



# INCENTIVE PAY AND FIRM PERFORMANCE: MODERATING ROLES OF PROCEDURAL JUSTICE CLIMATE AND ENVIRONMENTAL TURBULENCE

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*In connection with the literature on strategic reward and agency theory, this study investigates the effects of incentive pay on employee outcomes and firm performance. We identify employee outcomes, such as commitment and competence, as mediating processes that explain the effects of incentive pay on firm performance. We further propose procedural justice climate and environmental turbulence as boundary conditions that determine the strength of the effects of incentive pay on employee outcomes. The research model is tested using multisource data collected at three time points over a five-year period from 227 Korean companies. Our analysis confirmed that incentive pay enhanced employee commitment and competence, which, in turn, improved the operational and financial performances of firms. The effect of incentive pay on employee commitment was negative for firms with a low procedural justice climate, but positive for firms operated under a highly turbulent environment. By contrast, the effect of incentive pay on employee competence was positive only for firms operated under a stable environment. This study enriches the literature by presenting and validating plausible underlying mechanisms and boundary conditions under which strategic performance-contingent incentive pay affects firm performance. © 2015 Wiley Periodicals, Inc.*

*Keywords:* pay for performance, justice, environmental uncertainty, commitment, organizations, effectiveness

**A**s a corollary to the resource-based view, human resource (HR) practices have been considered a critical component of organizational strategy that creates firm-specific, valuable resources required to sustain the competitive advantage

of organizations (Lado & Wilson, 1994). The meta-analysis of Combs, Liu, Hall, and Kitchen (2006) identified incentive compensation or performance-contingent pay as the most commonly examined aspect of HR practices for enhancing firm performance. In a survey conducted by the

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Society for Human Resource Management (Victor, 2012), compensation was ranked second in importance by employees, following job security. In particular, incentive pay functions as a significant driver of the positive attitude and behavior of employees, which improve organizational functioning and effectiveness (Cadsby, Song, & Tapon, 2007; Lazear, 2000; Shaw & Gupta, 2015). Notably, despite its strategic value, research on compensation has only sporadically appeared in

the literature on strategic human resource management (SHRM).

*Most of the wages of organizations are paid to nonexecutive employees. However, research on nonexecutive incentive compensation remains an underexamined area in the strategic reward literature. This study investigates the effects of incentive pay for employees on firm performance by incorporating insights from research on agency theory and social psychology theories.*

Strategy researchers have identified performance-contingent incentives or bonuses as a key strategic tool to motivate appropriate managerial behavior and promote organizational effectiveness (Chng, Rodgers, Shih, & Song, 2012; Wowak & Hambrick, 2010). Studies on strategic rewards have mostly focused on the relationship between executive compensation and firm performance, and are often based on agency theory, which identifies incentive pay as an effective contracting mechanism to align the interests and behavior of managers with the goals of owners (Cadsby et al., 2007; Jensen & Murphy, 1990). Nevertheless, incentive pay for executives comprises only a small proportion of the total pay costs of organizations (Whittlesey, 2006). Most of the wages of organizations are paid to nonexecutive employees. However, research on nonexecutive incentive compensation remains an underexamined area in the strategic reward literature. This study investigates the effects of incentive pay for employees on firm performance by incorporating insights from research on agency theory and social psychology theories.

Aside from examining the incentive pay–firm performance connection, we propose and validate the underlying mechanisms that account for such effect. Agency theory proposes employee effort, as well as employee knowledge, skills, and abilities (KSAs), as key processes to maximize profits (Gupta & Shaw, 2014; Larkin, Pierce, & Gino, 2012). Similarly, efficiency wage theory identifies employee motivation and competence as the core reasons for the incentive pay–performance link (Gerhart & Milkovich, 1990; Lazear, 2000),

which is consistent with the process models of SHRM (Katou, 2009; Takeuchi, Lepak, Wang, & Takeuchi, 2007). Nevertheless, empirical evidence on the intervening role of employee motivation and KSAs is generally lacking. The current study investigates the role of employee commitment and competence as critical intermediate processes that underlie the incentive pay–performance link at the firm level.

Despite the availability of prima facie evidence on incentive pay effects on performance (Cadsby et al., 2007; Lazear, 2000; Shaw & Gupta, 2015), such effects are far from universal. The fundamental assumption that underlies agency theory is the self-interested and risk-aversion behavior of agents (Jensen & Murphy, 1990). Although incentive pay is acknowledged as an optimal employment contract that motivates employees to act in the interests of a firm, incentive pay coincidentally imposes high risk to employees by inducing variability of pay (Bloom & Milkovich, 1998). The high-risk perceptions and subsequent risk-aversion behavior of employees frequently thwart envisioned incentive pay effects (Jensen & Murphy, 1990). Therefore, examining boundary conditions that affect the risk perception of employees toward incentive pay is important to understand the incentive pay–outcome relationship (Bloom & Milkovich, 1998). By drawing on the risk perspective, we propose that the relationships between incentive pay and employee outcomes, such as commitment and competence, are moderated by internal and external firm contexts that influence the interpretations of employees toward incentive pay.

Regarding internal boundary conditions, we identify procedural justice climate as a critical contingency of the effects of incentive pay on employee outcomes. Research on strategic rewards has identified perceived equity/fairness as a core determinant that shapes the attribution and attitudes of employees toward a performance-based pay system (Larkin et al., 2012). Procedural justice represents the fairness of the process by which outcomes are determined or distributed (Lind & Tyler, 1988). Justice perceptions shared among employees may reduce uncertainty and concerns related to the processes of determining incentive pay. Such reduction in uncertainty should increase the risk tolerance of employees for variance in pay, which leads to favorable employee outcomes (Meyer, Stanley, Herscovitch, & Topolnytsky, 2002). For external boundary conditions, we isolate environmental turbulence as a core external contingency that affects the association between incentive pay and employee outcomes. By exposing employees to a high uncertainty of employment and income

stream, dynamic and unpredictable environments may intensify negative interpretations of incentive pay and risk-aversion behavior among employees, and subsequently, result in unfavorable employee outcomes. Our theoretical model is empirically validated using time-lagged, multi-source data collected over a period of five years from a sample of 227 Korean companies.

**Theoretical Framework and Hypotheses**

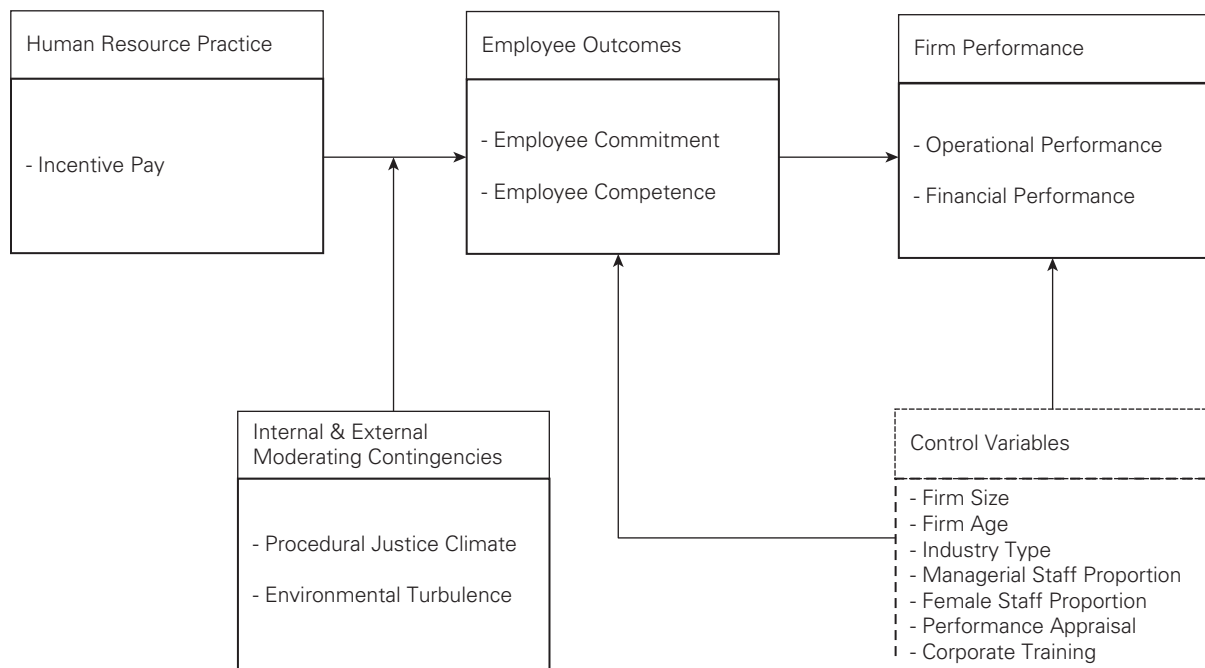
Compensation refers to “all forms of financial returns and tangible services and benefits employees receive as part of an employment relationship” (Milkovich & Newman, 2008, p. 9). As the most critical component of compensation, performance-contingent incentive pay reflects a core firm strategy that substantially affects firm performance by shaping desirable employee attitude and behavior (Chng et al., 2012; Gerhart, Rynes, & Fulmer, 2009; Gupta & Shaw, 2014; Shaw & Gupta, 2015). Extending the strategic reward literature, the present study empirically validates the effects of incentive pay for nonexecutive employees and elucidates the process through which such incentive strategy achieves its expected benefits.

The SHRM literature has underscored the internal and external situational contexts of an organization to achieve intended strategic benefits (Wright, Gardner, Moynihan, & Allen, 2005; Wright, McCormick, Sherman, & McMahan, 1999). For example, according to the contingency-based HR strategy perspective, Kim, Sutton, and Gong

(2013) reported that the effects of group-based pay-for-performance plans on firm performance are positive only with the co-presence of empowerment practices. Based on the risk perspective of agency theory, we propose that incentive pay has different implications on employee outcomes and subsequent firm performance, depending on firm contexts, such as procedural justice climate and environmental turbulence that amplify or stifle incentive pay effects (see Figure 1). Each relationship proposed in this theoretical framework is elucidated in the following subsections.

**Incentive Pay and Firm Performance**

The fundamental assumption of agency theory is that the differences between the goals and risk perceptions of principals (employers) and agents (employees) result in the self-interested behavior of these actors that maximizes their own interests and goals (Eisenhardt, 1989). Firms are willing to use the incentive pay system when the expected values from workers are greater than the resources they invest (Coff & Kryscynski, 2011). Notably, firms have a strong preference to hire and retain more competent workers than their competitors. Efficiency wage theory denotes that incentive pay helps firms acquire and sustain superior human capital in the labor market (Lazear, 2000). Consistent with attraction-selection-attribution theory, less competent workers may quit in response to the performance-contingent incentive pay systems or may be replaced by more competent



**FIGURE 1.** Theoretical Framework of Incentive Pay and Firm Performance

workers because of a series of managerial actions to hire and reward more productive employees (cf. sorting effect; Gerhart & Fang, 2014), which ultimately enhances the overall capability and performance of firms.

For employees, the core reason for working in an organization is to procure economic resources by offering their services. For this reason, compensation provides the most straightforward rewards that fulfill the basic needs of employees among various HR practices. Similar to the endeavors and behavior of employers to maximize their self-interests, employees are also willing to offer time and effort to serve their organization when they perceive that the incentives or other resources provided by the organization are comparable with

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(cf. organizational equilibrium theory; Barnard, 1938; March & Simon, 1958). Considering that each member of an organization contributes to a different degree, employees feel satisfied and comfortable when the organization provides equitable compensation proportional to their contribution, instead of equal pay to everyone regardless of the time, effort, and contribution of each member (Batt, 2002; Sun, Aryee, & Law, 2007). To exploit the incentive scheme effectively, employees may conduct extra-role behavior and exert considerable effort to improve their KSAs, which, in turn, enhance the efficient and effective operation of various organizational functions and thus improve firm performance.

*Hypothesis 1: Incentive pay is positively related to the operational and financial performances of firms.*

### **Mediating Role of Employee Outcomes**

Drawing on the input-throughput-output framework, the process model of SHRM highlights the role of HR practices as planned human capital deployments and activities toward generating and supplying decent human capital, which is subsequently translated into improved organizational functioning and financial performance (Bowen & Ostroff, 2004; Katou, 2009; Takeuchi et al., 2007; Wright et al., 2005). Researchers who adopt agency theory and efficiency wage theory also identify employee effort/motivation and competence as core intervening processes that account for incentive pay effects in firms (Lazear,

2000; Larkin et al., 2012). The potential benefits of incentive pay for firm performance may not be achieved unless it actually generates desirable employee motivation and competence that facilitate the successful completion of organizational tasks (Paul & Anantharaman, 2003; Subramony, 2009). Nonetheless, such presumption has rarely been tested. To address this gap, we propose and empirically test the role of employee commitment and competence as plausible intervening processes between incentive pay and firm performance.

### **Employee Commitment**

Commitment refers to identification with organizational goals, willingness to exert effort on behalf of an organization, and interest in remaining with an organization (Tsui, Pearce, Porter, & Pripoli, 1997). Studies have shown that the strong attachment and loyalty of employees are the cornerstones of organizational effectiveness because such employees increase their efforts toward collective goals and perform sufficient levels of in-role and extra-role behavior (Wright et al., 2005).

The effort-reward imbalance model (Siegrist, 1996) maintains that an imbalance, such as high efforts and low rewards, induces emotional distress among employees because of their unfulfilled expectation regarding reciprocity between costs and gains. Such imbalance and distress can be remedied by additional incentives; otherwise, they can result in reduced motivation and withdrawal behavior (Boshoff & Allen, 2000; Bowen, Gilliland, & Folger, 1999). Internal labor market theory denotes that people place great value on employment stability; therefore, a high risk of unemployment leads to reduced commitment and poor employee outcomes (Osterman, 1992). Flexibility, which is achieved by a variable pay system, such as performance-contingent incentive pay, enables firms to reduce employment variability and maintain a long-term employment policy (Gerhart & Trevor, 1996). By providing employment stability and encouraging equity based on reciprocity norms, incentive pay may promote desirable employee outcomes. Moreover, incentive pay sends a clear message that the organization acknowledges and values the contributions that employees make through competent task performance (Kuvaas, 2006). Consistent with the notion of reciprocity in social exchange theory, offering incentives may generate the perceptions of organizational acceptance and earn the respect of employees, which, in turn, induce their sense of attachment and obligation to return the favor (Masterson & Stamper, 2003; Rhoades & Eisenberger, 2002). Hence, incentive pay is likely to increase employee commitment and loyalty to



the firm, which ultimately contributes to firm performance (Kuvaas, 2006). Therefore, we propose the following mediation hypothesis:

*Hypothesis 2: Employee commitment mediates the relationships between incentive pay and the operational and financial performances of firms.*

### Employee Competence

Competence reflects the combined KSAs of employees, which enable them to fulfill their requisite tasks (Le Deist & Winterton, 2005). In the current study, employee competence refers to the extent to which an organization retains employees with greater KSAs compared with its competitors, and thus, provides operational advantage to an organization (Park, Mitsuhashi, Fey, & Björkman, 2003; Wright et al., 1999). The KSAs of employees ensure reliable and high-quality task performance that increases the efficient and effective operations of organizational functions (Katou, 2009; Paul & Anantharaman, 2003).

Workers with a high level of KSAs may obtain more financial rewards under the performance-contingent incentive pay system, and thus, prefer such system. Consequently, firms offering performance-contingent incentive pay are more likely to gain comparative advantage in the labor market in acquiring and retaining competent workers. By contrast, less productive workers may feel significant pressure and stress under the performance-based reward system and are more likely to leave a firm (Gerhart & Fang, 2014; Lazear, 2000). Hence, incentive pay may result in reshuffling in the workforce; that is, the majority of the employees will be more productive, which is conducive to the efficient and effective functioning of firms and improved financial performance.

Incentive pay may also urge employees to improve their task competence because extra remuneration is more achievable when a task is competently completed than when it is completed in a mediocre manner. Therefore, incentive pay strengthens the efforts of employees toward learning and leveraging their KSAs to enhance task performance and secure additional financial gains (Batt, 2002; Du & Choi, 2010). Moreover, employees frequently interpret performance-contingent rewards as an indicator of their competence rather than a controller of their behavior because, in a sense, the company “bribes” them to perform tasks (Deci, Koestner, & Ryan, 1999). Thus, incentive pay can enhance the task-related self-efficacy of employees who regard the pay scheme as an opportunity to demonstrate their task competence and gain additional

remuneration (Eisenberger & Aselage, 2009). In summary, incentive pay increases the capability of firms by expanding the pool of competent human capital, as well as increases the motivation of employees to improve their KSAs and task-related efficacy beliefs. Consequently, employees effectively exploit the incentive scheme by improving their performance, which should contribute to firm performance.

*Hypothesis 3: Employee competence mediates the relationships between incentive pay and the operational and financial performances of firms.*

### Internal and External Moderating Contingencies

We propose that incentive pay enhances firm performance because it elicits desirable employee outcomes. Scholars have noted that the manner in which employees react to incentive pay depends on the boundary conditions of the firm (Kim et al., 2013). Drawing on the risk perspective (Bloom & Milkovich, 1998), we isolate procedural justice climate and environmental turbulence as the core internal and external firm contingent factors, respectively, that accentuate or attenuate the incentive pay–employee outcomes link.

#### Procedural Justice Climate

Procedural justice refers to the extent to which resource allocation decisions are made in accordance with the fundamental principles of justice, such as consistency, information accuracy, correctability, and bias suppression (Leventhal, 1980). Procedural justice climate or justice perceptions shared among members emerge at the organizational level because employees are exposed to the same policies, procedures, and practices, and interact to share their workplace experiences (Naumann & Bennett, 2000). Procedural justice represents the fairness of the process by which outcomes are determined or distributed (Lind, 2001; Lind & Tyler, 1988).

Despite its potential benefits, some employees resist the incentive pay system because it creates significant variability in pay (Bloom & Milkovich, 1998). Research has indicated that procedural justice shapes individual reactions to incentive systems, such that if the decision-making process is fair, then employees may not exhibit strong negative reactions to the unsatisfactory distribution

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of resources, and vice versa (Konovsky, 2000). Perceptions that assure fair procedures with regard to incentive pay may mitigate the negative and aversive responses of employees toward incentive pay that instigates variance in their income stream.

Organizations with a high procedural justice climate treat their members fairly by applying consistent rules, sharing information, and inviting their participation and opinion (Naumann & Bennett, 2000). The procedural justice climate

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of an organization conveys its fair and benevolent motivation toward employees and thus induces the perception of organizational care and support, as well as the sense of obligation to return the favor among employees, which is directly related to their organizational commitment (Konovsky, 2000). This expectation is consistent with fairness heuristic theory in that employees rely on their judgment of fairness as a heuristic to direct their efforts toward either serving the demands of the collective or fulfilling their self-interests (Lind, 2001; Van den Bos, 2001). When employees have conviction regarding fairness, they believe that they can obtain equitable rewards contingent on their contribution, which depends on their competence and effort levels (Batt, 2002; Larkin et al., 2012). This strong sense of safety with regard to a fair and reciprocal relationship encourages employees to improve their competence and maximize their contribution value. Therefore, the effects of incentive pay on employee outcomes become salient in firms characterized by a high level of procedural justice climate.

*Hypothesis 4: Procedural justice climate positively moderates the relationships between incentive pay and employee outcomes (employee commitment and competence).*

### Environmental Turbulence

Aside from the role of procedural justice climate as a core internal context, we examine the role of environmental turbulence as a critical external context of firms that influences incentive pay effects. Environmental turbulence refers to the extent to which a business environment is

unpredictable and thus potentially threatening (Sung & Choi, 2012). Despite the considerable struggle of firms, unstable marketwide external conditions outside the control of firms frequently thwart their operations and performance. Similarly, business risks resulting from environmental dynamism and instability may increase uncontrollable fluctuation in the task performance of individual employees regardless of their task ability and efforts, which results in unpredictable income variation under the performance-based pay system. Thus, using the incentive pay system under highly turbulent environments induces high-risk perceptions among employees (Bloom & Milkovich, 1998). Such perceptions of high risk and instability in income may induce negative psychological responses and behavior among employees that are designed to reduce their risk exposure. Thus, employees may not engage in extra role behavior and competence development activities, which may or may not lead to incentives under unpredictable environments (Deckop, Mangel, & Cirka, 1999).

Furthermore, under highly turbulent environments that impose high risk related to income stream and even employment stability, employees are more likely to regard incentive pay as an additional control mechanism that intends to restrict their behavior to reduce labor cost and force them to prove their value comparable with financial expenditure (Bloom & Milkovich, 1998). Therefore, employees engage in negative attribution related to the ulterior motive of introducing a performance-contingent incentive system and thus negatively react to it. Under a turbulent environment, employees are accordingly less likely to become emotionally attached to an organization and be motivated to develop their competence (Shaw, Dineen, Fang, & Vellella, 2009). Therefore, the value of incentive pay in promoting employee commitment and competence is attenuated when firms are exposed to high environmental turbulence.

*Hypothesis 5: Environmental turbulence negatively moderates the relationships between incentive pay and employee outcomes (employee commitment and competence).*

### Method

#### *Sample and Data Collection Procedure*

The hypotheses were tested using the Human Capital Corporate Panel data collected by the Korea Research Institute of Vocational Education and Training (KRIVET), a research institute that

supports the national educational policy on HR practices in Korea. KRIVET conducted a survey in cooperation with the Ministry of Labor of the Korean government. Prior to the main survey, KRIVET conducted a pilot test on several companies to validate the reliability of the items (for additional details, see Kim et al., 2013). The sample for corporate survey was drawn from a list of 1,851 private business organizations that was randomly generated from the entire population of companies with 100 or more employees listed in the Korea Investors Service (KIS) database. From the initial list of 1,851 companies, a stratified, random sample was generated using a  $4 \times 2$  matrix based on organization size (i.e., 100 to 299, 300 to 999, 1,000 to 2,999, and over 3,000) and ownership type (publicly vs. privately owned). Approximately 25% of the organizations were randomly selected from each cell of the matrix to avoid the potential problems of oversampling or undersampling of specific cells. Corporate data were collected at two time points, namely, 2005 (T1,  $N = 303$ ) and 2007 (T2,  $N = 314$ ). From the initial sample, we identified 227 companies that participated in both waves of data collection and provided usable data for the present study. These companies represented 10 industries: food, fiber, automobile, steel, electronics, computer, electrical appliance, chemical, machinery, and plastic. From the 227 organizations with complete survey data, we identified matching financial performance data for 2009 as archived by KIS.

In each organization, different groups of organizational members, including HRM directors, strategy directors, department managers, and employees, participated in the corporate survey in two waves. For the T1 data, the HRM directors of each organization reported the percentage of performance-contingent incentive pay paid in the total amount of employee salary in their organization. The T2 sample was composed of 4,914 organizational members, including office workers, engineers, and manufacturing supervisors and workers. On average, 22.14 ( $SD = 12.16$ ) employees per company participated, which were composed of 82.6% males, with an average age of 37.7 years ( $SD = 8.11$ ) and an average organizational tenure of 10.8 years ( $SD = 7.58$ ). The T2 sample also included 1,298 department managers, with an average of 5.74 ( $SD = 1.78$ ) managers per company. The manager sample was composed of 98.3% males, with an average age of 43.4 years ( $SD = 5.21$ ) and an average tenure of 14.6 years ( $SD = 6.69$ ).

### Measures

The hypotheses were tested using data from four different sources, namely, HRM directors, strategy

directors, department managers, and employees of the participating organizations. All constructs were assessed by multi-item measures using a 5-point Likert-type scale (1 = *strongly disagree*, 5 = *strongly agree*). Individual responses were aggregated at the organizational level for analysis. All scales exhibited acceptable within-organization agreement ( $r_{wg(j)}$ ) and intraclass correlations [ICC(1), ICC(2)], which indicated that employees of the same organization had shared perceptions regarding the constructs (Chen, Mathieu, & Bliese, 2004).

#### Incentive Pay (HRM Director, T1)

In contrast to previous studies that relied on subjective measures on the availability or the extent of a company to implement incentive compensation (Macky & Boxall, 2007; Wright et al., 2005), we adopted the resource-based approach and assessed the actual amount of monetary reward contingent on performance (cf. incentive intensity; Kim et al., 2013). HRM directors reported the actual proportion of the amount of incentive or bonuses in total employee salary based on the financial records of their organization, which ranged between 0% and 50%, with a mean of 10.73%. Given that the incentive pay strategy might differ contingently on firm size, industry type, and employee task type, we compared incentive pay percentage by groups (see Table I). Incentive included all forms of bonuses and extra remuneration disbursed to employees contingent on performance at the individual, team, and organizational levels of analysis.

#### Employee Commitment (Employees, T2)

Adopting items from an existing measure (Meyer & Allen, 1984), we assessed employee commitment using the following three items ( $\alpha = .67$ ,  $r_{wg(3)} = .84$ , ICC(1) = .16, ICC(2) = .84,  $F = 5.94$ ,  $p < .001$ ): (a) "Our company makes employees exert voluntary efforts toward organizational goals"; (b) "If I am offered better working conditions, including money, I would consider leaving this company (reverse coded)"; and (c) "Our company is worthwhile to gain my loyalty."

#### Employee Competence (HRM Director, T2)

HRM directors reported the level of overall competence of employees by rating the following five items ( $\alpha = .67$ ): "Employees of our company have higher levels of overall ability than those of our competitors in the following areas: (a) research and development (R&D), (b) sales and service, (c) manufacturing, (d) managerial support and staff, and (e) engineering technology" (Park et al., 2003; Wright et al., 1999).

**TABLE I** Proportion of Incentive Pay Across Firms in Different Categories

Classifications	Categories	Frequency (Percentage)	Incentive Pay Proportion		
			Mean	SD	Range
Entire Sample		<i>N</i> = 227	10.53%	13.04	0–50%
Firm Size	100–299	<i>N</i> = 108 (47.6%)	10.09%	13.31	0–50%
	300–999	<i>N</i> = 80 (35.2%)	9.44%	12.10	0–47%
	1,000–2,999	<i>N</i> = 26 (11.5%)	13.90%	14.95	0–50%
	> 3,000	<i>N</i> = 3 (5.7%)	17.58%	10.40	3–37%
Industry Type	Food	<i>N</i> = 20 (8.8%)	8.39%	10.92	0–40%
	Fiber	<i>N</i> = 12 (5.3%)	7.42%	11.99	0–30%
	Chemical	<i>N</i> = 29 (12.8%)	10.91%	13.42	0–40%
	Plastic	<i>N</i> = 11 (4.8%)	9.64%	14.97	0–42%
	Steel	<i>N</i> = 43 (18.9%)	14.72%	15.79	0–50%
	Machinery	<i>N</i> = 18 (7.9%)	8.16%	8.48	0–25%
	Computer	<i>N</i> = 5 (2.2%)	25.20%	20.62	0–50%
	Electronics	<i>N</i> = 19 (8.4%)	7.58%	11.78	0–38%
	Electrical Appliance	<i>N</i> = 37 (16.3%)	12.68%	12.63	0–45%
	Automobile	<i>N</i> = 33 (14.5%)	7.17%	9.41	0–47%
	Employee Task Type	Management & Office Work	NA	10.79%	13.05
Production		NA	10.66%	12.25	0–58%

### Procedural Justice Climate (Employees, T2)

Adopting items from previous studies (Bowen et al., 1999; Tsui et al., 1997), we used the following three items ( $\alpha = .76$ ,  $r_{wg(3)} = .85$ ,  $ICC(1) = .15$ ,  $ICC(2) = .83$ ,  $F = 6.14$ ,  $p < .001$ ) to assess procedural justice climate: (a) “The organizational processes of performance appraisal and salary decisions are fair,” (b) “The procedure used to address concerns about the company raised by employees is fair and transparent,” and (c) “Our company openly and respectfully explains to employees the reasons behind decisions about the distribution of resources.”

*The organizational processes of performance appraisal and salary decisions are fair.*

### Environmental Turbulence (Strategy Director, T2)

Drawing on previous studies (Langerak, Hultink, & Robben, 2007), we assessed environmental turbulence using the following five items ( $\alpha = .69$ ) rated by the strategy directors of each company: (a) “In our business, predicting changes in market and consumer demands is extremely difficult”; (b) “The market trend in the demand for the main products of our company rapidly changed in the last two years”; (c) “Our company experienced considerable technological changes in the last two years”; (d) “Our company exerted a great deal of

effort in new product development in the last two years”; and (e) “Our company experienced a huge amount of organizational changes in the last two years.”

### Operational Performance (Department Managers, T2)

Department managers rated the operational performance of their company by rating the following five operational issues ( $\alpha = .84$ ,  $r_{wg(5)} = .93$ ,  $ICC(1) = .31$ ,  $ICC(2) = .75$ ,  $F = 3.98$ ,  $p < .001$ ): “Our company has competitive advantage over other companies in (a) efficiency of task procedures, (b) cost reduction, (c) product quality, (d) overall productivity and defect reduction, and (e) prompt responses to customer requests” (Katou, 2009; Paul & Anantharaman, 2003; Wright et al., 2005).

### Financial Performance (KIS, T3)

The financial performance of an organization was operationalized as the return on asset (ROA). The validity of ROA as a measure of organizational financial performance was confirmed by numerous previous studies (Boselie, Dietz, & Boon, 2005; Huselid, Jackson, & Schuler, 1997). We obtained the ROA of each organization two years after T2 corporate data collection using the financial data archived by KIS.



### Control Variables (HRM Director, T1)

Examining the literature (Katou, 2009; Shipton, West, Dawson, Birdi, & Patterson, 2006), we isolated a number of factors that could explain employee outcomes and firm performance. We controlled the effects of the following factors: (a) firm size, (b) firm age, (c) industry type, (d) proportion of managerial staff members who have at least one employee under their supervision, (e) proportion of female employees, (f) performance appraisal, and (g) corporate training. Firm size, which indicated the number of employees, was log transformed and included in our analysis (Shipton et al., 2006). We created a dummy for two industry categories (0 = non-high-technology industry; 1 = high-technology industry including computer, electronics, and electrical appliance industries) to control the effects of industry type. In this study, we also included firm age (in years) and the proportions of managerial staff members and female employees within the firm. The effects of other relevant HR practices, such as performance appraisal and corporate training, were also controlled. These HR practices were assessed by asking HRM directors if their company offered such HR practices (0 = no, 1 = yes).

### Results

Although we used time-lagged, multisource data, procedural justice climate, employee commitment, and operational performance were collected at the same period and based on psychometric scales rated by employees and department managers. Thus, we conducted a confirmatory factor analysis (CFA) of the 11 items that comprised these three scales (Price, Choi, & Vinokur, 2002). The three-factor model exhibited good fit with the data ( $\chi^2$  ( $df = 37$ ) = 56.56,  $p = .021$ , comparative fit index [CFI] = .99, root mean square residual [RMR] = .009, root mean square error of approximation [RMSEA] = .048) and performed better than the alternative single-factor and two-factor models (all  $p < .001$ ). The CFA results support the empirical distinctiveness of the measures. The descriptive statistics and correlations among study variables are presented in Table II.

### Hypothesis Testing

We employed hierarchical regression equations to test our research model statistically. All variables were mean-centered to reduce multicollinearity among the main effect variables and their interaction terms (Katrachis, 1993). We entered the interaction terms after controlling the main effects to test the hypothesized effects. The results

of our stepwise hierarchical regression analysis are shown in Tables III and IV. Among the control variables, firm size was a significant predictor of employee commitment and competence ( $\beta = .34$ ,  $p < .001$  and  $\beta = .14$ ,  $p < .05$ , respectively). Managerial staff proportion was positively related to employee commitment, whereas female staff proportion was negatively related to employee commitment ( $\beta = .21$ ,  $p < .01$  and  $\beta = -.15$ ,  $p < .05$ , respectively). Firm size was also positively related to the operational performance of firms ( $\beta = .23$ ,  $p < .01$ ). Managerial staff proportion was negatively associated with the financial performance of firms ( $\beta = -.18$ ,  $p < .05$ ).

### Main Effects of Incentive Pay

In Hypothesis 1, we posit that incentive pay enhances the operational and financial performances of firms. The results listed in Table IV show that incentive pay is significantly related to operational performance ( $\beta = .16$ ,  $p < .05$ ) but not to financial performance, which partially confirms Hypothesis 1.

### Mediating Effects of Employee Outcomes

In Hypotheses 2 and 3, we propose that employee commitment and competence mediate the effects of incentive pay on firm performance. Incentive pay was significantly related to employee commitment and competence ( $\beta = .19$ ,  $p < .01$  and  $\beta = .16$ ,  $p < .05$ , respectively) (see Models 1 and 4 in Table III). As shown in Models 1 and 5 in Table IV, employee commitment exerted positive effects on operational and financial performances ( $\beta = .36$ ,  $p < .001$  and  $\beta = .16$ ,  $p < .05$ , respectively). Employee competence was significantly related to operational performance ( $\beta = .25$ ,  $p < .001$ ) but not to financial performance.

We tested the significance of this mediating process using the bootstrapping procedure, which is an approach that avoids the problems induced by asymmetric and nonnormal sampling distributions that often characterize mediated relationships (Mackinnon, Fairchild, & Fritz, 2007). The results indicate that incentive pay has a significant indirect effect via employee commitment on operational performance (point estimate = .003,  $p < .01$ , 95% confidence interval (CI) of .001 and .005) but not on financial performance, which partially supports Hypothesis 2. Incentive pay also exhibits a significant indirect effect on operational performance through employee competence (point estimate = .002,  $p < .05$ , 95% CI of .001 and .003) but not on financial performance, which partially supports Hypothesis 3.

TABLE II Means, Standard Deviations, and Correlations Among Study Variables

Variables	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Firm Size	5.99	1.03	—													
2. Firm Age	39.53	17.07	.22**	—												
3. High-Tech Industry	.27	.44	-.11	-.27**	—											
4. Managerial Staff Proportion	59.19	17.60	.04	-.04	.08	—										
5. Female Staff Proportion	21.51	18.76	-.08	-.08	.25**	.10	—									
6. Performance Appraisal	.15	.35	.16*	.12	-.11	-.07	-.09	—								
7. Corporate Training	.93	.25	.17*	-.03	.04	-.08	-.03	.01	—							
8. Incentive Pay	10.73	13.04	.13	-.04	.07	.02	-.04	.07	.14*	—						
9. Procedural Justice Climate	3.30	.32	.26**	.04	-.03	.12	-.14*	.12	.01	.31**	—					
10. Environmental Turbulence	2.57	.59	.11	.01	.14*	.03	.06	.01	.16*	.11	.26**	—				
11. Employee Commitment	3.26	.31	.36**	.20**	-.16*	.17**	-.21**	.09	-.01	.21**	.56**	.21**	—			
12. Employee Competence	2.77	.93	.17*	.04	.02	.03	.01	.12	-.04	.17*	.23**	.20**	.13*	—		
13. Operational Performance	3.58	.43	.26**	.06	-.13	-.04	-.02	.11	-.01	.18**	.42**	.23**	.41**	.31**	—	
14. Financial Performance	3.52	11.31	.09	.02	-.04	-.17*	-.03*	.01	-.04	.10	.19**	.08	.16*	.09	.25**	—

Notes: Unit of analysis is organization ( $N = 227$ ). Standardized beta coefficients are shown.  
\* $p < .05$ ; \*\* $p < .01$ .

**TABLE III** Results of Hierarchical Regression Analyses Predicting Employee Outcomes

Predictors	Employee Commitment			Employee Competence		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Firm Size	.34***	.17***	.16***	.14*	.09	.08
Firm Age	-.06	-.07+	-.08*	.04	.01	.02
High-Tech Industry	.10+	.11**	.10*	.02	.02	.03
Managerial Staff Proportion	.21**	.11**	.12**	.01	-.01	-.02
Female Staff Proportion	-.15*	-.08+	-.09*	.01	.02	.03
Performance Appraisal	.01	-.04	-.05	.09	.08	.08
Corporate Training	-.08	-.03	-.01	-.09	-.10	-.14*
Incentive Pay (IncentPay)	.19**	-.01	-.03	.16*	.11	.12+
Procedural Justice Climate (PJClim)		.68***	.68***		.13+	.14+
Environmental Turbulence (EnvTurb)		.02	.02		.16*	.16*
IncentPay × PJClim			.10*			.05
IncentPay × EnvTurb			.12**			-.20**
<i>F</i>	10.33***	40.68***	37.90***	1.83+	2.65**	3.03***
<i>R</i> <sup>2</sup>	.27	.65	.68	.06	.11	.15
$\Delta R^2$		.38***	.03***		.05**	.04*

Notes: *N* = 227. Standardized beta coefficients are shown.  
 +*p* < .10; \**p* < .05; \*\**p* < .01; \*\*\**p* < .001.

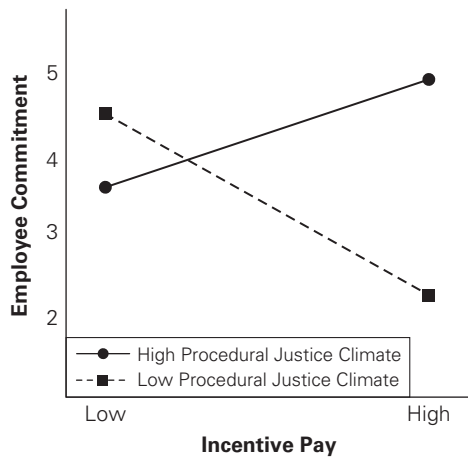
**TABLE IV** Results of Hierarchical Regression Analyses Predicting Organizational Performance

Predictors	Operational Performance				Financial Performance			
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Firm Size	.23**	.14*	.09		.11	.06	.04	
Firm Age	-.11	-.14*	-.13*		-.02	-.01	-.01	
High-Tech Industry	-.03	-.04	-.06		-.01	.01	-.01	
Managerial Staff Proportion	-.04	-.09	-.10+		-.18*	-.21**	-.22**	
Female Staff Proportion	.04	.06	.07		.01	.03	.04	
Performance Appraisal	.05	.02	.01		-.03	-.03	-.03	
Corporate Training	-.07	-.05	-.02		-.09	-.11	-.11	
Incentive Pay (Incent Pay)	.16*	.04	.02		.11	.07	.07	
Procedural Justice Climate (PJClim)		.34***	.20*			.19*	.10	
Environmental Turbulence (EnvTurb)		.14*	.10+			.04	.04	
IncentPay × PJClim		.03	.01			-.05	-.06	
IncentPay × EnvTurb		.09	.11+			-.11	-.13+	
Employee Commitment	.36***		.16	.16*			.12	
Employee Competence	.25***		.22***	.07			.01	
<i>F</i>	31.42***	3.12**	5.77***	6.23***	3.28*	1.51	1.95*	1.75*
<i>R</i> <sup>2</sup>	.22	.10	.25	.29	.03	.05	.10	.11
$\Delta R^2$			.15***	.04**			.05*	.01

Notes: *N* = 227. Standardized beta coefficients are shown.  
 +*p* < .10; \**p* < .05; \*\**p* < .01; \*\*\**p* < .001.

**Moderating Effects of Procedural Justice Climate**

Hypothesis 4 states that procedural justice climate moderates the relationships between incentive pay and the two employee outcomes. We tested the moderating effects of procedural justice climate by introducing its main effect and its interaction term with incentive pay. As reported in Model 3 in Table III, procedural justice climate exhibited a significant interaction with incentive pay in predicting employee commitment ( $\beta = .10, p < .05$ ). We conducted a simple slope analysis to clarify this significant interaction (Aiken & West, 1991). The two regression lines shown in Figure 2 confirmed that incentive pay increased employee commitment ( $b = .45, p < .10$ ) when employees perceived high organizational fairness (one *SD* above



**FIGURE 2.** Interaction Between Incentive Pay and Procedural Justice Climate in Predicting Employee Commitment

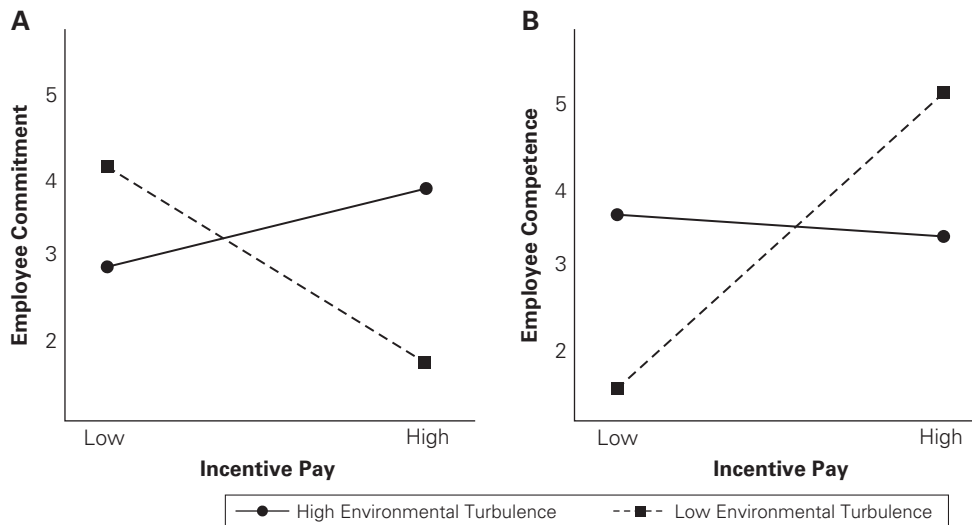
the mean), but decreased employee commitment ( $b = -.61, p < .05$ ) when employees perceived low fairness (one *SD* below the mean). However, as shown in Model 6 in Table III, incentive pay and procedural justice climate did not demonstrate a significant interaction in predicting employee competence ( $\beta = .05, ns$ ). Thus, Hypothesis 4 was partially supported.

**Moderating Effects of Environmental Turbulence**

Hypothesis 5 posits a negative moderating role of environmental turbulence. However, incentive pay and environmental turbulence had a significant positive (instead of negative) interaction in predicting employee commitment ( $\beta = .12, p < .01$ ). We conducted a simple slope analysis to examine this interaction. As shown in Plot A in Figure 3, the effect of incentive pay on employee commitment was positive for firms operating under high turbulence ( $b = .43, p < .10$ ) but negative for firms operating under low turbulence ( $b = -.78, p < .05$ ). This counterintuitive pattern will be discussed later. Consistent with our expectation, the interaction between incentive pay and environmental turbulence was significant and negative in predicting employee competence ( $\beta = -.20, p < .01$ ). As shown in Plot B in Figure 3, the effect of incentive pay on employee competence was positive only for firms operating under low turbulence ( $b = .84, p < .001$ ) but negative for firms operating under high turbulence ( $b = -.38, ns$ ), which partially confirmed Hypothesis 5.

**Post Hoc Analysis**

Although not explicitly hypothesized, the overall theoretical framework of the present study



**FIGURE 3.** Interaction Between Incentive Pay and Environmental Turbulence in Predicting Employee Commitment and Employee Competence



proposes moderated mediation, such that firm contexts (i.e., procedural justice climate and environmental turbulence) moderate the indirect effects of incentive pay on firm performance via two employee outcomes (i.e., employee commitment and employee competence). We employed the bootstrapping-based analytic approach to validate this assumption (Edwards & Lambert, 2007). The complete results of the conditional indirect effects indicated in our model are presented in Table V. The conditional indirect effects of incentive pay on operational and financial performances via employee commitment were statistically significant and negative for firms with a low procedural justice climate (point estimate =  $-.002$ , 95% CI of  $-.004$  and  $-.001$ ; point estimate =  $-.027$ , 95% CI of  $-.062$  and  $-.007$ , respectively), but insignificant for firms with a high procedural justice climate. However, the bootstrapping analysis did not exhibit any significant conditional indirect effect via employee competence on firm performance across different levels of procedural justice climate.

The bootstrapping analysis also demonstrated that the conditional indirect effects of incentive pay on operational and financial performances via employee commitment were significant and positive for firms exposed to high turbulence (point estimate =  $.004$ , 95% CI of  $.002$  and  $.007$ ; point estimate =  $.047$ , 95% CI of  $.013$  and  $.098$ ) but not for firms exposed to low turbulence. By contrast, the conditional indirect effect of incentive pay on operational performance via employee competence was positive and significant for firms exposed to low turbulence (point estimate =  $.003$ , 95% CI of  $.001$  and  $.005$ ) but not for firms exposed to high turbulence. The results did not exhibit a significant conditional indirect effect via employee competence on financial performance contingent at different levels of environmental turbulence. The overall pattern of these conditional indirect effects is consistent with the hypothesis testing results of the proposed mediation and moderation, as reported previously.

## Discussion

Deviating from the prevailing focus of the strategic reward literature on executive compensation, the present study investigated the effects of employee incentive pay on firm performance. Drawing on agency theory and its accompanying risk perspective, we clarified the intervening processes that accounted for the incentive pay–performance relationship, which was assumed but not tested. We also highlighted the roles of internal and external organizational contexts that shape the implications of incentive pay for employee

reactions and subsequent firm performance. Although the current analysis presented unexpected patterns involving the moderating role of environmental turbulence for employee commitment, the results supported the overall theoretical framework. In the subsequent subsections, we highlight the implications of the findings, limitations, and directions for future research.

## Implications for Theory and Research

Consistent with previous theoretical propositions based on the process model of SHRM (Wright et al., 2005), agency theory (Larkin et al., 2012), and efficiency wage theory (Gerhart & Milkovich, 1992), this study confirms the equifinality of incentive effects, such that incentive pay affects firm performance by instigating employee motivation and abilities. The present analysis indicates that incentive pay can be a morale-boosting practice because it signals the intention of organizations for employment stability and a positive valuation of employee contributions toward organizational goals, which enhances the membership perception and sense of attachment of employees to the organization (Du & Choi, 2010; Gerhart & Trevor, 1996). Incentive pay also generates potent willingness among employees to improve their KSAs, which are instrumental to achieve the quantity and quality of valued contribution to the collective (Osterman, 1992). These findings meaningfully extend previous studies on performance-based monetary compensation that have been mostly involved with individual-level processes (Deckop et al., 1999; Scott, 2008).

The present analysis showed that employee outcomes constitute meaningful intervening processes that accounted for the effects of incentive pay on firm performance. Of the two outcomes, employee commitment exhibited stronger direct effects on firm performance than employee competence. Our post hoc analysis of conditional indirect effects also showed greater significance of moderated mediation through commitment. With regard to the effect of incentive pay on firm performance, the collective commitment of employees was a more salient intervening mechanism than their competence. Perhaps, competence development required more time and resource investment of employees, and thus, there can be a time-lagged effect for competence, which was not detected in the current analysis. Alternatively, the stronger effect of employee commitment could

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*This study confirms the equifinality of incentive effects, such that incentive pay affects firm performance by instigating employee motivation and abilities.*

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**TABLE V** Bootstrapped Moderated Mediation

Independent Variable	Mediator	Dependent Variable	Moderator	Moderator Level	Conditional Indirect Effect	Product of Coefficients			Bootstrapping Bias-Corrected 95% Confidence Interval	
						SE	z	P	Lower	Upper
Incentive Pay	Employee Commitment	Operational Performance	Procedural Justice	Lo (Mean-1SD)	-.002	.001	2.38	<.05	-.004	-.001
		Financial Performance	Climate	Hi (Mean+1SD)	.001	.001	1.29	ns	-.001	.003
	Employee Competence	Operational Performance		Lo (Mean-1SD)	-.020	.012	1.68	<.10	-.050	-.001
		Financial Performance		Hi (Mean+1SD)	.008	.007	1.15	ns	-.001	.028
Incentive Pay	Employee Commitment	Operational Performance	Environmental Turbulence	Lo (Mean-1SD)	.001	.001	.33	ns	-.002	.002
		Financial Performance		Hi (Mean+1SD)	.004	.001	2.92	<.01	.002	.007
	Employee Competence	Operational Performance		Lo (Mean-1SD)	.003	.009	.27	ns	-.008	.030
		Financial Performance		Hi (Mean+1SD)	.029	.019	1.52	ns	-.000	.077
	Employee Competence	Operational Performance		Lo (Mean-1SD)	.003	.001	2.80	<.01	.001	.005
		Financial Performance		Hi (Mean+1SD)	.001	.000	.00	ns	-.002	.001
					.015	.025	.61	ns	-.030	.065
					-.001	.007	.11	ns	-.023	.011

Note: Bootstrap sample size = 1,000. Coefficients in bold indicate significant mediation.

be attributed to the stronger domain correspondence between incentive and commitment. If we examine an organizational practice that is more in accordance with employee competence, such as training and development or knowledge-sharing practices (Aragón-Sánchez, Barba-Aragón, & Sanz-Valle, 2003), then competence can emerge as a more salient underlying mechanism that links the given practice and performance compared with commitment. This point highlights the importance of examining specific HR practices, given that each practice can generate distinct intermediate processes that may explain different aspects of organizational outcomes (Bowen & Ostroff, 2004; Combs et al., 2006).

The analysis also showed that procedural justice climate functions as a critical contingency that channels the effects of incentive pay to employee commitment. The effect of incentive pay on employee commitment was positive only when employees perceived high organizational fairness. Notably, the incentive-performance link became negative, instead of being less positive or neutral, in firms with a low justice climate. These contrasting effects reflect the argument that, given the ambiguity of the right amount of pay, the risk bearing and acceptance of employees toward the variability of pay significantly depend on their fairness perceptions with regard to the process of resource allocation decisions (Larkin et al., 2012; Liao & Rupp, 2005). Therefore, the potential value of incentive pay on employee morale and loyalty can be achieved only when organizations convince employees about fairness in allocating resources and pay. Our analysis clearly supports the significance of the configurations of multiple practices and policies because the effectiveness of one practice depends on the presence of another practice (Kim et al., 2013; Paul & Anantharaman, 2003).

However, the moderating role of procedural justice climate was insignificant for employee competence. The collective perceptions of organizational justice seem more relevant to the affective reactions than to the KSAs of employees. Employees who experience fair treatment in their organizations are likely to reciprocate such organizational favor through affective reactions, such as loyalty and commitment, instead of enhancing their KSAs. Competence development requires a long time and considerable willingness and endeavor toward learning and development. If the moderator in question is related to employee competence, such as achievement-oriented culture or strategy-emphasizing learning, then employee competence can be strongly stimulated and function as a significant intervening process. Future SHRM studies should systematically

consider domain correspondence among the constructs under investigation.

In contrast to our hypothesis, our expectation on the moderating role of environmental turbulence for the effect of incentive pay on employee commitment was rejected, and the empirical pattern was the opposite of what we expected. Our analysis showed that the effects of incentive pay on employee commitment were positive (not negative) for firms operating under high turbulence but negative for firms operating under low turbulence. From the risk perspective, environmental turbulence is a critical situational cue that jeopardizes the income stream of employees and increases their risk perceptions and consequent negative responses toward the incentive pay system (Bloom & Milkovich, 1998). However, the notion of reciprocity in social exchange theory offers another insight.

Apparently, a turbulent environment makes forecasting outcomes and the future difficult for decision makers (Bloom & Milkovich, 1998). When their fate is uncertain and under significant threat, employers engage in desperate measures to adapt to the rapidly changing technical and market demands to overcome competitive challenges and survive (Sung & Choi, 2012). Thus, firms confronting high environmental turbulence may adopt an easy and quick solution, such as layoffs, given that reducing the workforce can generate immediate and large cost savings (Gerhart & Trevor, 1996). Under such situation, employees may regard the incentive pay system as a legitimate and inevitable strategic choice on the part of the employer instead of perceiving it as an exploitative system introduced by the management to control their behavior. Thus, employees may become sympathetic to the performance-contingent pay strategy by attributing such practice to the effort of firms to attain employment stability and mutual gains rather than to other reasons such as cost control or distrust toward employees (Deckop et al., 1999; Tsui et al., 1997). By contrast, under a stable environment, incentive pay is likely to be interpreted as an additional managerial control to suppress employees and push their efforts, which causes employees to resist. These reverse reactions of employees to the same pay system present the need to elaborate and consider internal and external contingencies further in designing and selecting the incentive pay system.

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*The risk bearing and acceptance of employees toward the variability of pay significantly depend on their fairness perceptions with regard to the process of resource allocation decisions.*

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Consistent with our expectation, the effect of incentive pay on employee competence was positive only under low environmental turbulence but not under high environmental turbulence. Under a stable environment, employees who are driven by performance-based pay can easily push themselves to enhance their KSAs, which are effective means to prepare themselves for effectively performing their tasks which may remain unchanged in the future. By contrast, under a turbulent environment where task situations and problems continually change, the demand for and the definition of competence may continuously change (Sung & Choi, 2012). Thus, employees in firms under a turbulent environment are likely to attempt to reduce their risk exposure by withhold-

Employees in firms under a turbulent environment are likely to attempt to reduce their risk exposure by withholding efforts and by sticking to the current task demands and managerial directives rather than preparing for an uncertain future with ambiguous demands for KSAs.

ing efforts and by sticking to the current task demands and managerial directives rather than preparing for an uncertain future with ambiguous demands for KSAs. These conditions are clearly detrimental to employee effort to develop competence based on the current task demands. Therefore, under a highly turbulent environment, organizations may need to encourage an innovative climate, training for flexibility and proactivity, and risk-taking behavior to improve employee adaptability and readiness to perform under unpredictable and unstructured task situations. These speculations offer intriguing theoretical possibilities that the external environment determines the effectiveness of different HR practices in organizations that deal with various business contexts.

#### **Study Limitations and Conclusion**

The present research design has several strengths, including time-lagged and multi-source data, a large sample at the firm level, and the use of objective indicators of incentive pay and financial performance. However, the findings should be interpreted with caution in consideration of the limitations of this study. First, unlike the financial performance measure assessed two years after employee commitment and competence, operational performance was reported by managers at the same time as the collection of the employee outcome measures. This design feature may explain the stronger effects of employee outcomes on operational performance than on financial performance, setting aside the fact that financial performance can be driven by a number

of factors inside and outside the organization (Katou, 2009; Shipton et al., 2006). Further empirical studies may address this issue to compare different outcomes on an equal footing.

Second, the data were based on abbreviated scales of employee commitment and procedural justice climate because of the practical limitations of field data collection. Although these scales contained the target conceptual domains for the corresponding constructs and exhibited sound psychometric properties, the use of abbreviated scales could still limit the validity of the findings. Some items of procedural justice climate addressed the general procedural justice issue, which represented the overall organizational justice rather than justice specifically related to compensation-related decisions. Therefore, the empirical pattern should be interpreted by considering such generalized notion of procedural justice in the measure. Moreover, these two scales were reported by employees during the same period, although the concern for the common method variance might not be a serious threat to the findings given the current focus on interaction effects. Future studies may replicate the present theoretical propositions using the complete set of items as originally validated and reported by different sources to reduce concerns related to the common method variance.

Third, deviating from previous studies that relied mostly on the subjective measures of the availability of incentive compensation (Macky & Boxall, 2007; Wright et al., 2005), we measured the actual proportion of performance-contingent incentive pay to the total amount of employee salary (Kim et al., 2013). Nevertheless, we did not consider employee functions or hierarchical ranks. Given that managers or workers in marketing/sales and R&D functions tend to receive higher incentive pay, future studies should examine the effects of incentive pay across different groups of employees.

Finally, the research setting can affect empirical patterns because HR practices are shaped by idiosyncratic management styles and culture, and organizations in emerging markets are frequently characterized by distinct managerial philosophy and organizational culture (Quick & Kim, 2009). Du and Choi (2010) reported that culture distance could affect the effectiveness of performance-contingent incentive pay because of the cultural clash between individualistic orientations in most Western countries and the collectivistic values in emerging markets. Similarly, the strong Confucian values shared among Korean employees could generate negative inclinations toward materialistic practices, such as incentive compensation based on the economic labor market model. Thus,



future studies may need to investigate the distinct roles of incentive-driven pay structures in other cultural contexts.

Despite these limitations, this study makes meaningful contributions to the strategic reward literature by elaborating and empirically examining intermediate processes, as well as internal and external contingencies. Given the significance of human capital in achieving organizational goals, further theoretical and empirical endeavors should be directed to other specific HR practices (e.g., training and development) with regard to their effects on employee competence/self-efficacy and attitudes toward risk, and subsequent individual and firm performance. These endeavors should reveal favorable configurations and balances among multiple components of organizational policies and practices and among critical contingencies internal and external to an organization. Furthermore, although we have isolated critical firm contingencies, future studies may investigate the potential moderating effects of the personal characteristics of employees (e.g., self-confidence, proactive personality, growth need strength, instrumentality perceptions, and risk

taking/tolerance) and other organization-specific contexts (e.g., firm size, culture, resource availability, technological focus, bureaucracy, and prior performance). Moreover, although we identified employee commitment and competence as critical employee outcomes, actual employee performance, including quantity and quality dimensions, should be considered for sophisticated understanding of the incentive pay–performance relationship (Shaw & Gupta, 2015). Besides the aspects of employee outcomes, considering additional intermediate processes (e.g., sorting processes of firms) that may account for the incentive pay–performance connection can be a promising venue for further studies. These additional empirical investigations and the integration of other theoretical perspectives beyond the agency and risk perspectives should further advance our understanding of incentive pay effects on various employee outcomes and subsequent firm performance.

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