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Right on the Money? The Contingent Effects of Strategic Orientation and Pay System Design on Firm Performance

RUNNING TITLE: Right on the Money?

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Abstract

This paper extends prior research on the performance implications of the fit between a firm's strategic orientation and its pay system design. Whereas prior research has shown that matching the pay system design to the strategic orientation of the firm generally contributes to higher performance, most studies have examined the pay systems of the upper echelons and employees separately. Based on an analysis that accounts for both horizontal and vertical pay dispersion, we find that whereas growth-oriented firms (prospectors) tend to benefit from high horizontal pay dispersion, efficiency-oriented firms (defenders) perform better with high vertical pay dispersion and low relative base pay. Overall, our findings contribute to an improved understanding of how to optimize the pay systems of firms with different strategic orientations.

Managerial summary

We study how the optimal configuration of the overall pay system differs between firms that pursue growth-oriented and efficiency-oriented strategies. Our results show that growth-oriented firms (prospectors) benefit from pay structures with relatively large pay differentials *horizontally* between employees based on ability, effort, and results. Efficiency-oriented firms (defenders), on the other hand, benefit from pay structures with relatively larger differences in pay across organizational levels *vertically*. Our findings suggest that while defenders should pay special attention to average pay levels to avoid overcompensating their employees relative to competitors, prospectors should pay attention to the CEO-employee pay differentials to avoid overcompensating executives relative to employees. Overall, our findings provide further evidence on the importance of matching the pay system design to a firm's strategy.

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INTRODUCTION

Whereas the importance of matching a firm's pay system to its strategy is well understood (e.g., Balkin and Gomez-Mejia, 1987, 1990; Gomez-Mejia, 1992; Montemayor, 1996), relatively few studies have examined strategic pay systems spanning multiple organizational levels (e.g., Boyd and Salamin, 2001). One reason for this is that the prior research on strategic pay system design has tended to progress in two separate research streams, one of which primarily focuses on employees (e.g., Balkin and Gomez-Mejia, 1987, 1990; Gomez-Mejia, 1992; Montemayor, 1996), while the other primarily focuses on the upper echelons (e.g., Rajagopalan, 1997; Rajagopalan and Finkelstein, 1992). Moreover, most of the prior research on the fit between a firm's strategic orientation and its pay system design has tended to focus on the pay system design choices that lead to individual differences at the same organizational level (horizontally) and across organizations with different strategic orientations (for a review, see Gomez-Mejia, Berrone, and Franco-Santos, 2010). In contrast, differences in pay across organizational levels (vertically) have received less attention (Shaw, 2014).

However, in the 30 years since the publication of the pioneering articles on the strategic contingencies of pay system design (e.g., Balkin and Gomez-Mejia, 1987, 1990; Gomez-Mejia, 1992), vertical pay dispersion, measured as the gap between top executives and employees, has grown significantly wider (Tsui, Enderle, and Jiang, 2017), making this issue an important additional dimension to consider in strategic pay system design. Prior studies that have addressed vertical pay dispersion have focused either on pay disparities within the top management team or on pay disparities between top executives and other managers, with limited attention to the pay gap between top executives and employees (Connelly *et al.*, 2016; Wowak, Gomez-Mejia, and Steinbach, 2017).

In this paper, we build on the different streams of strategic pay system design research and show how three core elements of a firm's overall pay system design—horizontal pay

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dispersion across individuals, the level of base pay, and vertical pay dispersion across organizational levels—contribute to firm performance. We build on the research of Balkin and Gomez-Mejia (1987, 1990), Gomez-Mejia (1992), Montemayor (1996), and Rajagopalan (1997) and examine how different pay system configurations affect the performance of firms with different strategic orientations. We argue that an optimal combination of the key pay system elements will differ for firms with different strategic orientations. We draw on some of the recent theoretical ideas that emphasize the importance of taking into account an organization's social fabric when optimizing its employee pay system design (e.g., Larkin, Pierce, and Gino, 2012; Nickerson and Zenger, 2008).

Based on a survey of 86 organizations' pay systems complemented with archival firm performance data, we find that growth-oriented firms (prospectors) benefit from a pay system that emphasizes a high level of horizontal pay dispersion. In contrast, efficiency-oriented firms (defenders) have higher performance when using a pay system that has a high level of vertical pay dispersion and low base pay. Overall, our findings contribute to the contingency theory of strategic compensation (Balkin and Gomez-Mejia, 1987, 1990; Rajagopalan, 1997) by showing that both horizontal and vertical dimensions are important to account for in the design of a pay system in order to successfully realize the potential of a firm's strategic orientation.

MATCHING PAY SYSTEM DESIGN TO FIRM STRATEGY

Research on the match between a firm's strategy and its pay system builds on the core contingency theory argument that finding a good fit between the elements of the pay system and a firm's strategy is positively related to firm performance (Balkin and Gomez-Mejia, 1987, 1990). Whereas early research on the fit between a firm's strategy and its pay system design predominantly used diversification as a strategy measure, more recent studies have operationalized firm strategy as the firm's strategic orientation (Montemayor, 1996;

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Rajagopalan, 1997; Rajagopalan and Finkelstein, 1992), an approach that was originally developed by Miles and Snow (1978). Accordingly, firms can be divided into *prospectors*, *defenders*, *analyzers*, and *reactors* based on their strategies.

Most of the research on the fit of a firm's strategic orientation with its pay system design has used a simplified version of the Miles and Snow typology and focused on the differences between growth-oriented prospectors and efficiency-oriented defenders in relation to analyzers or reactors. This is because defender and prospector firms can be considered in many respects to be mirror images of one another not only in terms of their strategic emphasis but also in terms of the human resource management practices considered appropriate (Miles and Snow, 1978). In one of the first studies in this research stream, Rajagopalan and Finkelstein (1992) found that prospectors tend to offer considerable discretion for top management and therefore, that they also need to compensate them with both higher base pay and higher bonus pay. By contrast, efficiency-oriented firms (defenders) enable less discretion and thus tend to offer lower base pay and bonuses to top management.

Following a similar type of reasoning, Rajagopalan (1997) argued that prospectors face greater uncertainty because of their focus on new products and markets. As this uncertainty translates into more managerial discretion and difficulty in specifying the desired managerial behaviors, there should be a greater emphasis on longer-term management incentives that are linked to stock performance to promote risk and encourage longer-term thinking. Consistent with this hypothesis, Rajagopalan (1997) found that prospectors indeed had higher performance when longer-term stock plans were emphasized and that defenders performed better when they emphasized shorter-term bonus plans for managers. However, it is unclear whether and when the conclusions drawn from executive compensation can be extended to a nonexecutive pay system design.

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The research on organization-wide compensation strategies has found that firms' compensation patterns can be presented along a continuum between the two poles of algorithmic and experiential compensation strategies (Gomez-Mejia, 1992). Accordingly, an algorithmic compensation strategy is mechanistic, predetermined, standardized, and relies on repetitive procedures (for example, fixed pay rather than incentives and authoritarian, centralized pay system design). In contrast, experiential compensation strategy is flexible and adaptive so that it can be molded to respond to changing circumstances (for example, variable pay as a major proportion of total pay and the decentralization of decision-making). According to Gomez-Mejia *et al.* (2010), prospectors score the highest on the experiential dimension, whereas defenders seem to assume a more algorithmic compensation strategy. However, empirical studies of the extent to which fit with these compensation strategies contributes to the performance of prospectors and defenders have been limited. Specifically, there is little evidence about whether different elements of pay systems that often occur together also contribute to better firm performance (Gerhart and Rynes, 2003).

Recently, research in the strategic pay domain has been criticized for focusing too closely on executive compensation and not taking into account the organization's social fabric (Larkin *et al.*, 2012; Nickerson and Zenger, 2008). According to this literature, firms must balance the potential benefits (e.g., the expected performance and productivity gains) against the direct and indirect costs (e.g., labor and social comparison costs) within the overall pay system design. Consistent with this critique, we argue that because the expected behaviors are different in defender and prospector firms, there is indeed a need for different pay system designs that reflect the differences in employee-organization relationships (Jia *et al.*, 2014; Tsui *et al.*, 1997) for firms with different strategic orientations. Therefore, we expect the different pay system design parameters—the level of horizontal pay dispersion, the level of base pay for regular employees, and vertical pay dispersion across organizational levels—to have a different effect

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on the performance of prospector and defender firms. We outline our predictions related to each element next in our hypothesis section.

The role of horizontal pay dispersion

One of the central choices regarding the overall pay system design is the extent to which individuals are paid based on differences in their ability, effort, and results. Recent research has concluded that pay differentials based on capability differences can help firms retain high performers (Carnahan, Agarwal, and Campbell, 2012) and enhance team performance if they are used to secure valued inputs from employees (Trevor, Reilly, and Gerhart, 2012). Overall, the prior research suggests that financial incentives can have a powerful effect on aggregate performance through incentive and sorting effects (Shaw and Gupta, 2015).

Despite their potential, however, the positive effects of these practices may not materialize similarly across different contexts. For example, Balkin and Gomez-Mejia (1987; 1990) found that pay system design choices that increase horizontal pay dispersion, such as individual incentives, paying for performance, skill-based pay, and pay decentralization were specifically related to the effectiveness of growth strategies. Similarly, Montemayor (1996) found that incentive-to-base pay ratio and the range of merit raises were higher in innovators than cost leaders (or differentiators). Some degree of homogeneity in pay system design choices within a company is, nevertheless, to be expected. For example, research on organizational governance has found that if powerful equity holders impose performance-based incentives at the top, these upper echelons are likely to develop similar pay policies and practices at lower levels to mimic the risks they incur (Werner, Tosi, and Gomez-Mejia, 2005).

We argue that since desirable behaviors are different in prospector and defender firms, incentives are likely to have different effects. Prospectors face greater uncertainty because of their focus on new products and markets; therefore, not only managers (Rajagopalan, 1997)

but also individuals at all levels of the organization need to be innovative and responsive to external growth opportunities. This need corresponds to the idea of Burgelman (1983a; 1983b) regarding autonomous innovation, where team leaders should also focus on identifying external opportunities for innovation. Instilling this type of entrepreneurial alertness in an organization requires an incentive system that rewards innovators for their innovative behaviors. More than thirty years ago, Miles and Snow (1978) asserted that highly innovative companies need flexible and decentralized administrative systems and results-oriented reward systems. This suggestion is also in line with meta-analytic evidence that has demonstrated that individual incentives have a *stronger* effect on performance when tasks are complex (Garbers and Konradt, 2014).

In contrast, efficiency-oriented defenders are often under pressure to focus on standardized processes and practices that foster efficiency instead of creative strategies and autonomous innovative behavior (Miles and Snow, 1978). Incentives may motivate risk taking, which is generally not desired in firms with a defender strategic orientation (Rajagopalan, 1997). Introducing incentives based on sharing risk between employees and the employer may be costly because firms must pay workers a premium for taking on any risk in pay uncertainty (e.g., Larkin *et al.*, 2012); therefore, incentives might not be as beneficial for firms with an efficiency strategy that are seeking to reduce costs. Furthermore, in a standardized work setting, inequity concerns among employees performing similar tasks can lead to reduced effort and behavior grounded in envy (Nickerson and Zenger, 2008). Therefore, defenders should favor more harmonious pay structures (horizontal wage compression or scaled wages, Larkin *et al.*, 2012; Nickerson and Zenger, 2008), with relatively low variation in pay among employees performing similar jobs.

Thus, consistent with Gomez-Mejia (1992) we theorize that an “experiential” pay system design that includes elements that lead to a higher level of horizontal pay dispersion provides

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a better fit with a growth (prospector) orientation. In contrast, a pay system with a more “algorithmic” approach and therefore a lower level of horizontal pay dispersion provides a better fit with an efficiency (defender) orientation.

Hypothesis 1. A pay system with a higher emphasis on horizontal pay dispersion will have a stronger positive effect on firm performance among prospectors than among defenders.

The role of the relative base pay

Balkin and Gomez-Mejia (1990) found that a growth orientation for a firm, rather than a maintenance (efficiency) orientation, is often associated with lower base pay. They argued that lower base pay allows a growth firm to “free up scarce dollars in the short run” that can be used to finance longer-term expansion. However, later research (Boyd and Salamin, 2001; Rajagopalan and Finkelstein, 1992) has found evidence to the contrary: growth strategies are often linked to higher base pay. This supports the reasoning that since growth strategies are riskier, managers should also be rewarded with higher salaries to compensate for the higher risk. Previous research on executive pay has argued that a greater overall pay is needed in innovative contexts in order to reduce the likelihood of voluntary turnover (e.g., Cho and Shen, 2007). Extending this logic to the firm level, we argue that a higher level of base pay is needed to compensate for the risk-adjusted opportunity costs of entrepreneurial employees to stay in a firm and to motivate innovative behaviors (Jia *et al.*, 2014).

By contrast, in efficiency-oriented defender firms, the relative base pay must be relatively low such that the firm is able to realize its efficiency-oriented strategy. If the base pay of an efficiency-oriented firm starts dramatically increasing due to the bargaining power of unions, for example, it could have negative effects on an efficiency-oriented firm’s ability to defend its market position, resulting in an unbalanced, overinvested employee-organization relationship (Tsui *et al.*, 1997). Thus, building on the points set forth above, we hypothesize that a higher

level of base pay is more performance enhancing in growth-oriented prospector firms than in efficiency-oriented defender firms.

Hypothesis 2. A pay system with higher relative base pay will have a stronger positive effect on firm performance among prospectors than among defenders.

The role of vertical pay dispersion

In contrast to differences across individuals within an organizational level or job category (*horizontal* pay dispersion), prior research has paid only limited attention to the effects of differences in pay across hierarchical levels (*vertical* pay dispersion) in an organization (Shaw, 2014). Vertical pay dispersion has been found to have positive effects on firm performance in some contexts but not in others (Beaumont and Harris, 2003; Gupta, Conroy, and Delery, 2012). Furthermore, prior research has shown that the effect of vertical pay dispersion can be different from that of horizontal pay dispersion (e.g., Ding, Akhtar, and Ge, 2009).

We argue that although vertical pay dispersion can contribute in some contexts to higher firm performance due to the incentive to seek promotion, vertical pay compression might be adopted in other contexts due to social comparisons costs (Larkin *et al.*, 2012; Nickerson and Zenger, 2008). While horizontal pay compression could be expected to represent the most optimal option for defenders that aim at standardizing jobs, vertical pay compression could be expected to be the best fit for prospectors to motivate innovative behaviors at all organizational levels. We expect vertical pay dispersion to be demotivating in growth-oriented firms because innovators at lower levels, despite their innovative efforts, will see higher-level management expropriate most of the gains through their high overall compensation.

This prediction is in line with research on social comparisons that has shown that upward social comparisons are likely in the presence of role ambiguity and task autonomy (Brown *et al.*, 2007), both representing qualities of a prospector firm that favors a low division of labor

and a low degree of formalization (Miles and Snow, 1978). Moreover, previous research has found that vertical pay dispersion can lead to impaired innovation through voluntary turnover (Wang, Zhao, and Thornhill, 2015).

By contrast, for defender firms, a greater pay dispersion between top management and operative employees could be expected to improve firm performance by enhancing the perception of hierarchical roles and by causing stricter rule following in the lower levels of the hierarchy. In contrast to those in prospector firms, employees in defender firms are also likely to be employed for more standardized tasks, where performance variability within a particular task is more limited. Thus, if firms seeking efficiency standardize jobs and tie pay differentials to job grades (Tsui *et al.*, 1997), the highest motivational effects could be expected to be achieved by creating a higher level of vertical pay dispersion between jobs. Wider spreads in pay differentials across hierarchical roles provide employees a signal of workers' future earnings (Clark, Kristensen, and Westergård-Nielsen, 2009), motivating high performers to stay with the firm to compete for more demanding jobs, in line with the tournament theory (DeVaro, 2006). Thus, we hypothesize as follows:

Hypothesis 3. A pay system with high vertical pay dispersion will have a stronger positive effect on firm performance among defenders than among prospectors.

In summary, we argue that firms with a growth or innovation orientation (prospectors) should offer a relatively high base salary to secure employee commitment and incentives to motivate innovative behaviors and risk taking. Moreover, as lower level employees are important for innovative performance and could at any point leave to start their own firms, the vertical pay dispersion cannot be too high. By contrast, firms that primarily compete with efficiency-based strategies (defenders) would benefit from lower salaries coupled with horizontal pay compression for standardized jobs, enhancing the ability of the firm to realize

stricter cost control and realizing a lower level of social comparison costs between employees performing similar jobs. In this context, a high vertical pay dispersion would enhance the perception of hierarchical roles and simultaneously provide a signal of future earnings for high performers to stay within the firm and to compete for more demanding jobs.

METHOD

Sample

Our empirical study was conducted as a survey. A random sample of 955 companies was retrieved from the archives of Statistics Finland to inquire about their pay system design. We first called each of these companies to obtain the email addresses of key informants: managers responsible for compensation issues. The respondents then received an electronic survey inquiring about the firm's strategy, pay system design, and performance. Altogether, 114 responses from unique companies were received, with an effective response rate of 13%¹. Most respondents were HR managers (n = 67), CEOs (n = 18) or financial managers/administrators (n = 13), and the rest could be categorized as "other" (n = 16). The respondents had been employed by the company for an average of 13 years. Most respondents (79 percent) had participated in the strategic process of their company. In addition, we retrieved branch-specific firm performance data from an external archival source called the Voitto+ database. Due to incomplete financials in connection with some of the firms, the effective sample size for analyzing the impact of strategic orientations and pay system design on financial performance was reduced to 86.

We tested for response bias by conducting an archival analysis in which we compared respondents to non-respondents in terms of variables contained in two archival databases

¹ The overall sample size was N=137. We selected distinct companies and excluded business units (n=23) from this study as we wanted to make sure our observed firms were independent in their strategic choices.

(Rogelberg and Stanton, 2007). As the companies were randomly selected from different industries, we used information from Statistics Finland to study whether our sample was more representative of some industries than others. We compared the proportion of observations in our sample with the distribution of firms in different industries in Finland the year our data were collected. This comparison revealed that our data were more representative of manufacturing industries than wholesale and retail trade industries. To alleviate the consequent potential bias, we included manufacturing and retail industry dummy variables in our analyses. Otherwise, our data were quite well-balanced, representing a variety of industries. To assess whether the companies in our sample performed better or worse than other companies within their industries, we compared the profit margins and revenue growth rates of the companies in the sample to the corresponding industry averages using the Voitto+ database. The t-tests were not statistically significant (profit margin $t = -1.520$, $df = 85$, $p\text{-value} = 0.246$; change in revenue $t = 1.137$, $df = 82$, $p\text{-value} = 0.101$), further alleviating concerns of non-response bias.

Measures

Firm strategic orientation. To determine a firm's strategic orientation, we used the 14 items of Rajagopalan's (1997) measure, which is based on the Miles and Snow typology. The respondents were asked the question "To what extent does your firm emphasize the following in your strategies?" Responses were given on a 5-point Likert Scale from 1 = least emphasized to 5 = most emphasized. The responses were then analyzed using factor analysis with the maximum likelihood extraction method and varimax rotation. Five factors emerged that explained 51 percent of the variance: efficiency-oriented, domain expansion, market innovation, technological innovation, and market penetration strategies (for the specific loadings, see the Table 1; cf. Rajagopalan, 1997). We utilized the factor scores of these dimensions for a K-means clustering algorithm to identify the firms' strategic orientations.

Similar to Rajagopalan (1997), we used Tukey's tests for multiple comparisons to examine pairwise differences among the clusters along the five strategy measures. Table 2 shows the three clusters identified through the K-means clustering.

 INSERT TABLES 1 AND 2 ABOUT HERE

Cluster 1 firms represented the most innovative firms in the sample, with both growth and high-risk elements in their firm strategy. These firms concentrated on market innovation, technological innovation, and market penetration strategies. Hence, the 44 firms in this cluster were called prospectors. Cluster 2 firms scored the highest among firms in all three clusters on efficiency-oriented strategies and the lowest on market innovation strategies. Consistent with the description of the Miles and Snow typology (combination of low cost and low risk), the 24 firms in Cluster 2 were labeled defenders. Cluster 3 firms were mostly concentrated on growing through market innovation (i.e., competitive rates and target pricing) and domain expansion (i.e., acquisitions and geographical expansion) and were thus labeled analyzers.

Horizontal pay dispersion. Based on prior research on fundamental choices about pay system design (Gomez-Mejia, 1992), we constructed a five-item index that depicts the extent to which pay is administered flexibly to reward individual differences in the performance and qualifications of employees. We asked the respondents to consider “employees who perform tasks at the core of your organization’s business”. The respondents were asked to indicate on a five-point scale the extent to which the pay systems emphasized the following elements: individual qualifications of the employee (versus task of the employee), individual performance (versus organizational membership), managers’ discretion in pay decisions (versus organizational framework for pay levels), and flexibility (versus bureaucracy). We chose to measure the pay system design elements that indicate a higher level of horizontal pay dispersion instead of their exact magnitudes, consistent with Rajagopalan (1997), who noted

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that previous studies that have examined the properties of various compensation plans instead of the amounts actually awarded under such plans have yielded more consistent findings.

Relative base pay. We asked the respondents whether the base pay of employees was below, at, or above market levels (Gerhart and Milkovich, 1990). The question was formulated as follows: “How do your (1) *entry-level* and (2) *average* salary rates compare with those of other employers in the same geographical area doing similar work?” We asked the respondents to consider “employees who perform tasks at the core of your organization’s business”. The responses were given on a scale from 1 (considerably lower than others) to 5 (considerably higher than others), and we used the mean value of the two responses. This variable corresponds to what in prior research has been referred to as “salary market policy” (Gomez-Mejia *et al.*, 2010), “lead market pay policy” (Gomez-Mejia, 1992), “market positioning” (Balkin and Gomez-Mejia, 1990), or “pay level policy” (Montemayor, 1996).

Vertical pay dispersion. We operationalized vertical pay dispersion as a pay range (Gupta *et al.*, 2012; Kepes, Delery, and Gupta, 2009). The respondents were asked to report the total compensation (base pay and incentives) of the lowest-paid employee and the highest-paid executive. The mean compensation for lowest-paid employees was 2,204 euro (SD 2.68) per month, and the mean total compensation for the highest paid executive was 20,438 euro (SD 36.93) per month. These values are consistent with the general compensation levels in Finland (for a global comparison, see Tsui, Jiang, and Enderle, 2016). Consistent with prior research, we subtracted employee earnings from executive earnings and used a log-transformed score to form a relative measure of pay variation. Low values on this measure indicate vertical pay compression, and high values indicate vertical pay dispersion (Cerasoli, Nicklin, and Ford, 2014; Pohler and Schmidt, 2016).

Firm performance. We used two sources of data for firm performance. Finland is a unique country in that private firms’ annual financials, including their income statements and

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balance sheets, are publicly available. We retrieved branch-specific firm performance data from an archival company database. As the companies were randomly selected for the study from various industries, we utilized branch-specific percentile comparisons to categorize the profit margins of companies by using the archival database. We complemented this measure with productivity data, as financial performance measures might not always be optimal from the perspective of prospectors that may deliberately choose to sacrifice profitability at the expense of investments in the future. However, because data on firm productivity are not systematically available across industries, we asked the respondents to assess the productivity of their firm relative to other firms in the same industry on a five-point scale. The scale also included an “I don’t know” option, which we treated as missing data.

Control variables. We controlled for industry effects using industry sector dummies for manufacturing firms (44.7 percent), retail firms (10.5 percent), and service firms (44.7 percent). The industry codes were extracted from the database of Statistics Finland. We also controlled for the level of productivity or growth in the past three years to account for the concurrent effect of past performance on pay system design and prospective firm performance, and we used the size of the company, measured as a natural log of the personnel headcount (mean 1,075 employees, SD 3534), to control for scale advantages. We also controlled for firm age as the natural log of number of years from the founding date of the firm.

We controlled for the extent to which work was organized in teams (measured as a percentage) and employee training (the average number of days employees received training). Developmental rewards, such as access to training, are alternative ways to signal to employees that employers are willing to invest in their human capital (Jia *et al.*, 2014). We also wanted to make sure that the potential effects of incentives would not be driven by the extent to which work was organized in teams (Gerhart, Rynes, and Fulmer, 2009). Finally, to control for the effect of labor unions, we included a self-reported measure of the extent to which the collective

bargaining agreements affected pay system design, answered on a five-point scale. The effect of labor unions was controlled for because they tend to have a strong preference for flatter pay structures, solidarity and less managerial control. The presence of collective bargaining may also relate to firm performance (e.g., Brown, Sturman, and Simmering, 2003).

Statistical methods. We performed multiple regression analysis (OLS) with White's robust estimators. Since our hypotheses stated that the pay system design variables moderate the effect of a firm's strategic orientation on firm performance, we used multiple regressions to test our hypotheses (Cohen and Cohen, 1983). We centered all control and moderator variables before running analyses and entering interaction product terms (Aiken and West, 1991). Following the suggestions of Cohen, Cohen, West and Aiken (2003), we separately analyzed the statistically significant interactions by investigating the simple slopes at values of +/- one standard deviation for the moderating variable.

RESULTS

Table 3 reports the means, standard deviations, and correlations for all variables. As is to be expected, vertical pay dispersion is positively related to the size ($r = .649, p\text{-value} = 0.000$) and age of the firm ($r = .262, p\text{-value} = 0.043$). Moreover, defenders are somewhat more likely to have a higher vertical pay dispersion ($r = .287, p\text{-value} = 0.026$). Horizontal pay dispersion is negatively related to the effect of labor unions on pay system design ($r = -.503, p\text{-value} = 0.000$). Horizontal and vertical pay dispersion are negatively related to one another ($r = -.292, p\text{-value} = 0.024$), suggesting that on average, firms opt for either one or the other. The correlation between the two performance measures, profitability and productivity, is $r = .416$. Otherwise, pay system characteristics, strategy and firm performance do not seem to be significantly related to one another.

 INSERT TABLE 3 ABOUT HERE

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Tables 4 and 5 present the results of our regression analysis. Model 1 is the baseline model that includes all control variables. Model 2 adds the two strategic orientation measures: prospector and defender (analyzer strategy serves as the base category for comparison). In Models 3, 5 and 7, we introduce the focal pay system variables separately: horizontal pay dispersion, relative base pay, and vertical pay dispersion. Models 4, 6 and 8, respectively, add the two interaction terms between the prospector and defender strategy and the focal pay system variable.

In Hypothesis 1, we predicted that horizontal pay dispersion would have a stronger positive effect on firm performance for prospectors than for defenders. In the regression, we find that the defender \times horizontal pay dispersion interaction in Model 4 (Table 4) is negative for profitability ($\beta = -0.919$, $p\text{-value} = 0.036$). A simple slopes analysis further confirms that the effect is positive ($\beta = .358$, $p\text{-value} = 0.033$) for strategies other than defenders, whereas it is not statistically significant for defenders ($\beta = -.560$, $p\text{-value} = 0.179$). Moreover, the prospector \times horizontal pay dispersion interaction in Model 4 (Table 5) is positive for productivity ($\beta = 0.605$, $p\text{-value} = 0.012$). The simple slopes analysis further confirms that the effect is positive for prospectors ($\beta = .467$, $p\text{-value} = 0.004$) and not statistically significant for other strategies ($\beta = -.138$, $p\text{-value} = 0.338$). Adding the interactive effect of strategic orientation and horizontal pay dispersion to the models explains an additional 7.6 percent of the variance in profitability and 7.4 percent of the variance in productivity compared to the main effect models. Consistent with Hypothesis 1, firms with a prospector orientation would indeed appear to benefit from horizontal pay dispersion, whereas firms with a defender orientation would not seem to benefit.

In Hypothesis 2, we predicted that a higher relative base pay for operational employees has a stronger positive effect on firm performance for prospectors than for defenders. The

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defender \times relative base pay interaction in Model 6 (Tables 4 and 5) is negative for both profitability ($\beta = -1.666$, $p\text{-value} = 0.001$) and productivity ($\beta = -0.769$, $p\text{-value} = 0.010$). The simple slopes analysis further confirms that the effect on profitability is negative for defenders ($\beta = -1.572$, $p\text{-value} = 0.000$) and not statistically significant for other strategies ($\beta = .095$, $p\text{-value} = 0.657$). Similarly, the effect of relative base pay on productivity is likely to be more negative for defenders ($\beta = -.448$, $p\text{-value} = 0.052$) than for other strategies ($\beta = .321$, $p\text{-value} = 0.067$). Adding the interactive effect of strategic orientation and relative base pay to the models explains an additional 12.0 percent of variance in profitability and 3.3 percent in productivity, compared to the main effect models. The prospector \times relative base pay interactions are not statistically significant (see Tables 4 and 5). Thus, somewhat contrary to Hypothesis 2, we do not find support for a positive effect of relative base pay for prospectors. However, consistent with our prediction, firms with defender strategic orientations appear not to benefit from relatively high base pay levels. Instead, we find that defenders seem to suffer from relatively high base pay levels for operational employees.

In Hypothesis 3, we predicted that high vertical pay dispersion would have a stronger positive effect for defenders than for prospectors. The defender \times vertical pay dispersion interaction in Model 8 (Table 4) is positive for profitability ($\beta = .484$, $p\text{-value} = 0.015$). The simple slope analysis further shows that the effect is positive for defenders ($\beta = .490$, $p\text{-value} = 0.019$) and not statistically significant for other strategies ($\beta = .006$, $p\text{-value} = 0.971$). In addition, the prospector \times vertical pay dispersion interaction in Model 8 (Table 5) is negatively related to productivity ($\beta = -.400$, $p\text{-value} = 0.005$). The simple slope analysis further confirms that the effect is positive for other strategies ($\beta = .286$, $p\text{-value} = 0.000$) and not statistically significant for prospectors ($\beta = -.114$, $p\text{-value} = 0.366$). Adding the interactive effect of strategic orientation and vertical pay dispersion to the models explains an additional 7.3 percent of variance in profitability and 3.7 percent in productivity, compared to main effect models.

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Thus, defenders appear to benefit from high vertical pay dispersion, whereas prospectors do not appear to benefit from it, consistent with Hypothesis 3. We also plotted the moderating effects into separate graphs (see Figures 1-6).

INSERT TABLES 4-5 AND FIGURES 1-6 ABOUT HERE

Supplemental Analyses

Previous studies have found support for the fit between two basic elements in the pay system design: base pay level and vertical pay dispersion (Brown *et al.*, 2003; Yang and Klaas, 2011). Therefore, we test in a supplementary analysis whether there is an interaction between the two. Controlling for other factors (Model 1) and the baseline effect of firm strategic orientation on firm profitability (Model 2), we also find in our data some support for the existence of fit between vertical pay dispersion and the relative base pay level ($\beta = -.528$, $p\text{-value} = 0.056$). The simple slope analysis at ± 2 SD further confirms that while that effect of vertical pay dispersion is marginally positive when relative base pay is low ($\beta = .953$, $p\text{-value} = 0.079$), it is marginally negative when relative base pay is high ($\beta = -1.116$, $p\text{-value} = 0.075$). These results suggest that firm profitability is higher when either a combination of low base pay and high vertical pay dispersion or a combination of high base pay and low vertical pay dispersion is used, in contrast to the high-high combination. This is in line with our hypotheses, as we predicted that prospectors would benefit from a combination of high relative base pay and low vertical pay dispersion, whereas defenders would benefit from a combination of low relative base pay and high vertical pay dispersion. We do not, however, find support for a curvilinear interactive effect, as proposed in prior research (Brown *et al.*, 2003; Yang and Klaas, 2011).

We predicted that horizontal pay dispersion would have a stronger positive effect on firm performance for prospectors than for defenders (H1), whereas the reverse would be true for

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vertical pay dispersion (H3). Another way to operationalize the notion of incentivizing autonomous innovation and risk taking throughout the organization while minimizing hierarchical status differences in pay would be to consider alternatives to traditional promotion options prevalent in hierarchical organizations, such as the degree to which employees are eligible to receive aggregate incentives (e.g., gain sharing and/or profit sharing). Miles and Snow (1978) asserted that prospectors should benefit from results-oriented reward systems (e.g., aggregate incentives). In line with this reasoning, Park and Kruse (2014) found that aggregate incentives had a more positive effect on financial performance in more innovative firms than in less innovative firms. Conversely, previous research has found that profit-sharing plans might initiate processes in which employees will demand to have a greater influence in how the enterprise is managed (Ogden, 1992), and gain sharing might not fit contexts in which there are bureaucratic or clan controls (Mangel and Useem, 2000). For all of these reasons, we expect that a higher coverage of the employees in these aggregate incentive plans would provide a better fit for prospectors than for defenders.

We measured incentive eligibility throughout the organization (Pohler and Schmidt, 2016) by asking the respondents about the extent to which their employees were covered by profit- or gain-sharing practices. In slightly more than half (59 percent) of the firms, a majority of the employees (76-100 percent) were included. In approximately one fifth (22 percent), none of the employees were included. In the rest (20 percent), some proportion of employees were included. Although we do not find a statistically significant main effect for incentive eligibility ($\beta = 0.037$, $p\text{-value} = 0.607$) after controlling for other factors (Model 2), we find that the prospector \times incentive eligibility interaction is positive for firm profitability ($\beta = .331$, $p\text{-value} = 0.027$). The simple slopes analysis further confirms that the effect is positive for prospectors ($\beta = .223$, $p\text{-value} = 0.028$) and not statistically significant for other strategies ($\beta = -.108$, $p\text{-value} = 0.284$). Adding the interactive effect of strategic orientation and incentive eligibility to

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the models explains an additional 5.4 percent of variance in profitability, compared to the main effect model. The defender \times incentive eligibility interactions are not statistically significant, however. Thus, although we find evidence that the performance of a prospector improves as the proportion of employees covered by aggregate incentives increases, we do not find evidence that greater incentive eligibility would similarly benefit defenders.

Recent research shows that the pay system design may have a different effect on short- and long-term firm performance (Connelly *et al.*, 2016). To explore whether this is the case in our data, we conducted supplemental logistic regression analyses on the probability of making a profit and the probability of *not* making a loss during the following five-year period ($r = .827$, $p\text{-value} = 0.000$). We were able to obtain these data for a subset of 63 companies. After controlling for other factors (Model 1) and main effects, we do not find any interactive effects between our horizontal pay dispersion measure and strategic orientation on long-term firm performance. This could be potentially explained by the fact that over the longer term, there are so many other firm-specific factors affecting firm performance that to see a longer-lasting effect, a larger sample size would have been needed.

The effects of relative base pay and vertical pay dispersion seem to be longer lasting, however. After controlling for other factors (Model 1) and main effects, we find that the defender orientation \times base pay level interaction is statistically significant and negative ($\beta = -4.646$, $p\text{-value} = 0.036$) when predicting the probability of *not* incurring a loss during the five-year period, whereas the prospector \times relative base pay level interaction is statistically significant and positive ($\beta = 3.152$, $p\text{-value} = 0.009$) when predicting the probability of making a profit during the five-year period. These results are consistent with Hypothesis 2.

Furthermore, consistent with Hypothesis 3, the defender orientation \times vertical pay dispersion interaction is statistically significant and positive ($\beta = 2.972$, $p\text{-value} = 0.051$) for

the probability of making a profit during the five-year period, when controlling for the amount of profit before the follow-up and other factors (Model 1).

In addition, the prospector \times incentive eligibility interaction is positive and statistically significant in both of our analyses ($\beta = 0.964$, $p\text{-value} = 0.041$; $\beta = 1.640$, $p\text{-value} = 0.004$). Finally, our longer-term performance analysis also supports the existence of a negative interactive effect between the two elements in the pay system design: base pay level and vertical pay dispersion ($\beta = -1.794$, $p\text{-value} = 0.034$) when predicting the probability of *not* making a loss during the five-year period.

DISCUSSION

This paper extends prior research on the performance implications of the fit between a firm's strategic orientation and pay system design for firm performance. Based on our results, we find that while growth-oriented firms (prospectors) benefit from including pay system design elements that lead to horizontal pay dispersion, efficiency-oriented firms (defenders) perform better with a pay system characterized by a relatively low base pay a relatively high vertical pay dispersion. While not identical, the mutually consistent results that we obtain with the two different dependent variables, profitability and productivity, provide support for our hypotheses. As a whole, we contribute to existing research by providing a deeper understanding of how the three elements of pay system design can be optimally linked to a firm's strategic orientation.

Contributions to research

As argued by contingency theory (Balkin and Gomez-Mejia, 1987; Gomez-Mejia, 1992), desirable pay system elements are likely to differ across contexts (Johns, 2006). Our paper contributes to filling important gaps in the literature on strategic pay system design. Surprisingly few studies have empirically studied pay system design across organizational

levels in connection with a firm's strategy (Boyd and Salamin, 2001). Although Balkin and Gomez-Mejia (1990) posed the question "*does organizational strategy affect the pay of all job families equally?*" more than 20 years ago, that question remains largely unanswered.

Our results indicate that it is important to match pay system design with a firm's strategic orientation, taking into account horizontal pay dispersion, relative base pay, and vertical pay dispersion. According to our results, firms with a defender orientation seem to benefit more from a pay system design characterized by a relatively low level of base pay and a relatively high level of vertical pay dispersion. In contrast, prospectors would be well advised to consider extending top management incentives (Rajagopalan, 1997) to cover a large share of employees, motivating innovative behaviors and reducing social comparison costs by compressing overall vertical pay dispersion. Therefore, prospectors need to be careful not to overinvest in the compensation of upper echelons relative to employees.

Our findings demonstrate the importance of appropriately matching both vertical and horizontal pay dispersion to a firm's strategy. Given the mixed findings in the prior research on pay dispersion (Shaw, 2014), our findings suggest that some discrepancies in earlier research on the impact of pay dispersion (Gupta *et al.*, 2012) could be resolved by looking at their individual, contingent effects on firm performance. Previous theoretical work in this domain has argued that to mitigate social comparison costs, firms should simultaneously compress both horizontal *and* vertical pay dispersion (Nickerson and Zenger, 2008). However, our data suggest that even though one type of pay dispersion would contribute negatively to a firm's performance, another type could contribute positively. Whereas defenders should combine horizontal pay *compression* with vertical pay *dispersion*, the opposite is optimal for prospectors. Accordingly, our results suggest that firms need to optimize, depending on their strategic orientation, whether to engage in horizontal *or* vertical pay compression.

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Our study supports recent research suggesting that firms need to take into account the social influences of their pay system design (Larkin *et al.*, 2012; Nickerson and Zenger, 2008). While previous research has argued that fairness is equally germane to senior executives as it is to other workers (Gomez-Mejia and Wiseman, 1997; Wade, O'Reilly, and Pollock, 2006), researchers have generally not considered these in combination with each other. Importantly, recent research building on behavioral agency theory (Wiseman and Gomez-Mejia, 1998) challenges some of the standard tenets of agency theory and tournament theory, demonstrating that equity considerations are important and often overlooked in the executive compensation literature (e.g., Pepper and Gore, 2015; Pepper, Gosling, and Gore, 2015). Although we measure firm performance and not perception of fairness *per se*, our results suggest that horizontal pay *dispersion* and vertical pay *compression* could be perceived relatively more fairly in prospectors than in defenders, whereas horizontal pay *compression* and vertical pay *dispersion* could be seen as being fairer in defenders than in prospectors.

At the outset, our results may appear to contradict some earlier research showing that lower pay creates a competitive advantage for firms with a prospector strategic orientation (Wang *et al.*, 2003). However, because the study focused on managerial pay, it is possible that the positive effect was mainly driven by a low level of vertical pay dispersion, not the relatively low pay level of managers *per se*. This raises interesting questions for future research, such as whether firms that underpay their CEOs experience benefits in terms of improved employee morale (Wowak *et al.*, 2017). Due to the scarcity of research on employee reactions to pay differentials between employees and executives, more research is needed in this domain (Connelly *et al.*, 2016; Gerhart *et al.*, 2009).

Based on our results, prospectors would seem to benefit from a pay structure where pay dispersion reflects individuals' contributions to innovation (Yanadori and Cui, 2013).

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Establishing pay dispersion that accurately reflects individual performance (Trevor *et al.*, 2012) is, however, not always a straightforward task. Aggregate incentives, such as profit sharing, might be a viable solution in some situations (Gomez-Mejia *et al.*, 2010). Such performance-based pay systems, however, practically always incorporate the element of risk as part of the pay system design. Research on both executive (Larraza-Kintana *et al.*, 2007), and employee pay (Kuhn and Yockey, 2003) has argued that one should go beyond the classical agency theory to better account for the different risk preferences of individuals. Further research building on the behavioral agency model (Wiseman and Gomez-Mejia, 1998) would thus be needed to better understand how the risk-preferences of individuals interact with the different elements of the pay system design (Hoskisson *et al.*, 2017; Larraza-Kintana *et al.*, 2007).

Limitations and future research

Our study has also some limitations that provide potential directions for future research. First, our sample is a relatively small, multi-industry sample. Therefore, we control for the industry sector and the previous performance of the firm, and we use branch-specific comparisons of firm performance levels. In this context, instead of pay systems being an exogenous choice that is made based on a firm's strategic positioning, one could argue that pay systems themselves may cause an organization to adopt behaviors that lead to a specific strategic orientation (Carpenter, 2000). However, we did not find evidence indicating that pay system design would predict firms' strategic orientation. Somewhat relatedly, pay system design may have a different effect on short- and long-term firm performance (Connelly *et al.*, 2016). However, in our supplemental analysis of long-term firm performance for a subsample of companies (73 percent), we found consistent evidence, which suggests that this would not be a concern in our data. Future research is needed to examine the evolution of firms' strategic orientations from a prospector to a defender and *vice versa* and the role of pay systems in these transitions in order

to understand whether and to what extent the choices in the pay system design are a cause or a consequence of strategy.

Although we closely follow the approach of Rajagopalan (1997) in measuring strategic orientations, some firms might have hybrid strategies and pursue ambidextrous strategies that simultaneously combine elements of prospecting and defending (Jansen *et al.*, 2009). We do not regard this as a major problem from the perspective of our sample, since the mean firm size in our sample is rather small (1,075 employees), which reduces the likelihood of hybrid strategies. Moreover, our cluster analysis enables us to separate the firms following the prospector or defender strategies from those following analyzer or hybrid strategies. Finally, because the size of the firms in our sample was relatively small, companies were not pursuing different strategies at the corporate and subunit levels (Balkin and Gomez-Mejia, 1990).

A common concern related to the use of surveys is that using single respondents could introduce both random and systematic measurement error, which could bias our results. However, in Gerhart *et al.* (2000), the generalizability coefficient of individual contingent pay based on 288 ratings from 18 raters in six companies was among the three human resource (HR) management practices with the highest generalizability coefficients, indicating a relatively good reliability of these types of data, even when collected from a single respondent. Furthermore, given that the average size of the organizations in our sample was more than forty times smaller than the average size of the organizations studied by Gerhart *et al.* (2000), it is reasonably safe to assume that our key informants, who were mostly HR managers, were the best informants with regard for the pay system design used for employees performing the tasks at the core of the business. Moreover, most of the HR managers reported that they had participated in the strategy formulation, reflecting the trend of involving HR directors in strategy discussions (Lawler and Boudreau, 2009). Finally, we also conducted a round of

follow-up telephone interviews, where we revisited the responses of a sub-sample of our respondents with them or the new persons in charge of HR.

One could argue that the institutional context might affect the generalizability of the reward practices, because preferences might differ across different cultural settings (Chiang and Birtch, 2007). Finnish culture tends to favor a low hierarchy, which could aggravate the negative performance implications of horizontal pay dispersion in prospector firms. However, this tendency does not explain the contrary positive effects of vertical pay dispersion in firms with a defender orientation. That said, on average, operational employees' total compensation was approximately ten times less than that of upper management, which is close to the "ideal ratio" (7:1), according to a global study on the topic by Kiatpongsan and Norton (2014). Thus, it is possible that we did not observe the curvilinear relationship between vertical pay dispersion and firm performance found in some of the earlier studies (e.g., Yang and Klaas, 2011) because based on a global comparison, vertical pay dispersion in Finland is relatively low (Greckhamer, 2016).

Despite the relatively high degree of homogeneity across employees in the pay system design² (Boyd and Salamin, 2001), firms may choose to develop different employment relationships with different employee groups performing distinct jobs. In a balanced employee relationship, the pay system should be differentiated according to employees' roles and responsibilities (Tsui *et al.*, 1997). Recent research has demonstrated that investment in high-

² In our follow-up interview round, we called a random sample of the firms (one sixth) to inquire to what extent the pay design was homogeneous across different employee groups. On average, they estimated that the pay design was applied to most employees (on average, 91 percent of employees; min 75, max 100). That said, the respondents indicated that there might have been differences between different employee groups with respect to the performance metrics used based on the type of work they were performing (used as the basis for incentives, e.g., merit pay, bonuses, gain- or profit sharing). Moreover, in almost all companies, there were special groups or "key employees", such as sales personnel, specialists and/or upper management that were compensated somewhat differently from the rest of the employees. However, as a whole, the pay system design was rather homogeneously applied across the whole organization, according to respondents.

commitment HR practices (e.g., high pay, incentives) is contingent on the value of the employee group (McClean and Collins, 2011), suggesting that companies may only want to expend their effort and resources on building high-commitment relationships with employee groups that are clearly tied to creating firm competitive advantage. Because we focused in our paper on the dominant pay system design for employees, these nuances are not visible. Future research should more specifically test how the composition of the workforce and diversity in related employee-organization-relationship strategies relate to organizational outcomes. Moreover, since the ownership structure has been found to influence pay system design (Werner *et al.*, 2005), future research could also benefit from incorporating different corporate governance variables (e.g., ownership structure, board characteristics, and CEO-Chairman duality) into the analysis of the optimality of the different pay system design choices.

Our research highlights that although a pay system design characterized by a higher level of base pay that is tied to individual performance is generally considered a high-performance work practice (Messersmith, Patel, and Lepak, 2011), individual practices should be evaluated based on whether their benefits exceed their costs in their specific context (Macky and Boxall, 2007), especially the strategic orientation of the firm. We focused on some of the main pay system design characteristics in our empirical analyses. However, the pay system is only one part of a company's human resource management (HRM) system. In addition to fitting to the strategic orientation of the firm, the pay system design must also fit the other choices of a firm's HRM system and form a coherent set of practices (Jackson, Schuler, and Jiang, 2014). Furthermore, although our paper shows the importance of fitting the pay system design with the strategic orientation of the firm, further research would be needed on the performance implications of the fit of also other HRM system characteristics to the different strategic orientations.

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TABLE 1: Strategic Orientation Factor Analysis Results

	Factor				
	1	2	3	4	5
Improvements in generating efficiency	0.86	0.05	-0.14	0.08	0.08
Improvements in overall productivity	0.81	0.04	-0.03	0.02	0.25
Reduction in operating costs	0.55	-0.09	0.12	0.04	-0.27
Investment in development of customer interface/end use (such as technologies)	0.34	-0.07	0.06	0.24	0.28
Acquisitions/purchases of other utilities	0.02	0.88	0.10	0.00	0.11
Mergers with other utilities	-0.02	0.65	-0.04	-0.04	-0.06
Increasing the scope of operations in geographical locations other than your current ones	-0.01	0.54	-0.08	0.08	0.01
Developing competitive rates for products	0.11	-0.06	0.99	0.00	0.03
Target pricing	-0.10	-0.02	0.51	0.16	0.00
R&D expenditures for product development	-0.06	0.10	0.14	0.87	0.26
Innovative production techniques	0.23	-0.00	0.08	0.55	0.14
Development of programs to alter consumption	0.00	-0.03	-0.11	0.09	0.64
Advertising and promotion of products	-0.01	0.00	0.04	0.26	0.59
Market segmentation (specializing in certain products)	0.15	0.08	0.15	0.05	0.30

Maximum likelihood with varimax rotation. 1. Factor: Efficiency-oriented strategies; 2. Factor: Domain expansion strategies; 3. Factor: Market innovation strategies; 4. Factor: Technological innovation strategies; 5. Factor: Market penetration strategies

TABLE 2. Final Cluster Centers

	Cluster		
	1 (n = 44)	2 (n = 24)	3 (n = 23)
Efficiency orientation	0.09	0.15	-0.32
Domain expansion	-0.17	-0.01	0.34
Market innovation	0.42	-10.33	0.60
Technological innovation	0.42	-0.04	-0.77
Market penetration	0.46	-0.19	-0.67

Cluster 1 = Prospector strategic orientation; 2 = Defender strategic orientation, 3 = Analyzer strategic orientation

TABLE 3. Correlations, Means, and Standard Deviations

VARIABLES	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1 Manufacturing industry	0.447	0.499	1															
2 Retail industry	0.105	0.308	-0.408	1														
3 Past revenue growth	3.567	0.963	0.221	-0.150	1													
4 Past productivity	3.670	0.836	0.067	-0.267	0.283	1												
5 Firm size	5.849	1.394	-0.080	-0.067	0.229	0.158	1											
6 Firm age	3.507	1.111	0.027	0.202	0.014	0.013	0.178	1										
7 Employee training	4.685	5.234	-0.065	0.155	-0.304	-0.172	-0.028	-0.005	1									
8 Teams	51.402	25.006	0.184	-0.284	0.142	0.179	0.184	-0.082	-0.249	1								
9 Labour unions	3.981	0.995	0.448	-0.028	0.087	-0.265	0.039	-0.062	-0.134	0.245	1							
10 Prospector	0.484	0.502	0.109	-0.211	0.045	0.088	0.061	-0.102	0.217	0.228	0.0478	1						
11 Defender	0.264	0.443	-0.102	0.250	-0.045	-0.041	0.246	0.219	-0.063	-0.113	-0.127	-0.484	1					
12 Horizontal pay dispersion	2.471	0.812	-0.225	-0.017	-0.028	0.120	-0.128	-0.159	0.124	-0.150	-0.503	0.143	-0.100	1				
13 Relative base pay	3.261	0.525	-0.040	0.051	-0.125	-0.075	-0.189	-0.044	0.107	0.133	-0.067	0.116	-0.098	0.063	1			
14 Vertical pay dispersion	9.175	0.980	-0.281	-0.005	0.094	0.023	0.649	0.262	-0.045	-0.011	-0.070	-0.053	0.287	-0.292	-0.218	1		
15 Profitability	2.512	0.942	0.138	-0.160	0.303	0.272	0.190	-0.051	-0.204	0.117	-0.067	0.176	-0.151	0.159	-0.097	0.097	1	
16 Productivity	3.551	0.792	-0.028	-0.196	0.183	0.586	0.086	-0.096	-0.028	0.134	-0.110	0.110	-0.068	0.182	0.172	0.023	0.416	1

TABLE 4. Regression Results for Profitability as the Dependent Variable

VARIABLES	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Manufacturing industry	0.455 [0.061] (0.238)	0.401 [0.223] (0.325)	0.404 [0.219] (0.324)	0.635 [0.061] (0.331)	0.402 [0.228] (0.329)	0.454 [0.149] (0.310)	0.494 [0.143] (0.332)	0.639 [0.071] (0.346)
Retail industry	0.442 [0.223] (0.359)	0.571 [0.232] (0.472)	0.559 [0.242] (0.472)	0.827 [0.086] (0.472)	0.580 [0.219] (0.466)	0.684 [0.107] (0.417)	0.305 [0.558] (0.518)	0.538 [0.298] (0.511)
Past revenue growth	0.166 [0.163] (0.118)	0.157 [0.277] (0.143)	0.151 [0.297] (0.143)	0.056 [0.727] (0.158)	0.152 [0.284] (0.141)	0.103 [0.439] (0.132)	0.157 [0.309] (0.152)	0.159 [0.308] (0.155)
Firm size	0.162 [0.068] (0.088)	0.184 [0.114] (0.115)	0.192 [0.085] (0.109)	0.214 [0.068] (0.114)	0.171 [0.163] (0.121)	0.160 [0.148] (0.109)	0.127 [0.401] (0.149)	0.125 [0.335] (0.128)
Firm age	-0.085 [0.434] (0.108)	-0.053 [0.678] (0.126)	-0.032 [0.807] (0.132)	-0.024 [0.861] (0.135)	-0.054 [0.670] (0.126)	-0.075 [0.545] (0.123)	-0.090 [0.493] (0.130)	-0.152 [0.249] (0.130)
Employee training	-0.023 [0.019] (0.009)	-0.032 [0.014] (0.012)	-0.032 [0.011] (0.012)	-0.034 [0.011] (0.013)	-0.031 [0.017] (0.012)	-0.036 [0.011] (0.014)	-0.032 [0.009] (0.012)	-0.036 [0.014] (0.014)
Teams	0.004 [0.385] (0.005)	0.001 [0.816] (0.006)	0.002 [0.781] (0.006)	0.004 [0.535] (0.006)	0.002 [0.730] (0.006)	0.001 [0.909] (0.006)	-0.000 [0.981] (0.006)	-0.004 [0.566] (0.007)
Labour unions	-0.193 [0.132] (0.127)	-0.211 [0.141] (0.141)	-0.141 [0.384] (0.161)	-0.118 [0.420] (0.145)	-0.221 [0.125] (0.141)	-0.170 [0.267] (0.152)	-0.244 [0.093] (0.143)	-0.224 [0.136] (0.148)
Prospector		0.176 [0.579] (0.316)	0.135 [0.668] (0.313)	0.064 [0.844] (0.326)	0.188 [0.559] (0.319)	0.200 [0.552] (0.333)	0.223 [0.495] (0.323)	0.306 [0.369] (0.337)
Defender		-0.531 [0.257] (0.463)	-0.514 [0.281] (0.472)	-0.650 [0.131] (0.424)	-0.530 [0.248] (0.453)	-0.573 [0.121] (0.363)	-0.423 [0.362] (0.460)	-0.784 [0.067] (0.418)
Horiz. pay disp.			0.162 [0.368] (0.178)	0.303 [0.160] (0.212)				
Prospector X Horiz. pay disp.				0.115 [0.676] (0.274)				
Defender X Horiz. pay disp.				-0.919 [0.036] (0.426)				
Rel.base pay					-0.135 [.542] (0.220)	0.035 [0.900] (0.275)		
Prospector X Rel. base pay						0.124 [0.757] (0.398)		
Defender X Rel. base pay						-1.666 [0.001] (0.455)		
Vert. pay disp.							0.095 [0.616] (0.188)	0.158 [0.392] (0.183)
Prospector X Vert. pay disp.								-0.314 [0.117] (0.229)
Defender X Vert. pay disp.								0.484 [0.015] (0.191)
Constant	2.363 [0.000] (0.103)	2.379 [0.000] (0.226)	2.392 [0.000] (0.227)	2.395 [0.000] (0.232)	2.381 [0.000] (0.227)	2.353 [0.000] (0.236)	2.277 [0.000] (0.238)	2.224 [0.000] (0.253)
R-squared	0.204	0.215	0.229	0.305	0.221	0.341	0.225	0.298
Adj. R-squared	0.106	0.061	0.059	0.117	0.050	0.162	0.047	0.099
F-statistic	4.53 [0.000]	3.66 [0.001]	3.64 [0.001]	4.98 [0.000]	3.10 [0.003]	7.24 [0.000]	3.88 [0.001]	5.53 [0.000]

Estimated coefficients are in bold. Robust standard errors are in parentheses below the regression coefficients. P-values are between square brackets. All tests are two tailed. Number of observations is 86. Horiz. pay disp. = Horizontal pay dispersion; Rel. base pay = Relative base pay; Vert. pay disp. = Vertical pay dispersion

TABLE 5. Regression Results for Productivity as the Dependent Variable

VARIABLES	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Manufacturing industry	-0.231 [0.120] (0.147)	-0.212 [0.152] (0.147)	-0.207 [0.172] (0.150)	-0.164 [0.241] (0.139)	-0.218 [0.136] (0.145)	-0.225 [0.118] (0.142)	-0.240 [0.103] (0.145)	-0.164 [0.225] (0.134)
Retail industry	-0.134 [0.447] (0.176)	-0.052 [0.778] (0.192)	-0.047 [0.805] (0.189)	-0.079 [0.681] (0.191)	-0.077 [0.715] (0.210)	-0.072 [0.711] (0.193)	-0.105 [0.627] (0.216)	-0.015 [0.941] (0.206)
Past productivity	0.559 [0.000] (0.092)	0.578 [0.000] (0.092)	0.572 [0.000] (0.091)	0.574 [0.000] (0.092)	0.570 [0.000] (0.090)	0.553 [0.000] (0.0872)	0.593 [0.000] (0.095)	0.615 [0.000] (0.093)
Firm size	-0.014 [0.785] (0.052)	-0.033 [0.555] (0.0555)	-0.033 [0.551] (0.056)	-0.045 [0.406] (0.054)	-0.016 [0.772] (0.055)	-0.030 [0.590] (0.055)	-0.074 [0.260] (0.065)	-0.076 [0.245] (0.065)
Firm age	-0.020 [0.749] (0.064)	-0.064 [0.338] (0.067)	-0.063 [0.351] (0.067)	-0.100 [0.122] (0.064)	-0.063 [0.342] (0.065)	-0.049 [0.440] (0.063)	-0.062 [0.363] (0.068)	-0.110 [0.090] (0.064)
Employee training	0.006 [0.449] (0.008)	0.006 [0.440] (0.007)	0.005 [0.498] (0.007)	0.006 [0.349] (0.007)	0.003 [0.679] (0.007)	0.001 [0.938] (0.007)	0.008 [0.273] (0.007)	0.006 [0.466] (0.008)
Teams	0.002 [0.451] (0.003)	0.002 [0.445] (0.003)	0.002 [0.481] (0.003)	0.003 [0.329] (0.003)	0.001 [0.715] (0.003)	0.000 [0.999] (0.003)	0.002 [0.430] (0.003)	0.001 [0.767] (0.003)
Labour unions	0.043 [0.664] (0.097)	0.074 [0.431] (0.093)	0.134 [0.168] (0.096)	0.186 [0.048] (0.092)	0.090 [0.336] (0.092)	0.100 [0.291] (0.094)	0.094 [0.322] (0.095)	0.099 [0.326] (0.100)
Prospector		0.102 [0.571] (0.179)	0.089 [0.634] (0.186)	0.065 [0.703] (0.170)	0.087 [0.680] (0.169)	0.108 [0.533] (0.172)	0.109 [0.558] (0.186)	0.076 [0.681] (0.184)
Defender		-0.026 [0.894] (0.192)	0.006 [0.976] (0.202)	0.053 [0.788] (0.195)	-0.037 [0.847] (0.188)	-0.050 [0.778] (0.175)	-0.024 [0.900] (0.192)	-0.074 [0.687] (0.184)
Horiz. pay disp.			0.141 [0.222] (0.115)	-0.203 [0.290] (0.190)				
Prospector X Horiz. pay disp.				0.605 [0.012] (0.235)				
Defender X Horiz. pay disp.				0.256 [0.305] (0.248)				
Rel.base pay					0.215 [0.128] (0.139)	0.415 [0.052] (0.210)		
Prospector X Rel. base pay						-0.192 [0.528] (0.302)		
Defender X Rel. base pay						-0.769 [0.010] (0.291)		
Vert. pay disp.							0.093 [0.279] (0.085)	0.330 [0.001] (0.097)
Prospector X Vert. pay disp.								-0.400 [0.005] (0.136)
Defender X Vert. pay disp.								-0.168 [0.208] (0.132)
Constant	3.556 [0.000] (0.066)	3.423 [0.000] (0.146)	3.418 [0.000] (0.156)	3.397 [0.000] (0.142)	3.427 [0.000] (0.133)	3.416 [0.000] (0.133)	3.428 [0.000] (0.150)	3.452 [0.000] (0.145)
R-squared	0.342	0.404	0.422	0.496	0.426	0.459	0.418	0.455
Adj. R-squared	0.284	0.323	0.334	0.402	0.339	0.359	0.326	0.349
F-statistic	6.65 [0.000]	6.40 [0.000]	6.21 [0.000]	6.42 [0.000]	7.61 [0.000]	9.81 [0.000]	6.21 [0.000]	7.08 [0.000]

Estimated coefficients are in bold. Robust standard errors are in parentheses below the regression coefficients. P-values are between square brackets. All tests are two tailed. Number of observations is 91. Horiz. pay disp. = Horizontal pay dispersion; Rel. base pay = Relative base pay; Vert. pay disp. = Vertical pay dispersion

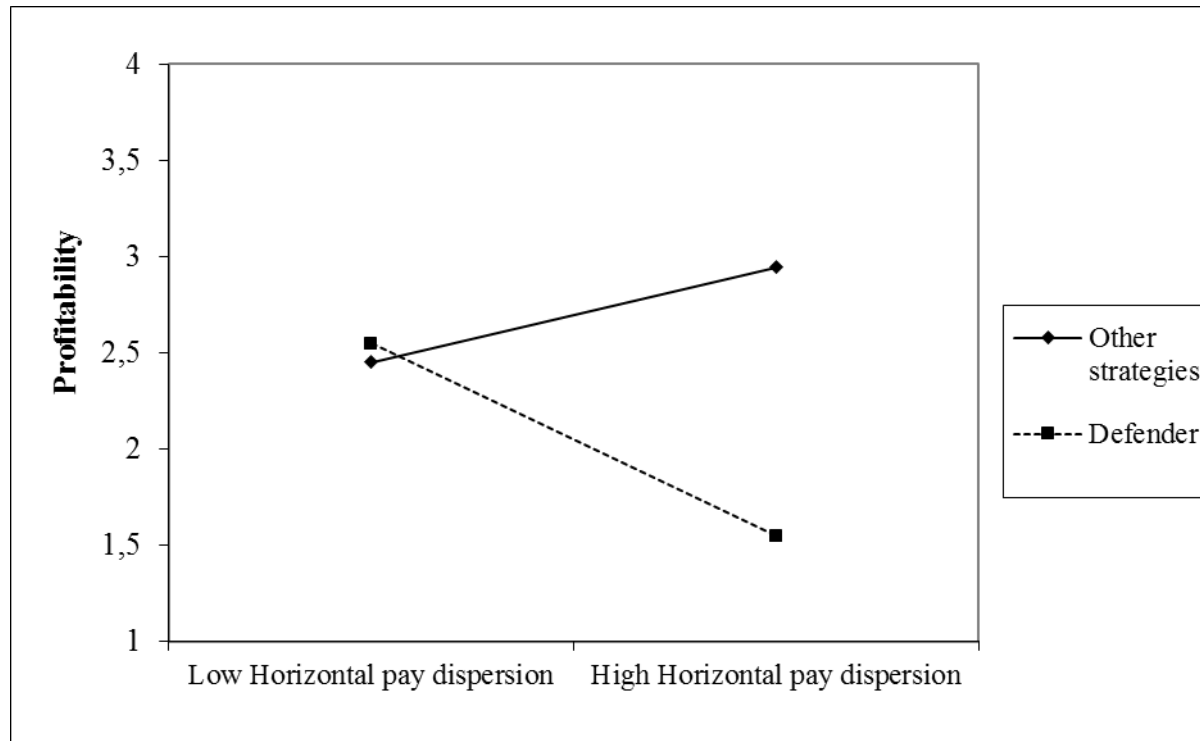
FIGURE 1: Interaction Effect of Defender with Horizontal Pay Dispersion (Profitability)

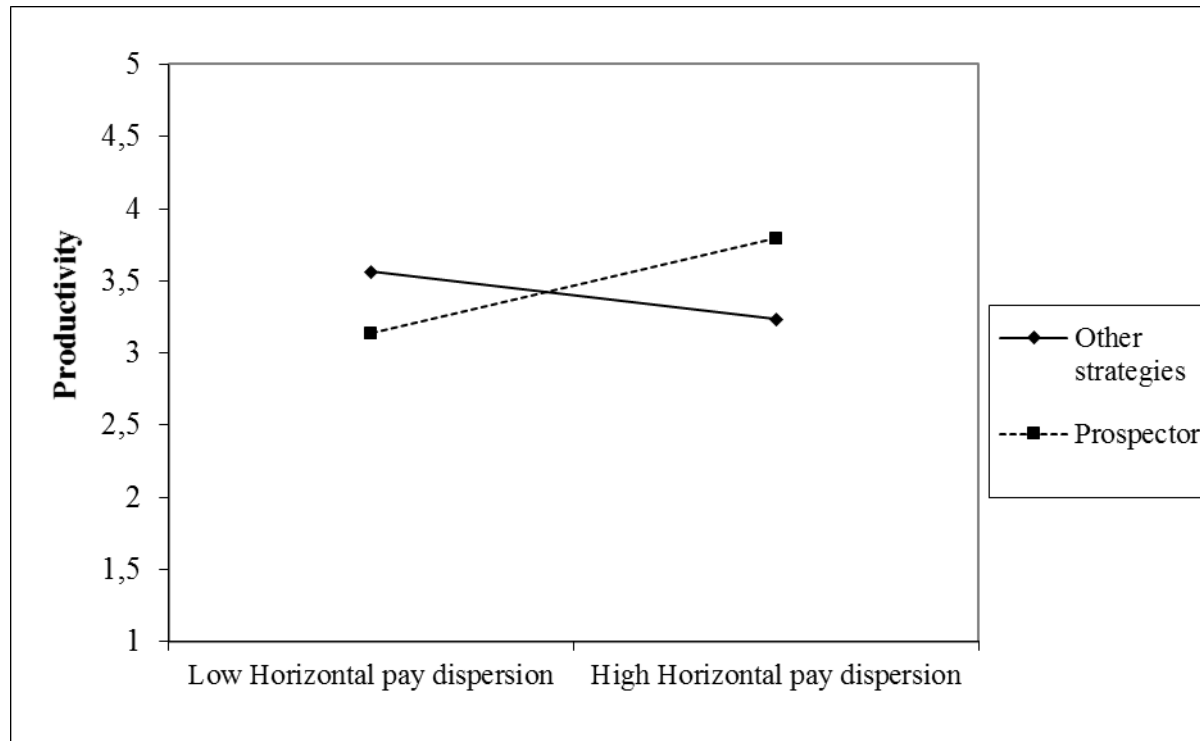
FIGURE 2: Interaction Effect of Prospector with Horizontal Pay Dispersion (Productivity)

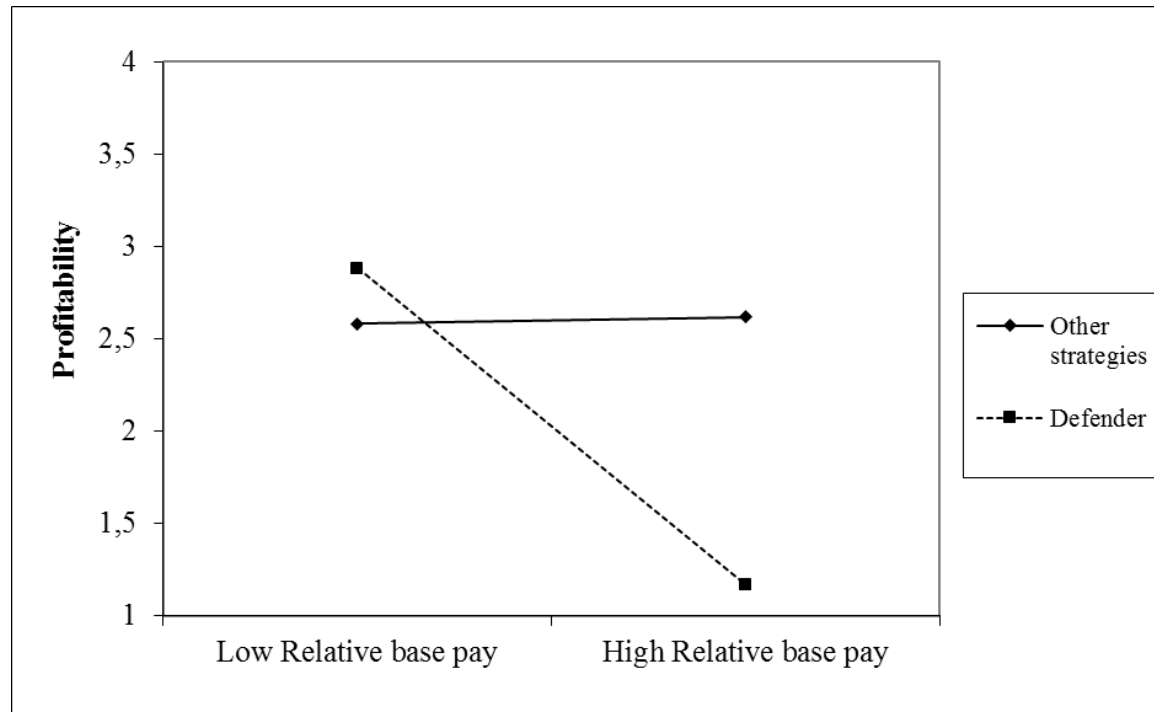
FIGURE 3: Interaction Effect of Defender with Relative Base Pay (Profitability)

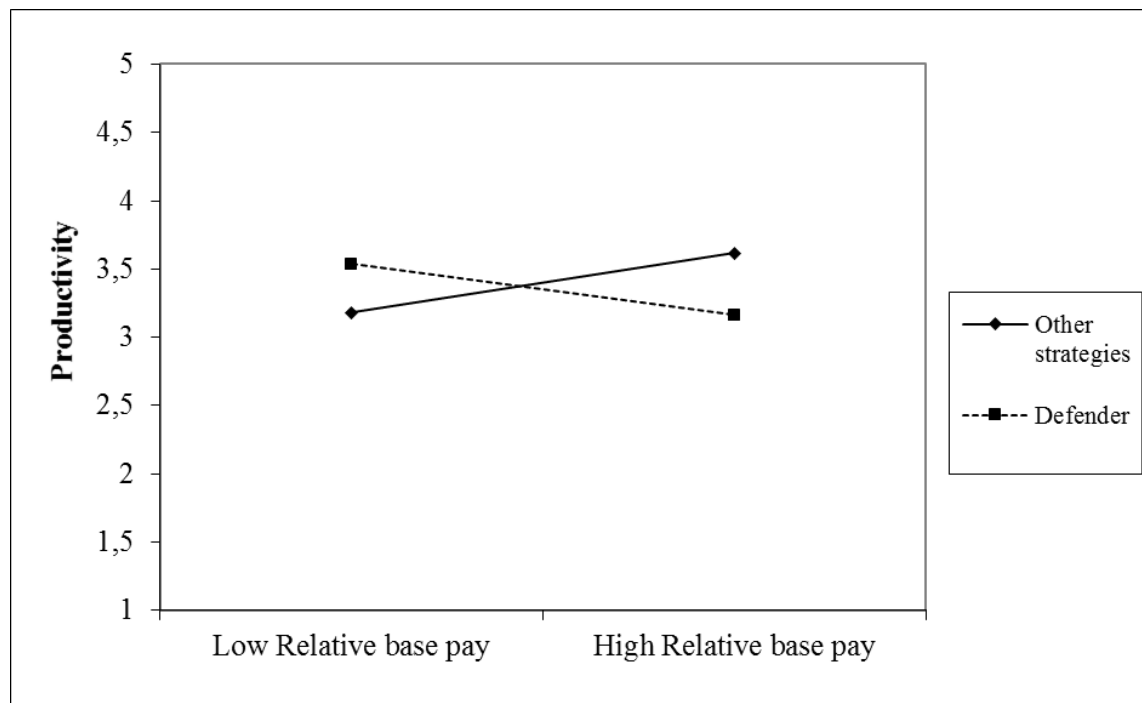
FIGURE 4: Interaction Effect of Defender with Relative Base Pay (Productivity)

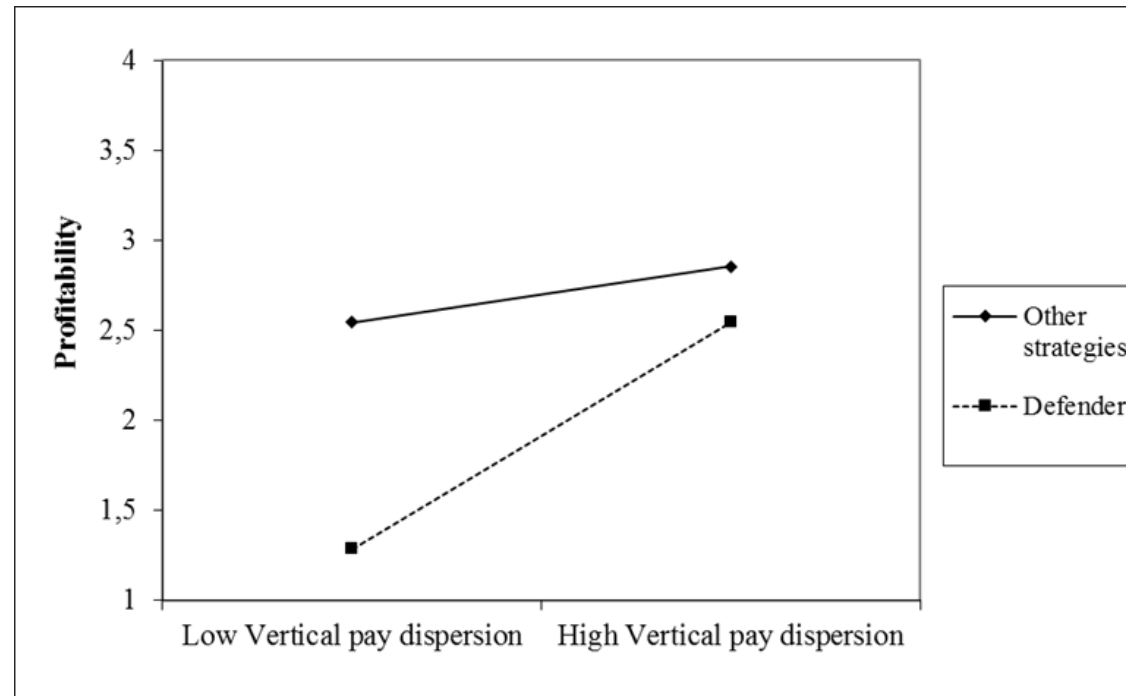
FIGURE 5: Interaction Effect of Defender with Vertical Pay Dispersion (Profitability)

FIGURE 6: Interaction Effect of Prospector with Vertical Pay Dispersion (Productivity)