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Additive Effects of Performance- and Commitment-Oriented Human Resource Management Systems on Organizational Outcomes

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Abstract: Exploring the duality and balance research on human resource management (HRM), this study established two different HRM systems or bundles based on distinct guiding principles—the performance-oriented HRM system and the commitment-oriented HRM system. This study investigated whether the performance- and commitment-oriented HRM systems or bundles with different philosophical backgrounds have their own independent and additive effects on organizational outcomes. The relationships between these HRM systems and organizational outcomes were examined with 1735 firm-period samples in the longitudinal setting. The empirical results show that the commitment-oriented HRM systems have independent and additive effects on organizational commitment and human capital. However, the performance-oriented HRM systems have no independent and additive effect on organizational outcomes. Our study also indicates that increasing the performance-oriented HRM practices can be redundant and unnecessary unless firms have sufficiently high levels of the commitment-oriented HRM practices. Given that the definition and measures of commitment-oriented HRM bundles nearly match the characteristics of sustainable HRM, we thus argue that the commitment-oriented HRM systems have more potential to improve not only organizational outcomes and performance, but also human and social sustainability, than the performance-oriented HRM systems.

Keywords: performance-oriented HRM system; commitment-oriented HRM system; sustainable HRM; organizational commitment; human capital

1. Introduction

In spite of abundant research on strategic human resource management (HRM), constructing an optimal HRM system as a bundle of practices has still challenged researchers in this study area. Becker and Gerhart [1] have noted that the selection criteria for HRM policies and practices are embedded in a value system or philosophy that can be different depending on the basic assumptions about human nature. Prior empirical studies, however, have included various policies and practices from different guiding principles without consensus on the content and taxonomy of HRM systems [2]. In addition, current studies focused on verifying the effectiveness of arbitrarily selected HRM practices have been exposed to omitted variable bias and misspecification error [3]. Therefore, this field would have ongoing difficulties in accumulating knowledge with a lack of consensus on content and configurations of HRM systems [4].

On the one hand, some researchers have argued that multiple HRM systems with distinct guiding principles can coexist within one organization [5]. Guest [6] described the ‘hard’ model based on

the procedural aspects of the HRM functions and the ‘soft’ model focused on the human side of employees. The hard model emphasized the quantitative, calculative, and strategic aspects of managing human resources, which have some kinship with scientific management [7]. The soft model, in contrast, focuses on treating employees as valued assets and a source of competitive advantage, which can be attained by their commitment, adaptability, and high-quality skill and performance [8]. Meanwhile, Gooderham et al. [9] have studied the process of European companies of adopting the new strategic HRM practices of the United States, establishing the ‘calculative’ and ‘collaborative’ model. The collaborative model, similar to the soft HRM or Harvard model, respects the value of employees in an organization and emphasizes coordination and cooperation mainly under the coordinated market economy [10]. The calculative model, similar to the hard HRM or the strategic HRM model, is based on the culture of individualism and economic rationality mainly under the liberal market economy.

Taking a social exchange view of the employer–employee relationship, Shaw et al. [11] suggested two contrasting categories of HRM practices; HRM inducements and investments practices and HRM expectation-enhancing practices. HRM inducements and investments practices, such as extensive training, high pay and benefit level, job security, and procedural justice, represent a sustained mutual commitment to enhance the employees’ expected outcomes [12]. HRM expectation-enhancing practices, including individual pay-for-performance systems, employee monitoring, and formal performance appraisals, focus on the employers’ expected contributions from employees to raise overall performance levels and to sort its workforce by performance level [13]. Meanwhile, the concept of ‘sustainable HRM’, which is differentiated beyond strategic HRM, has emerged to make organizations more sustainable [14]. Researchers advocating this concept argued that the main focus of strategic HRM was to increase the financial outcomes by demonstrating the positive relationship between HR policies and organizational strategy and performance [15]. Whereas strategic HRM serves the interests of shareholders, sustainable HRM takes into account a variety of stakeholders including employees and supports not only economic, but also social and environmental sustainability. The attributes of sustainable HRM include long-term orientation, care of employees, care of environment, profitability as an economic component of sustainability, employee participation and social dialogue, employee development, external partnership, flexibility, compliance beyond labor regulations, employee cooperation, fairness, and equality [16]. Further, Dundon and Rafferty [17] contrasted the ‘pro-market’ HRM model with the ‘pro-business’ HRM model. The pro-market HRM model, which has been influenced by the neo-liberal framework and hyper-individualism, includes practices including individual reward, unequal remuneration, and talent management favoring market rationality. They argued that the managerial pressures supporting short-term profitability of shareholders lead to the pro-market focused HRM. The pro-business HRM model focuses on longer-term sustainability of both organizations and people, rather than just shareholder interests of immediate profit maximization. That is, the pro-business HRM model recognizes the wide interests of stakeholders including employees, trade unions, and societal or community groups with more potential contributions to stakeholders relevant to a business entity.

In fact, most companies implement and maintain both the practices of the hard, calculative, inducements/investments, strategic, or pro-market model and the practices of the soft, collaborative, expectation-enhancing, sustainable, or pro-business model. Few studies, however, have focused on this reality that different and even contrasting HRM systems coexisting within a firm can affect each other, which has led to confounding empirical evidence for the effectiveness of various HRM systems [5,18]. Our research lies in the fact that many firms have these HRM systems simultaneously within their organizations, not searching for a specific best HRM system or bundles contributing to business goals and performance [19,20].

Exploring the duality and balance research on HRM discussed above, we draw on the two philosophical paradigms that reflect contrasting views of the human nature and individual’s role in society—liberalism and communitarianism [21]. In liberalism, humans are conceived as *homo economicus*, who maximize their self-interest and pursue their own goals and rights. Firms are

economic institutions with a hierarchy of tasks and responsibilities in this atomic contract model [22]. The market is the organizing principle of this paradigm, and the price is the dominant coordination mechanism gaining primary benefits of flexibility [23]. A variety of theories including human capital theory, transaction cost economics, and agency theory are based on this understanding of human nature. This paradigm is easily mapped into the HRM policies and practices that include utilizing the external labor market, outer talent-seeking, short-term contract, payment for individual performance, and numerical labor flexibility. This study defines the HRM model composed of the policies and practices mentioned above as the performance-oriented HRM bundles. The performance-oriented HRM system may be called an 'economic' HRM bundle because it is derived on the basis of the above mentioned theories that are mainly derived from economic principles.

Communitarianism supposes humans as *homo sociologicus*, who pursue the balance between individual and society, following norms rather than maximizing utility and self-interest [21,23]. This philosophy focuses on the shared values of individuals within a community and encourages individuals to become involved in building community and strengthening society [22]. In this perspective, firms are social institutions based on mutual trust with the norm of reciprocity, balancing between the needs of individual and organization [23,24]. A variety of social and organizational theories including social exchange theory, organizational learning theory, and social network theory explain human behavior embedded in social relations and organization. This paradigm is easily mapped into HRM policies and practices including utilizing internal labor market, inner talent-development, long-term contract, payment for organizational performance, and functional labor flexibility. This study defines the HRM model composed of the policies and practices mentioned above as the commitment-oriented HRM bundles. The commitment-oriented HRM system may be called a 'social' HRM bundle because it is derived on the basis of the above mentioned theories that are mainly derived from social principles.

The performance-oriented HRM system, sharing much in common with the hard, calculative, and expectation-enhancing model, manages human resources to achieve economic value for the shareholders' financial interests. The commitment-oriented HRM system, largely congruent with the soft, collaborative, and inducements/investments model, supports employees to create value for all stakeholders and seek the balance between their interests. We do not, however, assume that the practices of these two HRM systems are mutually exclusive, in that the same practices can be used in both performance- and commitment-oriented HRM bundles [21]. In addition, the measures of the two HRM systems are not statistically independent because they share the same practices. The performance-oriented HRM system, for instance, adopts somewhat limited practices in training primarily to develop firm-specific skills and knowledge. Under the commitment-oriented HRM system, extensive training and learning opportunities provide for both firm-specific and general skills and knowledge to increase capabilities for a sustained advantage.

This study differs from previous work in that our two HRM systems are based on the theoretical assumptions and hypotheses drawn from contrasting views of liberalism and communitarianism, not just from a specific paradigm of management or standpoint. The objective of this study is to confirm whether these two HRM systems with different philosophical backgrounds have their own independent and additive effects on organizational outcomes including organizational commitment and human capital. In addition, examining the relative strength of these contrasting HRM bundles can contribute to the study of the dualities of HRM. The major contributions of this study are threefold. First, focusing on the reality that different HRM systems coexist and interact within a focal firm, this study identifies the two HRM bundles with different philosophical backgrounds and examines their independent effects on organizational performance. Second, this research distinguishes the policies and practices based on different theoretical assumptions and guiding principles and builds constructs based on statistical evidence, not just following the convention of constructing an arbitrary index of the HRM system [2]. This approach to research in HRM arguably helps to accumulate knowledge on content and configurations of HRM systems and advances in the research of HRM by providing a secure way to verify the effectiveness of HRM practices [3,4]. Third, this study can contribute to the debate over the

universalist versus configurational perspectives on HRM by examining the effects of the commitment- and performance-oriented HRM bundles at the system level. Our study, confirming that the effects of the commitment-oriented HRM bundles overwhelm those of the performance-oriented HRM bundles, can be added to the body of literature on searching for the ideal combination of HRM practices [18].

2. Hypotheses

2.1. Theories to Develop Hypotheses

The relevant theories need to be summarized to help develop the logic for establishing the hypotheses. We summarize the human capital theory, transaction cost theory, and agent theory related to performance-oriented HRM systems. Brief summaries of the social exchange theory, organizational learning theory, and social network theory related to commitment-oriented HRM systems follow.

The human capital theory emphasizes that the human capital of employees, consisting of a set of skills and knowledge, increases their productivity and contributes directly to the production process of the firm [25]. The effort to build firm-specific human capital, not generic skills and knowledge also useful in other firms and industry, is not a cost like labor, but a capital worth investing in. While employees possess their own human capital, firms can only rent, not own, the human capital of employees [26]. While employees invest in the development of their generic skills, firms invest in firm-specific education and training for employees to gain human capital specific to their business needs [27]. Firms, therefore, seek to protect themselves from the transfer of their human capital investments to other firms. In other words, by securing outstanding star talent and utilizing their potential capabilities and creativity, firms can increase cost-effectiveness and productivity and gain the competitive advantage by applying a differentiated HRM system based on the level and nature of human capital [28].

Transaction cost theory posits that forms of contracts and accompanied transaction costs determine an efficient boundary between the firm and the market [29]. All contracts and transactions are incomplete and involve transaction costs associated with searching, negotiating, and enforcing as a result of human factors such as limited rationality and opportunism and environmental factors such as uncertainty [30]. Transaction costs can increase, especially when a long-term continuous transaction with a specific partner, which is valuable to the firm to gain a competitive advantage, is required [31]. Thus, firms are likely to have an incentive to internalize firm-specific assets, resources, and capabilities. In employer–employee contracts, employers are likely to have the incentive to externalize the relationship with employees that have general skills and knowledge, thereby reducing the cost through short-term contracts. On the other hand, it is cost-effective to internalize the relationship with employees that have firm-specific skills and knowledge in a long-term commitment.

The agent theory deals with the problem of the possibility that the agents work for their own interests, not for their owners, between the owners of a firm and the agents who manage or run the firm. Agent costs, which include the cost to monitor an agent's behavior and the bonding cost for an agent to show that the agent is working in the owner's interest are incurred in the principal–agent relationship [32]. If the employee's performance assessment is not problematic, the agent costs are low and the owner would prefer a simple contract based on free-market principles. On the other hand, difficulties in assessing employees' performance can increase agent problems, which may be solved by outcome-based reward such as stock options in the employment contract. In the perspective of strategic human resource management, the role of HRM practices is to measure employees' unique contributions and performance and to provide adequate compensation [30]. These practices are the means of helping a firm align its employees' behavior with the strategic goals of the firm. Transaction cost theory and agent theory, combined with the human capital theory, explain the mechanisms of recruitment, control, and compensation of employees, thus having implications for the design of HRM practices.

Social exchange refers to a relationship that gives a sense of obligation to reciprocate benefits when a recipient receives some benefits from the exchange. [33]. According to social exchange theory, an

exchange is a social behavior that may result both in economic and social outcomes. Unlike an economic exchange, the elements of social exchange are considerably diverse and cannot be reduced to a single quantitative exchange rate such as price [34]. Social exchanges bring recursive interactions between people, involve trust and not legal obligations, enable more flexibility than economic exchanges, and rarely involve explicit bargaining [35]. The norm of reciprocity states that a benefit should be returned and the one who gives the benefit should not be harmed. This norm implies that the relationships are independent of each other and induces the individual to consider more than one's self-interest [36]. In the workplace engagement of employees in organizations, obligations are generated through a series of interactions between employees who are in a state of reciprocal interdependence and in the employer–employee relationship. When employees receive economic, social, and emotional resources from their organization, they feel obliged to respond in kind and return a favor to the organization. Employees will devote greater amounts of cognitive, emotional, and physical resources to perform their job duties as they are engaged more with their work [37]. Social exchange theory is extensively used to explain the organizational citizenship behavior, perceived organizational justice, and organizational support in an organizational setting.

Organizations constantly generate new knowledge, ideas, and information internally and acquire knowledge, ideas, information from outside the organization to respond to environmental change. Three key processes that drive organizational learning with internal and external sources of knowledge, ideas, and information are knowledge creation, knowledge retention, and knowledge transfer [38]. Knowledge creation concerns experience that can be embedded within the organization. Knowledge transfer refers to the mechanisms by which experience spreads and embeds itself within the organization. Knowledge retention refers to the behavior of knowledge that has been embedded in the organizational memory within the organization. Learning organizations facilitate the process of knowledge management to design organizational processes and systems that constantly improve and innovate through experience and knowledge [39]. Innovation and growth through organizational learning require employees who are free to take risks, innovate, explore new ideas, try new processes, and develop new products and services [40]. In addition, employees are encouraged to think in new ways, understand both the direct relationships and feedback loops, and test assumptions for systematic changes [41]. Learning should be rewarded, promoted, and supported by managers and company objectives. Thus, HRM can play a vital role in fostering and supporting organizational learning by providing adequate practices to facilitate the above mentioned climate and processes.

Social networks consist of social relationships between individuals, groups, and organizations. Members who are embedded in the network forge and maintain social relationships with other members, and the network, which forms the structure of such relationships, can create norms and establish trust in the relationships [42]. The discussion of social networks has developed two perspectives on social capital that refer to the social networks, norms of reciprocity, and trustworthiness [43]. The bonding or communal social capital emphasizes social relationships that are embedded in the network with strong ties and the bridging or linked social capital focuses on various social relationships with weak ties [23]. The communal social capital stresses that individual members with strong connections under a closed network are benefiting from limited solidarity, norms of reciprocity, trust, and social control systems that sanction violations of norms and trust [44]. The linked social capital emphasizes the connection between the intermediary and various networks that extends beyond a particular network structure. In a highly cohesive network, similar sources of information are shared, thereby largely providing redundant information. On the other hand, in cross-cutting and mediated ties connecting different groups, access to new streams of information with timeliness can be achieved [45].

2.2. Performance-Oriented HRM Bundles and Organizational Outcomes

The performance-oriented HRM bundles are based on the principles of competition, performance, and merit. The system seeks to buy and maintain competitive human resources, creating value through human capital. According to human capital theory, knowledge and experience of the employees can

be a new production factor distinguished from labor, and investment in human capital can be a source of growth and profit, like other investment in physical machinery [25]. Performance improvement, productivity, and flexibility are expected for the employer from enlarging the skill base of employees and increasing levels of competence [46]. On the other hand, a loss of organizational memory due to departures of employees may cause a threat to the firm because their talent, skills, and tacit knowledge disappear together when they leave [47]. Therefore, firms can secure a competitive advantage by attracting, developing, and retaining the smart and sophisticated employees [48]. HRM practices including selective recruiting, training for firm-specific skills and knowledge, and higher payment for talents can be justified for growth and profit from the human capital perspective. In addition, employees working at firms deploying these HRM practices likely view their firms as caring about their success and well-being, being more satisfied with their jobs and more committed to their organization [28].

With the assumption that employees exchange performance for compensation, transaction cost theory explained the behaviors of players under the contract or transactional situation within the economic exchange framework [49]. Establishing an internal labor market with a high level of compensation and long-term employment is reasonable for firms that need firm-specific human resources that are not easy to recruit from the external labor market. For human resources with general or not firm-specific skills and knowledge, hiring from the external labor market is a rational choice to minimize the transaction cost [50]. Therefore, it is important to design and operate multiple HRM systems that correspond to the skill levels and values of human resources in order to maximize economic efficiency and flexibility. The important role of HRM practices, then, is to measure the unique contribution and to provide an adequate reward for individual performance [30]. Along with this line of logic, HRM practices such as job analysis and design, performance monitoring system, individual reward and incentives, and highly differential payment are necessary to reduce costs and increase profitability.

Agency theory claims that employees will take actions that are advantageous to themselves but detrimental to the top managers under the assumption that both top managers and employees are utility maximizers [30]. However, sufficient control of employees over all the business processes and the behavior of them is very difficult or impossible because of the asymmetry of information and bounded rationality [46]. Therefore, it is necessary to set up efficient HRM practices that support management strategies and goals by linking rewards to performance objective while reducing administrative costs and risks. These HRM practices for solving the agency problems include periodic performance monitoring and evaluation, performance-based payment and promotion, and stock options. Gooderham et al. [51] found that the calculative HRM practices such as training monitoring, performance-related pay, and share options have some impact on the perceived financial performance of European firms.

Extant researches have classified organizational outcomes into three primary groups with respect to HRM—HR outcomes, operational outcomes, and financial outcomes [52]. HR outcomes refer to those most directly related to HRM in an organization, such as employee skills, abilities, attitudes, and behaviors. Operational outcomes are those related to the efficiency and effectiveness of organizational operation, and financial outcomes refer to the achievement of the economic goals of organizations. In this study, organizational outcomes refer to the HR outcomes at the organizational level because HR outcomes are expected to be influenced first by HRM systems and practices, and HR outcomes, then, may mediate the effects of HRM systems on operational and financial outcomes [4]. In addition, most of the empirical studies investigated the impact of HR systems on the operational or financial performance of an organization through motivational variables including organizational commitment or human capital variables [52–55]. We thus selected the organizational commitment and human capital as the organizational outcome variables, more specifically as the HR outcome variables.

Delery [56] argued that some HRM practices can have an ‘additive’ relationship with each other in achieving the same desired outcome. In other words, the independent and non-overlapping effect

of a particular HRM practice depends on whether other practices already exist in the HRM system. If the two HRM practices within the additive relationship are implemented together, the organizational outcome will increase more than in the case of implementing either one alone, but not more than the sum of the individual effects of each practice. Extending the argument to the HRM system level and based on the arguments described in this section, we proposed the following hypothesis.

Hypothesis 1. *The performance-oriented HRM bundles have positive and additive effects on organizational outcomes.*

2.3. Commitment-Oriented HRM Bundles and Organizational Outcomes

The commitment-oriented HRM bundles are based on the principles of cooperation, commitment, and capability. The system seeks to select potential business partners who share the mission and values of their firm, to develop socially shared capital by organizational learning, and to create values through voluntary involvement and coordination among members of the firm as a community [57]. According to the organizational learning theory, it is not the firm itself but the firm members and their interactions that create knowledge and intelligent capital. The theory emphasizes that knowledge and learning are critical for firms to adapt to the changing environment and that organizational capability to develop and share the knowledge through organizational learning can be a crucial source of sustainable competitive advantage [39]. Careful recruiting and extensive training practices support the processes that transform the tacit knowledge of firm members into explicit knowledge and facilitate the mechanism that converts explicit knowledge to tacit knowledge. A fair evaluation of competence and performance, higher compensation based on knowledge and capability, and internal promotion practices help to motivate members to share and diffuse their knowledge and experiences. These HRM practices with employment security and high overall compensation give the necessary knowledge and skills to perform job tasks, thereby helping to build and maintain human capital [58]. The above HRM practices also increase the motivation and opportunity for employees to do their jobs, thereby increasing employee commitment to their organization [57,59]. Research has also revealed that these HRM practices can influence the attitudes and motivation of employees towards participating and sharing in knowledge creation and diffusion [60]. In addition, the above HRM practices affect the process by which a social climate is generated [61]. Employees who understand and adopt the indirect signals and messages of these practices are likely to build a social climate including mutual trust and respect, and the social climate can facilitate organizational flexibility and efficiency [62].

Meanwhile, the social climate of mutual trust and respect provides an opportunity to build more and broader interpersonal relationships. These relationships increase not only a strong connection to deepen the firm's norms and unity, but also a weak connection between members for knowledge sharing and diffusion [62]. Social network theory demonstrates that the variety of weak connections can expedite the exploration of new market niches and opportunities for new products and services. HRM practices such as job rotation and internal training program expand and intensify the social network among firm members, facilitating idea creation and innovation.

A trustful social climate enables generalized norms of reciprocity that induce cooperative behaviors, facilitate interaction among firm members, and enhance solidarity, whereas preventing unproductive behaviors and conflicts [23,63]. The social exchange theory also contends that mutual benefits accumulated by social exchange reduce the opportunistic behavior, transaction cost, and burdensome necessities of command and control over business operations [64].

The commitment-oriented HRM practices described above not only expand social networks among employees and facilitate social exchange, but also contribute to organizational citizenship behavior with these social interactions [65]. Organizational citizenship behavior then increases productivity, efficiency, and customer satisfaction, thereby reducing costs and rates of turnover and absenteeism [66]. Collins and Smith [67] showed that commitment-based human resource practices were positively related to firm revenue and sales growth through the organizational social climates of trust, cooperation, and shared codes and language.

Hypothesis 2. *The commitment-oriented HRM bundles have positive and additive effects on organizational outcomes.*

2.4. Difference in Effects on Organizational Outcomes between the Two HRM Bundles

Under the performance-oriented HRM system perspective, some firms strive to hire the best individual and evaluate individual performance on a regular basis with the assumption that motivation, ability, aptitude, and skills are properties of individuals [68]. The practice of hiring star talents with higher salaries than those of existing employees in the same position is consistent with the human capital theory that values the outstanding talent because employers can save additional training and development and exploit their human capital immediately [28]. Hiring outstanding talents with unique and valuable human capital that are rarely available in labor market is also consistent with the transaction cost theory, because employers can reduce transaction costs by internalizing the firm-specific human capital [26]. The human capital and transaction cost theory also implies, however, that managers are likely to acquire or buy the star talents who have valuable but less unique skills or unique but less valuable skills under a specific contract to avoid further investment by internal development and reduce the costs of monitoring and securing compliance [26,29]. Both the employees and the firm are likely to continue this transactional relationship as long as both continue to benefit, which can incur additional bargaining and enforcement costs [26]. Moreover, the development of unique or firm-specific human capital is largely path-dependent and requires tacit skills and knowledge that can be nurtured only from inside the firm in most cases [29,39,57]. Meanwhile, the abundant evidence in the organizational behavior literature argues that employees are interdependent in their work and that social relations are crucial to the performance and growth of firms. Taking the current uncertain and complex environment into consideration, people who shared the same values and perspectives in their firm can communicate and work effectively on interdependent tasks [57]. Therefore, hiring the applicant who shares fundamental values and fits the firm's culture may be more important than hiring for skill only.

HRM policies and practices for extensive employee training and information sharing are key ingredients of the commitment-oriented HRM bundles [67]. Investments in extensive training not only builds skills and competence, but also trigger the norm of reciprocity, causing them to feel some obligation to reciprocate the investment with greater effort and commitment [68]. When training is not limited to industry norm or the job level of the employee, this indebtedness will be particularly high. Although the performance-oriented HRM bundles would offer some training opportunities, these opportunities are limited to the firm-specific skills under the cost-benefit principle. The human capital theory, combined the resource-based view, emphasizes that only firm-specific human capital is likely to generate organizational rents. However, some scholars argued that generalized investments in human capital have value through their effects on employee commitment to the firm [69]. The gain in employment commitment is valuable to firms given that the lack of job security derived from the performance-oriented HRM bundles is likely to diminish employee commitment.

Information sharing across all the work units and job levels helps to make better work-related decisions and facilitate social exchange and trust [67]. Under the performance-oriented HRM bundles, where social exchange and trust are relatively not well developed, information needed to work can be a valuable asset for employees to compete with peers. People would exchange the information mainly for his own economic benefit and keep some information from each other. Trust and cooperation among employees would become more conditional and transactional, leading to selfish behavior such as withholding information and hindering communication.

Individual employees expect fair and equitable compensation when their efforts contribute to the economic performance of their firms. Differential rewards among people, especially with flawed performance evaluation, increase social distance and perceptions of unfair treatment. On the other hand, collective rewards such as profit sharing and equity ownership encourage social relations among employees and create fewer problems than rewarding individuals [67]. Moreover, differentiated individual rewards can be perceived as unfair and disruptive of social relationships because employees

often consider differentiated rewards as the result of arbitrary management favoritism [68]. Pay dispersion along with differentiated individual rewards can also have a negative impact on team performance because it undermines the benefits of team cooperation [70].

Functional flexibility is the ability to reallocate workers in their internal labor markets, relying on the flexible competencies of employees [71]. HRM policies and practices for functional flexibility including cross-functional training, job rotation, employee involvement in decision-making, and job displacement are harmonized well with the commitment-oriented HRM bundles. On the other hand, HRM policies and practices related to numerical flexibility include firing based on performance evaluation, as well as layoffs due to restructuring and downsizing, which are likely associated with the performance-oriented HRM bundles [72]. The performance-oriented HRM bundles seeking numerical flexibility directly relate to job insecurity, which is the perceived threat of unemployment and the anxiety linked to that threat. At the individual level, Jahoda [73] noted that the threat of unemployment implies the frustration of social integration, social participation, and recognition needs, which are as important to employees as just earning an income. The experience of job insecurity also implies the violation of their psychological contract with their employer, intensifying the negative impact on the well-being of employees and the commitment to the employer [74]. At the organizational level, job insecurity influences various organizational attitudes and behaviors, such as a deterioration in organizational commitment, distrust of management, resistance against organizational change, a performance reduction, and a decrease in organizational citizenship behaviors [72]. When job insecurity prevails, the employees will show less involvement and motivation while lowering their performance to restore the resulting imbalance of psychological contract. The commitment-oriented HRM bundles including functional flexibility measures can help to avoid the negative consequences of job insecurity or at least to mitigate them [72]. Cross-functional training and job rotation facilitate open communication and increase the predictability and controllability of future events. Employee participation and involvement in decision-making also reduces insecurity by increasing the predictability of events [75]. Employee participation together with open communication also strengthens the perception that employees are treated fairly, thereby increasing organizational justice.

Rizov and Croucher [10] showed that collaborative HRM practices are more strongly associated with superior firm performance than calculative HRM practice. Building on these arguments, we anticipate that the commitment-oriented HRM bundles have greater impacts on organizational outcomes than the performance-oriented HRM bundles.

Hypothesis 3. *The effect of the commitment-oriented HRM bundles is greater than the effect of the performance-oriented HRM bundles on organizational outcomes.*

3. Methodology

3.1. Data

This study used the Human Capital Corporate Panel (HCCP) of the Korean Research Institute for Vocational Education and Training (KRIVET) funded by the government and conducted every two years since 2005. The survey is divided into two parts—questions on the firm characteristics and questions on workers. The part of the survey on the firm inquired about general firm characteristics including workforce status, the functionality of the HR department, HRM, and human resource development practices. Survey questions were answered by the person in charge of each the business functions. The part of the survey on workers provides answers of employees to questions on the degree and effectiveness of human resource development, the level of competence, and effectiveness of the firm. Thus, the possibility of a common method bias including measurement error by a single respondent can be reduced. The population of this survey was corporations that had more than 100 employees and that were listed on the databases published by the Korea Information Service. Stratified random sampling based on the industry sector, size, and type of organization was used, and

over 400 samples were maintained in each survey wave. This study first included all the samples in this panel surveyed in the year 2005, 2007, 2009, and 2011, respectively, constructing unbalanced panel with 1735 firm-period samples. After samples with missing variables were excluded, 1708 firm-period samples were used for statistical analysis. The number of samples collected from manufacturing industries was 1191 (69.7%), from financial industries was 136 (8.0%), and from service industries was 381 (22.3%). The ratio of samples from small (<300 employees), middle (300 to 999 employees), and large (>1000 employees) firms was 42.0%, 38.6%, and 19.4%, respectively.

3.2. Measures

3.2.1. The Performance- and Commitment-Oriented HRM Bundles

To define the performance- and commitment-oriented HRM bundles, this study first identified various practices that can be included in our definition of these two HRM bundles from the studies on the soft and hard model, calculative and collaborative model, and inducements/investments and expectation-enhancing model [6,7,9–11,19,51,57,76]. With the comprehensive HRM practices lists drawn from the above studies and our theoretical grounds, this study matched these practices with the survey items in HCCP. Twenty-eight policies or practices were selected to represent our two system bundles, considering the balance between ability, motivation, and opportunity enhancing practices under the ability–motivation–opportunity (AMO) framework [77]. Rather than measuring only the presence of specific practices, this study tried to reflect the strength or degree of implementation by combining two or more related survey questions as possible to construct at least ordinal scales. Table 1 shows the HRM practices or indicator items with classifications under the AMO framework and specifies the HRM practices measured by combining more than two survey items. Considering previous research on the measure of HRM systems, we adopted the formative measurement model, not the reflective model, to construct each HRM system [11].

Table 1. Component analysis results on two human resource management (HRM) bundles using the formative model. VIF—variance inflation factor.

Type ¹	HRM Practices	Min	Max	Factor 1 ²	Factor 2 ²	VIF	Effect Size
A	Ratio of internal vs. external training programs	0	4	0.145		1.271	0.078
A	No. of training program categories ³	0	7	0.193		1.607	0.136
A	No. of programs supporting self-directed learning ³	0	7	0.152		1.308	0.085
A	Career development program	0	1	0.176		1.500	0.114
M	Higher average pay levels than industry average ³	1	5	0.157		1.431	0.091
M	Higher average welfare levels than industry average ³	3	15	0.138		1.328	0.070
M	Degree/strength of capability assessment with feedback ³	0	3	0.158		1.311	0.092
M	Role extension to fostering and training of subordinates	0	1	0.138		1.222	0.070
O	Job rotation program	0	1	0.136		1.234	0.068
O	Suggestion program	0	1	0.091		1.127	0.030
O	Employee replacement program	0	1	0.099		1.100	0.036
O	Leadership succession planning	0	1	0.135		1.277	0.067
M	Company-based incentives	0	1	0.104		1.133	0.040
M	Profit sharing program	0	1	0.078		1.078	0.023
A	Star talent recruiting program	0	1		0.194	1.238	0.103
A	Recruiting experienced staff for permanent position	0	1		0.121	1.139	0.040
A	Higher recruitment cost per employee	1	5		0.175	1.204	0.084
A	Hiring experienced workers at higher pay	0	1		0.156	1.115	0.066
A	Star talent development program	0	1		0.153	1.130	0.064
M	Selective fast-track promotion	0	1		0.143	1.098	0.056
M	Scope of application of annual salary system	0	4		0.218	1.363	0.130
M	Individual performance-based bonus	0	1		0.163	1.165	0.072
M	Team performance-based bonus	0	1		0.146	1.086	0.059
M	Stock options program	0	1		0.193	1.255	0.102
M	Pay gap based on performance assessment	1	4		0.207	1.214	0.117
O	Degree of employment volatility	1	7		0.125	1.130	0.042
O	Dual HR System based on job spec.	0	1		0.122	1.071	0.041
O	Periodic strategic HR planning ³	0	2		0.092	1.075	0.023

¹ 'A' denotes the practices to improve knowledge, skills, and abilities; 'M' to motivate employees to enhance discretionary behavior; 'O' to provide the opportunity to participate and empower (Appelbaum et al., 2000).

² Factor 1 and 2 refer to commitment- and performance-oriented HRM bundles, respectively. All indicator weights are significant ($p < 0.001$). ³ 2–7 related survey items were combined to create measures for HRM practices with ordinal scale.

We believe that each of the two HRM systems is multidimensional or has multiple domains, the HRM policies or practices define the characteristics of each relevant HRM systems, and the HRM policies or practices within each HRM system are neither conceptually interchangeable nor expected to covary with each other. These attributes of the indicator–construct relationship meet the criteria for index construction in a formative model [78,79]. This study used the partial least squares (PLS) model to construct the two HRM bundles and assess their validity. Table 1 presents each regression weights, variance inflation factors (VIFs), and effect sizes of the 28 indicator items, which were loaded on two components, namely the performance- and commitment-oriented HRM bundles. All the indicator items have significant relationships with relevant HRM systems ($p < 0.001$), suggesting that the indicators have individual or item validity and reliability [79]. It also needs to calculate the variance inflation factors (VIFs) of indicators for an examination of multicollinearity among the indicators, because multicollinearity can be the cause of insignificance or the source of evidence for redundancy [78]. All the VIFs of indicators were below 3, satisfying the generic criteria for multicollinearity. This study also confirmed the effect sizes of all indicators for practical significance and indicator purification. All the effect sizes measured as f -squared coefficients in the context of PLS were larger than 0.02, meeting the thresholds of Cohen [80] for small effect sizes.

The content and convergent validity were assessed by assigning indicator items on the other constructs and identifying differences in significance and outer weights. The loading of ‘Leadership success planning’, which initially loaded on the commitment-oriented HRM bundle, but might be considered to belong to the performance-oriented HRM bundle, was changed to be loaded on the performance-oriented HRM bundle. The outer weight of this item was decreased from 0.135 to 0.118 when it loaded on the performance-oriented HRM bundle, and the effect size also decreased from 0.067 to 0.037. Meanwhile, the loading of ‘Team incentive program’, which initially loaded on the performance-oriented HRM bundle, but might be considered to belong to the commitment-oriented HRM bundle, was changed to be loaded on the commitment-oriented HRM bundle. The outer weight of this item was decreased from 0.163 to 0.076 when it loaded on the commitment-oriented HRM bundle, and the effect size also decreased from 0.072 to 0.02. Therefore, this study concluded that these items are more suitable in their initial constructs, as presented in Table 1.

The nomological or criterion-related validity of our constructs was assessed using other constructs measured by reflective indicators [79]. This study cross-linked the two HRM bundles to organizational commitment and human capital employed as dependent variables and tested four path coefficients. These links are all positively significant ($p < 0.01$), supporting the criterion-related validity of these two bundles. To assess the discriminant validity of the constructs, this study tested whether the focal construct is less than perfectly correlated with conceptually similar constructs [79]. All the correlation coefficients among the commitment-oriented HRM bundles, performance-oriented HRM bundles, organizational commitment, and human capital were less than 0.50, meaning they have less than 25% of their variance in common. Finally, the latent variable scores or factor scores, not summated scales or indices of the indicator items, were used as our variables in panel regression for two reasons. First, the latent variable scores were calculated as linear combinations of their indicators, thereby generating more purified values by reflecting the different regression weights of all indicators on each latent variable. Second, this method calculated latent variable scores after the oblique rotation that maximizes the loadings and minimizes the cross-loadings of a pattern matrix. Therefore, we could reflect the correlation between two HRM bundles with the factor scores, fulfilling the underlying assumption in our hypothesis that these two HRM bundles are correlated.

3.2.2. Dependent Variables

HRM researchers also seemed to agree that the organizational performance achieved by HR outcomes play a key mediating role between HR systems and distal firm performance [4,50,58,81]. The theoretical perspectives explaining this relationship can be categorized on two different paths [4]. One is the behavioral perspective that has focused on providing opportunities and motivation to encourage desirable employee attitude and behavior such as organizational commitment [50].

The other one is competence or human capital perspective, focusing on employee skills, knowledge, and abilities that can help firms build a competitive advantage [58]. In line with the above research areas, the organizational commitment and human capital were selected as our dependent variables. These two HR outcomes are not only the most frequently examined in the previous study, but also represent the contrasting perspectives on the role of HR outcomes [81]. We expect that the two HRM systems may show varying degrees of impact on building human capital and organizational commitment, which would help our study to understand the similarity and differences between the two HRM bundles.

Four survey items from the HCCP panel surveys were used for the organizational commitment construct, adopted from the instrument of Meyer et al. [82]. The data from the panel waves of 2007, 2009, and 2011 were used for the organizational commitment, because the first wave of this panel in 2005 did not have full survey items on organizational commitment. In every panel wave, 5–9 teams are randomly selected per firm based on the number of employees of a focal firm, and every team leader of the selected teams with 4–5 members per team was surveyed. The resulting number of effective individual responses was over 31,530 in total, with 25 cases on average per firm-wave. In the case of the human capital construct, the full data from the panel waves of 2005, 2007, 2009, and 2011 were examined, and only team leaders were surveyed on the four measurement items adopted from previous research [58,83]. The resulting number of effective individual responses was over 9470 in total, with 6 cases on average per firm-wave. Table 2 depicts the interrater agreements, reliabilities of each survey items, and factor loadings from confirmatory factor analysis for the organizational commitment and human capital.

Table 2. Inter-rater agreement and reliability with confirmatory factor analysis results for organizational commitment and human capital.

Survey Items	Cases	IRA (Rwg)	F	ICC(1)	ICC(2)	Factor Loading
If I got another offer for a better job elsewhere,	31,540	0.564	4.45 ***	0.132	0.775	0.660 ***
I would not feel it was right to leave my firm						
I really feel as if this organization's problems are my own	31,536	0.755	3.33 ***	0.093	0.699	0.757 ***
It would be too costly for me to leave my firm now	31,536	0.618	4.54 ***	0.135	0.780	0.723 ***
I am loyal to this firm because my values are largely its values	31,534	0.744	5.16 ***	0.155	0.806	0.973 ***
Overall competence of human capital	9479	0.810	3.49 ***	0.308	0.714	0.906 ***
Acquiring and retaining of talented people	9479	0.780	3.13 ***	0.284	0.690	0.899 ***
Leadership competence of management group	9479	0.725	4.11 ***	0.372	0.768	0.670 ***
Relative competitiveness of human capital	9478	0.836	4.05 ***	0.352	0.753	0.817 ***

The average inter-rater agreements of indicator items under the assumption of uniform null distribution were 0.564 to 0.836, and the multi-item agreement indices, Rwg(J), for each construct to justify aggregating individual data were 0.890 and 0.924. These results mean that there is a moderate to strong consensus among employees of each firm-wave for the two constructs [84]. The two pooled intraclass reliability measures were calculated to check the interchangeability of individual ratings and the reliability of the firm-wave mean score. The ICC(1) ranged from 0.193 to 0.372, and the ICC(2) from 0.690 to 0.806. The null hypothesis that the ICC(1) is zero tested using F values was not supported for all the items ($p < 0.001$). These results support that the individual ratings on each firm-wave indicator item are consistent with each other, and the firm-wave means are reliable enough to build constructs. The factor structures under the confirmatory factor analysis framework and reflective measurement model with all eight items capturing the two constructs were examined. The results indicated that the hypothesized two-factor measurement model fit the data fairly well; $\chi^2 = 200.9$ ($p < 0.001$), root-mean-square error of approximation (RMSEA) = 0.086, comparative fit index (CFI) = 0.971, and standardized root mean square residual (SRMR) = 0.048. An alternative one-factor nested model was used to assess the discriminant validity of the constructs, but the fit statistics became significantly worse; $\chi^2 = 2256.1$ ($p < 0.001$), RMSEA = 0.296, CFI = 0.641, and SRMR = 0.167. These results confirmed that the two-factor model is much more appropriate, and the two constructs are quite distinct. The average variance extracted (AVE) of the two constructs was 0.620 and 0.687, and the composite reliability (CR) was 0.864 and 0.896, respectively. On the basis of the above results

on validity and reliability, the item scores to develop the two summated scales for organizational commitment and human capital were aggregated.

3.2.3. Control Variables

This study used seven control variables to reduce selection bias due to omitted variables and to accurately estimate the marginal effects of independent variables. Our measure of firm size to control the scale effect is the natural log of the number of employees. The survey item that addressed the level of demand changes in the past two years for a focal firm's core products and services by a five-point scale was used to control the effect of the economic environment. The market share of a firm is calculated as the percentage of the firm's sales revenue divided by total market sales revenue in its industry to control market power. The survey item that asked the level of foreign capital participation on the four-point scale was used to control the foreign capital effects. The bargaining power and influence of employee organizations including labor union were measured on the four-point scale. Some firms are affiliated to a business conglomerate known as the chaebol in South Korea. These companies usually share not only similar HRM policies and practices, but also similar human resources with other companies within its group. The effect of business group affiliation was measured using a binary variable representing whether the focal firm belongs to a chaebol, a large industrial conglomerate in South Korea. Past performance of a focal firm can drive HRM systems, rather than HRM systems causing performance [85]. The rate of return on assets (ROA) one year prior to the measurement of HRM system bundles was used to mitigate the reverse causality between firm performance and HRM system bundles.

4. Results

Table 3 presents the correlation analysis results with the means and standard deviations of all variables. There was a medium strong, positive correlation between the performance- and commitment-oriented HRM bundles (0.415, $p < 0.001$), indicating that these HRM bundles may support each other to some degree. The simple correlations between the commitment-oriented HRM bundles and organizational outcomes measured using organizational commitment and human capital are 0.464 and 0.159, respectively. On the other hand, the correlations between the performance-oriented HRM bundles and organizational commitment and human capital are 0.126 and 0.116, respectively. These indicate that the effects of the commitment-oriented HRM bundles can be higher than the average of previous research on high performance work systems (HPWS), while the effects of the performance-oriented HRM bundles can be lower than those of the extant study.

The hypotheses were tested using the random effects panel regression model because the firms were randomly sampled within the industry-size stratifications and the purpose of this study is to make inferences to a larger population, not within the specific dataset [86]. The results of Breusch and Pagan Lagrangian multiplier test for random effects were significant ($p < 0.001$), indicating significant differences in variance across firms and supporting the use of the random-effect model over the pooled OLS model. Under the panel regression framework, four binary variables for each survey wave were used to control the effects of business environment changes over the entire survey periods. We remind the reader that the organizational commitment variables are constructed from only three waves of HCCP panel data because of data absence in the first wave, whereas the other variables are built from full four waves of this panel data. In addition, a few observations have been list-wisely deleted because of the missing variables. These gave us 1263 observations when the dependent variable was the organizational commitment, and 1673 observations with human capital. The reductions due to missing variables in sample size ranged from 4.5% and 3.6%, respectively. Little's chi-squared test results indicated that the joint covariate-dependent-missingness assumption on the dependent and independent variables was satisfied (prob. $> \chi^2 = 0.95$), justifying list-wise deletion with conditional randomness given all the control variables. The bias-adjusted robust standard errors were used for the significance test of all the regression coefficients to account for heteroscedasticity.

Table 3. Correlation analysis results of all variables with the mean and standard deviation ¹. ROA—rate of return on assets.

	Variable	Mean	Std. dev.	A	B	C	D	E	F
A	Commitment	13.522	1.402						
B	Human capital	13.696	1.993	0.426					
C	Commitment-oriented HRM	0.000	1.000	0.464	0.172				
D	Performance-oriented HRM	0.000	1.000	0.126	0.031	0.415			
E	No. of employees ²	1017	2464	0.273	0.041	0.401	0.122		
F	Market demand changes	2.869	1.041	0.139	0.133	0.136	0.066	0.062	
G	Degree of foreign capital	0.550	0.908	0.106	0.104	0.222	0.077	0.195	0.055
H	Degree of unionization	1.470	0.922	0.260	−0.038	0.233	−0.164	0.220	0.062
I	Business group (Chaebol)	0.157	0.364	0.117	−0.047	0.275	0.178	0.109	0.030
J	Market shares in industry	1.549	4.100	0.262	0.097	0.359	0.093	0.490	0.030
K	ROA—one year lag	5.496	9.369	0.100	0.654	0.111	0.062	0.021	0.018
	Variable			G	H	I	J		
H	Degree of unionization			0.099					
I	Business group (Chaebol)			0.046	0.031				
J	Market shares in industry			0.101	0.156	0.167			
K	ROA—one year lag			0.084	−0.071	−0.080	0.070		

¹ Correlation coefficients in bold are $p < 0.05$; ² Natural logs of this numbers are used in panel regression analysis.

The coefficient of performance-oriented HRM bundles regressed on organizational commitment before entering the commitment-oriented HRM bundles into the model was positive and significant, as depicted in model C2 of Table 4 ($\beta = 0.112$, $p < 0.01$). Meanwhile, the coefficient for performance-oriented HRM bundles in model C3 was negative and not significant ($\beta = -0.035$, $p > 0.1$). These results mean that the performance-oriented HRM bundles do not have additive effects on organizational commitment, not supporting Hypothesis 1.

Table 4. Random effects panel regression results of organizational commitment.

Independent Variables	C0	C1	C2	C3
Constant	10.761 ***	11.904 ***	10.841 ***	11.915 ***
Year 2009 dummy	0.122 +	0.122 +	0.123 +	0.121 +
Year 2011 dummy	0.212 **	0.082	0.214 **	0.077
Number of employees (Log)	0.327 ***	0.179 ***	0.310 ***	0.180 ***
Demand change	0.073 *	0.053 +	0.070 *	0.054 +
Foreign capital involvement	−0.011	−0.049	−0.014	−0.049
Unionization	0.208 ***	0.181 ***	0.232 ***	0.172 ***
Business group (Chaebol)	0.182 +	−0.005	0.144	0.001
Market share	0.031 **	0.019 +	0.030 **	0.019 +
ROA—one survey year lag	0.008 +	0.005	0.008	0.005
Performance-oriented HRM system			0.112 **	−0.035
Commitment-oriented HRM system		0.460 ***		0.475 ***
Overall R ²	0.203 ***	0.276 ***	0.210 ***	0.277 ***
Likelihood-ratio Chi-squared test between models		95.56 ***	7.51 **	0.72
Model comparisons		C0 vs. C1	C0 vs. C2	C1 vs. C3

+ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

The coefficient for the commitment-oriented HRM bundles in model C1 was positive and significant ($\beta = 0.460$, $p < 0.001$), and still positive and significant ($\beta = 0.475$, $p < 0.001$) after entering the performance-oriented HRM bundles into the model C3. These results indicate that the commitment-oriented HRM bundles do have independent and additive effects on organizational commitment, supporting Hypothesis 2. The difference of coefficients between the commitment- and performance-oriented HRM bundles in model C3 was 0.510 and significant ($p < 0.001$), meaning that the effect of commitment-oriented HRM bundles on organizational commitment was greater than that of the performance-oriented HRM bundles. In addition, the evidence suggests that increasing

the performance-oriented HRM bundles is redundant or unnecessary to increase organizational commitment. These results support Hypothesis 3.

The coefficient of performance-oriented HRM bundles regressed on human capital after entering commitment-oriented HRM bundles was negative and not significant ($\beta = -0.005$, $p > 0.1$), as depicted in model H3 of Table 5. This result means that the performance-oriented HRM bundles do not have additive effects on human capital, not supporting Hypothesis 1. The coefficient of the commitment-oriented HRM bundles in model H3 was positive and significant ($\beta = 0.143$, $p < 0.05$), supporting Hypothesis 2. In addition, the evidence suggests that increasing the performance-oriented HRM bundles are redundant or unnecessary to increase human capital after controlling the commitment-oriented HRM bundles into model H3. The difference of coefficients between the commitment- and performance-oriented HRM bundles was 0.138 and weakly significant ($p < 0.1$), supporting Hypothesis 3 that the effect of commitment-oriented HRM bundles on human capital was greater than that of the performance-oriented HRM bundles.

Table 5. Random effects panel regression results of human capital.

Independent Variables	H0	H1	H2	H3
Constant	10.096 ***	10.471 ***	10.165 ***	10.471 ***
Year 2007 dummy	1.494 ***	1.506 ***	1.467 ***	1.503 ***
Year 2009 dummy	1.629 ***	1.640 ***	1.604 ***	1.637 ***
Year 2011 dummy	1.543 ***	1.513 ***	1.519 ***	1.511 ***
Number of employees (Log)	0.338 ***	0.289 ***	0.329 ***	0.289 ***
Demand change	0.138 **	0.130 **	0.135 **	0.130 **
Foreign capital involvement	−0.043	−0.061	−0.046	−0.061
Unionization	−0.060	−0.070	−0.044	−0.068
Business group (Chaebol)	−0.038	−0.104	−0.059	−0.105
Market share	0.012	0.008	0.012	0.008
ROA—one survey year lag	0.008	0.007	0.008	0.007
Performance-oriented HRM system			0.056	0.005
Commitment-oriented HRM system		0.145 *		0.143 *
Overall R ²	0.157 ***	0.167 ***	0.157 ***	0.160 ***
Likelihood-ratio Chi-squared test between models		7.30 ***	1.45	0.01
Model comparisons		H0 vs. H1	H0 vs. H2	H1 vs. H3

+ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

5. Discussion

The results and findings of our empirical analysis are summarized as follows. First, increasing the intensity and scope of the commitment-oriented HRM bundles continually boosts organizational outcomes, while increasing the performance-oriented HRM bundles has no steady additive effect on organizational outcomes. These results imply that the HRM practices mostly grounded in organizational learning theory, social exchange theory, and social network theory strengthen the organizational performance on average more than those based on human capital theory, transaction cost theory, and agency theory.

Second, it can be redundant and unnecessary to increase the performance-oriented HRM practices unless firms have sufficiently high levels of the commitment-oriented HRM practices. That is, even though the two HRM bundles pursue the same goal to gain growth and success through HRM, the performance-oriented HRM system per se is likely not to work as a self-sufficient HRM system independent of the commitment-oriented HRM system. Many studies have called for further research on internal alignment both within and across different elements of a high-performance architecture, and on the ways that HRM practices can act as substitutes for each other [2]. Our study explains these issues by establishing and comparing different HRM bundles at the level of guiding principles with empirical evidence. Also, this research can give general guidelines when firms need to identify which

practices with the same instrumental function are more effective considering their value system and internal alignment in HRM system architecture.

This study provides some theoretical implications and major contributions as follows. First, focusing on the reality that different HRM systems coexist and interact within a focal firm, we identified two HRM bundles with different philosophical backgrounds and examined their additive effects on organizational performance. Whereas prior empirical studies have included heterogeneous HRM policies and practices from different guiding principles, we distinguish these policies and practices based on underlying theoretical assumptions and build scores based on statistical evidence. This line of research can offer an explanation of, and remedy for, the confounding and contrasting empirical evidence for the effectiveness of the HRM systems.

Second, this study examined the effects of the commitment- and performance-oriented HRM bundles at the system level, which can contribute to the debate over the universalist versus configurational perspectives on HRM. Our results indicating that the effects of the commitment-oriented HRM bundles overwhelm those of the performance-oriented HRM bundles can shed light on searching for the ideal combination of HRM practices [18]. In addition, most of the literature on sustainable HRM is based on the social exchange theory with the norm of reciprocity, the paradox or duality theory dealing with a dilemma, and the stakeholder theory emphasizing satisfaction of all key stakeholders including employees and external community [87,88]. These theories coincide or share similarities with those for the commitment-oriented HRM system in that these two HRM systems focus on the social interaction among employees that are viewed as the key stakeholders of firms [14,15,87,88]. Drawing on literature on sustainability and HRM, Stankevičiūtė and Savanevičienė [16] proposed the following aspects or practices of sustained HRM: hiring employees with future values, work–life balance, evaluating and rewarding according to social and environment-related criteria in addition to economic performance, profit sharing, job rotation, extensive training, knowledge sharing, employee participation in decision-making, teamwork, and fostering diversity and fairness. These practices closely resemble and coincide in many cases with the commitment-oriented HRM system of this study. This implies that the commitment-oriented HRM systems have the potential to improve not only organizational performance, but also individual employee well-being, thereby sustaining human resource development, regeneration, and renewal.

Third, in terms of research method, our longitudinal panel regression model with controlling past performance overcomes in part the frequently reported weaknesses in HRM research. This study selected the formative measurement model for constructing scales of HRM bundles, not just following an arbitrary index construction for several decades, which arguably advances the research method in this area [3,4].

6. Conclusions

This study established two distinctive HRM system bundles based on philosophical differences, namely the performance- and commitment-oriented HRM bundles, and studied their additive and interactive effects on organizational outcomes. The relationships between these HRM systems and organizational outcomes were examined with 1735 firm-period samples in the longitudinal setting. The empirical results show that the commitment-oriented HRM systems have independent and additive effects on organizational commitment and human capital. However, the performance-oriented HRM systems have no independent and additive effect on organizational outcomes. Our study also indicates that increasing the performance-oriented HRM practices can be redundant and unnecessary unless firms have sufficiently high levels of commitment-oriented HRM practices. Given that the definition and measures of commitment-oriented HRM bundles nearly match the characteristics of sustainable HRM, we thus argue that the commitment-oriented HRM systems have more potential to improve not only organizational outcomes and performance, but also human and social sustainability, than the performance-oriented HRM systems.

Future research should interpret the results of this study in light of its limitations, which also helps to extend the present study in this area. This study used the panel data surveyed in South Korea, where power distance and collectivism are much higher than in other countries [89]. Rabl et al. [90] found that the relationships between HPWS and business performance are more strongly positive in countries where both power distance and in-group collectivism are high, contrary to the standard national culture-based logic. In addition, the cultural emphasis on the group over individual would provide favorable circumstances to link the practices of the commitment-oriented HRM bundles based on team-based organization and participatory program with HRM effectiveness and firm performance [90]. Putting these arguments together, we would expect that the commitment-oriented HRM bundles can be better fitted with higher power distance and in-group collectivism than with the performance-oriented HRM bundles, thereby gaining at least more direct positive effects on organizational outcomes. On the other hand, one can expect that the performance-oriented HRM bundles can be more congruent and yield better performance with lower power distance and high individualism than the commitment-oriented HRM bundles. Even in these cases, we believe that our theory can be valid because we formulate the theory and guiding principles of HRM bundles under each distinct philosophical paradigm, not with the comparative or contextual approach. By all means, future research on the two types of HRM bundles defined in this study from a different national context would help not only to generalize these research findings, but also to enrich our understanding of HRM in a global context. In addition, it should be noted that most firms utilize these HRM bundles simultaneously, but the extent of mixture and alignment between them can vary according to the organizational context in knowledge and innovation. Future research can examine the total effect of the two HRM bundles as a whole HRM system and compare them with the effects of each HRM bundles to find the optimal level of HRM bundles under certain organizational context.

Further study is needed to investigate interactions between the two HRM bundles to find out the types and forms of interactions, thereby drawing up implications for how the two HRM systems are organized. Given the construct of the commitment-oriented HRM system is highly consistent with sustainable HRM, empirical evidence is needed to verify that the commitment-oriented HRM system also has positive effects on human and social sustainability, including enhanced employee well-being and reduced negative externalities [91,92].

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