DV) = Focal Firm's Subsequent Product Sales				
Variable	**Model 1** **Controls**	**Model 2** **Main effects**	**Model 3** **Two-way interaction**	**Model 4** **Two-way interaction**	**Model 5** **Three-way interaction**
(Constant)	−132.19 (278.91) [.636]	−68.20 (335.53) [.839]	−62.74 (335.72) [.852]	−51.63 (336.86) [.878]	−6.73 (337.07) [.984]
Firm size: 300-999 employees	−75.90 (144.29) [.599]	−99.74 (147.52) [.499]	−99.77 (147.51) [.501]	−97.80 (147.55) [.507]	−101.26 (147.46) [.492]
Firm size: 1000-1999 employees	451.93 (234.44) [.054]	421.51 (242.03) [.082]	425.32 (242.15) [.079]	418.61 (242.07) [.084]	412.93 (241.98) [.088]
Firm size: More than 2000 employees	2361.92 (286.72) [.000]	2354.80 (295.00) [.000]	2355.30 (294.97) [.000]	2358.31 (295.06) [.000]	2339.50 (294.85) [.000]
Total assets	.10 (.00) [.000]	.10 (.00) [.000]	.10 (.00) [.000]	.10 (.00) [.000]	.10 (.00) [.000]
Unionization	−16.47 (60.39) [.785]	−23.52 (62.41) [.706]	−23.74 (62.41) [.704]	−25.30 (62.49) [.686]	−26.10 (62.43) [.676]
Presence of HR department	−32.55 (121.80) [.789]	−37.90 (125.64) [.763]	−38.40 (125.64) [.760]	−39.64 (125.67) [.752]	−33.99 (125.55) [.787]
Previous firm profit	273.01 (40.85) [.000]	278.09 (42.68) [.000]	277.66 (42.69) [.000]	278.01 (42.68) [.000]	276.40 (42.64) [.000]
Firm age	7.95 (4.61) [.084]	7.45 (4.84) [.123]	7.38 (4.84) [.127]	7.56 (4.84) [.118]	7.44 (4.84) [.124]
Independent variables					
Focal firm's HPWS use		172.85 (157.29) [.272]	181.98 (158.48) [.251]	79.16 (231.96) [.733]	246.18 (247.16) [.319]
Industry peers' HPWS use		404.09 (1006.73) [.688]	388.18 (1007.15) [.700]	388.38 (1007.10) [.700]	369.18 (1100.98) [.737]
Market entry timing		36.93 (114.45) [.747]	36.83 (114.44) [.748]	25.15 (116.43) [.829]	−29.22 (118.93) [.806]
Testing two-way interactions					
Focal firm's HPWS use X Industry peers' HPWS use			−365.99 (778.89) [.638]		−2100.45 (1224.32) [.086]
Focal firm's HPWS use X Market entry timing				146.94 (267.38) [.583]	−79.81 (295.33) [.787]
Industry peers' HPWS use X Market entry timing					195.61 (785.09) [.803]
Testing three-way interaction					
Focal firm's HPWS use X Industry peers' HPWS use X Market entry timing					2981.30 (1499.54) [.047]
Firm fixed effects?	Yes	Yes	Yes	Yes	Yes
Year fixed effects?	Yes	Yes	Yes	Yes	Yes

Note: N = 2,096. Standard errors reported in parentheses. p-values reported in brackets (two-tailed tests). HPWS = High-performance work systems. Previous firm profit refers to log of previous year's profit.

Figure 2. Interaction between focal firm's HPWS use, industry peers' HPWS use and market entry timing on product sales



In terms of the practical significance, I used the regression coefficients of first-movers' HPWS use on product sales when industry peers' HPWS use was low (b = 561.25) and when it was high (b = −68.88). A first-mover's increase in HPWS use by one SD was associated with a 23% increase in product sales when industry peers' HPWS use was low. The same level of increase in HPWS use resulted in a 3% decrease in product sales when industry peers' HPWS use was high. For late-movers, I also used the regression coefficients of their HPWS use on product sales when industry peers' HPWS use was low (b = 34.25) and when it was high (b = 298.51). A late-mover's increase in HPWS use by one SD was associated with an 11% increase in product sales when industry peers' HPWS use was high but one SD increase in HPWS resulted in a 2% increase in product sales when industry peers' HPWS use was low.

ADDITIONAL ANALYSES

Although my main analyses provided general support for my theoretical model, these analyses do not allow assessing the mechanisms underlying the observed relationships. To overcome this limitation, I conducted additional empirical analyses using the data available in the HCCP dataset.

The two key distinctions between new firms and established firms that I identified to theorize my model were the level of resources and legitimacy. For instance, I argued that new/first-movers may benefit less from HPWS use when their industry peers' HPWS use is high than when it is low, because an investment under these conditions represents pulling scarce resources away without adding distinctive value. In addition, I predicted that new/late-movers have a strong incentive to follow other firms in adopting HPWS because new firms generally lack legitimacy. I have sought to corroborate these explanations by testing whether new firms do in fact have lower levels of resources and legitimacy than established firms. To investigate this, I

conducted a series of t-tests at a significance level of .05 to compare new firms with established firms. First, I compared the level of resources by using a firm's total assets as the proxy for its resources (e.g., Kraatz & Zajac, 2001). The result of the t-test for differences in total assets indicated that established firms had a statistically higher level of resources than new firms ($t(2973)$, $p = .006$), which corroborates my underlying assumption.[3]

Next, I compared between first-movers and late-movers. The key factor that distinguishes first-movers from late-movers is that first-movers' strategic priority is to be at the cutting edge of the industry in all business domains (e.g., R&D, marketing, and HR; Chandler & Hanks, 1994; Lieberman & Montgomery, 1988). Because of this strategic priority of first-movers, I predicted that established/first-movers would have a stronger incentive to follow their industry peers' HPWS use than established/late-movers. In this regard, I conducted three t-tests to compare the level of investment in R&D, marketing, and HPWS (as a proxy for investment in HR) between first-movers and late-movers. As predicted, relative to late-movers, first-movers had significantly higher levels of investment in R&D ($t(3236)$, $p < .001$), marketing ($t(3236)$, $p < .001$), and HPWS ($t(3260)$, $p < .001$). The results of these additional analyses lend further support to my argument.

DISCUSSION

The research described in this paper draws upon institutional theory and contingency theory to examine how industry peers' HPWS use, firm age, and market entry timing relate to the adoption and the consequences of HPWS use of focal firms. Using a nationally representative seven-wave panel sample of Korean firms, I found that new/late-movers follow industry peers'

[3] This significantly greater level of total assets possessed by established firms relative to new firms was consistent when controlling for firm size (i.e., number of employees), $F(1, 2970) = 5.94$, $p = .015$.

HPWS use more strongly than new/first-movers do, whereas established/first-movers follow industry peers' HPWS use more strongly than established/late-movers. In addition, I found that first-movers benefit more from HPWS use when their industry peers' HPWS use is low but late-movers benefit more from HPWS use when their industry peers' HPWS use is high.

Theoretical Implications

This study makes important contributions to SHRM and entrepreneurial management literature. First, the results indicate that the conditions under which firms adopt HPWS differ in predictable ways based on industry peers' HPWS use, firm age, and market entry timing. These results highlight the complexity of firms' HR investment decisions, suggesting that firms may not necessarily make HR investment decisions for a single reason (e.g., legitimacy), but may rather consider multiple (and often competing) objectives that related to their firm age and market entry timing. That is to say, I juxtapose external (i.e., industry peers' HPWS use) and internal (i.e., firm age and market entry timing) environmental factors to incorporate the interaction between external and internal factors in predicting the adoption of HPWS. The findings of this study indicate that, although legitimacy may be an important factor regardless of firm types—suggested by the significant main effects of industry peers' HPWS use on focal firms' subsequent HPWS use—there are more complex nuances at play in determining whether or not firms will choose to adopt HPWS by following their peers. In particular, my findings suggest that by considering the external circumstances as well as the internal contexts that are determined as a function of their existence (i.e., firm age) and those that are chosen by focal firms (i.e., market entry timing), I may better understand why firms adopt certain types of HR systems.

Second, my findings highlight the need for greater nuance in the application of

contingency theory in SHRM research because my results suggest that it is not internal or external factors alone, but their juxtaposition that shapes the consequences of HPWS in organizations. Previous research has found the moderating effect of external (e.g., industry peers' HIHRS use; Jiang et al., in press) and internal (e.g., market entry timing; Han et al., 2019) factors, separately, on the relationship between HR systems and firm-level outcomes. This study provides a unique context shaped jointly by both industry peers' HPWS use and market entry timing, which is important because the strategic requirements of first-movers (i.e., distinctiveness) and late-movers (i.e., risk reduction) cannot be considered separately from what their industry peers are doing. Specifically, these findings suggest that first-movers' HPWS use may lead to enhanced product sales when HPWS adds distinctive value (i.e., when industry peers' HPWS use is low). In contrast, late-movers' HPWS use is more likely to align with focal firms' strategic requirements when the effectiveness of HPWS is already proven in the industry by other firms (i.e., when industry peers' HPWS use is high), reducing the risk for late-movers when they adopt HPWS. This contextualized view expands prior contingency perspectives of HR systems (e.g., Delery & Doty, 1996; Jackson & Schuler, 1995).

Third, this study has implications for entrepreneurial management literature, in particular for the role of HR systems and practices in new firms. A number of scholars have noted that there is a dearth of research on the impact of HR on new firms' performance. For instance, Heneman et al. (2000) mentioned that scholars are "lamenting the dearth of information" with regard to HR practices in small and growing firms. Similarly, Baron (2003) called for increased scholarly attention to bridging the gap between HRM and entrepreneurship. I address these calls for attention by theorizing and empirically showing that new firms may have distinct needs and face unique challenges that are clearly different from established firms, and that also

differentially shape the adoption and consequences of HPWS. Specifically, because new firms generally lack legitimacy and have limited resources relative to their established peers, new firms' decisions to adopt HPWS and associated performance consequences may rely on the extent to which HPWS can contribute to gaining legitimacy or whether they can make investments that are aligned with their strategic requirements (e.g., distinctiveness).

Practical Implications

This study also offers practical insights into firms' decisions on investing in HPWS. By examining the influence of industry peers' HPWS use and how it interacts with firm age and market entry timing in predicting a focal firm's HPWS use, I highlight that the adoption of HPWS may not result from a single objective but rather from the consideration of multiple objectives at the same time.

A more important implication from a practical standpoint is that I offer insights into the strategic value of HPWS that may be dependent on the juxtaposition of key external and internal factors. Specifically, according to the results of this study, first-movers' one SD increase in HPWS corresponded to an increase of nearly 25% in product sales, only when industry peers' HPWS use was low. When industry peers' HPWS use was high, first-movers' one SD increase in HPWS use resulted in a small decrease in product sales, which suggests the possibility of detrimental effects of HPWS (not just decreased benefits of HPWS) when investing in HPWS does not add distinctive value for first-movers. One possible explanation for this result is that given first-movers' multiple investment priorities, any investments that do not translate into distinctiveness may hurt focal firms' product sales, because such investments represent pulling resources away from other core activities. For instance, if a majority of the incumbent organizations in the industry use HPWS, a first-mover's investment in marketing programs may

contribute more to increasing product sales than using the equivalent resources in designing and implementing HR practices that do not add to the focal firm's distinctive value.

Conversely, for late-movers, one SD increase in HPWS led to an 11% increase in product sales, only when industry peers' HPWS use was high. When industry peers' HPWS use was low, the benefits of late-movers' one SD increase in HPWS were reduced to a 2% increase in product sales, which represented a 9% drop from the 11% increase in product sales seen when industry peers' HPWS use was high. Overall, this research suggests that HPWS should be implemented after careful consideration of its prevalence in the industry as well as the focal firms' market entry timing and associated strategic requirements.

Limitations and Future Research

Despite the theoretical and practical implications of this study, a few limitations should be noted when interpreting its results. First, the nature of my theoretical model involves inferences that are not directly observed in the data. For instance, when proposing and hypothesizing the main effects and the interaction between industry peers' HPWS use, firm age, and market entry timing in predicting focal firms' adoption of HPWS, I argued that these relationships can be predicted because focal firms have different and competing priorities depending on their firm age and market entry timing. Central to this argument is the fact that different types of firms have distinct aspirations and starting conditions that may manifest differently in their decision-making. However, although I attempted to address some of the distinct motives that different types of firms have through additional analyses, these aspirations could not be directly measured by the data and methods used in this analysis. I encourage future researchers to investigate the mechanisms through which industry peers' HPWS use shapes focal firms' decision to adopt HPWS by examining whether my proposed aspirations (e.g., legitimacy

and distinctiveness) are in fact at play.

Second, given that I focused on a single type of HR system (i.e., HPWS), it would be informative for future research to examine other types of HR systems and investigate whether they show similar patterns to those observed in this study. For instance, although the distinction between HPWS and HIHRS has not been consistent and clear in the literature (Posthuman et al., 2013; Wood et al., 2003), the main goal of HPWS is to induce high performance of both employees and firms, whereas HIHRS are more focused on firms' responsibilities to their employees and the associated ethical consequences (Guest, 2017; Jiang et al., in press). Because of this difference in focus, there is a possibility that HPWS and HIHRS may have distinct influences on focal firms' decisions to adopt these HR systems and the subsequent consequences. Also, although I focused on HR systems rather than individual HR practices, the influence of industry peers may vary by each HR practice. Future research may benefit by exploring the influence of industry peers on focal firms' adoption of HR practices.

Third, in conceptualizing peers, I relied on industry boundaries to define a focal firm's reference group. Although industry has been indeed one of the most common approaches to conceptualize peers (e.g., Hannan & Freeman, 1989), there may be alternatives. For instance, Briscoe and Safford (2008) suggested that focal firms are more likely to adopt contentious practices when activism-resistant firms and/or benchmarked firms adopt such practices. Alternatively, there may be proximity effects where focal firms consider other firms in the same region as peers. I encourage future researchers to examine different conceptualizations of peers and investigate how they influence the findings observed in this study.[4]

[4] I conducted a series of subgroup analyses to estimate the effects of industry peers' previous HPWS use on focal firms' HPWS change by industry. The results showed that the extent to which focal firms were influenced by their industry peers' HPWS use varied by industry (see Table A1 in Appendices).

Fourth, in Hypothesis 4, I examined the influence of focal firms' HPWS use on product sales because of the universal strategic importance of product sales across the firms in my sample. Some of the common measures of firm performance (e.g., profitability) are not necessarily applicable across all types of organizations. However, other firm performance measures may have different relationships with focal firms' HPWS use, industry peers' HPWS use, and market entry timing. Future research may benefit from examining the relationships identified in this study with different firm outcomes of interest that are specifically relevant to particular types of firms. For instance, if the focus is on new firms, growth (e.g., Jiang et al., in press) or firm survival (e.g., Welbourne & Andrews, 1996) may be a relevant metric. If the focus is on established firms, measures that capture firms' profitability (e.g., return on assets; Huselid, 1995) or market value (e.g., Tobin's Q; Bentley & Kehoe, 2020) may be relevant.

Lastly, although South Korean firms share many characteristics with those in the West (Bae, 2012; Bae & Lawler, 2000; Kim & Ployhart, 2014; Tung et al., 2013), they may have unique cultural characteristics that cannot be captured in the data, but that can influence how firms respond to their industry peers' actions, which may also shape the consequences. Hence, my findings should be generalized to other countries with caution.

CONCLUSION

Integrating research on legitimacy, firm age, and market entry timing with SHRM scholarship, I proposed and demonstrated that firms' decisions to adopt HPWS by following their peers are contingent upon their competing priorities stemming from both external (i.e., industry peers' HPWS use) and internal (i.e., firm age and market entry timing) environmental factors. In addition, my findings suggest that firms benefit more from adopting HPWS when their market entry timing and associated strategic requirements are well aligned with the

institutional contexts in which they are embedded. My findings represent an important step toward advancing our understanding of when firms adopt HR systems and under which circumstances HR systems benefit (or harm) firm performance. In particular, results of this study expand existing SHRM literature by offering insights into the nature of the interplay between industry peers' use of HR systems, firm age, and market entry timing in explaining the variance across firms in the adoption of HR systems and the effectiveness of HR systems in supporting firm performance. I hope that the present study stimulates theoretical and empirical attention to identify the external, internal, and combinations of external and internal environmental factors as the boundary conditions that can influence the adoption of HR systems and subsequent firm performance.

APPENDICES

Table A1. Effects of industry peers' previous HPWS use on focal firms' HPWS change by industry (subgroup analysis)

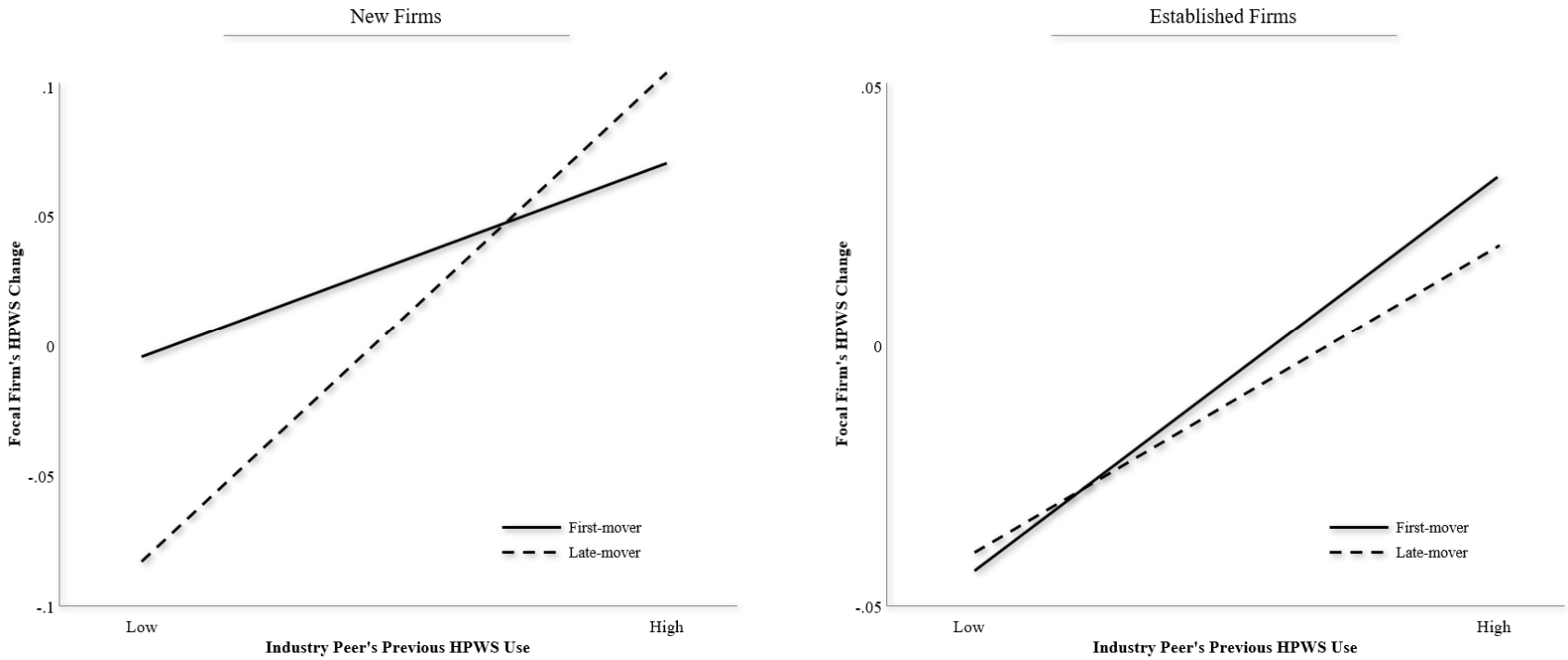
Industry	Regression coefficient	Standard error	p-values
Food and beverage	−.71	2.50	.776
Textiles	−3.89	3.96	.326
Chemicals	9.74	2.63	.000
Pharmaceuticals	3.85	2.86	.178
Rubber and plastics	2.14	3.06	.484
Non-metallic and mineral	−3.45	2.11	.103
Metal	−3.40	3.81	.372
Electronic components	4.12	1.77	.020
Medical	−7.39	3.34	.027
Electrical equipment	−6.39	3.88	.099
Machinery	1.64	1.20	.172
Motor vehicles	−7.45	1.93	.000
Transportation	−3.13	3.74	.402
Furniture	.55	4.91	.911
Publishing	4.46	4.71	.344
Postal and telecommunications	1.40	1.49	.346
Information services	−13.96	10.13	.169
Financial services	−.28	.37	.457
Professional services	−1.29	1.68	.440
Architecture	.23	.81	.774
Arts and sports	−.38	1.64	.816

Table A2. Descriptive statistics of average HPWS use by industry

Industry	Firm-year observations		Firms	
	N	Average HPWS use	N	Average HPWS use
Food and beverage	234	.00	51	−.04
Textiles	147	−.07	35	−.07
Chemicals	120	.16	30	.17
Pharmaceuticals	61	.09	13	.11
Rubber and plastics	94	.06	24	.03
Non-metallic and mineral	294	.07	66	.04
Metal	91	−.04	18	−.05
Electronic components	285	.06	73	.06
Medical	86	.08	13	.03
Electrical equipment	132	.11	24	.12
Machinery	270	−.03	63	−.06
Motor vehicles	325	.02	81	.01
Transportation	121	−.00	20	−.02
Furniture	103	−.03	23	−.16
Publishing	91	−.04	23	−.05
Postal and telecommunications	54	−.02	13	−.06
Information services	47	−.06	14	−.16
Financial services	277	.04	65	.01
Professional services	47	.02	13	−.04
Architecture	310	−.18	93	−.27
Arts and sports	128	−.18	30	−.21

Note: HPWS = High-performance work systems. HPWS measure is operationalized by standardizing all HR practices by z-transformation and averaging those standardized scores of HR practices within each ability-, motivation-, and opportunity-enhancing HR dimension (see Measures section for detailed measure of HPWS).

Figure A1. Effects of industry peers' previous HPWS use on focal firms' HPWS change (subgroup analysis)



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