STRATEGIC IMPACTS OF COMPENSATION SYSTEM ON ORGANIZATIONAL OUTCOMES: AN EMPIRICAL STUDY OF THE CONCEPTUALIZATIONS OF FIT AND FLEXIBILITY IN THE COMPENSATION DESIGN

DISSERTATION

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ABSTRACT

Recent changes in work, organizational structures, customer market trends, technologies, and other factors have initiated and facilitated compensation innovations (Heneman, Ledford, & Gresham, 2000). Rather than exclusively focusing on a traditional framework ensuring equity and fairness across members, the compensation system has shifted its focus on manufacturing and sustaining sets of human capital attributes that improve firm performance. While the strategic role of the compensation system has been increasingly important to business, there has been little knowledge or research about how the compensation system strategically impacts organizations (Gerhart, 2000). Therefore, research is needed to substantiate how to improve the effectiveness of the compensation strategy.

This study provides and further applies several theoretical backgrounds that are conceptualized as contradictory. Most previous research has posited "fit vs. flexibility" or "universality vs. contingency" SHRM perspectives as conflicting (Wright & Snell, 1998). The framework developed in this study intends to integrate these perspectives to address questions about how the compensation strategy impacts firm performance.

In this study, a large-scale survey was conducted to examine the effect of compensation practices in a wide variety of organizations. To test the hypotheses posed in this study, the survey asked participants to select a core group of employees; core resources can make a significant contribution to generating and sustaining

competitiveness, whereas a peripheral group impacts a firm's competitiveness only marginally. A total of 130 firms responded to the survey; of these firms, six had multiple respondents.

The empirical results revealed that long-term incentive, group-based pay, and merit-pay programs positively impact perceptual and financial performance. As well as identifying direct impact, this study examined the indirect impact of compensation programs and practices. In this process, OCB plays a mediating role in the effect of several compensation programs such as, merit pay, group-based pay and long-term incentive programs on a firm's performance. The findings showed that if focusing on the marketing aspect of a firm's performance, adaptability plays a crucial role in the impact of individual payment.

The model developed in this study adds valuable insight to the existing strategic compensation literature by identifying the means through which the compensation strategy leads to a firm's success. The current study also makes a theoretical contribution. The use of several compensation programs may have the potential to improve "flexibility" by developing several characteristics of human resources, which in turn are integrated into a firm's success. This study supports the universal perspective by demonstrating positive effects of specific types of compensation programs across organizations and industries. Furthermore, unless human resource attributes achieve "fit" with the features of a compensation program, the strength in the relationship between the compensation program and a firm's performance becomes lower. The findings support

the contingency perspective that compensation program characteristics must be consistent with human resource attributes.

Therefore, conceptually, the current study integrates conflicting SHRM perspectives—"fit vs. flexibility" and "universality vs. contingency"—as complementary and extends the performance implications of strategic compensation studies. Practically, this study provides guidance about how firms need to design, establish, and execute compensation programs to generate and sustain competitiveness.

Dedicated to my parents Kim Joohan, Lee SeungOk, my grandmother Han Jeongsook, my wife Kim Youngji, and my daughter and son, Kim Junghyun and Kim Taehyun

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1

INTRODUCTION

The compensation system has been a major mechanism that influences the actions of job applicants and workforce of organizations and helps companies execute their strategies, which in turn secure competitive advantage against major competing firms (Heneman, Ledford, & Gresham, 2000). Also, a tremendous amount of financial resources are expended on designing, organizing, and managing an organizational compensation system. However, relative to its importance to a firm's success, scholars and even practitioners have lamented that advancement in compensation research has been stagnant and underrepresented (Heneman, Ledford, & Gresham, 2000). Recently, the design, delivery, and use of the compensation system have undergone dramatic changes. For example, the focus of base pay is shifting from job- and individual-based to the person- and collective performance-based; the proportions of variable payment to base pay have been increasing; and also, variable payment design is tending toward reflecting collective performance (Heneman, Ledford, & Gresham, 2000).

The emergence of new compensation practices has been reported in surveys conducted by several consulting companies, industrial associations, and educational institutions (Heneman, Ledford, & Gresham, 2000).

However, researchers still face challenges to understand why compensation practices should be changed, how changes in the compensation system contribute to a company's performance, and what contextual factors may augment or constrain the impact of a newly designed and established compensation system (Heneman, Ledford, & Gresham, 2000).

Traditionally, labor economics and social psychology have dominated compensation research (Gerhart & Rynes, 2003). In economics, the neoclassical model highlights how the wage rate of the labor market is determined. Neoclassical economic principles argue that the market force enforces labor market players to achieve an equilibrium wage rate where the supply and demand of labor intersect (Gerhart & Rynes, 2003). The framework of an equilibrium wage rate highlights the importance of the market mechanism in wage determination. However, several assumptions underlying the neoclassical model fail to reflect the practical implications: (a) mobility across jobs is not costly; (b) labor market players can always make rational decisions; and (c) short-term discrepancies in the labor market may gradually disappear (Gerhart & Rynes, 2003). Moreover, neoclassical economists have been challenged by wage differences across a variety of geographies, industries, and occupations because assumption of the neoclassical economic model cannot reflect the probability of constraints imposed on the labor market (Gerhart & Rynes, 2003). Thus, several economists labeled as "post-institutionalists" have challenged the traditional framework by documenting wage differentials across various occupations, industries, and geographical regions. For example, Groshen (1991), controlling for variables such as occupation, job level, sex, and even human capital differences, found that job classification- and establishment-based

wage differences, promotions, and firm characteristics are sources of intra-industry wage variances. Post-institutionalists have proposed several theoretical backgrounds, human capital and efficiency wage theories that explain the roles of human capital differences in wage variances (Gerhart & Rynes, 2003). Human capital theory contends that investment in education, training, and heath care can enhance the future rate of return of their employment, because human capital is a means to create firm values and enhance firm competitiveness.

While high pay levels may increase the prices of goods or services that lead to a decrease in company financial performance and market shares, high pay provides incentives for companies by attracting and retaining competent workers and extrinsically motivating them to exhibit effort and capability in performing their jobs. By demonstrating why human capital quality matters to a firm's success, human capital theory presents a different perspective from neoclassical economic theories regarding why inter-firm wage variances exist: firms invest financial resources in rewarding employees to improve human capital quality (Gerhart & Rynes, 2003). Efficiency wage theory provides another explanation for why some firms might have an incentive to set their pay level above the market average. Large-sized companies may pay higher wages than the market level for the following reasons: (1) top- or mid-level managers are required to possess technical and managerial expertise and cognitive abilities to address greater information processing demands and greater job responsibilities; (2) it is not easier for large-sized firms to closely monitor and evaluate the actions of members that can mitigate shirking and free-riding behaviors because the above-market wage level may increase the penalty of job loss (Groshen & Krueger, 1990;Gerhart & Rynes, 2003).

Therefore, a number of economic theories have evidenced that greater wage differences exist in the labor market and have also sought for why each firm has different wage levels. Moreover, not only pay level differences but also pay structure differences matter to organizations. The pay structure concerns the degree to which organizations consistently make different payments for different types of work and skills within a single organization (Milkovich & Newman, 2003). The notion of equity theory posits that the pay structure greatly matters to employee performance as well as to employers' interest (Heneman & Judge, 2000). Because workers tend to compare their payment levels with what their colleagues receive within an organization and also with what members of competing organizations are paid, violations of equity in reward determination significantly affect the attitude and performance of workers (Heneman & Judge, 2000). The previous literature consistently found that attitudes and behaviors of members were significantly affected by perceptions of justice that are derived from how reward is determined and distributed across an organization. Social psychology and labor economic theory have highlighted how wage is determined and the related equity issue in compensation administration.

Following the implications of economic and psychology theories, compensation professionals have made a greater effort to establish internal equity through which the reward amount is proportional to job values in order to ensure fairness and impartiality across organizations (Milkovich & Newman, 2003). Furthermore, compensation professionals have attempted to gather information about pay policies and levels of other major rivals and then use the collected data to help firms set appropriate pay levels. Thus, for internal and external equity, how to design, establish, and implement a payment

structure based on job evaluation procedures and how to establish the pay level policy in comparison with competing organizations have been key issues to compensation researchers and practitioners (Milkovich & Newman, 2003).

Recently, compensation scholars and practitioners have been paying more attention to the strategic impact of the compensation system. The compensation system can offer various means to contribute to a firm's competitiveness: (a) it builds and shapes human resource composition by influencing recruitment and retention within a company; (b) it aligns the goals, actions, and interests of members with the strategic objectives and demands of an organization; and (c) because significant proportions of total expense are accounted by labor cost, the compensation system affects the company's profitability (Gerhart, 2000). Thus, the compensation system greatly influences the actions of employees, human capital characteristics, and administrative expenditures that are pivotal to a company's strategy formulation and implementation and its ultimate success.

Several compensation scholars have strongly argued that the compensation system should be tailored to organizational strategies because of its potential for strategic impact. There has been evidence that business strategies account for pay level differences. Hunter (2000) surveyed the wage rates of nursing homes and found that customer market strategy was a major determinant of the firms' wage rate: a differentiated and professionalized customer service market commanded higher wages than other markets. In another study, Hunter (2002) showed that a greater use of quality circles was positively related to the pay level of organizations. Gerhart and Milkovich's study (1990) was the first to evaluate how a firm's success is impacted by not only how much employees are paid but also how employees are paid strategically are important to a

firm's success. Their study showed that there were large differences in the pay mix strategy (e.g., bonus pay, long-term pay) across organizations even if human capital, organizational characteristics, and other variables were controlled(Gerhart & Milkovich, 1990).

Several studies by Balkin and Gomez-Mejia (1987, 1990, 1992) have demonstrated that strategic variables (e.g., diversification, organizational growth) significantly influence the performance implications of pay policy and mix strategies. Highly diversified or maturing firms are more likely to execute the standardized, bureaucratic, and fixed pay forms that enforce equity across various members, groups, and business units. That is, non-standardized, flexible, and skill/competency-based payment forms help companies leverage interdependence of divisions and promote development of human capital. Moderately diversified or growing firms are willing to formulate and implement this type of payment, because it allows firms to be adaptable to the rapid pace of business changes, foster risk-taking and unconventional approaches to existing sets of structures and principles, and develop cross-functional/regional coordination (Gomez-Mejia, 1992). Business strategy is another variable that explains differences in designing and utilizing a compensation system (Montemayor, 1996). Montemayor's study (1996) showed that the Porter typology predicted the pay philosophy and policy and its related consequences on firm performance.

Pay strategy types have their own benefits and limitations. For example, a high proportion of variable pay can extrinsically motivate workers to focus on their jobs and create cultures where active involvement in managerial activities is valued (Bamberger & Meshoulam, 2000). A high proportion of variable pay to total payment may lead to an

increase in productivity and foster risk-taking attitudes of individuals. In contrast, extensive use of seniority-based pay may foster security and stability (Bamberger & Meshoulam, 2000). Different types of pay strategies require firms to shape and establish different attributes of human capital. Therefore, interaction between pay strategies and human capital characteristics mitigates the advantages or disadvantages of pay strategies, in turn impacting firm performance either positively or negatively.

While the universality perspective posits that extensive use of several compensation programs always provides superior returns compared to other rivals, the alignment of compensation programs with company strategies is necessary for firm competitiveness (Gerhart, 2000). Previous compensation literature also provides strong support for the universal perspective that specific compensation programs (e.g., gainsharing programs, group-based pay plans) always yield superior returns regardless of strategic plans and contextual variables (Kim, 1996; Banker, Lee, Potter, & Srinivasan, 1996; Murray & Gerhart, 1998). A large number of studies examine how SHRM impacts a firm's performance. However, few studies conceptualize and test mechanisms through which an array of human resource management programs and practices affects organizational outcomes. In the current study, elaboration of the process through which SHRM contributes to a firm's performance will extend the performance implication of the human resource management system. Thus, the current study places focus not on the consequences of a set of human resource programs and practices implementation, but on how the human resource system impacts organizational performance.

Also, most compensation literatures emphasize the "fit concept," the extent to which a compensation program can satisfy a firm's strategic demands and objectives.

However, recently, the "flexibility concept" emerged as a strategically important concept to the shape and structure of the compensation system: a compensation program should be planned and implemented to develop capabilities of human capital that effectively address the dramatically changing environment (Wright & Snell, 1998). In contrast to previous research, Wright and Snell (1998) proposed a framework where "fit" and "flexibility" concepts are complementary. Human resource activities are shaped and configured to meet strategic demands by acquiring and retaining the necessary human capital, the manufacturing activities of members, and training and developing skills and competencies that are consistent with strategic needs, objectives, and interests. However, human resource programs need to focus on how capabilities of human capital should be developed and be adaptable to the rapid pace of change in business. Because most previous compensation literatures conceptualize and apply "fit" to designing, establishing, and implementing the compensation system, the present study makes an attempt to highlight the "flexibility" concept.

In summary, the current study can contribute to the existing compensation literature by articulating mechanisms through how the compensation strategy impacts a firm's performance and placing major focus on the "flexibility vs. fit" concept.

CHAPTER 2

LITERATURE AND MODEL DEVELOPMENT

2.1. Perspectives on Strategic Compensation

"Strategy" refers to the course of action that companies want to take and the way resources should be allocated in order to formulate and execute the long-term objectives of enterprises (Bamberger & Meshoulam, 2000; Hitt, Ireland, & Hoskisson, 2003). Strategy plays a crucial role in creating and sustaining competitive advantage against rivals and contributes to creating above-average returns (Hitt, Ireland, & Hoskisson, 2003). Traditionally, the major focus of human resource management has been on the administrative functions of HR: how to effectively plan and administer human resource subsystems such as recruiting, hiring, retaining, appraising, rewarding, training, and developing human capital (Bamberger & Meshoulam, 2000). Since the 1990's, research on human resource management has shifted major attention from administrative functions to strategic perspectives. "Strategic human resource management" is defined as a set of human resource management policies and practices that reflect strategy formulations and implementations (Bamberger & Meshoulam, 2000; Noe, Hollenbeck, Gerhart, & Wright, 2003).

The assumptions that underlie strategic human resource management are that (1)

strategies take into account the variances in human resource policies and practices, and (2) human resource activities that are consistent with strategies result in superior performance over other competing firms (Bamberger & Meshoulam, 2000; Noe, Hollenbeck, Gerhart, & Wright, 2003).

The resource-based view provides valid theoretical background for how human resource management can help firms enhance their competitiveness (Barney & Wright, 1998). In the resource-based view, resources that contribute to a firm's success should be valuable, rare, and non-imitable (Barney & Wright, 1998; Bamberger & Meshoulam, 2000; Hitt, Ireland, & Hoskisson, 2003). According to the resource-based view, human resource is supposed to be a valuable source because without support from human resources, financial and physical resources cannot generate any revenues or profits. Because individual differences exist in the competencies and personalities of human resources compared to homogeneous characteristics of physical and financial resources, human resource characteristics are heterogeneous, leading to rarity (Barney & Wright, 1998; Bamberger & Meshoulam, 2000). Human resource management is bundled to be configured with multiple dimensions. It is not easy for competing firms to disaggregate the human resource management system into several dimensions and analyze how to integrate each HR practice into bundled human resource management systems (Barney & Wright, 1998; Bamberger & Meshoulam, 2000). It is neither straightforward nor obvious for competing rivals to imitate heterogeneous bundled human resource management systems. Thus, human resource management has high potential to satisfy the criteria of resources that create and maintain sustainable competitive advantage (e.g., difficulty to imitate, rarity, uniqueness).

As a sub-component of bundled human resource management, the compensation system plays pivotal roles in creating and sustaining firm competitive advantage. First of all, the compensation system can ensure whether personal interests and goals are aligned with organizational strategic objectives. Initial strategic plans may misalign with the execution of strategies. By establishing the compensation system with strategy implementations, companies can monitor and control whether actions of members are consistent with strategic objectives and demands (Gerhart, 2000). For example, for cost leaders, operational efficiency is a major method that determines competitiveness. Firms are willing to outline and shape a compensation system in which the reward amount is closely linked to increases in operational outcomes. In product differentiators, product, service, or market development activities that are distinct from those of rivals are supposed to be a major method that generates profitability. For product differentiators, pay policies and programs should reflect how to foster commitment to product and service development and innovation. Thus, the design and structure of the compensation system shape the actions and attributes of human capital that are consistent with major organizational goals and interests (Montemayor, 1996).

Secondly, research on compensation has suggested that the compensation system significantly influences human resource composition. Cable and Judge (1994) found that compensation attributes affected job candidates' decisions to join companies. The results of Cable and Judge's study (1994) demonstrated that job applicants generally preferred an individually oriented pay system, a flexible benefit plan, and a fixed and job-based payment form. Also, in their study, a certain personality (i.e., risk-taking preference, collectivism vs. individualism and materialist) moderate the relationship between

preference for compensation programs and attraction to a particular organization (Cable & Judge, 1994). Thus, the compensation system may affect how the workforce composition is built and shaped, and what types of workers are recruited and join a firm. Each strategy demands different types of human capital. If innovation is supposed to be a primary means to improve competitiveness, conservative and risk-aversion attitudes may not match firm demands. In contrast, if processes of creating competitiveness are predictable and standardized, risk-taking attitudes and non-conventional approaches are not desirable for these firms. The compensation system needs to be designed and implemented to manufacture human capital consistent with business strategies.

Thirdly, the compensation system may shape and develop major company values, norms, and cultures. For example, a widely used incentive pay may help firms shape and develop outcome-oriented cultures that have higher performance expectations and may place emphasis on personal achievement by establishing a link between payment and job performance. Otherwise, by helping to structure rule-bound internal human resource systems, seniority-based pay helps firms stabilize and standardize company systems and structures that are consistent with conservative organizational cultures. Therefore, the compensation strategy can influence human capital characteristics and shape primary values, norms, beliefs, and cultures, which in turn ensure a firm's success.

Several studies have examined the strategic value of the compensation system. However, it can be argued that how to create, shape, and execute the compensation system for strategic purposes and impact is still in need of research.

2.2. Previous Studies on Strategic Compensation

The notion of strategic compensation is derived from the strategic human resource management concepts and assumptions. As noted above, there are three major strategic human resource management perspectives: universality, contingency, and configurational perspectives. While these SHRM perspectives all agree that human capital is a valuable and unique resource to competitiveness, each differs in terms of how human resource activities drive a firm's performance (Bamberger & Meshoulam, 2000; Gerhart, 2000).

Three SHRM perspectives are as follows: (1) the universality perspective argues that arrays of best human resource practices (e.g., performance-based pay; extensive use of training practices; careful selection practices) are universally better than other comparative HR practices (Bamberger & Meshoulam, 2000); (2) the contingency perspective contends that alignment of human resource practices and policies with organizational strategies yields better returns. Successfully formulated and executed organizational strategies require firms to recruit, select, appraise, reward, manage, train, and develop actions and competencies of members that are compatible with objectives and interests of strategies; (3) grounded in the assumptions of "equifinality", the configurational approach posits that implementation of internally coherent multiple human resource practices results in synergy effects on a firm's performance than the simple sum of individual human resource practices (Delery & Doty, 1996; Bamberger & Meshoulam, 2000).

The results of previous studies that empirically tested and compared three strategic human resource perspectives have been mixed. Arthur (1992, 1994) and MacDuffie (1995) conducted empirical studies to examine the relationships of human resource system patterns with a plant's operational performance. Arthur (1992, 1994)

used the cluster analysis to construct a bipolar typology of human resource strategies, cost reduction, and commitment strategy: cost reduction strategy is aimed at reducing direct labor cost and improving efficiency by enforcing employee compliance with rules, procedures, and standards, as well as aligning employee behavior with output criteria (Arthur, 1992, 1994; MacDuffie, 1995). Otherwise, the commitment strategy primarily attempts to shape and promote attitudes and behaviors that increase unique values of human capital competency and foster commitment, satisfaction, and loyalty to assignments. In the commitment strategy, widely used training, development and empowerment programs, and equity-based compensation help companies develop highly valued and committed human assets(Arthur, 1994; Bamberger & Meshoulam, 2000) .

MacDuffie (1995) also used the cluster analysis to validate three hypothesized human resource strategies labeled as mass, flexible, and intermediate production strategies. In his study, MacDuffie (1995) constructed a typology that described mass and flexible manufacturing strategies: (1) the mass manufacturing strategy regards buffers as extra slack added and reserved against emergencies. Since under the mass manufacturing strategy workers do not need to detect and correct buffering in manufacturing processes, they were assigned to perform narrowly and strictly defined tasks with little skills, allowing firms to replace laborers easily; (2) under the flexible production system, buffering inhibits organizational resources from being devoted to manufacturing processes. Because workers are required to deal with the emergency problems that stem from the buffer, workers need to possess a variety of advanced capabilities to eliminate buffering from manufacturing products. While the mass manufacturing human resource system intends to minimize expenses for managing human resources, the flexible

production human resource system is willing to train and develop human capital and improve job performance by using pay-for-performance program. Both Arthur (1992, 1994) MacDuffie (1995) found that patterns of human resource programs and practices labeled as "commitment strategy/flexibility logic" that consider human resources as valuable assets and useful tools to improve firm outcomes produce better performance than cost reduction/mass production strategies.

Huselid (1995) tested the impact of key human resource practices and program patterns of "high performance work practice" on employee (turnover and productivity) and organizational outcomes (ROA, Tobin's Q). "High-performance work practice" refers to the array of human resource practices and programs that intend to develop comprehensive and deeper skills and knowledge of employees, and in turn allows them to get involved in problem-solving and decision-making activities. The high performance work practice is composed of an extensive incentive program, careful recruitment and selection procedures, and widely used training and development practices. Huselid (1995) found that a greater ratio of high-performance work practice led to higher financial performance, which in turn supported the universal perspective. Another performance implication of Huselid's study (1995) is the impact that achievement of "fit" provides on firm outcomes. Huselid's study (1995) found that while internal fit provided positive impact on a firm's financial performance, the impact from external fit on a firm's success was insignificant. Thus, Huselid (1995) provided stronger support for the universal perspective by revealing positive impact from high performance work practice on a firm's financial performance and employee outcomes.

Delery and Doty (1996) found support for all three strategic human resource perspectives. Several human resource practices—profit sharing, employment security, and results-oriented performance appraisal—had a strong positive impact on a firm's performance. Also, the alignment of several individual human resource practices—performance appraisal, participation, and internal career opportunities—with Miles and Snow's business strategy typology was positively related to a firm's financial performance. Additionally, Delery and Doty (1996) constructed typologies of three employment modes that integrate interrelated human resource practices: market, hybrid, and internal.

Lepak (1999) proposed a framework that described a firm's decision to focus on whether firms internally develop human capital or acquire human capital from the external labor market. The market employment system intends to acquire human capital that is essential to a firm's strategic objectives and demands from outside the company. In the market employment system, there are a few training and development programs, and job security may not be guaranteed because the market employment system allows companies to acquire the human capital necessary from outside the companies. In contrast, the internal employment system views firm-specific human capital as necessary to strategy formulation and implementation. Therefore, the internal employment system makes internally greater efforts to develop human capital by using extensive training, developmental performance appraisal practices, internal career opportunities, employment security, and a great deal of voice.

Delery and Doty (1996) found that as the lesser bank employment system replicates internal-type, the financial performance of an organization results in more than

a ten percentage increase in financial performance. Delery and Doty's study (1996) is the only one study that supports the configurational perspective by demonstrating the positive impact of compatibility among several HR practices. Bae and Lawler (2000) examined how high-involvement HR strategy is related to organizational performance. In high-involvement HR strategy, top managers consider human resource functions as integral and fully integrated to the firm's performance, and attempt to extend the involvement of HR roles in strategy development and implementation. High involvement HR strategy is characterized by high employee participation, an extensive training program, broader job design, and performance-based pay that leads to HR involvement in a firm's business. Bae and Lawler (2000) supported the hypothesis that high-involvement HR strategy provided positive impact on firm performance in emerging economies, which in turn supported the universality perspective.

Hitt, Bierman, Shimizu, and Kochhar (2001) predicted that a medium level of human capital quality would result in better firm performance. Their study (Hitt, Bierman, Shimizu, & Kochhar, 2001) suggested that diversification and leverage on human capital moderated the impact of human capital on law firm outcomes. Hitt and his colleagues (2001) found three-way interactions between the diversification strategy, human capital, and law firm performance that supported the curvilinear effects from human capital quality on law firm performance. Also, the empirical results of Hitt, Bierman, Shimizu, and Kochhar's study (2001) provided performance implications of human resource management by considering expenses as well as revenues and profitability.

Youndt, Snell, Dean, and Lepak (1996) empirically compared the implications of alternative strategic human resource perspectives—universal and contingency theories.

Youndt et al. (1996) hypothesized that the human-capital-enhancing strategy had a positive impact on operational manufacturing plant performance. The human-capital-enhancing strategy makes intensive investments in human capital development and skill enhancement through selective staffing, comprehensive training, developmental performance appraisal, and widely used performance-based compensation. Moreover, manufacturing strategies have interactions with human-capital-enhancing strategies and plant operational outcomes: in high-quality manufacturing strategies that focus on product quality and reliability and customer satisfaction, human-capital-enhancing strategies have a positive effect on plant operational performance more than in low-quality manufacturing strategies. Therefore, the results of Youndt, Snell, Dean, and Lepak's study (1996) indicated that strategic human resource perspectives could be complementary which is different from the traditional assumption of strategic human resource literatures.

Wright, McMahan, McCormick, and Sherman (1998) surveyed over 80 petrochemical refineries to test the extent to which HR was involved in the formulation and implementation of firm strategy. As the innovation strategy presumed to be a major way of enhancing competitiveness that is supported by extensively used training and development practices, HR involvement in firm business was positively related to the perceptual measures of HR effectiveness. Otherwise, the involvement of HR was negatively related to the perceptual HR effectiveness, as cost-efficiency was pursued as a major strategic objective.

Collins and Clark (2003) shifted its focus to exploring how HR practices affected social network, which in turn leads to firm performance. Because access and utilization

of information can reduce uncertainty and increase the capacity to enhance firm competitiveness, social networks of top managers are a means that increases firm performance. Also, some HR practices can improve top managers' capability to initiate and establish internal and external network relationship with stakeholders with various interests in firm performance. Collins and Clark (2003) found that social networks of top managers mediated the relationship of HR network practices (e.g., developments of relationships with external and internal stakeholders) with firm performance. Collins and Clark (2003) made new approaches to the effectiveness of HR practices in terms of networking that are different from the existing literature.

Adopting strategic human resource perspectives, compensation scholars and practitioners address whether a set of best compensation practices or the alignment of the compensation system with organizational strategies and contexts can verify a firm's success. Previous compensation literatures have provided solid support for the universality perspective. As aspects of SHRM typology, the pay-for-performance program leads to an improved firm, business division, or group financial and operational performance (Huselid, 1995; Delery & Doty, 1996). Several studies have suggested that a high proportion of long-term incentive programs and variable pay in executive and managerial payment (Abowd, 1990; Leonard, 1990; Gerhart & Milkovich, 1990) yielded significant financial returns to organizations. Welbourne and Andrews (1996) contended that an organization-based pay program increased the survival chances of IPO firms because the organization based pay program improved collaboration and communication activities and disseminated organizational objectives across various divisions. Also, group-based (e.g., gainsharing program) and skill-based pay plans (Murray & Gerhart,

1998) were found to make a greater contribution to a firm's financial and plant operational performance (Petty, Singleton, & Connell, 1992; Banker, Lee, Potter, & Srinivasan, 1996). Several studies also found support for the contingency perspective, which draws on the notion that the alignment of the compensation system with strategic demands and objectives verifies superior returns because the compensation system promotes or mitigates certain types of behaviors and attitudes that are necessary to successful strategy formulation and implementation.

Business cycles and diversification strategies have been suggested to significantly influence the use of incentive pay and its related consequences on a firm's success: incentive pay is more effective to a firm at the growing stage because it provides incentives for employee work motivation and keeps compensation expenses below the market level (Balkin & Gomez-Mejia, 1987). Also, unrelated diversified, firms are more likely to implement incentive pay. If firms are diversified into unrelated areas, firms possess less expertise to monitor and evaluate business unit performance. Incentive pay strengthens instrumentality, which in turn can replace the needs for monitoring and evaluating business unit performance. Otherwise, a related diversified business has high interdependence across various business units. The payment that supports and develops collaborations across business units can help firms capitalize on the interdependence of related diversified business.

As well as corporate strategy, business strategy typologies of Miles and Snow and Porter also affect the impact of the compensation system on a firm's performance. Miles and Snow's typology describes that while the defender strategy is characterized as centralized decision-making, a limited and stable product line and emphasis on cost

efficiency, decentralized decision-making, and innovative, flexible, and rapid response to changing conditions are major features of prospector organizations (Gerhart & Rynes, 2003). Balkin and Gomez-Mejia (cf. Gerhart, 2003) applied typologies of prospector and defender strategies to construct two generic pay strategies: algorithmic and experiential pay strategies. Whereas the experiential payment strategy focuses on promoting the adaptability and flexibility of the compensation system, stability and predictability are major values of the algorithmic pay strategy (Balkin & Gomez-Mejia, 1987; Balkin & Gomez-Mejia, 1990; Gomez-Mejia, 1992; Gomez-Mejia & Balkin, 1992; Gerhart, 2000). Through the algorithmic pay plan, defenders can implement consistent, uniform, and standardized payment procedures and rules, which ensure cost efficiency through high volume and market penetration in narrow and stable markets (Gerhart & Rynes, 2003).

Otherwise, the experiential payment plan helps prospectors facilitate innovation and flexibility and rapid responses to changing conditions (Gerhart & Rynes, 2003). Some empirical literatures evidence that consistent with the hypotheses proposed by Gomez-Mejia and Balkin (1992), the experiential payment was more effective for prospectors than for defenders, who performed better when the algorithmic strategy was used (Gerhart & Rynes, 2003).

Rajagopalan (1997) surveyed fifty electric utility firms over a five-year period to examine whether alignment of the incentive pay program with Miles and Snow's business strategy typology matters to the firm's performance. Prospector performance with the long-term incentive pay plan becomes better because long-term and risk-taking incentive programs promote the use of discretions to find ways to deal with uncertainties as a result of extending new product and market development (Gerhart, 2000; Gerhart &

Rynes, 2003). Otherwise, defenders performed better with annual bonus plans because they ensure short-term orientation and focus on narrow and existing products and services (Gerhart, 2000; Gerhart & Rynes, 2003). Montemayor (1996), using the modified Porter typology, surveyed 280 multi-industry firms to examine whether alignment of business strategies with compensation policies and philosophy is strategically important to a firm's success. His study found that while organizations whose major strategic focus is innovation and product differentiation are wiling to use the merit payment and above-market wage policy, the widely used bonus plan and the below-market wage policy are consistent with cost reduction strategies.

From the above discussions, it is clear that researchers and practitioners have consensus that empirical results of strategic compensation studies provide inconsistent implications whether a set of core compensation programs or compensation program patterns should be consistent with organizational strategies. Thus, compensation scholars and practitioners need to address many questions. In Tables 1 and 2, previous literatures on strategic human resources and strategic compensation studies are summarized. The next section will discuss the questions that this study will address and describe the framework that theoretically upholds the hypotheses of the current study.

2. 3. Limitations of Prior Empirical Research

A large number of previous compensation literatures has empirically shown that the pay level significantly influences the job applicant's decision to apply to and join an organization, and is an incentive for the work motivation of incumbents (Gerhart, 2000; Heneman, Ledford, & Gresham, 2000). Existing compensation studies have identified a variety of factors that are major determinants of pay levels for particular groups of

organizational members. Recently, Brown, Sturman, and Simmering (2003) found that pay structure and levels had nonlinear and interactive effects on operational and financial outcomes of health care institutions. In comparison with research on pay structure and levels, most compensation literature tends to overlook the strategic impact of the compensation system on organizational performance. Thus, questions about the strategic impact of the compensation system are still relevant.

Universal and contingency perspectives offer a major theoretical background for strategic compensation research. The universal theoretical perspective argues that a set of core compensation programs should be always better than other pay plans (Gerhart, 2000): (1) previous literatures found that group incentive and gainsharing programs contribute to improved organizational performance; (2) the individual incentive plan provided motivational incentives for individual outcomes far more than any other pay plans (Gerhart & Rynes, 2003). Gerhart and Milkovich (1990) tested the underlying assumption that not only how much employees are paid but also how they are paid influences a firm's performance. Gerhart and Milkovich (1990) found that the higher the ratio of bonus-to-base pay was, the better the organizational performance would be. Gerhart and Milkovich (1990) provided evidence for the universal perspective and highlighted the importance of the compensation strategy.

The contingency perspective also received some support. The contingency perspective theory contends that the strategic impact of the compensation system is contingent on business strategies and environmental characteristics. The results of Gomez-Mejia (1992), Balkin and Gomez-Mejia (1990), and Rajagopalan's (1997) studies demonstrated that the ratio of incentive to total pay was affected by the extent to which

organizational businesses were diversified. Gomez-Mejia and Balkin's studies (1990, 1992) demonstrated that while the compensation system in highly diversified firms needs to focus on improving each business unit outcome that replaces the need for expertise for monitoring and controlling activities, it is necessary for firms with related diversification to formulate and implement the compensation system that can promote and leverage on the interdependence of businesses. Montemayor (1996) used modified Porter typology as operationalization of business strategy, and found that alignment of business strategy with pay policies and programs results in better effectiveness of an organization. Thus, theoretical implications of previous compensation literatures have been mixed by revealing support for both SHRM perspectives (i.e., universal and contingency).

Secondly, the impact of the human resource system on a firm's success should develop through processes that are related to the characteristics of the human capital pool (Bowen & Ostroff, 2003). Because the human resource system hires, motivates, rewards, manages, retains, trains, and develops the pool of human capital, it inspires changes in human capital characteristics. Previous literatures have established the relationship in which the contents of human resource programs and practices impact the plant and firm performance (Bowen & Ostroff, 2003). However, relatively few studies have explored the processes through which the HR system is related to the business unit/organizational performance (Bowen & Ostroff, 2003; Park, Mitsuhashi, Fey, & Björkman, 2003). Park, Mitsuhashi, Fey, and Björkman (2003) empirically demonstrated that changes in skills, behaviors, and knowledge of workers are essential to the consequences of the HR system on organizations. Collins and Clark (2003) found that top management network is a necessary mechanism for the positive impact of human resource practices that encourage

top managers to develop a network outside of their company. Thus, several studies (Collins & Clark, 2003; Park, Mitsuhashi, Fey, & Björkman, 2003) identified processes that establish the mechanism of how human resource programs and practices affect organizational outcomes. The compensation program as an element of human resource management may exert influence on attributes of human capital, and in turn changes in arrays of behavior and competency of human resource may drive a firm's success. There are large differences in the compensation system of each organization that significantly correlate with firm performance. The compensation strategy demonstrates unique and even idiosyncratic characteristics that significantly impact the organization. Moreover, compensation studies have suggested that the compensation strategy strongly affects the shaping of human capital composition, extrinsically motivates instrumentality, and articulates major values, assumptions, and principles of the firm. Thus, the compensation system has the potential of influencing a firm's success through changes in the human capital characteristics.

The present study will be the first to explore the process through which the compensation system contributes to a firm's performance by affecting human capital characteristics. The review of the literature presented above shows that compensation research has not adequately addressed the question of how the compensation strategy is designed, structured, established, and configured. Hence, the present study intends to develop and examine hypotheses that seek to understand the mechanisms through which the compensation strategy contributes to a firm's competitive advantage.

Study	Findings	Unit of Analysis
Arthur (1992, 1994)	Commitment HR strategy positively impacted mini mills operational performance	Plant workers in 38 mini mills
Snell (1992)	Administrative system positively mediated the relationship between product market variation and input and behavioral control systems, while negatively mediated the effect of work flow integration on output control system	Managers in 436 single business firms
Snell & Dean (1992)	Integrated manufacturing system (e.g., JIT, AMT, TQM) increased the use of sets of HR practices and programs that focused employee competency development	Plant workers in 512 manufacturing firms from metal-working industry
Huselid (1995)	The greater use of "high performance work practice", the hither firm performance would be	HR managers in 817 firms
McDuffie (1995)	High-Commitment HR strategy improved automotive assembly plant operational performance	Plant workers in 62 automotive assembly plants
Youndt, Snell, Dean, & Lepak (1996)	Human-capital-enhancing HR strategy directly impacted a firm's operational performance as well as having interactive effect with the quality manufacturing strategy	Managers in 97 operational plants from metal working industry

Table 2.1 Previous Studies on Strategic Human Resource Management

Study	Findings	Unit of Analysis
Delery & Doty (1996)	Found supports three SHRM perspectives; the higher profit sharing, results-oriented performance appraisal, and employment security have been implemented, the better firm performance would be; individual HR practices had interactive effect with Miles and Snow business strategy typology; market employment system resulted in better firm performance than internal employment system	Bank managers in 436 single business firms
Wright, McMahan, McCormick, & Sherman (1998)	The extent to which HR was involved in strategy formulation and implementation was positively related to refineries' operational performance	HR managers in 86 refineries
Bae & Lawler (2000)	High-Involvement HR strategy positively impacted a firm's financial and perceptual performance	HR managers in 139 Korean Firms
Collins & Clark (2000)	Top management social network mediated the contribution of HR practices that focused top manager network development on a firm's financial performance	Top managers in 76 high-technology firms
Hitt, Bierman, Shimizu, & Kochbar (2001)	Human capital provided curvilinear effect on a firm's performance; a firm's practices that leverage the human capital improved a firm's performance as well as moderated the effect of diversification strategy	Partners in 93 law firms

Table 2.1 (Cont'd)

Study	Findings	Unit of Analysis
Pearce, Stevenson, & Perry (1985)	No significant effect from merit pay on government organizations' performance by comparing impact before and after merit pay implementation	Employees in 20 local districts and branches of social security administration
Balkin & Gomez-Mejia (1987)	Incentive-based pay system perceived as more effective for small high-technology firms at growing stage	HR managers in 223 firms
Abowd (1990)	The use of variable payment improved a firm's financial performance	16,000 managers in 250 organizations
Balkin & Gomez-Mejia (1990)	Incentive pay was perceived as more effective for moderately diversified firms or units at growth stage	HR managers in 212 manufacturing firms
Gerhart & Milkovich (1990)	Greater group- and long-term incentive managers were rewarded, higher a firm's performance would be	20,000 managers across six-level in 300 business units
Petty, Singleton, & Connell (1992)	Divisions with organizational incentive plan performed better in their operational performance than without this pay plan	3,977 employees in three divisions

Table 2.2 Previous Studies on Strategic Compensation Studies

Study	Findings	Unit of Analysis
Gomez-Mejia (1992)	Single-Product firms performed better with experiential payment, whereas dominant-product, related-product, and steady-state firms performed better with algorithmic payment	HR managers in 867 firms
Snell & Dean (1994)	Integrated manufacturing system did not provide main effect on the reward system determination; However, integrated manufacturing system interacted with job characteristics (e.g., task interdependence; task uncertainty), which in turn affected reward system determination	Workers in 512 manufacturing plants from metal working industry
Parks & Conlon (1995)	Environmental contexts -scarcity and munificence- affected employee acceptance of performance contingent payment	41 dyads in experiments with undergraduate and MBA students
Banker, Lee, Potter, & Srinivasan (1996)	Retailing outlets with group-based incentive performed better than outlets without this pay plan	77-month longitudinal study for employees in 34 retailing outlets
Gerhart & Trevor (1996)	Long-term stock incentive reduced the employment variability, leading to increases in company flexibility	10,000 employees in 152 organizations
Kim (1996)	Found various factors that predicted gainsharing program implementation (e.g., employee involvement, bonus size, administration)	265 organizations with gainsharing programs

Table 2.2 (Cont'd)

Study	Findings	Unit of Analysis
Montemayor (1996)	Alignment between Porter strategy typology and the compensation system led higher firm's perceptual performance	HR managers in 280 firms
Welbourne & Andrews (1996)	While main effect of pay system was not significant, pay system had interactive effect with business strategy; prospectors performed better with long-term stock plans	170 nonfinancial companies made initial public offerings (IPO) in 1988
Rajagopalan (1997)	Greater use of stock option and profit sharing plans, higher firm performance would be	50 electric utility firms
Bloom & Milkovich (1998)	Annual incentive plan negatively impacted total shareholder return in firms that have had higher variability in stock	Managers in 750 firms
Murray & Gerhart (1990)	Plants with skill-based payment resulted in greater productivity than plants without skill-based payment	37-month before and after skill-based pay on manufacturing plant workers
Arthur & Aiman-Smith (2001)	In four-year after gainsharing program implementation, the volume of total suggestions has declined over time; however, the contents of suggestions have increasingly reflected second-order learning	20,000 managers across six-level in 300 business units

Table 2.2 (Cont'd)

Study	Findings	Unit of Analysis
Batt, Calvin, & Keele (2001)	Higher wage and internal promotion policy lowered turnover, whereas the use of temporary workers, variable payment, and electronic monitoring system increased turonver	Workers in 302 telecommunication industry firms
Bloom & Michel (2001)	Diversification strategy and sets of organizational contexts were antecedents of pay dispersion, which in turn affected manager turnover and tenure	Managers in 274 organizations
Shaw, Gupta, & Delery (2001)	Moderate support was found for interrelated relationships among skill-based pay, teamwork, individual pay, integrated technologies, and operational performance	HR managers in 3790 trucking companies
Shaw, Gupta, & Delery (2001)	Agency and collaborative perspectives were partially supported; moderately interrelated relationships among agent monitoring, agent tenure, the pay system, and operational performance of trucking companies	HR managers in 3790 trucking companies
Brown, Sturman, & Simmering (2003)	Pay level and structure had non-linear and interactive effect on the operational performance of hospitals	Employees in 354 hospitals
Hunter & Lafkas (2003)	The use of information technology (IT) moderated the effect of employee involvement practices on employee wages	Employees in 303 bank branches

Table 2.2 (Cont'd)

2.4. Theoretical Background

The resource-based view contends that human resource can be a source of competitive advantage of organizations: (1) careful selection practices, extensive use of training and development programs, and contingent pay have been suggested to improve individual productivity and behavioral outcomes, which in turn may contribute to a firm's success; (2) idiosyncratic characteristics of individuals allow organizations to develop heterogeneous capabilities, which in turn gain and sustain advantage over major rivals; (3) development of an individual career path, and integration of capabilities that each member possesses are socially complex and ambiguous; (4) because knowledge, skills, and capabilities that are specific to firms reside in individuals, it is very difficult for organizations to replace the human capital they possess. Therefore, scholars and practitioners contend that human resource can make a significant contribution to organizational competitiveness as a source of competitive advantage (Barney & Wright, 1998).

Several existing strategic human resource literatures have examined the validity of each SHRM perspective by comparing their consequences (e.g., universal and contingency SHRM perspectives). Rather than testing each perspective as an opposite concept, Youndt, Snell, Dean, and Lepak (1996) conceptualized that the contingency and universal perspectives can coexist, and they empirically tested the coexistence of these two strategic human resource perspectives. They (1996) hypothesized that an array of core human resource practices and programs had a main effect on a firm's success, and that manufacturing strategy interacting with attributes of the human resource system explain additional variance to that main effect. The results of Youndt and his colleagues'

study (1996) suggest that universal and contingency perspectives about SHRM can be complementary. Compensation scholars have used SHRM theories to conceptualize strategic compensation and have tested how the compensation system may contribute to a firm's competitive advantage. Theoretical implication of the strategic compensation has been inconsistent (Gerhart & Rynes, 2003). It is possible that universal and contingency perspectives can be complementary as Youndt, Snell, Dean, and Lepak (1996) suggested. Therefore, the present study conceptualizes strategic compensation theoretical backgrounds as adopted from Youndt et al.'s study (1996) and will test the probability of the coexistence of universal and contingency perspectives in the strategic compensation literature.

Another theoretical background of the current study is the "fit vs. flexibility" concept. There have been debates about whether the design and structure of strategic human resource management needs to prioritize the achievement of "fit" or of "flexibility" in order to produce competitive advantage. The "fit" concept in human resource management is defined as the degree to which developments and changes in human resource management practices satisfy human capital characteristics, needs, objectives, and/or structures of organizations (Wright & Snell, 1998). "Flexibility" is conceptualized as the extent to which firms can respond to the various demands that result from the dynamic and rapidly changing business environments. Wright and Snell (1998) proposed that instead of holding the view that fit and flexibility are on the opposite ends of a continuum, fit and flexibility can be complementary because both concepts are essential for organizational effectiveness.

The framework developed by Wright and Snell (1998) posited that in order to generate competitive advantage, companies should maximize fit by designing, structuring, and implementing a human resource system that is consistent with strategic demands and activities, and unique human capital characteristics. Once fit is achieved, companies need to develop its flexibility in order to effectively address unpredictable and dramatically changing business environments. Therefore, by conceptualizing "fit vs. flexibility" and "universal vs. contingency" perspectives as complementary, the present study will help to understand that the results of previous empirical studies on strategic compensation have been inconclusive.

The concept of "fit" is strategically important to organizational competitiveness. Unless firms possess, retain, and develop competencies of workers that are compatible with organizational characteristics and strategic demands from the business environments, firms may not effectively build, allocate, and leverage on resources to exploit business opportunities and mitigate external threats to firms: sets of competencies and activities that are consistent with HR practices, business contexts, and strategic dimensions may help firms formulate and implement strategies because they satisfy strategic demands and objectives of organizations (Wright & Snell, 1998).

However, the HR system that is tightly coupled with environmental and strategic needs and opportunities may constrain firm capabilities to address unpredictable and discontinuous changes in the business environment. Firms should create, develop, and encourage organizational flexibility by developing a pool of human capital competencies and behavioral adaptability (Wright & Snell, 1998). Also, transferring human capital even with a narrower range of specific competencies and rigid behavioral repertories may

enhance the flexibility of human resource systems (Wright & Snell, 1998). Thus, designing, creating, and sustaining human capital characteristics that are compatible with strategic demands and objectives can help firms improve their flexibility as well as formulate and execute business strategies.

The framework of the present study posits that the compensation strategy impacts a firm's performance through changes in human resource capabilities and characteristics. The compensation strategy is heterogeneous and rare, because the creation and organization of the compensation strategy reflects idiosyncratic firm characteristics. As a resource that is valuable, rare, and non-imitable to a firm's competitiveness, the compensation strategy significantly impacts a firm's performance. The compensation strategy, as an element of the human resource system, affects attributes of human capital. In turn, changes in human capital can be aggregated into impact on firm performance. Consequently, changes in human resource attributes is an important mechanism thorough which the compensation strategy impacts a firm performance. Thus, the present study will provide performance implications by articulating how the compensation strategy impact on firm performance.

The notion of behavioral perspective posits that firms have a clear knowledge of what types of behaviors and attitudes are required for members to exhibit, and which practices elicit those activities to accomplish business objectives. The compensation system significantly affects the actions and attributes of human resources, which in turn help organizations yield substantial returns and improve competitiveness.

For example, because a major determination of merit payout is a supervisor's subjective rating, in order to implement the merit-pay system effectiveness, it is

necessary for firms to monitor and control whether activities and attributes of workers are consistent with specifically defined and regulated work routines and procedures. Skill-based pay has a large potential to improve the skills, knowledge, and abilities of workers, while it imposes an enormous amount of expenditures on a firm's financial aspect. Group-based pay encourages workers to coordinate the functional expertise of each group member and collaborate with coworkers to improve group outcome. However, because it is not easy for group members to clearly identify individual contribution to a group outcome, they may be de-motivated to make a commitment to group work. Unless knowledge and OCB of a core employee group substantiate the impact of these compensation programs, skill- and group-based pay programs will fail to impact organizational performance because disadvantages of these pay programs will exacerbate adverse impact.

Given the examples noted above, unless human resource characteristics of organizations are compatible with features of compensation programs, compensation programs cannot contribute to a firm's competitiveness. Therefore, it is necessary for companies to design a variety of compensation program types to be consistent with the human resource characteristics of their organizations.

In summary, from the model proposed and developed, the present study intends to encompass the universality and contingency perspectives as well as the fit and flexibility concepts. The compensation strategy provides direct effects on a firm's performance through changes in the sets of human capital competencies and behaviors (e.g., knowledge, adaptability, and organizational citizenship behavior). Psychological research has suggested that increases in knowledge, adaptability, and organizational citizenship

behavior of workers are aggregated into positive organizational outcomes as well as results in improvements on individual performance (Noe, Hollenbeck, Gerhart, & Wright, 2003). Also, increases in the knowledge, adaptability, and organizational citizenship behavior of employees enhance organizational flexibility because increased human resource characteristics can extend firm capacity to demonstrate rapid responses to changing business environments. Therefore, the compensation strategy is related to a firm's performance through changes in knowledge, adaptability, and organizational citizenship behavior of individual employees which are aggregated into organizational performance as well as augmenting or mitigating firm flexibility.

At the same time, the compensation strategy should be tailored to match sets of human resource attributes because the effectiveness of specific types of compensation programs needs sets of different types of competencies and activities for organizations. The compensation strategy can verify firm success through achievement "fit" with a pool of human capital characteristics. Thus, the model proposed by the present study integrates the fit vs. flexibility concepts and universal vs. contingency SHRM perspectives and conceptualizes integrated theoretical perspectives as necessary to a firm's success.

2. 5. The Models Portrayed

The framework on which the current study is based is depicted in Figure 1. The model of this study is intended to describe the mechanisms through which compensation strategies impact on a firm's performance. The underlying assumption of this model is that the integration of each compensation plan is a major mechanism that is strategically important to organizational performance for the following factors.

First, the compensation mix strategy influences the pool of human capital composition and attributes because individual decision to join and stay within an organization considers the financial aspects of the job. Not only the amount of payment but also how pay plans are integrated have been suggested to influence a job applicants' decision to apply and join an organization (Cable & Judge, 1994).

Secondly, how pay programs are integrated can be a major determinant for a firm's success. Gerhart and Milkovich (1990) found that the ratio of bonus-to-base pay was positively related to a firm's financial performance even if industry, job characteristics, and human capital variables were controlled. Descriptive studies have contended that several moderators determine the effectiveness of variable pay programs (Beer & Cannon, 2004). In the case study of Hewlett-Packard plants, the execution of the pay-for-performance program could not be sustained for a number of years (Beer & Cannon, 2004). Researchers assumed that the cultures of Hewlett-Packard Company that articulate the intrinsic work motivation and cooperative relationship with members may not be consistent with the pay-for-performance program (Beer & Cannon, 2004). It can be argued that researchers need to better understand contingency factors that significantly affect the effectiveness of the compensation system.

Thirdly, the pay strategy has the potential to control the alignment of the interests and objectives of managers with those of organizations. Organizational members prioritize the pursuit of self-interest over organizational interests and goals (Gerhart, 2000). The compensation contract can be a vehicle that aligns organizational interests and objectives with personal interests and goals (Gerhart, 2000). Therefore, the pay strategy influences the degree of risk perception intertwined in the compensation system and

determines which dimensions of performance would be rewarded. In turn, the pay strategy affects the degree of alignment of organizational interests and objectives with personal interests and goals.

In most organizations, the compensation system is composed of multiple pay plans. Thus, rather than studying the effects of a specific individual compensation plan, examining the relative effect of each compensation plan will provide performance implication. Although the relationship of the compensation strategy with a firm's success is fully recognized, the process through which the compensation strategy impacts on the firm's performance needs to be fully understood.

First of all, consequences of the compensation strategy on a firm's performance should directly relate to changes in the attributes and actions of workers. As part of human resource bundles, the compensation system can significantly affect the characteristics of the human capital pool because of behavioral malleability (Bamberger & Meshoulam, 2000). Without changes in human resources, the compensation system will not facilitate any improvement in firm performance.

Furthermore, the relationship of the compensation strategy with a firm's success is affected by human resource attributes. Each compensation plan has its own advantages and disadvantages. While an individual incentive plan is an effective method that improves individual productivity (Gerhart & Rynes, 2003), many organizations become concerned with fostering egotistic and myopic attitudes and behaviors. The existing literatures have suggested that a group incentive plan makes a greater contribution to a firm's performance, by which processes of group member collaboration are improved and achievement of group objectives is more likely to be shared (Montemayor, 2002).

However, a group incentive plan may blur the distinction between individual responsibility and the interests of the firm, thus fostering free-riding and shirking activities (Milkovich & Newman, 2003). Therefore, the human resource characteristics of organizations may have the possibility of exerting or mitigating advantages and disadvantages of a pay strategy.

The model depicted in Figure 1 shows variables which have interrelationships with the pay strategy and its related consequences. The mediating variables refer to changes in knowledge, adaptability, and the organizational citizenship behavior of organizational members. While the existing compensation literatures have suggested that specific compensation programs drive individual, group, and organizational performance, few studies have attempted to identify what variables are essential intervening processes in the consequences of a compensation program. Because the compensation system may significantly influence the attitudes and behaviors of individuals, changes in human resource capital may be an essential mechanism through which firm performance is improved.

Scholars and practitioners have been skeptical about the contribution of a compensation system to the knowledge, adaptability, and organizational citizenship behavior of workers. Particularly, the traditional form of the pay-for-performance program extrinsically motivates workers to focus on immediate short-term outcomes and leads them to overlook the developmental aspects of performance. Moreover, the traditional pay-for-performance program may inhibit workers from cooperating with their team and organizational members because it triggers workers to achieve individual outcomes and objectives that are linked to their reward (Heneman, Ledford, & Gresham,

2000). Additionally, the traditional form of the pay-for-performance program may discourage workers from developing adaptable behaviors because routinized, standardized, and repetitive work procedures may allow them to be rewarded more.

Because of recent changes in the design and implementation of the compensation system, several variable compensation programs have been developed and executed to facilitate the developmental aspects of performance. The group-based incentive extrinsically inspires workers to improve teamwork processes where inter-group communication and collaboration are valued and encouraged. The group-based incentive also encourages organizational citizenship behavior because it extrinsically motivates increases in coworker productivity and reduces the need for expenditures that result in more reward.

The long-term incentive program inspires workers to focus not only on improving short-term results but also on developing how they perform their jobs because the impact of their ability and actions is not manifested in the short-run, but is gradually reflected in the long-term. The long-term incentive program extrinsically motivates employees to increase their capabilities and encourages their desirable attitudes and behaviors, which in turn drive firm performance in the long-term. Therefore, while there are probabilities of a compensation strategy related to a firm's success through augmenting or diminishing the patterns of human capital attributes, a relatively small number of studies has tested the relationship.

In summary, the underlying assumption of the model in this study is that the integration of perspectives conceptualized as opposite ideas in previous studies can extend the performance implications of the compensation strategy. In the current study,

combining contradictory concepts—"fit vs. flexibility" and "universality vs. contingency" —will articulate the way through which the compensation strategy affects a firm's performance.

2.6. Contribution of the present study

The contributions of the present study are as follows. First, it places major focus on how the integration of individual pay plans contributes to a firm's success. Traditionally, most compensation research has examined factors that are major determinants of pay policies and structures, and the impact of the pay policies and structures on individual, group, and firm outcomes. The compensation strategy demonstrates idiosyncratic characteristics that reflect organizational values, symbols, beliefs, and strategic demands. For example, Gerhart and Milkovich (1990) found that larger organizational differences exist in not only pay levels but also pay mix strategies. Also, a total compensation system integrating individual compensation plans is characterized as bundled. It is difficult for competing organizations to imitate the pay mix strategies because a bundled compensation system demonstrates idiosyncratic characteristics. Gerhart and Milkovich (1990) empirically demonstrated that the more variable pay accounted for total pay, the better organizational performance would be. However, how pay strategy contributes to a firm's performance may be affected by some contextual variables. By incorporating the universal and contingency perspectives about SHRM as complementary, the present study attempts to demonstrate empirically how the compensation system design structure and its implementation can encompass two SHRM perspectives.

Secondly, the concepts of fit and flexibility have been major debates in compensation research (Wright & Snell, 1998). Compensation researchers and practitioners argue that the development and execution of a compensation system should reflect strategic positioning and demands. The compensation system can help companies formulate and implement strategies by aligning its characteristics with organizational strategies. However, several researchers and practitioners question the alignment of the compensation system with strategies because a tightly coupled compensation system may inhibit organizations from responding to the rapidly changing business environments. The compensation system should be outlined, organized, and implemented to address how firms will respond to business turbulence and the rapid pace of changes by increasing knowledge, adaptability, and organizational citizenship behavior.

It can be argued that rather than being opposite concepts, fit and flexibility are complementary. The compensation system should be aligned with human resource characteristics and strategic activities which in turn enhance firm competitiveness. However, organizations build, establish, and execute a compensation system focusing on individual competency development that can address dramatic changes in business environments. Therefore, the framework of the present study empirically encompasses the "flexibility" and "fit" concepts and demonstrates how these concepts are complementary.

Thirdly, the present study contributes to the existing literatures by identifying the necessary processes for organizations to establish the linkage between the compensation system and a firm's performance. Firms use the human resource system to allocate and leverage human resources to gain and sustain competitive advantage. Thus, changes in

human resource characteristics are essential processes for human resource system to influence firm competitiveness. Recently, some researchers have increasingly attended to the means by which human resource programs affect firm performance. Bowen and Ostroff (2004) theoretically proposed that rather than studying the content of HR practices, processes of HR practices are in need of research because a variety of variables may mediate the linkage between HR practices and firm performance. However, besides a small number of studies (Bowen & Ostroff, 2004; Parks, Mitsuhashi, Fey, & Björkman, 2003), there has been little discussion about what processes are essential for human resource programs and practices to influence firm outcomes. As aspects of the HR system, compensation programs and policies can influence an array of human capital attributes, in turn driving a firm's performance. Unless changes are made in the human capital characteristics, design, adjustment, and implementation of the compensation system may not be effective. Therefore, close attention must be paid to the aspects of worker performance that may be impacted by the compensation system.

In summary, the present study will examine several valuable insights in existing compensation literatures by integrating divergent theories about strategic compensation and identifying the black box where compensation practices and programs impact a firm's performance.

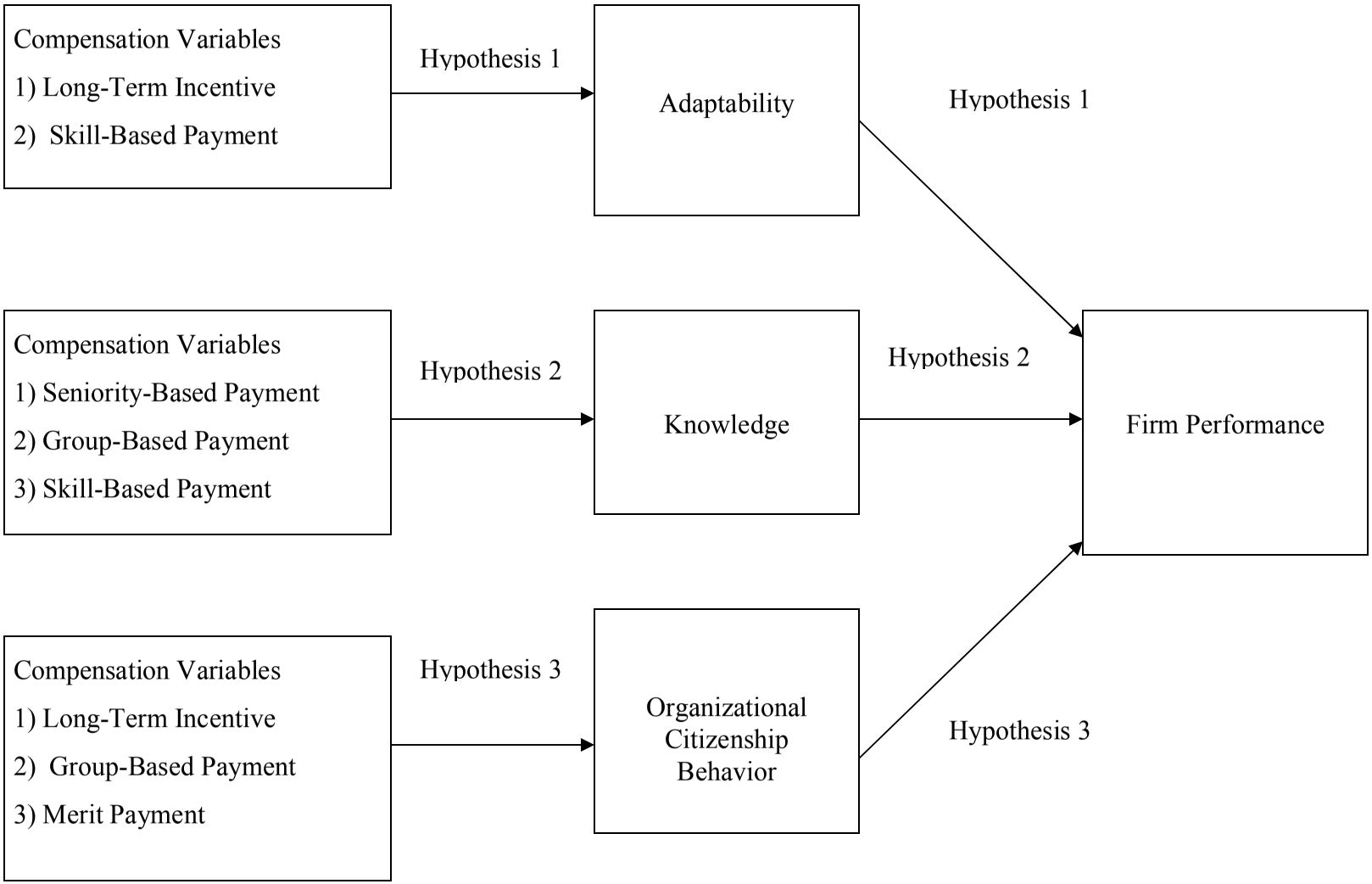

Figure 1: Flexibility and Fit Model

CHAPTER 3

DEVELOPMENT OF HYPOTHESES

3.1. Adaptability

Currently, the business environment has become increasingly turbulent and dynamic. Most organizations are challenged by intensive competitive pressures that come from dramatic development and innovation in product and service technology and market trends (Pulakos, Arad, Donovan, & Plamondon, 2000). Furthermore, the global economy places enormous pressure on companies that are exposed to a high level of financial, operational, and market risks because multinational corporations confront and need to cope with challenges posed by different cultural, institutional, economic, and historical contexts (Motowidlo & Schmitt, 1999; Pulakos, Arad, Donovan, & Plamondon, 2000). Therefore, firms need to make greater effort to enhance company adaptability in order to produce and sustain competitive advantage against their rivals.

Most of the previous literatures have emphasized the macro-factors that affect a firm's success through organizational adaptability (Lyles & Salk, 1996). Currently, under tremendous pressure from the global economy, employees of multinational corporations are required to acquire, learn, and develop skills, knowledge, and competencies.

Improved employee competency allows employees to perform various kinds of tasks even in an environment where underlying values, assumptions, and beliefs are different from those of their host countries (Pulakos, Arad, Donovan, & Plamondon, 2000). Moreover, employees are positioned to operate in a rapidly changing business environment, where existing managerial and technical expertise becomes quickly obsolete, and customer tastes and market trends are dramatically changing (Pulakos, Arad, Donovan, & Plamondon, 2000). Thus, not only the design, establishment, and development of the factors at the macro-level, but also the shaping, structuring, and development of the micro-factors (e.g., employee attributes) affect the extent to which organizations can effectively adapt to a fluctuating business environment.

Several researchers have studied how to measure and improve individual adaptability. Pulakos and her colleagues (2000) constructed a typology of adaptability performance measure with a wide range of behaviors that include problem-solving, learning capability, demonstration of cultural, interpersonal, and physical adaptability, and rapid responses to unpredictable situations. Because adaptability is conceptualized as multidimensional, there can be a variety of antecedents and consequences of adaptability. Several psychological studies have been conducted to examine the antecedents and consequences of individual adaptability. Lepine, Colquitt, and Erez (2000) found that cognitive ability and several personality variables are significant predictors of adaptability performance. Furthermore, the results of Pulakos, Schmitt, Dorsey, Arad, Hedge, and Borman's study (2002) revealed that personality variables are also significant predictors of individual adaptability.

Because the compensation literature has suggested that compensation significantly affects the activities and attributes of human capital, the compensation system likely influences a firm's success through changes in the adaptability of its members. The traditional compensation design has been criticized by scholars and practitioners for reinforcing the routinized and bureaucratic company structures, systems, and cultures. As a traditional payment form, the seniority-based pay plan demotivates employees to adapt to changes in how they perform their work because as a major determinant of reward, tenure may be independent of what employees achieve and how they perform (Bamberger & Meshoulam, 2000). Another traditional payment form is an individual incentive plan, which triggers employees to commit to the narrowly and strictly defined individual task assignments and duties and the repetitive and standardized work procedures. These in turn inhibit employees from collaborating with their coworkers (Milkovich & Newman, 2003).

Recently, compensation scholars and practitioners have made efforts to initiate, change, and develop compensation practices that may stimulate workers to adapt to a fluctuating business environment. Thus, the basis of variable payment shifts from individual to collective performance and the payout criteria in pay-for-performance programs increasingly reflect not what employees produce or achieve but how they perform their duties and job responsibilities. In the present study, long-term incentive and skill-based pay programs are assumed to enhance firm performance through increases in adaptability. These pay programs highlight how employees improve the way they perform their job responsibilities and duties in long-term perspectives and foster collaboration and communication with organizational members.

Enormous volumes of studies on long-term incentive plans, especially stock option plans, have been produced especially in areas of finance and economics related to CEO pay (Gerhart & Rynes, 2003). In most studies that examined the consequences of long-term incentive plan in the executive compensation system, the range of samples has been constrained and the generalizability of empirical results of studies has been limited.

Employee stock ownership (ESOP) has been a major research topic for members below senior-level management. Execution of the ESOP program is expected to intrinsically motivate employee job performance by promoting ownership feelings and beliefs (Klein, 1987; Klein & Hall, 1988).

Furthermore, the ESOP program provides extrinsic incentives through which the program is financially rewarding (Klein, 1987; Klein & Hall, 1988). However, the performance implications of research on ESOP have been inconsistent because ESOP has a line of sight problem (Blasi, Conte, & Kruse, 1996).

Brickley, Bhagat, and Lease (1985) found that following announcements of long-term pay plans, abnormal returns were generated in the stock market. Balkin, Markman, and Gomez-Mejia (2001) assumed that in high technology industries, long-term incentives that represented equity-based compensation stimulated top managers to focus not on short-term financial outcomes but on how their decision-making activities drive long-term company performance because the firm's future success determines their reward. Balkin and his colleagues (2001) partially supported the hypothesis that only innovating activities were significantly predicted by the use of a long-term incentive program.

According to Gerhart and Milkovich (1990)'s hypothesis, the implementation of long-term incentive implies that task elements and job duties assigned to managers were more likely to become complex, non-standardized, and non-programmable relative to those of competing rivals. Gerhart and Milkovich (1990) assumed that it was easier and better for companies to evaluate performance and determine reward with long-term outcome pay, rather than behavioral appraisals or short-run incentive programs that are consistent with the standardized and programmable work procedures and job characteristics for effective and fair implementation of these incentive programs. Because sets of advanced knowledge, skill, and competencies are involved in managerial decision-making and problem-solving activities for complicated and non-standardized jobs, business domains and activities of companies may have more capability and potential to generate revenues and profitability. Gerhart and Milkovich's study (1990) supported the hypothesis that the more managers are rewarded with long-term pay, the higher the company performance will be.

Gerhart and Trevor (1996) proposed that the long-term incentive plan may reduce employment variability by enhancing labor flexibility. Because the long-term pay amount is affected by firm performance, the long-term pay plan can shift labor costs from fixed to variable forms, which in turn may allow firms to maintain stable employment levels. Moreover, the long-term incentive plan stimulates senior managers to consider long-term firm value creation in their decision-making and problem-solving activities.

Gerhart and Trevor (1996) found that rather than executing massive layoffs that can improve short-run firm performance, the implementation of the long-term incentive plan motivates senior managers to avoid massive layoffs that will significantly damage a

firm's success through enhancing firm adaptability in staffing workers. As well as employment policy, the capabilities of members are significantly related to several predictors and consequences of long-term incentive pay, high-technology product innovation (Balkin, Markman, & Gomez-Mejia, 2001), staffing decisions (Gerhart & Trevor, 1996), and job characteristics (Gerhart & Milkovich, 1990). Therefore, the results of empirical studies on long-term incentive programs suggest that long-term pay causes some changes in behavioral repertories and competencies of members. Long-term incentive may not only reduce employment variability and increase firm performance through enhancing labor cost flexibility, but may also contribute to firm success through changes in human capital characteristics.

There have been positive implications of long-term pay use; however, there still remain questions about the mechanism through which long-term pay impacts firm performance. In the current study, the implementation of long-term incentive pay is presumed to ensure that companies will improve their performance through increases in member adaptability. Relative to other pay plans (e.g., short-term incentive), the long-term incentive plan highlights the way that employees perform their job responsibilities and duties because some aspects of performance that are not manifested but are strategically important to firm competitiveness may be helpful with long-run firm success.

In other words, long-term incentive can allow and even encourage employees to initiate and pursue changes in work procedure, technology, and R&D performance because improvement in manufacturing, marketing, and R&D contributes to a financial and operational firm success. Participants of a long-term incentive plan are more willing to raise questions about existing work procedures, technologies, and structures and search

for ways to improve them. Therefore, long-term pay increases the adaptability of members by motivating them to seek ways to adapt to turbulent changes in the business context.

Secondly, this study hypothesizes that skill-based pay plans help companies increase their capability to respond to the rapid pace of environmental changes through developing manager adaptability. Skill-based pay rewards employees based on the skills, knowledge, and competencies they acquire, learn, and possess (Heneman, Ledford, & Gresham, 2000; Gupta & Shaw, 2001). Skill-based pay is expected to promote company flexibility by acquiring, learning, and developing a variety and depth of skills and expertise. Broader and deeper sets of skills help workers leverage their existing capabilities to create and produce new kinds of products and services. Skill-based pay allows companies to optimize the use of human resources because companies can transfer workers with multiple skills to satisfy changing demands. Furthermore, advanced skill levels enable workers to exert autonomy that can expedite the pace of decision-making activities and diminish supervision levels, which in turn leads to leaner staffing levels and reduces labor administration costs (Heneman, Ledford, & Gresham, 2000; Gupta & Shaw, 2001). However, the execution of skill-based pay requires a fair amount of expenditure because companies must design administrative procedures and curricula for the types of skills that are acquired, and for the way(s) that contents and structures of skill-based pay are delivered. If acquisition and learning of skills are unnecessary or redundant for the employees to perform their jobs, companies may waste substantial financial resources.

Despite its shortcomings, the skill-based pay can increase firm capability to create new kinds of goods and services and develop existing features of goods or services by

integrating and transferring knowledge and skills across companies. Skill-based pay can improve the knowledge and skill levels of employees that are aggregated into better firm performance. Increases in organizational capacity to make and develop new products or services and to innovate existing features of goods or services permit firms to adapt to dramatic changes in customer demands, technological developments, and organizational structures. Therefore, skill-based pay is positively related to the adaptability of managers.

Hypothesis 1a: The contributions of a long-term incentive plan to a firm's performance are mediated by changes in adaptability.

Hypothesis 1b: The contributions of skill-based pay to a firm's performance are mediated by changes in adaptability.

The underlying assumption of Hypotheses 1a and 1b is that changes in the adaptability of members are essential to the impact of long-term incentive and skill-based pay on a firm's performance. As noted above, previous research on the consequences of skill-based pay and long-term incentive has been inconsistent (Heneman, Ledford, & Gresham, 2000; Gerhart & Rynes, 2003), which suggests that several contextual variables have the potential to intervene in the relationship of skill-based pay and long-term incentive with a firm's performance. Skill-based pay and long-term incentive have much in common: both pay plans provide incentives for employees to develop their expertise and focus not on how much employees will be paid but on how they perform their job responsibilities and duties for pay increases. In turn, both plans improve organizational as well as individual adaptability by encouraging responsiveness to changing job tasks and business contexts.

Therefore, this study hypothesizes that skill-based pay and long-term incentive can significantly contribute to a firm's performance by increasing the adaptability of managers.

3.2. Knowledge

The knowledge-based view contends that a firm must focus on how to develop and integrate various types of knowledge and translate the integrated knowledge into firm products or services because knowledge is strategically important to a firm's success as a source of competitive advantage (Grant, 1996). Knowledge is created, acquired, learned, developed, and finally applied to the products or services from the mindsets and brains of individuals (Grant, 1996). Along with knowledge, organizational characteristics can be antecedents of the extent to which firms can effectively integrate knowledge and translate it into products or services as well as individual attributes (Grant, 1996).

Knowledge can be categorized into either "explicit" or "tacit" knowledge. Explicit knowledge is characterized as easily codified, communicated, and understood across people, space, and time because it is involved in universally accepted specifications and objective criteria (Grant, 1996; Subramaniam & Venkatraman, 2001). In contrast, tacit knowledge is deeply rooted in the minds and experiences of individual, and is revealed through applications and generalizations of knowledge into making products and providing services (Grant, 1996; Subramaniam & Venkatraman, 2001). As a result, tacit knowledge is not easily codified and visible, and is not communicated and transferred in a systematic way (Grant, 1996; Subramaniam & Venkatraman, 2001). Knowledge can be expressed, communicated, and aggregated in terms of common languages, formulae, and expressions, which in turn allow knowledge to become public

goods that can be accessed and appropriated by any individual or any company. Tacit knowledge is created within a firm that is specific and heterogeneous to firm characteristics and contexts. Personal observations, perspectives, and experiences are instrumental to generating tacit knowledge that is useful for and adaptable to the business context (Grant, 1996; Subramaniam & Venkatraman, 2001). Tacit knowledge is characterized as idiosyncratic because it cannot be commonly applied and standardized across business situations. Idiosyncratic aspects of tacit knowledge may not allow competing rivals to imitate aggregated and integrated knowledge that allow firms to gain and sustain competitiveness. It is not easy for competitors to acquire, learn, and imitate tacit knowledge, which in turn helps firms to gain and sustain competitive advantage. Because human capital is significantly involved in tacit knowledge creation, retention, and development, patterns of human resource programs and policies influence how tacit knowledge contributes to a firm's success.

Previous literatures have shown that unless firms possess and develop capabilities, structures, and mechanisms that absorb, assimilate, and utilize the knowledge acquired, learned, and transmitted, the value of knowledge does not exert any influence on organizations (Cohen & Levinthal, 1990; Lyles & Salk, 1996; Lane, Salk, & Lyles, 2001). Even if firms play pivotal roles in knowledge integration and application, knowledge is generated and developed in the brains and minds of individuals. Therefore, members of organizations can serve as components of absorptive capacity, which helps firms transmit managerial and technical knowledge and expertise and internalize it in their operations.

The strategic management literature has examined the impact of knowledge value on a firm's success. Berman, Down, and Hill (2002) constructed the measure of tacit

knowledge in the NBA and examined how tacit knowledge shared among pro-basketball team members affected the NBA basketball team's performance. Berman and his colleagues (2002) found that shared team experience that represented tacit knowledge had curvilinear effects on the pro-basketball team's performance because shared team experience had diminishing returns that undermined the team's performance beyond a peak point.

McEvily and Chakravarthy (2002) surveyed adhesive manufacturers to establish measures that assessed the knowledge complexity, specificity, and tacitness about adhesive products and examined the impact of these types of knowledge. The results of McEvily and Chakravarthy's study (2002) demonstrated that adhesive manufacturers' knowledge characterized by complexity, specificity, and tacitness prevented competing organizations from acquiring and learning knowledge and imitating their adhesive products, which in turn helped firms sustain their competitive advantage against major rivals. Subramaniam and Venkatraman (2001) found that the compatibility of knowledge tacitness with information processing mechanisms drove new transnational product development capability. Therefore, previous strategic literatures have suggested that knowledge can enhance a firm's competitiveness if it fulfills the requirements of a valuable source of competitive advantage.

The human resource system determines individual capacity of knowledge generation and management because individual behaviors are malleable. Human resource system typologies proposed and developed by Arthur (1992, 1994) and MacDuffie (1995) suggest how human resource strategies help knowledge creation, acquisition, learning, and development of individuals. Arthur (1992, 1994) and MacDuffie (1995) found that

patterns of human resource practices, programs, and policies that were more likely to train and develop knowledge and competencies of workers resulted in positive consequences regardless of strategic positioning. However, the compensation variable did not receive central focus in the human resource strategy typology (Arthur, 1992, 1994; MacDuffie, 1995; Gerhart & Rynes, 2003). Furthermore, incentive pay as part of the human resource typology was not consistently operationalized as a dimension of strategic human resource typology, although as an element of the formal human resource system, compensation practice that has a profound impact on the actions and attributes of human capital may significantly affect knowledge creation and development.

Currently, firms are increasingly shifting their focus on developing, structuring, and establishing a compensation system that reflects employee skill, knowledge, and competency levels. In a skill-based pay system, the reward is contingent upon the extent to which individuals acquire and learn skills and knowledge that are required to perform their job responsibilities and duties (Heneman, Ledford, & Gresham, 2000; Gupta & Shaw, 2001). Skill-based pay may extrinsically motivate workers to learn, acquire, and develop their skill levels because the skill and knowledge levels of workers determine reward. However, the implementation of a skill-based pay plan can run into significant obstacles: (1) there can be top-out problems; (2) it can be costly to design and manage the skill-based pay plan; and (3) the skills trainees acquire and learn can be redundant or unnecessary (Heneman, Ledford, & Gresham, 2000; Gupta & Shaw, 2001).

A small number of studies (Murray & Gerhart, 1998; Lee, Law, & Bobko, 1999) empirically tested the antecedents and consequences of skill-based pay plans. Murray and Gerhart (1998) conducted a quasi-experimental study to compare plants with or without a

skill-based pay plan for a few years. The results of Murray and Gerhart's study (1998) demonstrated that a plant with a skill-based pay plan showed better operational performance than a plant without a skill-based pay plan. Lee, Law, and Bobko (1999) found that components of the skill-based pay plan (e.g., training programs and the ease of communication) were significant antecedents of the fairness perceptions of the skill-based pay plan, which in turn led to better perceived skill-based pay plan effectiveness. In the typology proposed and developed by Balkin and Gomez-Mejia (1987, 1990, 1992), the experiential pay strategy set the base pay policy as linked to employee skill levels because it develops employee skills and competencies that drive innovation, flexibility, and rapid responses to changing conditions. Balkin and Gomez-Mejia (1992) successfully established the validity of the pay strategy typology that addressed the development of employees' skills and competencies. The underlying assumption of the skill-based and experiential pay strategy is that increase in employee knowledge, skills, and competencies is essential to the contribution of the skill-based pay or experiential pay strategy to a firm's success. However, few studies have empirically substantiated a mechanism through which compensation systems affect organizational outcomes.

Arthur and Aiman-Smith (2001) adopted organizational learning theory to test how the gainsharing pay program contributes to organizational learning capabilities. The gainsharing pay program contributes to the organizational learning capability as follows: (1) it motivates the participants to seek for ways to improve how duties and tasks are performed; and (2) it will be a transmission channel that facilitates the dissemination and application of knowledge across contexts. Arthur and Aiman-Smith (2001) hypothesized that in the initial stages of gainsharing implementation, gainsharing helps organizations

generate single-loop learning. Single-loop learning intends to improve the existing processes, structures, and routines that may not deviate from the basic underlying assumptions and values. After some time, while the gainsharing program demonstrates diminishing returns to single-loop learning, it begins to produce second-loop learning. Second-loop learning challenges existing assumptions, values, and symbols, transforming how organizational members usually perform their job responsibilities and task duties (Arthur & Aiman-Smith, 2001). The results of Arthur and Aiman-Smith's study (2001) empirically supported the hypotheses that while initially the gainsharing program increased single-loop learning, after some time, single-loop learning began to diminish and second-loop learning increased. Although compensation practices and programs have the potential to impact knowledge acquisition, learning, transmission, and development, to my knowledge, only one study (Arthur & Aiman-Smith, 2001) has tested the roles of the pay program in knowledge accumulation and dissemination within an organization.

Snell, Youndt, and Wright (1996) proposed that human resource management helps firms gain and sustain competitive advantage by facilitating the creation, transmission, and institutionalization of knowledge in organizations. Because the extent to which individuals are committed to their learning can be aggregated into the organizational learning capacity that drives a firm's success, a human resource system that creates, shapes, manages, and develops human capital may significantly contribute to a firm's success through increases in the capacity of organizational learning. In the present study, a group-based incentive and a seniority-based pay plan are assumed to enhance firm competitiveness through increases in the knowledge of workers.

The seniority-based pay plan rewards managers on the basis of tenure. Many compensation scholars and practitioners have argued against the seniority-based pay plan's effectiveness (Milkovich & Newman, 2003). Because tenure is a major payout criterion under seniority-based pay, seniority-based pay is characterized as bureaucratic and de-motivating to workers, taking away any incentive to improve one's competencies (Bamberger & Meshoulam, 2000). However, from the field interviews and case studies, seniority-based pay had a positive effect on organizational as well as individual outcomes, which was the opposite of what compensation researchers hypothesized in their research.

Empirically, Snell and Dean (1992) revealed that in contrast to the hypothesis, seniority-based pay interacting with several organizational characteristic variables resulted in positive consequences of TQM implementation. Snell and Dean (1992) interpreted the results that seniority-based pay allowed TQM participants to have more opportunities to build and accumulate knowledge and develop competencies, and transfer and apply their knowledge to the TQM implementation. Apparently, it seems not to be easy for firms to increase the knowledge level of managers with the use of seniority-based pay. However, the more tenure employees possess, the more likely they are to have opportunities to build and develop their career ladders. Furthermore, in order to maintain and develop their career paths, managers are constantly required to acquire, learn, and accumulate the knowledge and competencies that are specific to the firm's business and context. Therefore, under the seniority-based pay plan, employees are exposed to the opportunities and demands to acquire, learn, and develop their competencies and knowledge, which in turn allow them to improve their knowledge.

Group-based pay is another method that likely increases employee knowledge. Group-based pay plans intend to encourage inter-group interaction, cooperation, and communication, through which group members share the reward. Because a group confronts significant challenges from group work liabilities (e.g., conflict, free-riding), group-based pay is a method that can mitigate the burden of group work: the use of group-based pay can provide the extrinsic motivation for group members to focus on group tasks and related goals by sharing the reward based on the group's performance (Gross & Leffler, 2001).

Among a variety of contributions of group-based pay, group-based pay can facilitate the creation, transmission, and institutionalization of knowledge (Snell, Youndt, & Wright, 1996; Heneman, Ledford, & Gresham, 2000). Group-based pay stimulates workers to share and exchange knowledge and information that are specific and valuable to the group's performance. Also, under group-based pay plans, group members are motivated to collaborate with their coworkers, integrate information and knowledge that each group member possesses, and translate it to group outcome. Inter-group communication and information exchange facilitated by group-based pay may help firms create new knowledge by combining the existing knowledge of group members.

Another contribution of group-based pay is to facilitate the institutional mechanism of knowledge management. Because knowledge that is specifically valuable and useful to a firm's operations is created from the brains, minds, and behavioral repertories of individuals, it is harder for firms to transfer knowledge derived from group work into output. Group-based pay motivates group members to integrate knowledge that individuals possess and apply it to the products/services that affect their reward. Also,

even if group members who create knowledge and apply it to products and services move into other business units and even to rival firms, knowledge can reside in the memory, structure, and system of groups. Group-based pay stimulates groups to store knowledge in their manuals, systems, and products because knowledge that resides in structures and processes allows groups to leverage the current learning that increases group member rewards.

Thirdly, skill-based pay can increase the knowledge of employees. Skill-based pay rewards employees based on the extent to which they acquire and learn skills and knowledge from training and development programs (Heneman, Ledford, & Gresham, 2000; Gupta & Shaw, 2001). Thus, skill-based pay extrinsically motivates managers to increase and retain a variety, and deeper level, of skills and knowledge (Heneman, Ledford, & Gresham, 2000; Gupta & Shaw, 2001). Increases in employee knowledge can improve capability of employees to integrate pre-existing knowledge and create new forms of knowledge and skills that help firms institutionalize knowledge management. Skill-based pay also contributes to a firm's knowledge through creating and sustaining a company culture where investment in capabilities to create, transmit, and manage knowledge is valued. Skill-based pay can be a vehicle that continuously updates the skill and knowledge level of workers. As a dimension of organizational structure, skill-based pay institutionalizes knowledge by capitalizing on workers' previous experiences and translating their abilities to physical assets.

Previous literature on the impact of the seniority-, group- and skill-based pay plans to organizational performance has been generally inconsistent. However, the characteristics of seniority-, group-, and skill-based pay plans commonly suggest the

potential for increasing organizational capacity through creating, transferring, and institutionalizing knowledge: (1) seniority-based pay can provide opportunities for incumbents to acquire and learn skills and knowledge that are necessary for a firm's operation; (2) group-based incentives can produce a synergy effect by motivating group members to integrate the knowledge they possess to help firms create or innovate products and services; (3) skill-based pay can increase the knowledge level of employees by rewarding the degree to which they acquire and learn knowledge. Without support from knowledge acquisition, learning, transmission, and development activities, the impact of compensation plans on firm outcomes becomes insignificant because the mechanism that establishes the linkage between these payments and firm performance is missing. Therefore, the relationships of seniority-, group- and skill-based pay plans to a firm's success can be affected by the extent to which integrated compensation plans affect the knowledge levels of employees.

Hypothesis 2a: The contributions of a seniority-based pay to a firm's performance are mediated by changes in the knowledge of employees.

Hypothesis 2b: The contributions of a group-based pay to a firm's performance are mediated by changes in the knowledge of employees.

Hypothesis 2c: The contributions of a skill-based pay to a firm's performance are mediated by changes in the knowledge of employees.

3.3. Organizational Citizenship Behavior

The traditional human resource system specifically and strictly defines the kinds and ranges of behaviors and competencies that are required to complete assigned task activities and work duties. Traditional formal human resource management intends to

clearly define job attributes and employee responsibilities by evaluating job value and content (Milkovich & Newman, 2003). The traditional job-based human resource system possesses some advantages: the job-based human resource system may ensure fairness across organizations and clearly identify what competencies employees need to perform their jobs. Recently, the traditional job-based human resource system confronted significant challenges that come from changes in the business environment, technology, and organizational structure. Dramatic changes in the business environment make it difficult for firms to predict what business opportunities they can exploit and how market trends are changing (Motowidlo & Schmitt, 1999; Bamberger & Meshoulam, 2000). Traditional bureaucratic organizational structures and processes hinder firms to demonstrate fast responses to the rapidly changing business environment (Motowidlo & Schmitt, 1999; Bamberger & Meshoulam, 2000). Rather than a hierarchical advancement system, the organizational structure becomes flatter, thus encouraging participation and empowerment. This affords members even in low-level positions considerable latitude and autonomy in problem-solving and decision-making. Therefore, it becomes difficult for strictly defined and specified job content and responsibility to address changes in the nature of work as work becomes more complex, non-programmable, and unpredictable (Motowidlo & Schmitt, 1999).

Job design that exclusively focuses on individual job responsibility, work procedure, and task element may fall short of addressing the dramatically changing work environment. Rather, members are increasingly required to possess and demonstrate actions and abilities that support and augment task performance socially and psychologically (Motowidlo & Schmitt, 1999). Thus, as well as aspects of performance

that are directly related to producing goods or services, other aspects of performance labeled as contextual performance appear to be strategically important to a firm's success. Rather than being directly related to an organizational outcome, contextual performance indirectly contributes to organizational outcomes by changing and encouraging social and psychological aspects of organizational contexts (Motowidlo & Schmitt, 1999). Organ, Podsakoff, and their colleagues (2000) reinforce the notion of contextual performance by creating and developing the organizational citizenship behavior concept. The operationalization of organizational citizenship behavior can comprehensively address the extra-role of employee job performance because of its multidimensional concept. Existing literatures have identified a variety of determinants and consequences of organizational citizenship behavior (Podsakoff, MacKenzie, Paine, & Bachrach, 2000).

Organizational citizenship behavior is assumed to improve coworker and managerial productivity, deploy the resources and expenditures devoted to productivity, and improve organizational adaptability and stability (Motowidlo & Schmitt, 1999; Podsakoff, MacKenzie, Paine, & Bachrach, 2000). Because organizational citizenship behavior is conceptualized as a behavioral construct (Podsakoff, MacKenzie, Paine, & Bachrach, 2000), human resource management practices and programs can significantly affect organizational citizenship behavior.

Several psychological theories propose that money has a detrimental impact on work motivation that may be related to the organizational citizenship behavior concept (Gerhart & Rynes, 2003). Such theories imply that workers are less likely to demonstrate organizational citizenship behavior, given that reward is closely linked to their performance (Gerhart & Rynes, 2003). Herzberg (1987) categorized job satisfaction and

dissatisfaction as two distinct constructs and identified factors that determine job satisfaction or dissatisfaction. Herzberg (1987, 2003) posited that money was a major source of job dissatisfaction. Another theory, Deci and Ryan's cognitive evaluation theory (cf., Gerhart & Rynes, 2003), posits that money undermines intrinsic work motivation because it exerts a controlling effect on the autonomy and self-determination of workers. Theoretically, the pay program may have a detrimental effect on employees' feelings about the challenges and enjoyment that result from the task itself.

While Deci and Ryan (cf., Eisenberger & Cameron, 1996) and Herzberg (1987, 2003) empirically tested their theories, other researchers have raised methodological concerns and questions. For example, most of the studies that demonstrate the negative impact of pay on genuine interest in one's work were conducted using an experimental design where most jobs were performed in schools, sometimes with children (Eisenberger & Cameron, 1996; Gerhart & Rynes, 2003). The empirical results of these studies may not strongly support Herzberg's theory (Eisenberger & Cameron, 1996; Gerhart & Rynes, 2003). A variety of methodological problems such as lack of validity, reliability, and generalizability plague research that shows money has a negative impact on work motivation (Eisenberger & Cameron, 1996; Gerhart & Rynes, 2003). Thus, there is little evidence that money can have a negative impact on the work motivation of employees in their jobs.

In line with traditional motivation theories, scholars in psychology tend to view the traditional compensation system as impeding the development of organizational citizenship behavior. For example, although individual incentive can increase individual productivity far more than any other motivational programs (Bartol & Locke, 2000;

Gerhart & Rynes, 2003), firms have been increasingly concerned about the adverse impact of individual incentives (Heneman, Ledford, & Gresham, 2000; Gerhart & Rynes, 2003). Individual incentives extrinsically motivate the recipients to focus only on their job responsibilities and assigned tasks that are significantly related to their self-interest, which in turn tempers the exertion of organizational citizenship behavior.

Strategic human resource research suggests that contingent pay as an element of human resource strategy typology may contribute to employee organizational citizenship behavior (Arthur, 1992, 1994; MacDuffie, 1995; Huselid, 1995; Bamberger & Meshoulam, 2000). However, because contingency pay is not a central focus of strategic human resource typology, it is too early to conclude that pay-for-performance has a positive impact on organizational citizenship behavior (Gerhart & Rynes, 2003).

Deckop, Mangel, and Cirka (1999) tested the relationship of a pay-for-performance plan with employee organizational citizenship behavior. They (1999) used agency theory and assumed that pay-for-performance plans could ensure attributes of members aligned with organizational demands and economic objectives. When personal values and assumptions are consistent with organizational values and cultures, actions of workers are socially and psychologically motivated to reflect organizational interests and objectives. In a high value congruence condition (i.e., personal values are consistent with organizational values), the pay-for-performance plan may not deter workers from exercising organizational citizenship behavior because workers are usually motivated to exhibit extra-role behavior not by financial concerns but by their personal interests. In contrast, in situations of low value congruence, the pay-for-performance plan extrinsically motivates workers to commit to individually assigned task duties and

activities, which in turn inhibits workers from exercising organizational citizenship behavior. The results of Deckop, Mangel, and Cirka's study (1999) support the hypothesis that the pay-for-performance is negatively related to organizational citizenship behavior only in a low-value congruence condition.

In this study, long-term pay, group incentive, and the merit pay plan are hypothesized to develop organizational citizenship behavior. Under a long-term incentive plan, because employee reward is contingent on future firm success, employees are motivated not by short-term monetary interests but by long-term financial and operational interests. Thus, the long-term incentive plan can stimulate workers to focus on processes through which a variety of actions and attributes they possess and develop can be desirable for the company's future success. Exerting a strong level of organizational citizenship behavior can be an aspect of managerial actions that helps a firm's success in the long run in two ways: (1) organizational citizenship behavior can reduce the amount of expenditures because workers are willing to perform extra-work roles more than their assigned task duty and work responsibility; (2) organizational citizenship behavior can improve company performance because job tasks and responsibilities and organizational commitment is increased and the relationship with one's coworkers becomes more cooperative. Therefore, the long-term incentive plan extrinsically motivates managers to demonstrate and develop organizational citizenship behavior that is aggregated into an improved firm performance.

Group incentive plans constitute another payment method that can increase organizational citizenship behavior. Because group incentives are to some extent linked to collective performance, the group incentive plan stimulates workers to make a

commitment to group work. With group incentives, individual workers are more willing to collaborate with their group members to enhance productivity; group members are motivated to actively engage in group goals and interests by sharing the rewards with their coworkers; and communication and information exchange activities are facilitated by the group-based incentive. Thus, group incentive plans encourage workers to exert organizational citizenship behavior that can improve cooperation and communication with group members and leverage members' capabilities, resulting in superior organizational performance.

Moreover, this study hypothesizes that merit pay plans help employees exert organizational citizenship behavior. Many compensation researchers and practitioners have been skeptical about merit pay effectiveness because merit pay is regarded as outdated and bureaucratic, and because it fails to motivate job performance (Pearce, Stevenson, & Perry, 1985; Heneman, 1992; Heneman, 2001; Gerhart & Rynes, 2003). However, merit pay plans are still a major payment method that is prevalent across various occupations, organizations, and industries (Heneman, 2001). Several empirical studies have been conducted to test the consequences of merit pay plans. Pearce, Stevenson, and Perry (1985) used a longitudinal design to examine whether the execution of the merit pay plan contributed to a firm's performance. The results of Pearce, Stevenson, and Perry's study (1985) failed to find significant impact from the merit pay plan on a firm's success. In his merit pay book, Heneman (1992) reviewed previous literatures and concluded that the merit pay has a moderately positive effect on firm outcomes. There is some criticism of Pearce, Stevenson, and Perry's study (1985) that samples of the study were publicly owned firms where the merit payment was

bureaucratically designed and implemented and training programs may have contaminated the results of the study. Also, Heneman's (1992) review demonstrates that merit pay plans moderately impact organizational performance; however, methodological questions have been raised about the reviewed studies.

In the merit pay plan, increases in base payment are determined by the subjective evaluations of behavioral and attitudinal aspects of performance. The design and implementation of the merit pay plan have improved in recent years: (1) the focus of employee performance appraisal that determines the merit pay has shifted from administrative to developmental functions; (2) the integration of the merit pay plan with variable payment was able to address the disadvantages of merit pay plan effects; (3) the payout standards in merit pay reflect not only the impact of manager actions on company performance but also a set of traits and attributes that are desirable for organizations (Noe, Hollenbeck, Gerhart, & Wright, 2003). Thus, the effectiveness of the merit pay plan remains unknown.

In this study, merit pay plans can be assumed to have some potential to increase organizational citizenship behavior. By determining the amount of the merit pay plan, performance appraisal provides feedback regarding the difference between what is expected of employees and what they are actually doing at jobs (Noe, Hollenbeck, Gerhart, & Wright, 2003). From the performance appraisal, the employees can acquire and learn information and knowledge about how they can improve their future performance by identifying the aspects of performance that need to be developed. Merit pay extrinsically motivates employees to seek changes in their behaviors and attitudes lead to improvement in their job performance. Furthermore, performance appraisal often

evaluates the extent to which employees demonstrate several desirable traits that are significantly related to organizational citizenship behavior. Because increases in merit pay reflect the results of performance appraisal, merit pay can affect the degree to which managers or employees demonstrate organizational citizenship behavior in performing their jobs. Therefore, merit pay, if appropriately designed and executed, has a positive impact on organizational citizenship behavior.

Although descriptive studies have questioned the effectiveness of long-term incentive and merit pay plans, long-term based incentive and merit pay plan share the possibility of increasing organizational citizenship behavior. Long-term-based incentive programs likely motivate managers to exert organizational citizenship behavior in consideration of long-term organizational outcomes. Merit pay plans likely encourage organizational citizenship behavior as an important component in performance appraisal and reward determination. The group-based incentive is a pay method that contributes to organizational competitiveness; however, little attention has been paid to processes through which group-based incentive is related to a firm's performance. The group-based incentive plan may have a positive impact on organizational citizenship behavior by motivating managers to place their focus on group work and on collaborating with their group members.

The current study hypothesizes that unless long-term incentives, group-based incentives, or the merit pay plans accompany changes in organizational citizenship behavior, those compensation programs will not contribute to the firm's success. Long-term pay programs have a line of sight problem where employees feel that their reward may not be closely linked to their job performance (Milkovich & Newman, 2003). The

group-based incentive program shifts compensation risks to employees who feel income instability and stimulates top-level managers to leave the organization (Milkovich & Newman, 2003). Merit pay can escalate adverse consequences by creating and sustaining bureaucratic and routinized operational procedures and organizational cultures. Because these compensation programs have the probability of providing negative impact on firm performance, these compensation programs must be designed, shaped, and executed to improve employee organizational citizenship behavior. Therefore, the present study posits that discretionary behavior is a necessary mechanism to link long-term, group-based incentive plans and merit pay with outcomes at the firm-level.

Hypothesis 3a: The contributions of a group-based pay to a firm's performance are mediated by changes in the organizational citizenship behavior of employees.

Hypothesis 3b: The contributions of a long-term based incentive to a firm's performance are mediated by changes in the organizational citizenship behavior of employees.

Hypothesis 3c: The contributions of a merit pay to a firm's performance are mediated by changes in the organizational citizenship behavior of employees.

CHAPTER 4

RESEARCH METHODS

4.1 Data Collection and Sample

The major research instrument of this study was a questionnaire that was mailed to the respondents sampled in this study. The participants of this study were drawn from the companies listed in the *Hunt-Scanlon's Select Guide to Human Resource Executives*, in which company addresses, phone numbers, and names of top-level executives can be identified and accessed. The participants drawn from the *Hunt-Scanlon's Select Guide to Human Resource Executives* work in a variety of industries that comprehensively test the study framework. This research design allows the current study to test the generalizability of the frameworks across industries.

The present study requires the use of objective financial information as a dependent variable. The company financial information was accessed from the database system of the Ohio State University Library. Financial information was drawn from several databases, such as COMPUSTAT or the MERGENT Online Database, which contain detailed reports on comprehensive financial information gathered from 10-K reports filed with the Securities and Exchange Commission.

The respondents were HR executives or senior managers because managers at the executive-level have the knowledge and ability to provide answers to questions regarding the overall use of compensation practices, human capital characteristics, and other variables related to a firm's business. Previous studies using large-scale surveys typically exclude companies with less than 100 employees or holding companies that may not have formal and systematic human resource management programs. Likewise, this study eliminated companies with less than 100 employees or holding companies, in order to include only the samples with formal human resource management programs.

Recently, methodological questions have been raised about relying on a single rater in large-scale surveys. Gerhart, Wright, McMahan, and Snell (2000) argue that using a single rater in surveys seriously damages the reliability of measures of previous studies. Their small pilot study demonstrated that Intraclass Correlations (ICC, 1,1) for each item were estimated to be closer to zero, which indicates that responses to items are marginally consistent among raters even within the same organization. As a result, Gerhart and his colleagues (2000) contend that without using multiple raters, the reliability of survey measures cannot be unbiased or uncontaminated. Huselid and Becker (2000) question a variety of methodological issues, but especially the research design validity of Gerhart and his colleagues' study. However, Huselid and Becker (2000) acknowledge the methodological problems that result from using a single rater in large-scale survey procedures. Thus, in order to address the interrater reliability issue, the current study seeks the reactions of at least two respondents within the same organization. In addition to senior HR managers, senior executives or other senior functional managers were surveyed as well.

To ensure high response rates, the following steps were taken: (1) the enclosed cover letter emphasized the importance of participation; (2) the respondents were promised copies of the study results; (3) a self-addressed return envelope was included; (4) two waves of follow-up mailings were sent out four weeks after the original surveys were mailed (Bendapudi, 1998). All of these steps were taken to be consistent with the recommendations for increasing the response rate. Furthermore, during the two survey procedures, there was an alternative way for respondents to answer the survey questions: either via the paper-and-pencil questionnaire or the web-based survey. The URL address of the web-based survey, which was given in the paper-and-pencil questionnaire, was http://www.zoomerang.com/recipient/survey-intro.zgi?p=WEB224CUMMEWUY.

The total number of samples is estimated to be around 2,000 organizations randomly selected from the *Hunt-Scanlon's Select Guide to Human Resource Executives*. The large-scale survey, which served as a cross-industry study, was conducted from the June to the August 2005. The survey questionnaire contained three items, the personalized cover letter, which introduces the purpose and the importance of the study; the eight-page booklet containing the survey questionnaire; and a postage-paid business reply envelope. Four weeks after the first round survey, the second round survey questionnaire was sent out to those who had not replied yet by August 2005. Again, the second survey included the personalized letter, the survey questionnaire, and the postage-paid business reply envelope, which followed the same format as the first round survey. The reason that the second round survey was sent out four weeks later, as suggested in Dillman (2000), is that less than two weeks is not enough for the surveys with wrong addresses to come back. Of the surveys mailed during the first round, some of them were

not delivered because either the address was wrong, the company had moved, or the person had left the company. During the four weeks between the first and second round surveys, we (the investigator and co-investigator) found which surveys were non-deliverable and removed these surveys from the mailing list.

4.2. Study Design

Core Employees. One of the critical points raised in the survey design concerns the unit of analysis within an establishment (Osterman, 1992). The resource-based view argues that all types of resources that a company possesses cannot verify company competitiveness (Barney, 1991; Barney & Wright, 1998). Only core competencies are assumed to contribute greatly to a firm's success. Core competencies are defined as resources that allow firms to yield superior returns and enhance firm competitiveness (Hitt, Ireland, & Hoskisson, 2003). Firms should make an intensive investment in and focus on core areas to capitalize on their resources and gain a competitive advantage against rivals (Hitt, Ireland, & Hoskisson, 2003). Core competencies are provided in a variety of forms, one of which can be imparted in human resources (Barney & Wright, 19998; Hitt, Ireland, & Hoskisson, 2003). Because a core function plays a major role in creating and maintaining competitiveness, the firm distinguishes between core and non-core functions and devotes resources into managing a core function (Bendapudi, 1998). Therefore, companies need to strategically allocate, deploy, and capitalize core function in order to generate and sustain a competitive advantage against major rivals (Hitt, Ireland, & Hoskisson, 2003).

Previous human resource literature has suggested that the design, structure, and execution of human resource program patterns exhibit profound differences across

occupations even within a single firm (Ragburam & Arvey, 1988; Jackson, Schuler, & Rivero, 1989; Bendapudi, 1998). Ragburam and Arvey (1988) found that business strategy was a major determinant of differences in staffing and training practices across various functional areas. In not only staffing and training practice, but also compensation practice, long-term pay may not be applicable to all managers and employees within an organization, because firms distribute resources differently across different occupational groups (Osterman, 1992; Bendapudi, 1998). It is not practical to collect information regarding all organizational members, including marginal employees (e.g., janitors) (Bendapudi, 1998). Thus, the present study gathered information about predictors, moderators and criterion variables that were only applicable to a firm's core functions.

A core group is defined as "the largest group of non-supervisory, non-managerial worker group within the company that is directly involved in making products or producing services"(Osterman, 1992). Even if various occupational groups are involved in producing goods or providing services, the core group provides the most profound impact on company operational productivity and financial performance. For example, computer programmers in IT companies, financing professionals in banking industries, sales personnel in insurance companies, assembly-line workers in durable manufacturing companies, and marketing and sales professionals in consumer product companies are assumed to be the core groups (Osterman, 1992; Bendapudi, 1998). In the questionnaire, various occupations within an organization are broken down into five categories: accounting and finance, production, sales and marketing, information technology, and research and development. The detailed information about the variables that make the framework were collected from a core function that is defined by the respondents. In the

questionnaire, the respondents were asked to specify a core function and answer items in consideration of the core group. The questionnaire design allows the current study to test the framework based on how organizations leverage a core function to create firm value.

Respondents. The initial contacts for this study were human resource managers and senior executives (CEO, Presidents or Vice Presidents) listed in the *Hunt-Scanlon's Select Guide to Human Resource Executives*. Senior executives and human resource managers have a great deal of experience and knowledge about firm business and human resource activities. Thus, senior executives or human resource managers are assumed to have sufficient knowledge and ability to respond to items in this questionnaire.

The cover letter and questionnaire asked HR and executive/senior managers to respond to items including the compensation system, human capital attributes, business strategy, the knowledge of cause/effect relations, and perceived firm performance. After five weeks, another prompting letter and a second survey were mailed to those who had not yet responded. Measurements of the independent, dependent, and control variables will be discussed in the next section.

Power Analysis. Power analysis was conducted for the hypotheses developed in the previous chapter. For all power analyses, a conventional level of power (.80) at an alpha level of .05 was targeted. Cohen (1988) provides means to estimate necessary sample sizes based on varying effect sizes. For the purposes of this dissertation, sample sizes are reported to detect both small and medium effect according to Cohen's (1988) standards. Following the procedure for small (f^2=0.02) and medium (f^2=0.15) effect sizes, the present study needs an N of 508 (small effect) and 74 (medium effect) respectively.

The previous large-scale survey studies have reported that proportion of variance (PV) accounted by variables is usually more than .15, indicating medium effect size. Cohen (1988) also acknowledges that many of the correlation coefficients in behavioral sciences have medium effect. Therefore, in terms of power analysis, more than 100 sample size is able to guarantee sufficient level of power.

4.3 Measurement of Variables

Measurement of Dependent Variables

Performance Measures. How business performance is assessed continues to be an interesting research topic for researchers and practitioners. There are benefits and limitations for alternate data sources. Objective financial performance indicators are accessible and can offer a great deal of information about firm business operations. However, objective financial data is not free from personal bias and managerial discretion. Moreover, objective financial performance indicators may not deal with the values of intangible assets and resources, and may not demonstrate how firms can generate long-run values – they may reflect only short-term firm performance (Barney, 2003). Self-report measures can allow researchers to access data that are not easily accessible or observable and can mitigate short-term biases, which often allow respondents to consider long-run firm value in answering the survey questions. However, personal bias, social desirability concerns, and other factors may contaminate the self-reported measures (Venkatraman & Ramanujam, 1986).

A typology developed by Venkatraman and Ramanujam (1986) categorizes performance measures by intersecting between types of performance indicators (financial versus operational performance measures) and data sources (primary versus archival

data). Several approaches to business performance measures are structured into two categories, within- or across-cell approaches. The within-cell approach measures performance using different data sources, which can test convergence between the data sources. The across-cell approach measures different aspects of business performance with alternate data sources.

The present study adopted the across-cell approach, which assesses financial performance from archival data sources and operational performance from self-reported measures. Besides financial performance indicators, there are multiple dimensions of a company's business performance that are not available to the public. In the current study, I dimensionalized performance measures with across-cell approaches. For financial performance, I derived measures from the COMPUSTAT or MERGENT Online databases, which contained archival financial data, because these databases were easy to access and straightforward to use. For operational performance, I derived perceptual measures of firm performance from the survey, which allowed me to access the operational performance as reported by at least two managers per firm.

Perceptual Measures of Company Performance. Perceptual measures of company performance were adopted from Delaney and Huselid's (1996) study. Perceptual measures consisted of perceived organizational competitiveness and marketing capability. The question in the survey was: "How would you compare the organization's performance over the past 3 years to that of other organizations who do the same kind of work? What about…" : (1) "Quality of products, services or programs?"; (2) "Development of new products, services or programs?"; (3) "Ability to attract essential employees?"; (4) "Satisfaction with customers or clients?"; (5) "Relations between

management and other employees?"; (6) "Marketing?"; (7) "Growth in sales?"; (8) "Growth in profitability?"; (9) "Growth in market share?" The response scale ranged from 1 = *much less likely* to 5 = *much more likely*.

Financial Company Performance. Currently, researchers are required to pay close attention to operationalizing business performance measures. An accounting-based performance indicator reflects historical financial information and can help top managers allocate and deploy resources across divisions (Huselid, 1995; Barney, 2003). However, accounting-based indicators are susceptible to managerial discretion, timing issues, and inability to measure the value of intangible resources and capabilities (Barney, 2003). In addition to an accounting-based indicator, most studies use an alternative measure, a market-based indicator to address the shortcomings of accounting-based indicators (Barney, 2003; Hitt, Ireland, & Hoskisson, 2003). Market-based indicators also confront challenges faced by accounting-based indicators. They are free from neither the choice of accounting methods, nor the inability to value intangible resources and capabilities (Barney, 2003; Hitt, Ireland, & Hoskisson, 2003). However, because market-based indicators are expected to reflect potential for growth and future profitability that cannot be assessed by accounting-based measures, using both accounting- and market-based financial measures appears to be desirable for the purposes of this dissertation.

The present study used Return on Asset as a measure of accounting return. ROA is a measure of return on total investment in a firm calculated by "profits after taxes divided by total assets" (Huselid, 1995; Barney, 2003). Tobin's Q, a market-based indicator, is defined as the ratio of a firm's market value to the replacement cost of its assets (Huselid, 1995; Barney, 2003). As well as ROA, Tobin's Q was also drawn from

the Standard and Poor's Research Insights Database. To measure the firm performance at the time of data collection, Tobin's Q and ROA both measures represent annual financial performance from September 2004 to September 2005, a period of one year.

Control Variables. The control variables for this study were drawn from previous empirical studies. They include firm size, union density, and industry--dynamism, concentration, and munificence. Firm size operationalized as an employment level of the corporation could be accessed from the Standard and Poor's Research Insights Database. Union density was measured by asking the respondents a single question, "Approximately what percentage of your firm's employees is unionized?" Even though a single item measure has low reliability, previous studies have typically measured union density with a single item, which in turn justifies the use of a single measure in this study.

Measures of industry dynamism, munificence, and concentration are derived from Keats and Hitt's study (1988). Keats and Hitt (1988) measured munificence by the 5-year trend in sales revenue in industry. To measure munificence, the log of the sales revenue in each industry for the previous five years was regressed over time. The coefficient estimate was calculated from a regression of the annual sales revenue on a constant and a linear time trend. This is standard practice in research for calculating trend effects.

Munificence is the antilog of the regression coefficient. Keats and Hitt (1988) measured dynamism by the dispersion about the regression line when sales revenue was regressed on time, over a five-year period. Dispersion was the antilog of the standard error of the regression coefficients. Industry concentration was assessed using the MINL formula of sales concentration, which reflects the relative organizational density within an industry (Keats & Hitt, 1988).

Data for industry measures for this study will be obtained from *Manufacturing USA*, *Industry U.S. and Trade Outlook*, and *Ward's Business Directory of U.S. Private and Public Companies*. Previous empirical studies used the two-digit Standard Industrial Classification (SIC) codes (Bendapudi, 1998). Recently, several conceptual and methodological questions were raised about using SIC codes to control the performance implications of industries. Currently, many large-sized companies have diversified their business operations across various industries. Therefore, it is becoming difficult for the SIC codes to clearly classify firm business domains.

Another issue is that dummy SIC code variables may not fully reflect market fluctuations because SIC categorical code variables do not contain any information or data about industry changes or trends. Rather than using more than forty SIC standard codes, the survey asked the respondents to choose the firm's industry membership from multiple categories. Asking the respondents to specify industry membership allowed the researcher of the current study to control industry effect more clearly and easily. A question on industry membership included 40 industries including from *Aerospace* to *Wholesale Trade*. Thus, the present study used industry dynamism, concentration, munificence, and membership to control the impact of industry differences on firm performance.

As well as industry differences, the present study used past year financial performance of companies as control variables. Compensation researchers have raised the question about systematic error: firm performance and reputation significantly bias the evaluations of the effectiveness of HR practices and policies. It is possible that HR executives and managers may attribute ratings of HR practices and policies to a firm's

financial performance. By using recent year financial data, such as Tobin's Q and ROA 2003 in multiple regression analyses on a firm's objective performance, the present study can deal with systematic error, that is, the effect of firm performance and reputation, on the ratings of respondents. Moreover, this study did not use Tobin's Q and ROA 2004 as control variables because the financial performance measures of this study reflect data from September 2004 to December 2004.

Measurement of Independent Variables

The measurement of independent variables would be discussed corresponding to the hypotheses presented earlier. Compensation practices are assessed by using alternative measures. At first, six different compensation practices (seniority-based payment, merit-based payment, individual incentive, group/projective incentive, skill-based pay, and long-term incentive) was be measured using single items that ask respondents to compare the use of each pay method with their major competing organizations.

Another measurement of independent variables, six different compensation practices (seniority-based payment, merit-based payment, individual incentive, group/projective incentive, skill-based pay, and long-term incentive) was measured using single items that ask the extent to which the percentage of core employees is rewarded by each pay method (from 1 = *0-20%* to 4 = *81-100%*). The use of a single item has low reliability. However, several studies (Snell & Dean, 1994; Shaw, Gupta, & Delery, 2001, 2002) consistently used a single item to assess the pay strategies, which supports the use of a single item in this dissertation, as well. Several compensation studies (e.g., Gerhart & Milkovich, 1990) operationalized the compensation measure as the percentage of

employees who are rewarded by each compensation plan. In accordance with the previous studies, the present study used a single item to assess compensation practice.

Long-term incentive has been operationalized in a variety of forms. Tremendous volumes of finance and economics and strategy literature have tested the impact of long-term stock options on top managers' behaviors and firm performance (Gerhart & Rynes, 2003). However, several studies in human resource management and even strategic literature extend to middle-level managers and other employees.

For example, Rajagopalan (1997) and Gerhart et al. (Gerhart & Milkovich, 1990; Gerhart & Trevor, 1996) examined the long-term incentive plan that rewards not only executives but also managers and even employees. Rajagopalan (1997) categorizes a variety of long-term incentive plans into accounting-measures and cash-based long-term plans and market-based measures and stock-based long-term plans. Rajagopalan (1997) found that in 1991, half of firms had cash long-term incentive plans and another half of firms offered stock-based long-term incentive plans. Gerhart and his colleagues (Gerhart & Milkovich, 1990; Gerhart & Trevor, 1996) operationalized long-term incentive plans as performance-based pay plans that would not be rewarded in the next year. Operationalization of long-term-based pay in Gerhart et al. (Gerhart & Milkovich, 1990; Gerhart & Trevor, 1996) and Rajagopalan (1997) comprehensively address the various long-term incentive plan types.

The current study followed the operationalization of Gerhart et al. (Gerhart & Milkovich, 1990; Gerhart & Trevor, 1996) and Rajagopalan (1997): the questionnaire asked HR executives to report the percentage of participants in long-term based incentive plan; and the long-term incentive is operationalized including various types such as cash-

based, book value stock option/purchase plan, phantom stock, restricted stock plan, and stock ownership plan. Therefore, by adopting the operationalization of previous studies (Gerhart & Milkovich, 1990; Gerhart & Trevor, 1996; Rajagopalan, 1997), the present study tested the impact of long-term incentive plans by assessing the extent to which core group of employees are rewarded based on future firm performance.

Measurement of Mediating Variables, Human Capital Attributes

Measurement of Core Employee Adaptability. Human capital attributes measurements were adopted from several previous studies. Employee adaptability was assessed by asking the respondents to indicate the degree to which they agree with the following: (1) "Core employees in this organization encourage firms to challenge outmoded traditions/practices/sacred cows"; (2) "Core employees in this organization are flexible enough to allow firms to respond quickly to changes in markets"; and (3) "Core employees in this organization evolve rapidly in response to shifts in business priorities." The response scale ranged from 1 = *much less likely* to 5 = *much more likely*. These items were adapted from Gibson and Birkinshaw's study (2004).

Measurement of Core Employee Knowledge. Questions measuring knowledge of human capital were adapted from Lepak and his colleagues (2003) and Subramaniam and Venkatraman (2001). The items assess whether core employees in the organization have knowledge that their core group (from 1 = *much less likely* to 5 = *much more likely*): (1) "Is instrumental for creating innovations"; (2) "Creates company values"; (3) "Helps minimize costs of production, service, or delivery"; (4) "Enables our firm to provide exceptional customer service"; (5) "Contributes to the development of new market/product/service opportunities"; (6) "Directly affects organizational efficiency and

productivity"; (7) "Enables our firm to respond to our changing customer demands"; (8) "Allows our firm to offer lower prices"; (9) "Directly affects customer satisfaction"; (10) "Is needed to maintain high quality products/services"; (11) "Is instrumental for making process improvements."

Another type of items that measures the knowledge level of core employees is derived from Subramaniam and Venkatraman (2001). Several studies especially in strategic management literatures claim that not all kinds of knowledge but only tacit knowledge can bring competitiveness to firms. Measurement of tacit knowledge can also be drawn from Subramaniam and Venkatraman (2001). The questions that measure the tacitness of knowledge include the following (from 1 = *much less likely* to 5 = *much more likely*): (1) "It is difficult to comprehensively document core employee knowledge in manuals or reports"; (2) "Core employee knowledge is obvious to all competitors"; (3) "It is difficult to precisely communicate core employee knowledge through written documents"; (4) "Core employee knowledge has subtle nuances known only to a few competitors"; (5) "Core employee knowledge is a way to comprehensively document in manuals or reports"; (6) "Difficult to identify core employee knowledge without personal experience"; (7) "It is easy to precisely communicate core employee knowledge through written documents."

Measurement of Core Employee Organizational Citizenship Behavior. The questions in the survey that measure organizational citizenship behavior were adapted from the Bachrach, Bendly, and Podsakoff (2001) and Deckop, Mangel, and Cirka (1999). Their organizational citizenship behavior measures comprehensively addressed the concepts by including multi-dimensions. They included the following items (1 = *much less likely* to 5

= *much more likely*): (1) “Help other employees out if someone falls behind in his/her work”; (2) “Try to act like peacemakers when other unit members have disagreements”; (3) “Take steps to try to prevent problems with other unit members”; (4) “Willingly give of their time to help unit members who have work-related problems”; (5) “Is always ready to lend a helping hand to those around him/her”; (6) “Encourage other unit members when someone is down”; (7) “Provide constructive suggestions about how the unit can improve its effectiveness”; (8) “Are willing to risk disapproval to express their beliefs about what is best for the unit”; (9) “Attend and actively participates in team meetings.” The organizational citizenship behavior measures developed by Bachrach, Bendly, and Podsakoff (2001) and Deckop, Mangel, and Cirka (1999) comprehensively addressed the concept of organizational citizenship behavior by including altruism and civic virtue.

CHAPTER 5

RESULTS

Results are presented in three sections of Chapter 5. Section 5.1 and Section 5.2 describe firm characteristics, and Section 5.3 reports the measurement validations. Section 5.3 presents testing of research hypotheses using multiple regression models.

5.1 Descriptive Statistics

Of all 2,000 organizations, two hundred and thirteen firms were rejected for participation because the firm was no longer in business, had been acquired by another organization, was privatized, or the address could not be reached, leaving an effective sample of 1,787. Of 1,787 samples, this study can access the financial and accounting performance of 1,152 firms. One hundred and thirty responses were received, for a response rate of 7.3% (Bendapudi, 1998). The response rate is certainly lower than what was expected. However, it is consistent with response rates of other published articles in HR areas (Datta, Guthrie, & Wright, 2005). Getting high response rates becomes difficult; a set of rules and policies of organizations regulates members' participations in surveys; the number of surveys that ask for participation is increasing (Becker & Huselid, 1997; Bendapudi, 1998). Of 130 usable surveys, the present study was able to access to

the actual financial data of a subsample of 108 firms because 22 firms were privatized, merged, or subsidiaries of multinational firms. In terms of accounting and financial performance, the response rate was 9.4%. The financial indicators the present study used were Return on Asset (ROA) and Tobin's Q, representing accounting and financial returns.

The total amount of missing data among primary study variables was assessed. Missing data of most measurements have less than 0.1%. However, a measure that compares the compensation practices with other major rivals has more than 7% missing data. Furthermore, tacit knowledge measurement does not have meaningful correlations with any independent, mediating, and dependent variables. Because of missing data and insignificant correlations, in statistical analyses, tacit knowledge measurement and an item that compares compensation practices with a major competitor would not be calculated.

Table 5.1 presents the descriptive statistics as well as the bivariate correlation of the total sample, that is, one hundred and thirty corporations. The average number of employees in the respondents' firms was 20,418 and the median number of employees was 4,315. The average and median sales values were $6.1 billion and $1.12 billion respectively. The average of union density was 12%. The reported mean use for each compensation program was 3.06 for the merit pay, 2.01 for individual incentive program, 2.15 for group incentive program, 1.47 for the seniority-based pay, 1.56 for the skill-based pay program, and 1.44 for the long-term incentive program. Thus, a merit pay program was the only compensation program that was used to reward more than fifty percent of core employees by participating organizations. Also, participating firms

represented 30 different industries (four-digit SIC code). The correlation shown in Table 5.1 indicates that the long-term incentive, the group-incentive, and the merit pay programs were positively related to a perceived organizational performance, as well as to mediating variables such as OCB and knowledge of core employees. Individual pay was positively related to productivity and core group of employee adaptability and knowledge. Union density was positively correlated to the use of seniority pay, whereas union density had a negative relationship with the use of a merit pay system.

Table 5.2 reports the descriptive statistics and correlations of one hundred and ten publicly traded corporations. Mean and median employee numbers were 23,189 and 5,100 employees and annual sales were $7.0 billion and $1.54 billion larger than employment levels and sales numbers of total sample reported in Table 5.1. Other descriptive statistics of publicly traded corporations were comparable to the numbers that were reported in perceptual organizational performance.

Correlation values reveal that merit pay, group-based incentive, and long-term incentive programs significantly impact the Tobin's Q. While core group of employee knowledge fail to have relationships with the Tobin's Q and ROA, adaptability and OCB of core employee relate to a firm's financial and accounting performance. Furthermore, industry characteristics including dynamism, munificence, and complexity significantly relate to a set of human resources attributes and a firm's objective performance dimensions, whereas industry characteristic variables have marginal relationships with any mediating and dependent variables of perceptual firm performance in Table 5.1

Variables	Mean	SD	Alpha	r_{wg}	ICC	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Dynamism	1.05	.12	na	na	na														
2. Munificence	1.35	2.67	na	na	na	.30													
3. Complexity	.01	.65	na	na	na	.06	.10												
4. Size	8.32	1.91	na	na	na	-.17	.07	.14											
5. Union	.12	.21	na	na	na	-.09	-.05	.14	.01										
6. Individual Incentive	2.01	1.32	na	na	na	-.18	-.07	-.13	.08	-.05									
7. Group Incentive	2.15	1.33	na	na	na	.11	.12	.06	.05	-.02	-.01								
8. Seniority Payment	1.47	.95	na	na	na	-.05	-.04	.23	.06	.33	-.09	-.10							
9. Merit Payment	3.06	1.26	na	na	na	.14	.04	-.09	-.07	-.43	.15	.08	-.44						
10. Skill-Based Pay	1.56	.96	na	na	na	-.04	-.06	.09	-.20	.15	-.17	-.10	.33	-.20					
11. Long-Term Incentive	1.44	.91	na	na	na	.18	-.06	-.09	-.09	-.14	.05	.08	-.08	.20	.10				
12. Adaptability	3.58	.75	.78	.94	-.26	.00	.05	-.06	-.13	-.07	.18	.09	-.10	.14	.00	.11			
13. Knowledge	3.83	.51	.80	.98	.12	-.10	-.06	-.05	.01	.02	.16	.08	-.07	.07	.06	.16	.52		
14. OCB	3.50	.62	.91	.98	.40	-.02	-.02	.10	.10	-.11	.04	.20	-.09	.22	.11	.18	.39	.54	
15. Firm Performance	3.64	.59	.96	.96	.04	-.10	-.10	-.06	-.06	-.24	.13	.23	.03	.20	.00	.18	.40	.50	.48

Table 5.1 Descriptive Statistics and Correlations on Perceptual Company Performance

N=-130 All Correlations with absolute values greater than .15 are significant at p<.10; correlations with greater than .18 are significant at p< .05

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Dynamism	1.05	.12																
2. Munificence	1.40	2.96	.36															
3. Complexity	-.10	.65	.11	.11														
4. Size	8.60	1.84	-.19	.06	.14													
5. Union	.11	.21	-.10	-.06	.06	.06												
6. Individual Incentive	1.95	1.29	-.17	-.08	-.09	.13	.03											
7. Group Incentive	2.22	1.37	.11	.13	.07	-.02	-.01	-.04										
8. Seniority Payment	1.39	.87	-.05	-.03	.22	.23	.32	-.10	-.03									
9. Merit Payment	3.02	1.27	.14	.08	-.05	-.06	-.40	.11	.06	-.44								
10. Skill-Based Pay	1.48	.89	-.01	.06	.01	-.16	.11	-.20	-.01	.13	-.19							
11. Long-Term Incentive	1.43	.91	.08	-.06	-.07	-.04	-.14	.06	.10	-.15	.21	.11						
12. Adaptability	3.56	.76	.00	.06	.00	-.08	-.06	.17	.09	-.17	.12	-.02	.13					
13. Knowledge	3.80	.51	-.17	-.07	-.02	.12	-.02	.25	.05	-.08	.05	.08	.16	.53				
14. OCB	3.48	.65	-.17	-.02	.14	.09	-.16	.05	.21	-.15	.20	.09	.17	.38	.51			
15. Tobin's Q	1.46	.86	.11	.27	.12	.07	-.12	-.10	.17	-.11	.29	-.15	.26	.13	-.01	.23		
16. ROA	3.87	9.90	-.14	.11	.06	.30	-.11	.12	.18	.06	.12	-.10	.03	.04	.10	.25	.33	

Table 5.2: Descriptive Statistics and Correlations on Objective Company Performance

N=106 All Correlations with absolute values greater than .16 are significant at $p<.10$; correlations with greater than .20 are significant at $p<.05$

5.2. Non-Response Bias

Comparing respondents and non-respondents. The low response rate of 7.3% is a major concern that may temper the validity of the current study. The existing literatures appear to show that the lower response rate is prevailing in the SHRM studies (Bendapudi, 1998). The present study conducted several statistical analyses to assure that the sample was a representative of the population.

First, the composition in terms of SIC codes was compared between respondents and non-respondents. The current study used a cross-tabular analysis to test whether the distribution of respondents differed from non-respondents in terms of the industry memberships. There were no significant differences for the entire sample (chi-square value of 3.55 with seven degrees of freedom; $p > .1$) as well as for publicly traded firms (chi-square value of 2.55 with seven degrees of freedom; $p > .1$) in the Table 5.3.

While cross-tabular analysis supported the similarity of industry memberships, there were still concerns about whether more successful or profitable firms were more likely to respond to a questionnaire (Bendapudi, 1998). The current study compared respondents and non-respondents on control and firm performance variables including employment level, productivity, ROA, and Tobin's Q. As shown in Table 5.5, respondents differed from non-respondents by having larger employment level. However, given the similarity on other dependent variables (Table 5.4., Table 5.5), this difference is less of a concern.

Comparing early to late respondents. Another method of assessing the representativeness of a sample is to compare early and late respondents. This method added another support for the validity of non-response bias testing. For the purposes of this analysis, the first

one-third of the respondents was compared to the last one-third (Bendapudi, 1998). First, as shown in Table 5.4, the profiles of the two groups were compared using membership in the various industry groupings. There were no significant differences in a cross-tabular analysis (chi-square value= 10.267, degree of freedom=7. p=0.174). Second, the entire set of dependent variables was compared using ANOVA including perceived firm performance, Tobin's Q, productivity, and ROA as well as control variables, union density, and employment level. There were no significant differences between early and late respondents in any of variables (Table 5.5). While statistical analyses assure the representativeness of the sample and the generalizability of these results, a higher response rate would still be desirable.

	SIC Index	1	2	3	4	5	6	7	8	Total
Respondents[a]	Count	2	2	62	10	9	14	17	14	130
	Percentage	1.5%	1.5%	4.8%	7.7%	6.9%	10.8%	13%	10.8%	100%
Non-Respondents[a]	Count	35	23	726	151	131	149	235	235	1685
	Percentage	1.8%	1.37%	43.0%	9.0%	7.8%	8.8%	14%	14.0%	100%

Chi-Square = 3.55 df = 7 p > .1

	SIC Index	1	2	3	4	5	6	7	8	Total
Respondents[b]	Count	2	2	53	7	9	13	13	12	111
	Percentage	1.8%	1.8%	47.7%	6.3%	6.3%	8.1%	11.7%	10.8%	100%
Non-Respondents[b]	Count	22	19	469	91	81	84	132	150	1048
	Percentage	2.1%	1.8%	44.8%	8.7%	7.7%	8.0%	12.6%	14.3%	100%

Chi-Square = 2.55 df = 7 p > .1

a denotes the perceptual firm performance
b denotes the Tobin's Q and ROA

Table 5.3: Comparing Respondents to Non-Respondents on Industry Membership

	SIC Index	1	2	3	4	5	6	7	8	Total
Early Respondents[a]	Count	1	0	25	2	2	6	2	7	45
	Percentage	2.2%	0%	56%	4.4%	4.4%	13.3%	4.4%	15.6%	100%
Late Respondents[a]	Count	0	1	20	4	4	6	8	2	45
	Percentage	0%	2.2%	44%	8.9%	8.9%	13.3%	18%	4.4%	100%

Chi-Square = 10.267, df = 7, p = .174

	SIC Index	1	2	3	4	5	6	7	8	Total
Early Respondents[b]	Count	0	1	24	3	2	6	3	6	45
	Percentage	0%	2.2%	53%	6.7%	4.4%	13.3%	6.7%	13.3%	100%
Late Respondents[b]	Count	0	1	22	4	1	6	8	3	45
	Percentage	0%	2.2%	49%	8.9%	2.2%	13.3%	17.8%	6.7%	100%

Chi-Square = 3.836, df = 6, p = .69

Table 5.4: Comparing Early Respondents to Late Respondents on Industry Membership

Variables[a]	R/NR	N	Mean	S.D.	F	Sig.
Firm Size	R	130	20,418	46,479	9.776	0.002
	NR	1657	11,819	28,537		
Productivity	R	130	372,990	511,611	.022	.881
	NR	1644	384,553	869,295		
ROA	R	107	3.87	11.66	.063	.802
	NR	1047	3.49	10.86		
Tobin's Q	R	108	1.59	1.00	1.18	.277
	NR	935	1.67	1.35		

Variables[b]	Early/Late	Mean	S.D.	F	Sig.
Firm Size	Early	27,343	65659	.062	.804
	Late	28,276	39803		
Union Density	Early	0.130	0.197	.299	.591
	Late	0.157	0.273		
Perceptual Performance	Early	3.573	0.483	.644	.484
	Late	3.674	0.698		
Productivity	Early	422,011	712,191	1.884	.173
	Late	382,735	414,811		
ROA	Early	3.36	2.55	.511	.454
	Late	2.78	2.77		
Tobin's Q	Early	2.24	1.00	.525	.477
	Late	2.23	1.08		

a denotes respondents and non-respondents; b denotes early and late respondents

Table 5.5: Comparisons on Control and Dependent Variables

5.3. Reliability and Scale Validity

Reliability. Reliability refers to the degree to which measurements consistently yield the same results on other replication studies. To test reliability, Cronbach's alpha for the variables measured by multiple items was calculated. All multiple-item constructs had coefficient alphas ranging from .78 to .91, indicating good internal consistency for these constructs (Table 5.1).

Moreover, to assure the reliability of the scales, Corrected Item-Total Correlation (CITC) was used. Items that have less than .30 CITC values or significantly decrease the Cronbach's alpha value need to be deleted. A CITC analysis revealed that all items of the variables had more than .30 CITC values or did not have any significant impact on the alpha reliability values.

Biased reliability of a single rater is a major issue in SHRM studies. To address challenges that result from the use of a single rater, the current study made an effort to collect multiple responses from a single company. Following the steps in Lepak, Takeuchi, and Snell's study (2003), I checked the consistency and reliability of questionnaire measures where two identical surveys were completed by senior company executives. Previous studies usually used r_{wg}, and Intraclass Correlation (ICC) (1) measures, both of which address consistency and reliability. r_{wg} assesses within-group agreement to test whether aggregating the responses of multiple raters can be justified. ICC (1) assesses the consistency of responses among raters by estimating the proportion of total variance that is explained by unit membership (Datta, Guthrie, & Wright, 2005). Both measurements can be regarded as useful methodological methods that address

reliability issues raised in large-scale survey studies. Six companies had multiple respondents of which five firms had two responses and only one firm had three responses. The r_{wg} statistic is used to ensure the agreement of multiple raters within firms to assess the validity of aggregating for those cases in which multiple respondents from the same firm completed identical surveys. The interrater agreement r_{wg} statistics exceeded .93, indicating a strong validity of aggregation (Table 5.1). ICC (1) assesses the degree of reliability of multiple raters ranging from -.26 to .50. According to a review of several studies conducted by James (1982), an ICC level of greater than .12 indicates sufficient within-group variance compared to between-group variance to conclude that there is a noticeable group-level effect. While ICC (1) values of OCB (.40), and knowledge (.12) measurements are more than acceptable level, ICC (1) values of adaptability (-.26) and performance (.04) are less than the cutoff value. Some scholars (Datta, Guthrie, & Wright, 2005) have noted the significance of ICC (1), because large ICC (1) values suggest that a single rating from an individual is likely to provide a relatively reliable rating of the group mean. However, Lepak and his colleagues (2002) argue that ICC (1) values are meaningful when there is an assumption that differences in ratings between firms are meaningful and greater than the variance among raters within firms for the same variable. Moreover, Lahey and Downey (1983), and Saal, Kozlowski, and Hattrup (1992) raise questions about its methodological validity: unless a main effect exists, the ICC (1) value cannot be significant; ICC (1) may lack power when agreement among raters across a set of common targets is high.

Because there are conceptual and methodological questions, a low level of ICC (1) can be acceptable. Therefore, the results of statistical analyses confirm that the scales have sufficient level of reliability.

Validity. Validity is defined as the degree to which measurement constructs can accurately assess true scores of variables. In the present study, there are some questions about scale validity. First, there are some problems associated with the use of self-reported measures. Among these, the common method variance provides contaminating effects on the validity of a study (Podsakoff & Organ, 1986; Bae & Lawler, 2000). Measures that come from the same sources may drive responses in the same direction and fashion, which may contaminate the responses. The current study used Harmon's one-factor test. In the procedure, the unrotated factor solution examines the number of factors that account for all of the variables. The assumption underlying Harmon's one-factor test is that if there is a substantial amount of common method variance, one general factor accounts for the majority of the relationships between various variables (Podsakoff & Organ, 1986). No evidence of a common method variance problem or a single general factor that could account for the majority of covariance was found.

Moreover, the present study used accounting and financial returns to provide evidence for the validity of perceptual organizational performance (Bae & Lawler, 2000). There is a significant correlation between perceptual organizational performance and Tobin's Q ($r = .190$, $p < .05$) and ROA ($r = .243$, $p < .05$). Thus, accounting and financial returns of responding organizations support the validity of a perceptual firm performance measure.

Second, there are strong correlation values among core employee attribute variables that may obscure the discriminant validity of the mediating variables. To assess the validity of measures, this study used Subramaniam and Venkatraman's (2001) knowledge tacitness measurement that assesses the degree to which core employees are involved in creation, dissemination, and development of tacit knowledge. The existing literatures argue that employees who possess tacit knowledge can make more of a contribution to organizational competitiveness than those employees who do not. Thus, in line with content adequacy analysis, the present study expects that the knowledge tacitness measure is significantly related to a scale that assesses the knowledge value of core employees (convergent validity), whereas core employee adaptability and OCB measure have a non-significant correlation with knowledge tacitness (discriminant validity).

Consistent with expectations, the knowledge tacitness measurement was significantly correlated with the knowledge measure ($r = .174$, $p < .05$). However, the knowledge tacitness measure was not related to the OCB measure ($r = .089$, $p > .1$), whereas the adaptability measure had a significant correlation with knowledge tacitness ($r = .189$, $p < .05$). An exploratory factor analysis was conducted with all items for core employee adaptability (3 items), core employee knowledge (11 items), and core employee OCB (9 items). The statistical results of the exploratory factor analysis indicated that items were represented by three factors (RMSEA = .071, chi-squared value = 307.637, df = 187) better than any other number of factors (Table 5.6). The three items of adaptability were loaded on the second factor with factor loadings ranging from .622 to .806 without any cross-loadings. However, the first ($\beta = .653$), seventh ($\beta = .602$), and

eighth ($\beta = .291$) coefficients of employee knowledge measurement were loaded on the second factor. The first and seventh measures of core employee knowledge assess the extent to which core employees are involved in creating innovations and new product and service development. These two measures appear to reflect the adaptability of core employees, indicating the possibility that adaptability and knowledge measures share proportions of variances.

Pulakos et al.'s (2000) adaptability model includes the extent to which members are able to acquire and learn new technologies and procedures that help them address various challenges from rapidly changing technological environments and market fluctuations. The model also includes the extent to which members are able to acquire, learn, and accumulate knowledge that is valuable to a firm's performance. In conjunction with this model, these two measures appear to reflect the adaptability of core employees, indicating the possibility that adaptability and knowledge measures share some proportions of variance. The eighth and ninth items measure the degree to which a core group of employee knowledge allows firms to gain and sustain cost advantage and achieve superior customer service quality against rival organizations. As well as small factor scores, the contents of these items fail to reflect the adaptability of core members. Because exploratory factor analysis and content adequacy studies indicate that some proportions of knowledge measure reflect the adaptability measure, the present study reconstructs the original adaptability measure to include some items such as the first and seventh items from knowledge measurement.

The newly constructed adaptability measure significantly relates to a firm's perceptual performance ($r = .653$, $p < .05$), a firm' Tobin's Q ($r = .236$, $p < .05$), and

individual pay ($r = .153$, $p < .05$) and has a marginal relationship with an employee's merit pay ($r = .142$, $p = .1$). The Alpha level of the new adaptability measure is .87, indicating good internal consistency. While r_{wg} value, .964 justified agreement across multiple respondents, ICC (1) value, -.015 indicated that new adaptability measure was not reliable. The principal component analysis suggests that one single factor with 2.953 Eigenvalue can explain 59.07% of variance in the newly constructed adaptability measure.

Core employee knowledge measure was also reconstructed. Out of total eleven questions, the first and the seventh items were added to a core employee adaptability measure. Among the remaining nine items, the present study retained the third, fourth, fifth, sixth, eighth, ninth, and tenth items because the second and eleventh items had small factor loading values that are less than .20, acceptable cut-off factor loading coefficient value. The principal factor analysis indicated that one single factor with 3.107 Eigenvalue could explain 51.784 % variance of knowledge measurement. The results of the statistical analysis supported the validity of revised core employee adaptability and knowledge measurements.

However, the newly created knowledge measure fails to have any meaningful relationship with hypothesized variables such as group-based pay ($r = -.012$, $p > .1$), skill-based pay ($r = .090$, $p > .1$), and seniority-based pay ($r = .002$, $p > .1$). Thus, unfortunately, the empirical results of the present study rejected Hypothesis 2.

Following suggestions of content adequacy and factor statistical analyses, the present study refines core employee adaptability and knowledge measurements, which in turn support the validation analysis.

	Factor 1	Factor 2	Factor 3
Adaptability 1	.093	**.622**	-.061
Adaptability 2	-.072	**.803**	.008
Adaptability 3	-.024	**.806**	-.033
Knowledge 1	.056	**.653**	.030
Knowledge 2	.120	.105	**.224**
Knowledge 3	-.002	.079	**.521**
Knowledge 4	-.020	-.152	**.769**
Knowledge 5	.077	-.115	**.647**
Knowledge 6	-.012	.250	**.547**
Knowledge 7	-.095	**.602**	.095
Knowledge 8	.098	**.291**	.099
Knowledge 9	-.069	.035	**.712**
Knowledge 10	.086	.080	**.586**
Knowledge 11	.194	**.224**	**.218**
OCB 1	**.704**	-.044	.093
OCB 2	**.741**	-.009	-.054
OCB 3	**.780**	.113	-.045
OCB 4	**.749**	-.111	.111
OCB 5	**.885**	-.086	.027
OCB 6	**.914**	-.088	-.033
OCB 7	**.605**	.263	.021
OCB 8	**.413**	.375	-.052
OCB 9	**.478**	.202	.184

Table 5.6: Exploratory factor analysis on employee characteristics

Dimension Code	Item Name	Point Estimate	Eigenvalue	Variance Explained
Knowledge	Knowledge 3	.651	3.107	51.784%
	Knowledge 4	.777		
	Knowledge 5	.723		
	Knowledge 6	.698		
	Knowledge 9	.734		
	Knowledge 10	.728		
Adaptability	Adaptability 1	.733	2.953	59.070%
	Adaptability 2	.808		
	Adaptability 3	.830		
	Knowledge 1	.787		
	Knowledge 7	.675		

Table 5.7: Principal component analysis on market performance

5.4. Statistical Analyses

The primary research mode of this study is the multiple regression technique following Baron and Kenny's procedure (1986). According to this procedure, a variable acts as at least a partial mediator when (a) the independent variable is significantly related to the dependent variable; (b) the independent variable is significantly related to the proposed mediator; and (c) the mediator significantly affects the dependent variable. In this third step, both the mediator and the independent variable should be entered as predictors, because correlations between the mediator and the dependent variable may be caused by the original independent variables. Entering both variables serves to control the effects of the independent variable in assessing the effects of the mediator on the dependent variable. Finally, to demonstrate full mediation, a fourth step is necessary. This involves testing that the relationship between the independent and dependent variables becomes non-significant when controlling for the effects of the proposed mediator.

In the regression analysis, the presence of multicollinearity is a major concern because it confounds the unique contribution of each independent variable and limits the size of the coefficient of determination (Bendapudi, 1998). Tolerance and the variance inflation factors (VIF) are methods that assess the multicollinearity in the multiple regression analysis. Generally accepted cutoff values of tolerance and VIF are .1 and 10. Using these two criteria, there was no evidence of multicollinearity in any of the regression analyses.

The Impact on a Firm's Perceptual Performance. Table 5.8 presents the results of the regression analysis for testing Hypothesis 3. Two sets of analyses were conducted to test

this hypothesis. First, relationships involving each compensation program construct were examined in isolation. Next, the mediating effects of adaptability and OCB of employees when simultaneously considering compensation programs were examined.

In the tables, Models I, III, and V form the baseline model in which no mediating variables are included. Models II, IV, and VI makes up the full model that includes all theoretical variables. Model F indicates whether adding mediating variables significantly increases explanatory power.

Group-based pay ($\beta = .102$, $p < .01$) and long-term incentive practice ($\beta = .104$, $p < .1$) were moderately related to a firm's perceived performance satisfying Kenny et al.'s (1998) first step, whereas merit pay failed to be a predictor of a firm's performance ($\beta = .058$, $p > .1$). A set of employee attributes — adaptability ($r = .40$, $p < .001$), knowledge ($r = .40$, $p < .001$), and OCB ($r = .48$, $p < .001$) — significantly related to a firm's perceptual performance. Next, the OCB of employees ($\beta = .414$, $p < .001$ for group-based pay; $\beta = .429$, $p < .001$ for long-term incentive program) significantly predicted a firm's perceived performance when entered simultaneously with group-based pay and a long-term incentive program. Thus, given that Kenny et al.'s (1998) first three steps were satisfied for all three fit dimensions, there were at least partial mediation effects.

To test for full mediation, a fourth step analyzed whether the relationship between long-term and group-incentive programs and a firm's perceived performance became non-significant when controlling for the effects of OCB. The effects of long-term incentive programs ($\beta = .042$, $p > .1$) and group-based pay ($\beta = .061$, $p < .1$) on a firm's perceptual performance became non-significant when controlling for the effect of OCB.

The models in Table 5.8 supported the mediation models of long-term incentive pay (Adjusted R^2 = .245, F = 6.978, $p < .01$) and group-based pay programs (Adjusted R^2 = .260, F = 7.462, $p < .01$) by revealing statistical significance. Therefore, the present study supported Hypothesis 3 by demonstrating significant mediating effects of core employee OCB on the relationships between the group-based pay and the long-term incentive programs and a firm's perceptual performance.

Furthermore, the present study analyzed the process through which compensation programs contribute to a marketing performance. It constructed nine items of organizational performance measure as representing a firm's organizational competitiveness and market performance. Four items described a firm's market performance by assessing the extent to which an organization focuses on the marketing aspects of a firm's competitiveness. The Alpha value of a firm's market performance variable was .78. The principal component analysis extracted a single factor that explained 60% variance with 2.40 Eigenvalue. Factor loading scores of a firm's market performance measure range from .437 to .946. The results of statistical analyses support the reliability and validity of the market performance measure (Table 5.12).

Table 5.9 reports the statistical analysis of mediating relationships in terms of market performance. A firm's market performance was significantly related to adaptability (r = .280, $p < .01$), knowledge (r = .236, $p < .05$), and OCB (r = .366, $p < .01$) of core employees as well as individual pay (r = .182, $p < .05$) and merit pay (r = .277, $p < .01$) programs. Also, while individual pay (r = .153, $p < .1$) was correlated with employee adaptability, merit pay (r = .224, $p < .01$) was significantly related to a core employee OCB.

The regression analysis (Table 5.9) revealed that merit pay ($\beta = .051$, $p > .1$) lost exploratory power when OCB was statistically significant ($\beta = .366$, $p < .05$). Also, adaptability ($\beta = .295$, $p < .05$) was statistically significant as the significance of individual pay ($\beta = .061$, $p > .1$) became low. Although the regression analysis failed to support Hypotheses 1a and 1b, the statistical results in Table 5.8 provided additional insight by revealing the mediating effects of individual pay (Adjusted $R^2 = .107$, $F = 3.198$, $p < .01$) and merit pay programs (Adjusted $R^2 = .152$, $F = 4.298$, $p < .01$ for OCB). Thus, although not hypothesized, the empirical results suggested that OCB and adaptability play a critical role in the relationship between merit pay and individual pay programs and a firm's market performance.

From the empirical results presented above, a multiple mediation regression analysis suggests that a set of employee attributes — OCB and adaptability — are key components in the impact of compensation programs on a firm's perceptual performance.

Impact on a Firm's Objective Performance. Statistical results in Tables 5.9 and 5.10 support Hypothesis 3. In the mediation regression analysis on a firm's objective performance, two samples violated the normality assumption. Because these firms hold a monopoly position in their industries (more than 90% market share), rather than HR practices and other management techniques, industry characteristics were found to exert significant influence on a firm's performance. Thus, removing these two firms from the regression analysis did not damage the validity of this study.

Moreover, because the OCB variable is conceptualized as composed of helping and civic virtue, the present study conducted a confirmatory analysis to test whether a two-factor solution can represent the underlying dimensions — helping and civic virtue

— of the OCB variable. A principal component analysis revealed that the OCB variable could be unidimensional with 5.41 Eigenvalue, and the variance explained by the first factor in the OCB construct was 60%. However, the results of the confirmatory analysis revealed a two-factor construct by supporting a close fit (df = 26, RMSEA = .086, chi-squared value = 47.824, $p > .1$). Thus, the results of the statistical analysis allowed the present study to discriminate between the effects of each dimension of the OCB variable — helping activity and civic virtue — to examine the relationship between Tobin's Q and compensation programs (Table 5.13).

The results of the regression analyses shown in Table 5.10 demonstrated that the group-based pay ($\beta = .100$, $p < .05$) and the merit pay ($\beta = .097$, $p < .1$) programs predicted a firm's financial returns, Tobin's Q, while long-term incentive pay ($\beta = .113$, $p = .108$) had a moderate effect on a firm's financial performance. Among sets of human resource characteristics, the core group of employee OCB is significantly related to a firm's Tobin Q ($r = .254$, $p < .01$).

When entered simultaneously with the merit pay, group incentive, and long-term incentive programs, the core group of employee OCB ($\beta = .176$, $p < .1$ with merit pay; $\beta = .181$, $p < .1$ with long-term incentive) and helping activity ($\beta = .158$, $p < .1$ for group-based pay) were significantly related to a firm's Tobin's Q, while merit pay ($\beta = .081$, $p > .1$ with the OCB), long-term incentive plan ($\beta = .092$, $p > .1$ with the OCB), and group-based payment ($\beta = .083$, $p < .1$ with the helping activity) lost significant levels. Thus, as shown in Table 5.10, the regression analysis results on Tobin's Q supported Hypothesis 3 by revealing significant effects of merit pay (Adjusted $R^2 = .497$, $F = 13.971$, $p < .01$) and group-based pay programs (Adjusted $R^2 = .503$, $F = 14.306$, $p < .01$), while the impact of

long-term incentive pay on a firm's Tobin's Q was moderately supported (Adjusted R^2 = .494, F = 13.813, p < .01).

Table 5.11 presents the mediating roles of OCB on the effect of group-based pay on a firm's ROA. Because of the violation of the normality assumption, OCB (β = 2.712, p = .139) failed to mediate the impact of group-based pay (β = 1.333, p = .1) on a firm's ROA. After deleting one sample, OCB (β = 1.973, p < .1) partially mediated the relationship between group-based pay (β = .848, p < .1) and a firm's ROA (Adjusted R^2 =.172, F = 3.679, p < .01). Therefore, the empirical results shown in Table 5.11 partially supported Hypothesis 3a by revealing the statistical significance of a group-based pay program, while failing to support Hypothesis 3b regarding the long-term based incentive (β = .196, p > .1) and 3c regarding the merit pay program (β = .513, p > .1).

Furthermore, the correlation table indicates that individual pay is significantly related to a firm's productivity, and seniority-based pay is negatively related to a core employee OCB. However, these pay programs do not have meaningful relationships with either a firm's performance or its human resource characteristic variables. Therefore, the current study cannot elaborate on the processes through which individual pay and seniority-based pay programs impact organizational performance.

The mediation regression analysis suggests that consistent with a perceptual firm performance, OCB is a key factor in the relationship between the compensation program and a firm's objective performance. Furthermore, the results of the present study support that core employee adaptability mediates the relationship between merit pay and individual incentive programs and a firm's market performance.

Although not hypothesized, the current study provides additional insight by revealing mediating roles of core employee OCB and adaptability on the effectiveness of individual, merit pay, and long-term incentive programs.

Independent Variables	Overall Firm Performance					
	I	II	III	IV	V	VI
Intercept	4.218*** (.548)	2.404*** (.595)	4.288*** (.556)	2.379*** (.603)	4.145*** (.572)	2.322*** (.602)
Dynamism	–.669 (.436)	–.311 (.398)	–.729 (.450)	–.303 (.410)	–.622 (.446)	-.236 (.403)
Munificence	.020 (.020)	.021 (.018)	.029 (.020)	.025 (.018)	.023 (.020)	.024 (.018)
Complexity	-.034 (.079)	-.085 (.072)	-.015 (.081)	-.078 (.073)	-.022 (.081)	-.083 (.073)
Firm Size	–.006 (.027)	.001 (.024)	.000 (.027)	.004 (.025)	.000 (.028)	.004 (.025)
Union Density	-.664** (.235)	-.502* (.214)	-.624** (.240)	-.481* (.216)	-.535* (.263)	-.485* (.235)
Group-Based Pay	.102** (.038)	.061† (.035)	---	---	---	---
Long-Term Pay	---	---	.104† (.058)	.042 (.053)	---	---
Merit Pay	---	---	---	---	.058 (.045)	.005 (.041)
OCB	---	.414*** (.076)	---	.429*** (.076)	---	.440*** (.077)
Adjusted R^2	.086	.260	.058	.245	.046	.241
ΔR^2	---	.171	---	.184	---	.192
Model F	3.034**	7.462***	2.318*	6.978***	2.032†	6.857***
Hierarchical F	---	29.771***	---	31.490***	---	32.668***

Table 5.8: Mediating effects of OCB on the relationship between compensation programs and a firm's overall performance[c]

[c] N=130.
† P<0.10, * P<0.05, ** P<0.01, *** P<0.001.
Robust standard errors appear in parentheses

Independent Variables	Market Performance			
	I	II	III	IV
Intercept	4.350*** (.668)	3.343*** (.738)	4.380*** (.662)	2.863*** (.740)
Dynamism	–.700 (.521)	–.680 (.506)	–.924† (.516)	-.603 (.496)
Munificence	.031 (.023)	.027 (.023)	.029 (.023)	.029 (.022)
Complexity	-.037 (.095)	-.036 (.092)	-.051 (.094)	-.102 (.090)
Firm Size	-.016 (.032)	-.007 (.031)	-.009 (.032)	-.006 (.030)
Union Density	-.673* (.279)	-.639* (.271)	-.472 (.305)	-.431 (.289)
Individual Pay	.081† (.046)	.061 (.045)	---	---
Merit Pay	---	---	.095† (.052)	.051 (.051)
Adaptability	---	.295** (.103)	---	---
OCB	---	---	---	.366** (.095)
Adjusted R^2	.054	.107	.056	.152
ΔR^2	---	.057	---	.098
Model F	2.234*	3.198**	2.268*	4.298***
Hierarchical F	---	8.2**	---	14.931**

Table 5.9: Mediating effects of adaptability and OCB on the relationship between compensation programs and a firm's market performance[c]

[c] N=130
† P<0.10, * P<0.05, ** P<0.01, *** P<0.001.
Robust standard errors appear in parentheses

Independent Variables	Tobin's Q					
	I	II	III	IV	V	VI
Intercept	.722 (.728)	-.060 (.840)	.792 (.714)	.065 (.831)	.873 (.722)	.045 (.842)
Dynamism	-.123 (.569)	.101 (.576)	-.107 (.563)	.110 (.573)	-.116 (.572)	.113 (.578)
Munificence	.005 (.023)	.005 (.023)	-.002 (.023)	-.003 (.023)	.010 (.024)	.009 (.023)
Complexity	.135 (.095)	.103 (.095)	.117 (.094)	.082 (.096)	.136 (.095)	.103 (.096)
Firm Size	-.021 (.034)	-.023 (.034)	-.023 (.034)	-.025 (.034)	-.022 (.035)	-.023 (.034)
Union Density	.024 (.317)	.087 (.315)	-.188 (.292)	-.089 (.295)	-.139 (.297)	-.047 (.298)
2003 Tobin's Q	.537*** (.063)	.529*** (.062)	.565*** (.061)	.558*** (.061)	.533*** (.064)	.526*** (.063)
Merit Pay	.097† (.053)	.081 (.053)	---	---	---	---
Group Pay	---	---	.100* (.044)	.083† (.045)	---	---
Long-term Incentive	---	---	---	---	.113† (.070)	.092 (.070)
OCB	---	.176† (.098)	---	---	---	.181† (.098)
Helping Activity	---	---	---	.158† (.094)	---	---
Adjusted R^2	.486	.497	.494	.503	.482	.494
ΔR^2	---	.016	---	.013	---	.016
Model F	15.155***	13.971***	15.663***	14.306***	14.930**	13.813***
Hierarchical F	---	3.249†	---	2.795†	---	3.419†

Table 5.10: Mediating effects of OCB on the relationship between compensation programs and a firm's Tobin's Q[c]

[c] N=106.
† P<0.10, * P<0.05, ** P<0.01, *** P<0.001.
Robust standard errors appear in parentheses

Independent Variables	ROA					
	I	II	III	IV	V	VI
Intercept	1.284 (7.919)	-7.744 (9.264)	2.040 (8.114)	-8.251 (9.397)	2.983 (8.065)	-8.208 (9.423)
Dynamism	–7.116 (6.370)	-4.767 (6.425)	–7.305 (6.548)	-4.393 (6.590)	–6.736 (6.561)	–3.693 (6.584)
Munificence	.201 (.243)	.200 (.240)	.255 (.246)	.243 (.242)	.263 (.248)	.239 (.244)
Complexity	.600 (1.038)	.314 (1.038)	.705 (1.059)	.346 (1.055)	.681 (1.063)	.297 (1.058)
Firm Size	.969* (.379)	.968* (.374)	.966* (.387)	.961* (.380)	.948* (.388)	.949* (.380)
Union Density	-6.063† (3.479)	-5.343 (3.460)	-4.631 (3.797)	-4.368 (3.736)	-5.708 (3.586)	-5.067 (3.530)
ROA 2003	.077* (.037)	.075* (.037)	.068† (.039)	.069† (.038)	.073† (.039)	.073† (.038)
Group-based Pay	1.034* (.485)	.848† (.490)	---	---	---	---
Merit Pay	---	---	.513 (.585)	.292 (.585)	---	---
Long-term Incentive	---	---	---	---	.196 (.752)	-.104 (.750)
OCB	---	1.973† (1.084)	---	2.266* (1.093)	---	2.393* (1.095)
Adjusted R^2	.152	.172	.119	.148	.113	.146
ΔR^2	---	.027	---	.036	---	.040
Model F	3.643***	3.679***	2.990**	3.243**	2.869**	3.206**
Hierarchical F	---	3.314†	---	4.294*	---	4.779*

Table 5.11: Mediating effects of OCB on the relationship between compensation programs and a firm's ROA[c]

[c] N=107
† P<0.10, * P<0.05, ** P<0.01, *** P<0.001.
Robust standard errors appear in parentheses

Dimension Code	Item Name	Point Estimate	90% CI	t value
Market Performance	Performance 4	0.437	0.313; 0.562	15.47
	Performance 6	0.488	0.370; 0.607	17.72
	Performance 7	0.946	0.878; 1.015	30.95
	Performance 9	0.848	0.776; 0.921	19.77

Table 5.12: Confirmatory factor analysis on market performance

Dimension Code	Item Name	Point Estimate	90% CI	t value
Helping Behavior	OCB 1	0.731	0.653; 0.809	15.47
	OCB 2	0.762	0.691; 0.833	17.72
	OCB 3	0.865	0.819; 0.911	30.95
	OCB 4	0.785	0.720; 0.851	19.77
	OCB 5	0.859	0.811; 0.906	29.74
	OCB 6	0.855	0.807; 0.904	29.12
Civic Virtue	OCB 7	0.810	0.739; 0.881	18.78
	OCB 8	0.660	0.561; 0.759	10.94
	OCB 9	0.712	0.624; 0.801	13.17

Table 5.13: Exploratory factor analysis on employee OCB

Chi-Square = 3.836, df = 6, p = .69

CHAPTER 6

DISCUSSION

Chapter 6 provides a discussion of the findings and relates them to the original objectives of the dissertation. The chapter begins with an overview of the findings and includes a discussion of their managerial and theoretical implications. Next, the limitations of the study and suggestions for future research are presented. The chapter concludes with practical and theoretical implications of the study results.

6.1. Overview of the Findings

There have been dramatic changes in compensation programs and practices (Heneman, Ledford, & Gresham, 2000). Recently, the major focus of compensation programs and practices has been shifting from an administrative framework to a strategic perspective (Heneman, Ledford, & Gresham, 2000). In line with these trends, compensation consultants and practitioners have endorsed the use of new approaches to the compensation program design and implementation. However, business scholars and company executives have consistently raised questions about the effectiveness of these new compensation strategies. Moreover, there still remain issues about the effectiveness of traditional pay programs such as individual pay and seniority-based pay. In response to

these changes and questions, this dissertation extends the past work on compensation research by incorporating a strategic perspective. First, in the operationalization of compensation programs and practices, the current study takes a different approach than previous compensation studies. Previous literatures have tended to focus on the effectiveness of a single "pure" pay program (Gerhart, 2003).

There are two major ways that previous studies have assessed the impact of compensation practices. First, prior studies have surveyed respondents to discover the extent to which a specific compensation plan is effective to the management of an organization. For example, Kim (1999), Cooke (1994), and Rajagopalan (1997) asked respondents whether their organizations used a gainsharing, a group-based pay, or a long-term based incentive program as a dichotomous variable. Shaw, Delery, and Gupta (2002) examined the effectiveness of various pay programs by asking about the extent to which their organizations use each pay program. Likewise, most prior studies used questionnaires to measure the impact of a single "pure" pay program. However, it is common for organizations to use the portfolio of compensation programs that reduce the disadvantages as well as reap the advantages of each pay plan (Gerhart & Rynes, 2003). Thus, items of a questionnaire that focus on the effect of a single compensation program may not be applicable to the impact of the mix of compensation practices.

Another way is to use archival data. Archival data can be a creditable source of the types of compensation programs and practices that corporations reward their employees. Gerhart and Milkovich (1990) and Gerhart and Trevor (1996) operationalized long-term incentive eligibility as the number of employees that the long-term incentive program rewards. Gerhart and Trevor (1996) and Montemayor (1996) asked respondents

to report the ratio of bonus-to-base pay that measures the degree to which companies use variable pay forms. However, as noted earlier, entire resources and competencies of organizations cannot make whole contributions to a firm's competitiveness. The archival data cannot provide information on how corporations leverage core competencies to generate and sustain competitive advantage against their rivals.

The current study operationalizes the use of each compensation program as the percentages of core employees whom six different compensation programs reward respectively. The present study explores the mix of different compensation practices by comparing the relative effects of alternative pay plans: the questionnaire asks HR executives or senior managers what percentage of core employees are rewarded by six different compensation programs, reflecting how companies design a portfolio of compensation programs. Furthermore, this operationalization allows the present study to focus on how companies use compensation programs and practices to develop and leverage core resources to create and sustain competitiveness.

Second, previous studies have examined the direct impact of compensation programs and practices as well as identifying contextual factors that moderate compensation program effectiveness. Recently, compensation scholars have called for attention to the causal processes through which compensation programs and practices impact organizational performance (Gerhart & Rynes, 2003). By articulating causal processes, compensation research will provide guidance on how firms can design, make, and implement compensation programs and practices effectively (Gerhart & Rynes, 2003).

In the present study, compensation programs and practices are assumed to significantly affect sets of employee attributes that lead to organizational competitiveness. Particularly, the empirical results of the present study highlight the importance of OCB that mediates the effects of compensation programs – group-based pay, long-term incentive, and merit pay – on a firm's performance. As well as OCB, adaptability is important to the effectiveness of merit pay and individual incentive programs. By highlighting the contribution of human resource attributes, the present study adds a valuable insight into how companies formulate, shape, and execute an array of compensation programs and practices.

OCB. This dissertation examined the contribution of OCB in the relationship between compensation programs and a firm's performance. The empirical results of the present study partially support the hypothesis that OCB offers some means of potentially enhancing the link between various compensation plans – group-based pay, long-term-based pay, and merit pay programs – and organizational performance.

Because the underlying dimensions of OCB consist of the civic virtue and helping activity of a core employee group, a statistical analysis was conducted to correlate each OCB dimension – helping behavior and civic virtue activity – with the group-based pay and long-term based incentive programs, respectively. The correlation values indicate that civic virtue is strongly related to long-term based incentive program ($r = .233$, $p < .01$), whereas the helping activity of members does not have a meaningful relationship with this pay program ($r = .132$, $p > .1$). Furthermore, although civic virtue significantly related to a group-based pay ($r = .164$, $p < .1$), the size of the effect is smaller than the helping activity of the core group of employees with group-based payment ($r = .194$, p

< .05). Compared to helping activity, civic virtue activity of a core employee group marginally impacts the group-based pay effectiveness. There is an explanation for why these statistical tests distinguished the impact of underlying OCB dimensions – civic virtue and helping behavior. One advantage of group-based pay lies in an improvement in collaborating functional expertise and activities of group members by making group outcomes a major payout determination. Another advantage is that group-based pay signals the importance of teamwork spirit and cooperative values and culture, which in turn improves the social contexts of organizations.

The results of this study suggest that organizations garner benefits from the implementation of group-based pay by encouraging the helping behaviors of members: group members are willing to share resources, information, and their expertise; they voluntarily help coworkers with a heavy workload or with personal interests; they are motivated to make a commitment to the achievement of group objectives. Therefore, group-based pay promotes the helping behavior of group members, which in turn contributes to the organization.

The current study further suggests that long-term incentive programs positively affect organizational performance through encouraging civic virtue activities. Payout of long-term based incentive programs is determined by the achievement of company business objectives for extended periods of time. To share gains in a company's performance rather than focusing on short-term productivity and efficiency criteria, organizational members are willing to adopt a longer-term perspective regarding how company values will be created and sustained (Gerhart & Rynes, 2003).

Compared to a short-term incentive plan, the payout of a long-term incentive plan is subject to a high degree of financial and operational risks (Rajagopalan, 1996; Milkovich & Newman, 2003). Furthermore, the translation of strategic choices and managerial actions into a firm's future performance involves non-programmable and ambiguous processes (Rajagopalan, 1996). Faced with high uncertainty inherent in a long-term incentive plan, members make an effort to find and develop a process and a structure that will strongly support and improve future firm performance (Rajagopalan, 1996). Therefore, a long-term incentive plan motivates participants to raise questions and make suggestions that keep pace with larger issues and challenges and exploit existing dominant models, routines, and structures (Arthur & Aiman-Smith, 2001). Moreover, participants of a long-term incentive plan are willing to explore alternative frameworks, procedures, and strategies that transform previous models and patterns of thought or activities that have been strongly held in the past many years (Arthur & Aiman-Smith, 2001). Thus, by motivating a core group of workers to shape and exert civic virtue activity, a long-term incentive program contributes to organizational competitiveness.

As well as long-term incentive and group-based pay programs, core employee OCB mediates the effect of a merit-pay program on a firm's performance. A major advantage of the merit-pay system is to have the large potential to align behavioral repertoires of workers with the activities firms expect them to exert and the business objectives they want to achieve, which in turn leads to an improved firm performance. Payouts of the merit pay plan can reflect important and idiosyncratic aspects of core employee performance that are not manifest in objective results. Moreover, the implementation of the merit-pay plan can enable managers to retain workers who are

highly able and motivated and who make a contribution to organizational success (Heneman, 1991; Gerhart & Rynes, 2003). Although many descriptive studies have reported various weaknesses of merit-pay programs (Gerhart & Rynes, 2003), the empirical results of the present study revealed that the merit-pay program contributes to a firm's financial value through motivating core employee OCB activity. Moreover, even though non-significant findings were reported in the mediating analysis on a perceptual firm performance, it is noteworthy that correlation values among merit pay, core employee OCB, and a firm's perceptual performance were statistically significant ($p < .05$). Therefore, the current study suggests that when the merit-pay plan assesses the extent to which participants make a commitment to shaping, developing, and exerting OCB, it contributes to organizational competitiveness.

Another interesting finding is that seniority-based pay negatively impacts the core group of employee OCB by tempering civic virtue activity ($r = -.220$, $p < .05$), while there is a non-significant relationship with helping activity. Compensation studies have contended that an advantage of the seniority-based pay plan is to promote stability and predictability in work routines and procedures and organizational structures. Also, assuming that job tenure improves worker knowledge, skills, and competencies, seniority-based pay effectively retains highly motivated and competent workers.

However, seniority-based pay bureaucratizes existing organizational structures and work procedures and impairs organizational flexibility and agility, which in turn may not allow corporations to make effective responses to constantly changing business environments. Also, deeply embedded in dominant values, assumptions, and frameworks that are strongly held for past periods, workers are unwilling to transform existing work

routines and organizational values and explore alternatives. Consequently, before implementing seniority-based pay, it is necessary for companies to observe the civic virtue activity of members that may impact the effectiveness of a seniority-based pay program.

The empirical results of the current study suggest that OCB of the core employee group is an important component in the effects of specific types of compensation programs on a firm's performance.

Adaptability. The contribution of core employee adaptability to the relationship between compensation programs and organizational performance has been overlooked. The present study attempts to examine the significance of core employee adaptability in the effectiveness of compensation programs. The empirical results of this study have failed to support Hypothesis 1, although there are additional mediating roles of adaptability.

The skill-based pay plan has been presumed to improve skills, competencies, and knowledge of coworkers, which in turn help them adapt to rapidly changing technologies and market trends more effectively. The correlation Table 5.1 shows that seniority-based pay is positively related to skill-based pay. In the skill-based pay implementation, certification-related procedures and the administrative structure of skill-based pay program allow tenured workers to receive financial benefits without actual improvements of skills, ability, competency, and knowledge. Contrary to the original hypotheses, the shortcomings of the skill-based pay program bureaucratize work procedures and organizational structures, which in turn inhibits a core group of employees to adapt to a fluctuating business environment.

As well as a skill-based pay program, adaptability fails to play any mediating role in the effectiveness of a long-term incentive program. Because the payouts of long-term incentive pay program reflect a firm's future earnings, the long-term based incentive pay program motivates the core group of employees to consider how their current strategic decision-making and managerial activities are adaptable to future technological, institutional, and global changes. However, contrary to Hypothesis 1, the results of the current study suggest that the long-term based incentive pay plan fails to encourage participants to shape and develop their adaptability. Therefore, adaptability fails to support Hypothesis 1, while it provides additional insight regarding the impact of any compensation programs.

Knowledge. As noted earlier, with the exception of a few studies (Arthur & Aiman-Smith, 2001), the contribution of core worker knowledge to the relationship between compensation programs and organizational performance has been ignored. The present study has attempted to test the significance of knowledge in the effectiveness of compensation programs.

Unfortunately, the empirical results of this study have failed to support Hypothesis 2 by revealing non-significant mediating relationships. Particularly, contrary to expectations of skill-based pay program proponents, skill-based pay did not impact the core employee knowledge.

While the skill-based pay plan has been assumed to contribute to a firm's performance by improving skills, competencies, and knowledge of core workers, skill-based pay implementation has the potential to be costly, resulting from administrative expenditures and "top out" problems. Furthermore, the acquisition and development of a

wide range or a deeper level of skills, knowledge, and competencies may not confirm the improvement of organizational competitiveness: skills, knowledge, and competencies that skill-based pay participants acquire and learn quickly become obsolete; training programs and certification-related administration may not allow workers to keep pace with constantly changing market trends and technologies; there can be limited assignments or opportunities for participants to exert and leverage newly acquired and learned skills, knowledge, and competencies (Heneman, Ledford, & Gresham, 2000). Contrary to the Hypothesis 2, seniority-based and skill-pay programs fail to improve organizational performance through knowledge acquisition, development, and accumulation.

As shown in the correlation Table 5.1, seniority-based pay was positively correlated with skill-based pay. This statistical analysis may suggest that skill-based pay implementation encountered serious problems by rewarding not acquisition and accumulation of skills and competencies, but hierarchical advancements: tenured workers may exploit training programs and certification requirements to their own financial benefits; certification procedures and training programs may result in wage increases without any actual improvement of skills, knowledge, and competencies; training programs and administrative structures may not be able to help skills, knowledge, and competencies keep up with rapid changes in markets and technologies. In skill-based pay implementation, it is necessary to carefully design training programs and administrative structures that keep pace with rapidly changing technologies and market environments.

As well as seniority-based pay and skill-based pay programs, the results of this study indicate that knowledge does not play any mediating role in the effectiveness of

group-based pay. Group-based pay is expected to facilitate knowledge transmission and institutionalization: it promotes group workers to exchange and share knowledge that generates a synergy effect across various functional groups and multi-divisional structures; group-based pay also motivates members to codify and document knowledge transmitted through formal/informal social networks and store it in manuscripts and databases that will be leveraged for strategic future group activities. However, contrary to Hypothesis 2, the results of the current study suggest that group-based pay fails to motivate participants to acquire, learn, and accumulate knowledge.

The empirical results of the present study suggest that relative to the OCB of a core employee group, core employee knowledge and adaptability make only a limited contribution to the effect of compensation programs on a firm's performance.

Market Performance. The regression analysis of Table 5.9 presents that individual pay positively impacts market performance through increases in core employee adaptability, whereas individual pay ($\beta = .130$, $p > .1$) does not play a crucial role in terms of overall firm performance.

There are several features that characterize a marketing function. First, a marketing function spans across various functional groups and departments. To formulate and execute marketing strategy, the manufacturing department must coordinate production equipment, scheduling, and processes; the human resource department recruits and deploys personnel whose expertise is consistent with the skills and knowledge that are required for innovation and new products/service development; and the finance department must be willing to provide financial resources for expenditures that are necessary to launch and manage marketing operations. Second, it is not easy to

keep abreast of competitors' marketing strategies, rapidly developing technologies, and shifting market trends. It is necessary for marketing personnel to actively interact and socialize with inter-organizational functional groups, consumers, retailers, and even competitors that allow them to leverage networking relationships. Thus, marketing group personnel effectively perform their job responsibilities and functional tasks with high initiative under a low supervision level.

Previous studies found that individual pay leads to substantial increases in productivity and output (Gerhart & Rynes, 2003). However, because of several disadvantages of individual pay, there are certain contexts where individual pay execution is effective to an organization: (1) intensive competition with their members can improve individual productivity and outputs; (2) there should be a low level of interdependence among workers; and (3) individual outcomes must be measured specifically and objectively.

These conditions suggest that individual pay may appropriately serve the strategic activities of marketing personnel: a reasonable competition level increases revenues of sales professionals; compared to other functional groups, objective and specific criteria can accurately measure marketing personnel performance; individual contribution to group and organizational outcomes is relatively manifest.

Adaptability is defined as the extent to which workers are flexible and versatile to operate effectively in different economic, cultural, and institutional contexts (Pulakos, Arad, Donovan, & Plamondon, 2000). Facing constantly changing customer demands and expectations and market fluctuations, it is necessary for marketing professionals to exert adaptability that effectively addresses diverse types of issues and challenges (Milkovich

& Newman, 2003). Furthermore, unless they have a sufficient level of versatility and flexibility to market fluctuations, marketing professionals cannot acquire and have access to market information and knowledge to achieve marketing objectives; they also cannot coordinate with other functional groups to formulate and implement effective marketing strategies and activities. Therefore, adaptability is a key component in the effect of individual pay on a firm's market performance.

A post hoc analysis was conducted to further investigate whether the use of individual pay exhibits differences across core functional groups. A categorical variable was created representing (a) those whose core function was marketing and (b) those whose core function was not marketing. One-way ANOVA was conducted to examine differences in mean individual pay levels among two groups of participating organizations. The results showed that individual pay exhibits a significant effect, such that when the core function is marketing, the use of individual pay tends to be higher than when either production, or finance, or R&D was the core function. Thus, for organizations whose major business objective is to increase sales revenues, achieve market growth, and provide excellent customer satisfaction, individual pay plays a critical role in a firm's marketing success.

Moreover, the regression analysis in Table 5.9 suggests that core employee OCB mediates the relationship between the merit pay plan and a firm's market performance, whereas OCB of the core group of employees fails to intervene the relationship between the merit pay program and a firm's overall performance. The merit pay plan usually requires supervisors to closely monitor and appraise the activities of subordinates and determine the increases in base pay based on the results of appraisals (Milkovich &

Newman, 2003). Merit pay appears not to be able to improve the OCB of workers because managers make an effort to design and manufacture the behaviors and attitudes of workers to align with narrowly and strictly specified job responsibilities and task duties.

However, although the merit pay plan is characterized by some disadvantages, merit pay may have the potential to contribute to the development of OCB. By providing feedback in the performance appraisal process, the merit pay plan helps workers identify what aspects of performance are deficient and need to be developed. Furthermore, a major focus of the merit pay plan is shifting from regulating and controlling worker activity consistent with specific work routines to shaping and developing human capital attributes that contribute to the achievement of future business objectives.

In conjunction with these changes, the merit pay plan extrinsically motivates core workers to find and develop the way through which their future market performance will be improved. For example, to address challenges that result from fluctuating business environments, appraisal processes and payouts of merit pay have increasingly reflected the extent to which members are involved in finding and developing alternative work routines and work procedures.

Also, as market performance is objectively and quantitatively measured, evaluation criteria of the merit pay plan are closely related to objective outcomes: the appraisal format must reflect the extent to which each individual makes a contribution to the achievement of organizational outcomes rather than specifying or evaluating specific behavioral routines (Milkovich & Newman, 2003). The merit pay plan is designed and executed to improve market aspects of firm performance rather than specifying and

evaluating specific behavioral sequences. The merit pay plan allows members to develop and elicit OCB in the achievement of market objective without specifying or evaluating behavioral activities; it also has the potential to exert strong influence on market performance.

Individual and merit pay programs motivate members to exert and develop adaptability and OCB that supports firms to create and sustain a future market performance against rivals.

ROA. While several compensation programs such as group-based pay, merit pay, and long-term incentive programs impact a firm's Tobin's Q through changes in core employee OCB, only group-based pay programs improve a firm's ROA by affecting the helping activity of core group of employees.

A major advantage of group-based pay is to generate a synergy effect by coordinating different functional roles and expertise of each group member. To share gains from group outcomes, group members are willing to cooperate with team colleagues. Organizations can leverage group-based pay to achieve the synergy effect, which in turn produces more returns than do other competing organizations.

Compared with the group-based pay plan, companies need to exert more effort to reap the benefits from long-term incentive and merit pay programs. The effectiveness of long-term incentive and merit pay programs lies in their potential to change the behavioral activities of members: the long-term based incentive program motivates members to raise questions about existing paradigms and processes and explore and develop alternative work routines and structures because future firm performance determines the payouts of employees; it is necessary for members to make an investment

in resources and competencies to find and explore new way(s) and transform existing work structures and procedures. The merit pay program changes the behaviors of members through the appraisal process and contributes to an organization because payout of the merit pay program extrinsically motivates members to align their behavioral activities with future firm business objectives; members need to accept and interpret feedback and outline and execute strategies that improve their behavior. Thus, although behavioral scripts of members are malleable, it needs to invest a great deal of time, effort, and resource to change behavioral repertoires.

Because annual ROA measures a one-year accounting return, it may not reflect a company's future value. As noted earlier, because considerable resources are needed for the effectiveness of long-term based and merit pay programs, an annual ROA cannot sufficiently measure the impact of these pay programs (i.e., long-term based incentive and merit pay programs). Compared to an annual ROA, Tobin's Q assesses the extent to which companies will generate and maintain future value. Long-term based incentive and merit pay programs positively impact a Tobin's Q because Tobin's Q reflects long-term company value and mitigates short-term bias and valuation of intangible resources and capabilities that cannot be assessed by ROA. Thus, the current study suggests that while group-based payment is effective to a firm's short-term accounting returns, the effectiveness of long-term based incentive and merit pay programs may not be manifested in short-term investment but may evolve for extended periods of time.

6.2. Managerial Implications

The major objective of the present study is to identify causal processes through which sets of compensation programs and practices impact organizational performance.

By highlighting the contribution of human resource attributes, the current study can articulate how organizations design, leverage, and develop compensation practices to improve their competitiveness.

First, the present study extends previous literatures on the impact of compensation programs and practices. Previous literatures have tended to focus on the effectiveness of a single "pure" pay program (Gerhart & Rynes, 2003). However, because compensation programs have advantages and disadvantages, firms are more likely to utilize a portfolio of various compensation programs that can leverage the strengths and mitigate the risks of each program (Gerhart & Rynes, 2003). The current study explores their relative impact by comparing the effectiveness of alternative compensation programs (Gerhart & Rynes, 2003).

The current study also asked participants to designate a core functional group that plays a critical role in creating and sustaining competitive advantage against rivals. Because companies make a larger investment in the retention and development of a core employee group than other peripheral groups, the compensation research on entire functional groups may obscure the findings about how companies design, leverage, and implement compensation practices to generate and sustain competitiveness (Lepak & Snell, 2003). Thus, the present study extends previous implications of compensation research by examining the relative effects of alternative compensation practices on a core group of employees.

Second, this study confirms previous research on compensation program effectiveness. Consistent with previous studies, the empirical results of the present study suggest that group-based pay, merit-pay, and long-term incentive-pay programs

positively impact organizational performance. While most studies have assessed a firm's performance with self-reported measures, the present study validates previous findings by measuring a firm's performance as an objective, as well as subjective measure.

Another study implication is that seniority- and skill-based pay programs provide non-significant impact ON a firm's performance. Particularly, compensation consultants and practitioners encourage the skill-based pay implementation that motivates workers' acquisition and development of skills, knowledge, and competencies that are valuable resources to a firm's competitiveness.

However, previous empirical literatures on the effectiveness of skill-based pay have been mixed. Murray and Gerhart (1998) compared plants with skill-based pay and those without skill-based pay and found that plants with a skill-based pay plan generated substantial productivity and achieved enormous cost savings. Several studies (cf., Milkovich & Newman, 2003) have suggested that various contextual factors including industry characteristics, human resource attributes, manufacturing strategies, and features of certification processes determine the effectiveness of a skill-based pay plan. The findings of the present study indicate a non-significant relationship between skill-based pay implementation and a firm's financial performance across varying industries. From the empirical studies presented above, research on skill-based pay may not clearly indicate the impact of skill-based pay. Thus, it is necessary for organizations to consider a variety of factors that may affect the effectiveness of a skill-based pay program because skill-based pay implementation may not be as effective as what companies expect.

Furthermore, while the existing literatures have demonstrated that the individual pay plan improves individual productivity and output, many compensation scholars and

practitioners have questioned its effectiveness because of some disadvantages. The present study demonstrated that if a major business objective is to improve a firm's market performance – revenue increase, market share growth, and excellent customer service – individual pay can appropriately serve a firm's marketing objectives. For other business purposes such as financial and operational aspects of firm performance, individual pay may not be as effective. Therefore, by identifying the impact of compensation programs, the current study provides guidance on the impact of compensation programs and how they are implemented.

Third, the present study highlights the importance of human resource attributes that intervene in the relationship between compensation programs and a firm's performance. Particularly, OCB is the key to the success of sets of compensation programs and practices: helping behavior plays a critical role in the effectiveness of group-based pay, while civic virtue activity is important to the success of long-term based pay; OCB mediates the relationship between a merit-pay program and a firm's performance because the merit-pay program has the potential to align behavioral constructs of members with organizational strategies and objectives. Furthermore, adaptability of core employee groups is a key to the success of individual and merit pay plans if a firm's marketing activities and strategies are assumed to be prioritized over other business purposes.

The current study suggests that before a particular compensation program is implemented, it is necessary for top executives to verify whether behaviors and attitudes of core employees are consistent with the features of compensation programs. Moreover, after compensation practice implementation, it is necessary for companies to observe

changes in core employee attributes that indicate the success of pay programs. There are some ways that companies can design, manufacture, and sustain sets of human resource attributes that substantiate the effectiveness of compensation practices. In their meta-analysis conducted by Podsakoff, MacKenzie, Paine, and Bachrach (2000) identifies sets of antecedents and consequences of multiple OCB dimensions. They found that certain task characteristics, organizational contexts, and leadership behaviors are strong predictors of OCB.

Specifically, if leadership training inspires leaders with a future vision, challenges dominant mechanisms and routines, and motivates workers to commit to self-development and information and opinion sharing, members are more likely to exert OCB. Also, by providing considerable discretion and accountability to group members, an empowerment program allows members to recognize the importance and impact of group work to an organization, in turn leading to OCB of core workers. As well as leadership training and empowerment programs, if task characteristics are designed and established to enhance intrinsic worker motivation and provide feedback on their job performance, task characteristics also help core workers exert OCB.

Furthermore, other aspects of HR practices and programs such as selection, training, and performance evaluation can contribute to the OCB and adaptability of the core group of workers. For example, from outside or inside the company, recruitment and selection practices enable managers to hire workers whose characteristics are consistent with the values, culture, goals, functional demands, and expectations of an organization. Training programs such as team- and cross-training practices improve the coordinating expertise and activities of a core group, as well as allowing a core group member to gain

an understanding of coworkers' and other functional groups' specialized roles and practices. Performance appraisal may have the potential to determine the OCB and adaptability level of core workers by evaluating the extent to which they are involved in exerting OCB and making a commitment to be adaptable to turbulent business environments. Therefore, when implementing compensation programs, it is necessary for organizations to formulate and execute other aspects of HR practices and programs that substantiate the effectiveness of sets of compensation programs and practices.

In conclusion, to improve the effectiveness of compensation practices, the current study suggests that it is necessary for companies to design, shape, and develop specific sets of human resource attributes that strongly support the effect of compensation programs on a firm's performance.

6.3. Theoretical Implications

The present study has the potential to make a theoretical contribution to compensation research.

First, the current study extends SHRM perspectives on compensation study. There are two major SHRM perspectives: the universal perspective argues that the implementation of a specific set of HR programs and practices results in improved firm performance; in contrast, the contingency perspective contends that the implementation of HR programs and practices must be consistent with strategic and contextual variables.

First, the results of the current study suggest that a specific set of compensation programs – group-based pay, merit-based pay, and long-term-based incentive programs – positively impact organizational performance across varying industry groups. Also, in terms of a firm's marketing performance, individual and merit pay programs make a

significant contribution. Furthermore, as well as identifying direct impact, the current study articulates the universal perspective by highlighting a contribution of human resource attributes to the relationship between compensation programs and practices and organizational performance: if companies fail to design, shape, and develop sets of human resource attributes that serve valuable resources to organizational competitive advantage against rivals, the impact of compensation practices becomes less important.

Human resource characteristics are assumed to play a critical role in organizational flexibility (Wright & Snell, 1998). The current study suggests that compensation programs and practices improve organizational flexibility through changes in human resource attributes. Workers with a broad range of skills, knowledge, and abilities can perform diverse types of functional tasks and job responsibilities. When personnel possess a narrow range of deeper knowledge, skills, and ability levels, companies generate and sustain competitiveness by deploying and assigning them across a large number of specified projects.

As well as competencies, knowledge, and skills, behavioral repertoires of workers make a contribution to a company's flexibility. Adaptability and OCB allow for organizational members to possess a wide range of behavioral scripts and responses that can be applicable across varying situations. Since there is a large heterogeneity across members, heterogeneous characteristics bring diverse interpretations and informed opinions about managerial issues and challenges that may exacerbate inter-organizational conflict. The OCB of core employee groups acts as a coordinating mechanism to assimilate diverse points of views. Consequently, the current study argues that the specific sets of compensation practices and programs such as group-based payment, long-

term incentive, and merit pay programs contribute to company competitiveness through improving the flexibility of human capital. As well as the universal perspective, the current study also supports the contingency perspective: if sets of human resource attributes are not consistent with features of compensation programs and practices, the strength in the impact of compensation programs on a firm's performance becomes less significant. For example, if organizations are not willing to encourage and develop core employee OCB, the impact of specific types of compensation programs such as long-term incentive, group-based pay, and merit pay programs to organizational competitiveness becomes less important: unless organizational members possess a sufficient level of adaptability, the weaknesses of an individual pay program may exacerbate its adverse effects. Therefore, the results of the current study suggest that the formulation and implementation of compensation practices must achieve the "fit" with an array of employee attributes.

From the empirical results presented above, the present study extends the performance implications of compensation programs and practices by elaborating on perspectives – "universality versus contingency" and "flexibility versus fit."

6.4. Future Research that Needs to be Conducted

Several limitations temper the validity of the present study. Also, several interesting research areas emerge either directly or indirectly from this dissertation. These limitations and future research directions merit discussion. Each of them is discussed below.

Low Response Rate. The survey respondents were HR executives and senior managers who had real business interests and a stake in the process of creating, developing, and

executing compensation programs. That is, the research design of this study addressed the generalizability issue. However, the low response rate might limit the validity of the results.

The current study used several statistical analyses to ensure whether this sample can be representative of the population. Comparisons between early and late respondents and between respondents and non-respondents suggest that the sample of the current study can be representative of the population. Unfortunately, published studies also appear to show that this low response rate has increasingly become the norm in the field (Bendaupudi, 1998). While statistical analyses verified the representative ness of the sample and the generalizability of the results, a higher response rate would be desirable.

Incomplete Information. A second limitation is that respondents were unwilling to answer one question in the survey: the degree to which the responding organization's use of a compensation program is relative to that of its competitors. The participants chose not to answer this question because they did not have any knowledge of compensation strategies of competing organizations. To reduce incomplete information, future studies need to take several steps such as interviews with HR managers and pilot studies in survey development.

Construct Operationalizations. In the present study, adaptability was assessed by three items adopted from Gibson and Birkinshaw's study (2004).

Pulakos and her colleagues (2000) conducted a validation analysis to support the construct validity of adaptability measures. Their construct is multidimensional, encompassing a wide range of behaviors, interpersonal, cultural, and physically oriented adaptability, problem-solving, dealing with uncertain and unpredictable work situations,

and learning tasks, procedures, and technologies. Three items the current study used for adaptability measure cannot tap into the adaptability of core employees because they cannot include all aspects of adaptability constructed and validated by Pulakos et al. (2000).

The current study did not operationalize adaptability with Pulakos et al.'s (2000) framework because their adaptability model inflates the length of the survey. Although scales of Pulakos et al. (2000) explore the effect of adaptability in a comprehensive fashion, it would have been too demanding on the respondents.

Conceptualization of knowledge measurement. There remain questions about the conceptualization of core employee knowledge measurement. This study uses alternative measures that assess the knowledge level of a core group of employees: the first measurement assesses whether knowledge of a core group of employees contributes to organizational competitiveness; another type of measurement assesses whether a core group of employee knowledge is characterized as tacit. The statistical analysis showed that neither knowledge measurements has a significant or meaningful hypothesized relationship to firm performance.

First, without acceptable reliability and agreement values, tacit knowledge fails to have significant relationships with independent, mediating, and dependent variables. To generate and sustain competitive advantage against rivals, previous studies suggested that knowledge must serve organizations as a valuable and unique resource. Because tacit knowledge is characterized as specific and heterogeneous, it can be a unique resource to an organization. Whereas the existing literatures have consistently showed that tacit knowledge makes a contribution to organizational competitiveness, the empirical results

of the present study demonstrate that tacit knowledge did not contribute to a firm's performance. There are some explanations why the measurement of tacit knowledge in this study fails to support the effect of compensation programs on a firm's performance. The original measurement of tacit knowledge is derived from the study of Subramaniam and Venkatraman (2001), who assess the degree to which characteristics of knowledge that are acquired and transmitted from overseas locations are tacit. Although original tacit knowledge measurement was adapted for this study, pilot testing should be conducted to verify the construct validity of the tacit knowledge measurement scale.

Another explanation is that because tacit knowledge is characterized as specific and unique, standardized measurements may not be applicable to assess the extent to which organizational members have tacit knowledge. To elaborate whether tacit knowledge measurement affects the impact of compensation programs on a firm's competitiveness or not, future studies should construct and use tacit knowledge measurement in consideration of its unique and specific characteristics.

There is another question about how employee knowledge level affects the effectiveness of compensation programs.

Although the present study hypothesizes that compensation systems have the potential to affect workers' motivation to learn and accumulate knowledge, the empirical results suggest that compensation programs cannot directly impact the knowledge level of workers. One explanation is that instead of compensation programs, most organizations implement and leverage training and development programs by providing workers opportunities to acquire, learn, and develop skills, competencies, and knowledge that improve their future job performance. For example, although a skill-based pay

program is designed and implemented to develop the knowledge level of workers, the empirical results on the effectiveness of the skill-based pay program have been mixed (Milkovich & Newman, 2003). Therefore, because compensation programs cannot directly impact the knowledge level of workers, the use of compensation programs may not contribute to organizational competitiveness through changing the knowledge level of the core workers.

The empirical results of the present study suggest that it may not be easy for organizations to leverage the compensation programs to improve the knowledge level of workers. Thus, future studies need to elaborate on the impact of compensation programs on the knowledge level of workers by identifying contextual influences and causal processes.

Long-Term Based Pay. The ownership model may provide a theoretical background on how a long-term incentive program impacts organizational performance by affecting individual employee attributes (Klein, 1987).

First, the intrinsic model posits that the long-term incentive pay program inspires members to recognize the significance of their work and involvement with an organization, leading workers to make a commitment to and obtain satisfaction from organizations. The long-term incentive plan increases employees' intrinsic motivation through generating positive feelings about their organizations.

Second, the extrinsic model assumes that unless participants of the long-term incentive program are financially rewarded, the long-term incentive program fails to develop individual satisfaction from and commitment to an organization. The instrumental model suggests that to improve satisfaction and commitment, it is necessary

for organizations to provide participants opportunities and autonomy to be involved in the strategic decisions and managerial activities of organizations.

The empirical results of the present study suggest that employee OCB partially mediates the effect of the long-term based incentive plan on a firm's financial value. To examine the extrinsic model, the current study collected 2002 and 2003 Tobin's Q of participating organizations and conducted a correlation analysis to test the relationship between firms' long-term based incentive implementation and their financial performance in the last three years. The correlation analysis supported the extrinsic model because financial performance positively impacted future long-term incentive plan implementation ($r = .203$, $p < .05$ for 2002 Tobin's Q; and $r = .196$, $p < .05$ for 2003 Tobin's Q).

Moreover, multiple regression analysis showed that the exploratory power of long-term incentive on a firm's Tobin's Q ($\beta = .113$, $p = .108$) is lower than the model on a firm's perceptual performance ($\beta = .104$, $p = .075$). Because regression on the effect of long-term based incentive on Tobin's Q includes past year financial performance (Tobin's Q 2003), the statistical results supported the extrinsic model by revealing a low significance level of long-term incentive coefficient estimation on Tobin's Q.

In addition to the extrinsic satisfaction model, the current study appears to support the instrumental model: the long-term incentive plan provides workers opportunities to be involved in strategic choices and managerial decision-making activities, which in turn increase OCB of members and positively impact an organization.

Although this study appears to provide theoretical implications about long-term pay effectiveness, future studies need to elaborate on models that validate the impact of the long-term incentive plan.

Simultaneity due to the Cross-Sectional Nature of the Data. A third limitation of this study is the presence of simultaneity in the models, given the cross-sectional nature of the data. This is an inherent problem in survey research designs of this type. To avoid the problem of endogeneity, future studies may collect future firm financial performance data that are publicly available. However, given the fact that key independent, mediating, and dependent variables were collected from the survey, gathering future financial data cannot remedy the endogeneity problem. Thus, a longitudinal panel analysis needs to be conducted to test the framework of the present study.

Skill-Based Pay. Previous empirical literatures on the effectiveness of skill-based pay have been mixed. Most previous studies have explored the effectiveness of skill-based pay with a self-reported measure. With within-firm design, Murray and Gerhart (1998) demonstrated that productivity in plants with a skill-based pay plan was substantially higher than without a skill-based pay plan. The present study used between-firm design and indicated that skill-based pay may not have a meaningful impact on a firm's performance across varying companies and industries.

Ledford (Heneman, Ledford, & Gresham, 2000) conducted a research project that explored the effect of skill-based pay at a food-processing company. This research project did not show any significant correlation between predicting variables and individual performance, whereas the characteristics of skill-based pay strongly predicted the location- and regional-level success.

Empirical studies may not clearly indicate the effectiveness of a skill-based pay program. Therefore, future studies need to test why the empirical results of the present study appear to be different across levels of analysis and performance criteria.

Different Implications of the Compensation System across Alternative Performance Dimensions. The empirical results of this study suggest that the effectiveness of compensation programs is different across performance dimensions of organizations: (a) employee OCB plays a critical role in the impact of several compensation programs – group-based pay, merit pay, and long-term incentive programs – on a firm's perceptual performance and Tobin's Q; (b) employee adaptability partially mediates the effect of individual pay on a firm's marketing capability; and (c) only group-based pay significantly impacts a firm's ROA by affecting the employee OCB level.

Furthermore, rather than using the total sample (n = 130), a sample of publicly traded firms (n = 106) was used to conduct mediation analyses and test the validity of the model on a firm's perceptual and market performance. The results of the regression analyses on public firms revealed that long-term based incentive and merit pay plans did not predict a firm's perceptual performance ($\beta = .072$, $p = .253$ with long-term incentive) and market performance ($\beta = .159$, $p = .159$ with merit pay plan). Therefore, regression analyses on the total sample demonstrated the relationships between the long-term based incentive program and a firm's perceptual performance ($\beta = .104$, $p = <.1$) and merit pay and a firm's market performance ($\beta = .095$, $p < .1$). In contrast, mediation analyses conducted on the public firms did not reveal any causality between the long-term based incentive and merit pay programs. Moreover, ANOVA analyses revealed no significant

differences in the use of the merit pay plan (F = .008, p= .967) and long-term payment (F = .010, p = .921) across alternative performance dimensions.

Descriptive statistics showed that the average size of the total sample is smaller than that of publicly traded firms. A major disadvantage of the long-term incentive program is the lack of line-of-sight—that is, organizational members cannot clearly identify how their performance affects payouts of the long-term incentive plan. Since the impact of individual members can be clearly identified in small- and medium-sized firms, it appears that differences in firm size mitigated the disadvantages of the long-term based incentive plan, which contributes to improved organizational performance. Also, another factor that impedes the implementation of merit pay plans is that supervisor ratings of employee performance may not be accurate and fair. In small- and medium- sized companies, supervisors have more opportunities to monitor and evaluate various behavioral dimensions of employee performance, which in turn improves the accuracy and fairness of the payment determination procedure used with a merit-based pay system. Therefore, the statistical results of the current study show that the use of long-term incentive and merit payment programs can effectively improve the performance of small- and medium-sized private firms but not the performance of large-sized public corporations.

The findings of the present study suggest which certain compensation programs are compatible with specific types of business objectives. However, although explanations are presented above, future studies need to refine why the performance implications of each compensation program are different across alternative performance measures.

Selection Bias. As noted earlier, although statistical analyses confirmed equivalent characteristics between respondents and non-respondents, the low response rate cannot rule out the possibility that the responses of participating organizations may differ from those of non-participating groups. For example, if a majority of firms do not have a systematic compensation practice, HR executives could not respond to the mailed questionnaire. Only a minority of firms in the population were not able to respond to the survey on compensation practice, which limits the generalizability of the findings

Another explanation for selection bias is that since the compensation system is a key to the success of an organization, HR executives and managers may not be allowed to respond to the survey on their firm's compensation practice, as the compensation system may be an organizational competitive advantage. Thus, as recommended, compensation researchers need to pursue partnerships with compensation consulting firms (e.g., Hewitt Associates, Sibson, and Watson Wyatt) and HR research associations (e.g., Society of Human Resource Management and WorldatWork) (Rynes & Gerhart, 2000). Partnerships with companies and associations or consulting projects can help compensation researchers access and produce databases that effectively deal with the challenges of biased selection.

Systematic Error in the Compensation Study. HR scholars (e.g. Gerhart, 1999; Gerhart, Wright, McMahan, & Snell, 2000) have strongly argued that the existence of systematic error can be a potential bias of SHRM study results: firm performance and reputation affect the descriptions of HR policies and practices. Attribution theory is a strong conceptual mechanism by which company performance can influence HRM ratings (Gerhart, 1999).

According to attribution theory, people are more likely to attribute good performance to internal causes, while they blame external causes for poor performance (Gerhart, 1999). Thus, HR executives in high performing organizations may be more likely to attribute the high performance of organizations to HR practices and policies (Gerhart, 1999). Consistent with arguments of HR researchers, attribution theory can be used to provide another explanation for the relationships among the compensation system, a firm's performance, and human resource characteristics.

For example, high performing organizations have substantial financial resources to pay high levels of salary, bonus, and benefits. To enhance their self-concept, organizational members tend to attribute payment increases to their efforts, abilities, and attitudes. Thus, employees in high performing organizations where they are well compensated are motivated to improve their abilities and performance because they strongly expect that their performance improvement will lead to a payment increase.

Low performing organizations are not expected to have sufficient monetary resources to distribute competitive payment levels. To protect themselves, employees would be expected to attribute low payment levels to outside causes such as luck, top manager abilities, or market environments. Because employees do not perceive the strong relationship between their performance and attitude and payment levels, they are not willing to improve their performance and show desirable behaviors (such as OCBs). Thus, it is possible that respondents of the current study made attributions about the effectiveness of the compensation system based on their firm's financial performance, rather than accurately evaluating the impact of the compensation system. Taking them together, it is possible that the causal relationship among firm performance, the

compensation system, and extra-role behavior is different from that proposed in this study. Because of the extra resources available when firms are doing well, they have more money to put into compensation system, which in turn will encourage individual behavior.

Gerhart and his colleagues (2000) recommended approaches to the question of systematic error. First, they recommended that policy-capturing methodology be used to test whether financial performance affects the effectiveness of HR practices. Second, they recommended conducting a longitudinal study to clarify the direction of causality. However, Gerhart et al.'s (2000) suggestions pose methodological challenges: using a policy-capturing scenario appears not to be practical, because it is more difficult for researchers to access and collect the surveys. A longitudinal study can be subject to a substantial measurement error (Huselid & Becker, 1998).

Despite methodological challenges, because HR scholars acknowledge the existence of systematic error in descriptions and evaluations of HR ratings, future strategic compensation studies need to use either policy capturing methodology or a longitudinal study to control for systematic error. For example, some participants are asked to respond to the scenarios of organizations that differ in their financial performance. But they have identical HR practices and programs. Also, statistical results of the longitudinal study need to be validated with the cross-sectional results.

Moderating Effect. The existing literature has suggested that the performance implication of the compensation system may interact with various contextual variables. For example, Shaw, Gupta, and Delery (2001) found that integrated manufacturing systems (total quality management and advanced manufacturing technology) moderated the

effectiveness of skill- and group-based compensation programs. Another study of Shaw, Gupta, and Delery (2002) showed that work interdependence affected the impact of incentive programs (individual and team incentive) on the operational performance of truck carriers and concrete pipe industries.

The major purpose of the present study was to test the framework where human capital mediates the relationship between the compensation system and an organizational effectiveness. However, similar to the results of previous compensation studies, the current study showed that human capital may have the potential to determine the effectiveness of the compensation system: 1) unless sets of human capital characteristics support the impact of the compensation system, the performance implication of the compensation system will not be significant. For example, without sufficient level of helping activity, group-based payment cannot motivate group members to coordinate functional activities and make a commitment to achieving group objectives, which in turn may not allow companies to gain benefits from group work.

However, because the statistical power of interacting effects requires more than a moderate sample size, the current study may be insufficient for the moderating effect of compensation programs. To test the moderating effect, future studies need to collect a large number of responses to ensure necessary statistical power.

Assumption of Compensation Practice Independence. The existing literature (Snell & Dean, 1994; Shaw, Gupta, & Delery, 2001) assumes the independence of each compensation practice. However, as it is composed of multiple dimensions, the compensation system is provided to an organization in a bundled form. Thus, it is possible that compensation practices can be related to one another, thereby, possibly

rejecting the prevailing the notion in the literature that compensation practices are independent. For example, correlation Table 5.1 shows that compensation programs are significantly related to one another. That is, while merit pay negatively correlates with seniority payment ($r = -.44$, $p < .01$), merit payment program positively relates to the individual payment program ($r = .15$, $p < .1$). Also, seniority payment positively relates to the skill-based payment program ($r = .33$, $p < .01$).

A post-hoc analysis was conducted to identify common dimensions that underlie a bundled compensation program. While exploratory and confirmatory factor analyses failed to identify underlying dimensions (violation of normality assumption), the results of the principal component analysis demonstrated that three components could explain 65% of variance in the compensation system. Yet, there is no theoretical background to indicate why these three components explain the relationships among various elements of a compensation program. Furthermore, the factors were not interpretable. Compensation researchers need to carefully design and conduct future studies that test the independence of each element of a compensation program.

Horizontal Fit. Horizontal Fit is defined as the extent to which HR practices and programs are consistent with other aspects of HR practices and programs. HR scholars (Bamberger & Meshoulam, 2000) concluded that there has been weak support for interactive effect among HR practices. Likewise, interaction between compensation practices and other HR practices may not have a meaningful effect on the dependent variables (Gerhart, 2003).

The present study indicated that human resource attributes, especially OCB, play a critical role in the effect of the compensation program on a firm's performance. Thus,

there is a chance that an array of HR practices that promote employee OCB levels may provide an additional effect on the relationship between the compensation program and a firm's performance. Future studies may explore the interactive effect between the compensation program and other aspects of HR programs.

Single Rater Issues. Gerhart, Wright, McMahan, and Snell (2000) and Huselid and Becker (2000) debated the use of a single respondent in strategic human resource management studies. Gerhart, Wright, McMahan, and Snell (2000) argued that the reliability for a single rater is generally low, because measurement errors substantially bias the surveyed human resource practice and firm performance data. They further argued that low convergent reliability between the raters may contaminate the results of the study. Huselid and Becker (2000) raised several questions about the methodological issues in the small pilot-study research design that Gerhart and his coworkers (2000) used to support the existence of low reliability that comes from reliance on a single rater. The key point of Huselid and Becker's (2000) argument is that while methodological limitations exist in the use of a single rater, multiple raters may constrain sample sizes, which may lead to serious sample size and selection bias problems that can significantly influence the study results.

For this dissertation, I used multiple raters for the following reasons. Even though Huselid and Becker (2000) raised methodological concerns that arise from the possibility of sample size limitation, they did not argue against constraints on reliability resulting from using a single respondent in a survey. They argued that the use of multiple raters might limit the sample size, thus contaminating the research design validity. However, even with a single rater, most studies cannot ensure more than a 10% response rate.

Rather than improving the response rate, a large-scale survey study needs to focus on increasing the number of surveys. No theories or empirical evidence can argue against low reliability as a result of relying on a single respondent when conducting a survey. Even if the sample size is limited or even if no empirical evidence reveals how many respondents are required to deal with reliability, I at least make some effort to tackle the reliability concerns by surveying two respondents within the same organization.

Despite my efforts to gather data from multiple respondents, the present study was able to gather multiple respondents from only six companies out of one hundred and thirty companies sampled. Huselid and Becker (2000) questioned the reliability estimation in Gerhart et al. (2000) because the sample size of Gerhart et al. (2000) was modest, only twelve companies. Huselid and Becker (2000) drew twenty-five groups of twenty-four random samples each to test the effect of the HR system. They found that the estimated effect of the HR system on a firm's performance was widely different across random samples (Huselid & Becker, 2000). Thus, the statistical results on the reliability of multiple raters in Gerhart et al. (2000) may not be valid or reliable. Although the present study made attempts to deal with the reliability of measures, the small number of respondents (only six firms) may not allow this study to test and validate the reliability estimates.

To guarantee multiple respondents, before conducting the survey, future studies need to contact first HR executives and managers who will respond to the survey and explain to them the importance of reliability estimates in an HR study. This may encourage them to participate in the survey.

6.5. Conclusion

The purposes of this research were (1) to identify which compensation programs significantly affect a firm's performance; (2) to articulate causal processes through which compensation programs affect a firm's performance by testing human resource attributes; and (3) integrate theoretical SHRM perspectives "universality versus contingency" and "fit versus flexibility." The results suggest that specific types of compensation programs either positively or negatively impact organizational performance. Furthermore, regarding the effect of compensation practices on a firm's performance, human resource attributes, especially OCB, play a critical role: the compensation program affects the employee OCB level, which in turn leads to changes in a firm's performance.

Conceptually, the current study supports the universal perspective that compensation programs affect a firm's performance and highlights the importance of "flexibility" that is augmented or mitigated by the effect of a compensation program on human resource attributes. Furthermore, unless human resource characteristics achieve the "fit" with compensation features, the effect of compensation programs on a firm's performance becomes weaker, which in turn supports the contingency perspective. By integrating contradictory perspectives, the present study can make a theoretical contribution to this HR field. This study, while addressing some important issues, also found several additional issues which it addressed. It remains for future studies to extend the implications made in this dissertation and assist the efforts of practicing managers.

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APPENDIX A: Cover Letter & Questionnaire

(Sal.) (First_Name) (Last_Name)

(Title) (Company Name) (Address 1) (Address 2)

FISHER
COLLEGE OF BUSINESS
THE OHIO STATE UNIVERSITY

Dear (Last Name):

Today, organizations are subject to significant competitive pressures resulting from the fast pace of change in technology, manufacturing/service processes, and globalization. A research team at the Ohio State University, comprised of doctoral candidate Hyondong Kim and faculty member Dr. Raymond Noe, is conducting a study to explore how firms effectively deal with dramatic changes in business through designing, shaping, and implementing compensation strategies. Our goal is to examine the effects of the firm's compensation practices on business performance to understand how firms tailor compensation programs to fit the strategic demands of organizations. We also want to investigate how compensation programs drive firm success in rapidly changing environments.

I am writing to ask your help in this study. We gained access to your contact information from the "Hunt-Scanlon's Select Guide to Human Resource Executives" catalog. We believe that as a manager at the executive/senior-level, you have the overall knowledge of your company's business practices and its operations that allow you to make valuable contributions to this study. Your participation, estimated to be up to 40 minutes, will be key to the success of this groundbreaking study. You can help by sharing your knowledge and experiences of your firm's operations. Please do your best to answer all of the questions, as each has been asked with a particular research objective in mind. You can complete the questionnaire one of two ways: complete the enclosed questionnaire and return it to us in the stamped and addressed envelope we have provided; or complete the survey by visiting our web-site (http://www.zoomerang.com/survey.zgi?p=WEB224CUMMEWUY). However, although every effort to protect confidentiality will be made, no guarantee of Internet survey security can be given, transmissions can be intercepted (though unlikely) and IP addresses can be identified.

This research is intended solely for the purpose of furthering knowledge in the field of business studies. Your answers will be kept confidential. In order to maintain confidentiality, the co-investigator will keep and secure survey data by storing them in a locked file drawer in his office. Data collected will be entered into a statistics file on his computer and stored on his network hard drive, only accessible to him with a password. In appreciation of your time and effort, we will send you a summary of the overall survey results in which no company-specific data nor any individuals' answers can be identified.
After completing the questionnaire, please return it in the enclosed business envelope by August 20, 2005. If you have any questions regarding this study, please feel free to call me at (614) 688-3321 or email me at kim.1415@osu.edu. Thank you very much for your help with this important study. We look forward to hearing from you.

Respectfully yours,

Hyondong Kim Doctoral Candidate & Dr. Raymond Noe, Principal Investigator

(First_Name) (Last_Name)
(Title)
(Company Name)
(Address 1) (Address 2)
(City) (State) (Zip)

Dear (Last Name):

A couple weeks ago, I wrote asking for your help in a study of compensation practices and firm business performance. If you have responded already, you have my gratitude. If however, you have not yet taken the time to complete the survey, would you please take a moment to do so now or pass this along to the most appropriate person in your organization? Alternatively, you can complete the questionnaire by visiting our web-site (http://www.zoomerang.com/survey.zgi?p=WEB224CUMMEWUY). However, although every effort to protect confidentiality will be made, no guarantee of Internet survey security can be given, transmissions can be intercepted (though unlikely) and IP addresses can be identified.

This research is intended solely for the purpose of furthering knowledge in the field of business studies. This survey is voluntary. Your participation is estimated to be up to 40 minute. You can help by sharing your knowledge of your company's operations. Your answers will be kept strictly confidential and will be released only in aggregate form. In order to maintain confidentiality, the co-investigator will keep and secure survey data by storing them in a locked file drawer in his office. Data collected will be entered into a statistics file on his computer and stored on his network hard drive, only accessible to him with a password. In appreciation of your time and effort, we will send you a summary of the overall survey results in which no company-specific data nor any individuals' answers can be identified.

After completing the questionnaire, please return it in the enclosed business envelope by September 5, 2005. If you have any questions regarding this study, please feel free to call me at (614) 688-3321 or email me at kim.1415@osu.edu. Thank you very much for your help with this important study. We look forward to hearing from you.

Respectfully yours,

Hyondong Kim
Doctoral Candidate

Dr. Raymond Noe, Principal Investigator noe_22@cob.osu.edu
Fisher College of Business, 828 Fisher Hall, 2100 Neil Avenue, Columbus, OH 43210

Strategic Compensation Survey

This brief questionnaire is a survey about compensation practice strategies conducted by the Fisher College of Business at the Ohio State University. Your participation as a senior manager is crucial, valuable, and appreciated. Your participation is voluntary. All responses are strictly confidential. Also, you may refuse to answer any questions that you do not wish to answer; you may also refuse or withdraw from participation without penalty or repercussion. Please return this questionnaire by mail in the enclosed stamped envelope or by fax to (614) 292-7062. As a reward for completing the returned survey, we will send you a copy of a brief summary of our findings. If you have any questions please contact Hyondong Kim by telephone at (614) 688-3321 or by email at kim.l415@osu.edu. Thank you for sharing your time and experience!

If you would rather fill out this survey electronically, please visit our website at

http://www.zoomerang.com/survey.zgi?p=WEB224CUMMEWUY.

* **Instructions:** Please mark in the appropriate box or fill in the blank.

1. Name of your firm:

_____

2. Which industry best describes your organization's main business? (choose one of industries below)

θ Aerospace	θ Apparel/Fabric Products	θ Beverages
θ Chemicals	θ Computers	θ Cosmetics
θ Electronics	θ Food	θ Forest and Agricultural Products
θ Furniture	θ Industrial Equipment/ Commercial Machinery	θ Metal Products

θ Metals	θ Mining/Oil Production	θ Motor Vehicles Production
θ Petroleum Refining	θ Pharmaceuticals	θ Printing/Publishing
θ Rubber/Glass /Stone and Plastics Products	θ Scientific and Photographic Equipment	θ Textiles
θ Tobacco	θ Toys and Sporting Goods	θ Transportation Equipment
θ Accounting	θ Advertising	θ Business Services
θ Commercial Banking	θ Communications	θ Construction/Building
θ Engineering/Research	θ Entertainment	θ Financial Services
θ Hospitals/Healthcare	θ Hotels/Lodging Places	θ Insurance
θ Investment Advisory/ Investment Banking	θ Management Advisory/ Management Consulting	θ Retailing
θ Savings	θ Transportation Services	θ Utilities
θ Wholesale Trade	θ Other _____	

3. What percentages of employees are unionized (under a collective bargaining agreement)? _____ %

4. To what extent does your firms' overall business strategy focus on the following business activities? Please circle one number for each statement, using the following scale: 1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, and 5=Strongly Agree.

	Strongly Disagree		**Neutral**		**Strongly Agree**
Differentiating products or services from competitors	1	2	3	4	5
Innovation in marketing techniques and methods	1	2	3	4	5
New product or service development	1	2	3	4	5
Providing specialized products and services	1	2	3	4	5
Significant percentage of total sales from products introduced over last 2 or 3 years	1	2	3	4	5
Frequent major product changes	1	2	3	4	5
Use of premium brands	1	2	3	4	5

	Strongly Disagree		Neutral		Strongly Agree
Minimize costs for advertising and product/service development	1	2	3	4	5
Using cost centers and fixing standard cost by analyzing variances for cost control	1	2	3	4	5
Cost reduction	1	2	3	4	5
Developing/refining existing products	1	2	3	4	5
Significant R&D spending as a percentage of sales	1	2	3	4	5

In this section, we are interested in surveying your firm's compensation practices, human capital

characteristics and other related variables.

Core employees are defined as the largest group of non-supervisory, non-managerial workers who are involved in making the products or in providing the services that most significantly determine competitive advantages for your firm. Please think about the various groups directly involved in making products and providing services within your organization. Of those various groups, focus on **one group** that is significantly relevant to firm performance. For example, a core employee group may be computer programmers in a software company, sales personnel in an insurance firm or assembly line workers in manufacturing firms.

What is the core employee group in your firm? Choose one of the functional areas

θ Production θ Finance/ Accounting θ R&D θMarketing /Sales θ Others: Specify_____

For number 5 and 6, please respond to the compensation practices in your firm, specifically for core employees. Followed is a glossary of terms.

1) Individual Incentives: Bonuses or other financial compensation tied to short-term or long-term individual performance.
2) Group/Project Incentives: Bonuses or other financial compensation tied to short-term or long-term work group, permanent team or temporary team performance.

3) Skill-based Pay: An alternative to traditional job-based pay that sets pay levels based on how many skills employees have or how many jobs they potentially can do, not on the job they are currently holding. Also, called pay for skills, pay for knowledge and competency-based pay.
4) Long-Term Incentive: Bonuses or other financial compensation that focuses on long-term performance and objectives (e.g., three to ten years). In this study, long-term incentive plan includes various types (cash-based long-term incentive plan, book value stock option/purchase plan, stock appreciation rights, phantom stock plan, restricted stock plan, stock ownership plan, and others).
5) Merit Pay: A reward that is designed to pay different amounts depending on the level of performance. Typically, reward can be given in the form of increments to the base pay.
6) Seniority-Based Pay: These tie pay increases to a progression pattern based on seniority.

5. What percentage of your **CORE EMPLOYEES** are rewarded using the following payment methods?

	0-20%	21-50%	51-80%	81-100%
Individual Incentives	1	2	3	4
Group/Project Incentives	1	2	3	4
Seniority-Based Pay	1	2	3	4
Merit Pay	1	2	3	4
Skill-Based Pay	1	2	3	4
Long-term incentive plan	1	2	3	4
Others_____	1	2	3	4

6. For the following statements, please rate to what extent your firm uses these practices to reward core employees **in relation to your major competitors.** Please circle one number for each statement, using the following scale: 1=Never, 2=Rarely, 3=Occasionally, 4=Often, and 5=Almost Always.

With reference to the **Core Employees** in your firm

	Never		Occasionally		Almost Always
Individual Incentives	1	2	3	4	5
Group/Project Incentives	1	2	3	4	5
Seniority-Based Pay	1	2	3	4	5
Merit Pay	1	2	3	4	5
Skill-Based pay	1	2	3	4	5
Long-term incentive plan	1	2	3	4	5
Others_____	1	2	3	4	5

7. For the following statements, please rate to what extent your organization can predict the relationship between actions and outcomes of your core employees **in relation to your major competitors.** Please circle one number for each statement, using the following scale: 1=Never, 2=Rarely, 3=Occasionally, 4=Often, and 5=Almost Always.

With reference to the **Top Managers in Your Firm**

	Never		Occasionally		Almost Always
Can distinguish between effective and ineffective core employees by watching actions on the job	1	2	3	4	5
Can't usually observe most of the duties that core employees perform	1	2	3	4	5
May not be in a position to see exactly most of the duties core employees to perform	1	2	3	4	5
The relationship between the actions core employees take and the outcome they achieve is stable over time	1	2	3	4	5
Core employees must often act to achieve the same outcome in different ways from what is expected	1	2	3	4	5
It is difficult to predict in advance how successful core employees will be as a consequence of the actions they take	1	2	3	4	5

8. For the following statements, please rate the characteristics of the core employees in your organization **in relation to your major competitors.** Please circle one number for each statement. Using the following scale (1=Much less likely than competitors, 2=Less likely than competitors, 3=About the same, 4=More likely than competitors, and 5=Much more likely than competitors.)

With reference to the **Core Employees** in your firm

	Less Likely		About Same		More Likely
Are encouraged to challenge outmoded traditions/practices	1	2	3	4	5
Are flexible enough to allow firms to respond quickly to changes in markets	1	2	3	4	5
Evolve rapidly in response to shifts in business priorities	1	2	3	4	5
Core employee knowledge is instrumental for creating innovations	1	2	3	4	5
Core employee knowledge creates company values	1	2	3	4	5
Core employee knowledge helps to minimize the cost of production, service or delivery	1	2	3	4	5
Core employee knowledge enables our firm to provide exceptional customer service	1	2	3	4	5
Core employee knowledge directly affects organizational efficiency and productivity	1	2	3	4	5

	Less Likely		About Same		More Likely
Core employee knowledge enables our firm to respond to our changing customer demands	1	2	3	4	5
Core employee knowledge contributes to the development of new market/product/service opportunities	1	2	3	4	5
Core employee knowledge allows our firm to offer lower prices	1	2	3	4	5
Core employee knowledge directly affects customer satisfaction	1	2	3	4	5
Core employee knowledge is needed to maintain high quality of products and services	1	2	3	4	5
Core employee knowledge is instrumental for making process improvements	1	2	3	4	5
Core employee knowledge is complex	1	2	3	4	5
It is difficult to comprehensively document core employee knowledge in manuals or reports	1	2	3	4	5
Core employee knowledge is obvious to all competitors	1	2	3	4	5
It is difficult to precisely communicate core employee knowledge through written documents	1	2	3	4	5
Core employee knowledge has subtle nuances known only to a few competitors	1	2	3	4	5
It is easy to comprehensively document core employee knowledge in manuals or reports	1	2	3	4	5
Difficult to identify core employee knowledge without personal experience in working with core employee group	1	2	3	4	5

9. For the following statements, please rate the characteristics of the core employees in your organization **in relation to your major competitors.** Please circle one number for each statement, using the following scale: 1=Much less likely than competitors, 2=Less likely than competitors, 3=About the same, 4=More likely than competitors, and 5=Much more likely than competitors.

With reference to the **Core Employees** in your firm

	Less Likely		About Same		More Likely
Help one another out if someone falls behind in his/her work	1	2	3	4	5
Try to act like peacemakers when other unit members have disagreements	1	2	3	4	5
Take steps to try to prevent problems with other unit members	1	2	3	4	5
Encourage other unit members when someone is down	1	2	3	4	5
Willingly give their time to help unit members who have work-related problems	1	2	3	4	5
Is always ready to lend a helping hand to those around him/her	1	2	3	4	5

	Less Likely		About Same		More Likely
Provide constructive suggestions about how the unit can improve its effectiveness	1	2	3	4	5
Are willing to risk disapproval to express their beliefs about what is best for the unit	1	2	3	4	5
Attend and actively participate in team meetings	1	2	3	4	5
Consume a lot of time complaining about trivial matters	1	2	3	4	5
Always find fault with what other unit members are doing	1	2	3	4	5
Attendance at work is above the norm	1	2	3	4	5
"Touch base" with other unit members before initiating actions that might affect core employees	1	2	3	4	5

10. For the following statements, please rate how would you compare the organization's performance over the past three years **to that of your major competitors to do the same kind of work?** Please circle one number for each statement. Using the following scale (1=Much less likely than competitors, 2=Less likely than competitors, 3=About the same, 4=More likely than competitors, and 5=Much more likely than competitors).

	Less Likely		About Same		More Likely
Quality of products, services or programs?	1	2	3	4	5
Development of new products, services or programs?	1	2	3	4	5
Ability to attract essential employees?	1	2	3	4	5
Satisfaction with customers or clients?	1	2	3	4	5
Relations between management and other employees?	1	2	3	4	5
Marketing?	1	2	3	4	5
Growth in sales?	1	2	3	4	5
Growth in profitability?	1	2	3	4	5
Growth in market share?	1	2	3	4	5

THANK YOU FOR YOUR PARTICIPATION!

Please print your name and job title below.

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Please return completed survey by either fax or mail to:

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Thank you again for your time and cooperation in responding