PROGRESSIVE MANAGEMENT PRACTICES
AS PREDICTORS OF ORGANIZATIONAL
FUTURE PERFORMANCE: EMPIRICAL EVIDENCE

Abdalla Hagen, Grambling State University
Macil Wilkie, Grambling State University
Mahmoud Haj, Grambling State University

ABSTRACT

This study explores progressive management practices (selective hiring, extensive training, employment security, self-management teams and decentralization, comparatively high compensation contingent on organizational performance, reduction of status differences, and sharing information) that treat employees as the most valuable asset. The study also investigates the impact of these management practices on the future performance of organizations (return on assets, return on sales, sales growth, and earning per share). The results of this study indicate that selective hiring, extensive training, comparatively high compensation contingent on organizational performance, and sharing information have significant and positive effects on the future performance of organizations.

INTRODUCTION

It is now commonly accepted that human resources create an important source of competitive advantage for firms (Pfeffer, 1994). Recent theoretical work on the resource-based view of the firm supports this notion (Barney, 1991). The importance of human resources has led to increased interest in identifying and adopting progressive management practices that improve organizational performance.

Barney (1991) argued that progressive management practices lead to sustainable competitive advantage when they are valuable, rare, inimitable and not substitutable. Ulrich and Lake (1990) asserted that technology, natural resources, and economics of scale can create value. However, resource-based theory argued that these sources of value are increasingly available to almost anyone anywhere and they are easy to copy, especially when compared to complex social systems like human resource systems. As a result, several authors (e.g., Pfeffer, 1994; Snell et al., 1996; Wright & McMahan, 1992) have considered that human resources a better source of core competencies that
lead to sustainable competitive advantage. This interpretation is consistent with Hamel and Prahalad,(1994) who suggested that core competencies are normally people-embodied skills.

According to Pfeffer (1998), actual management practices, in many instances, are moving in a direction exactly opposite to what this growing body of evidence prescribes. Moreover, this disjunction between knowledge and management practices is occurring at the same time that organizations, confronted with a very competitive environment, are frantically looking for magic principle that will provide sustained success, at least over some reasonable period of time.

Pfeffer and Veiga (1999) developed seven dimensions of progressive management to characterize most, if not all, of the systems improving organizational performance through human resources. Hagen, Udeh and Wilkie (2002) have extended Pfeffer and Veiga's (1999) study to provide a sound business case and to attest that the way an organization manages its human resources is a real and enduring source of competitive advantage. These authors also examined the perception of CEOs toward management practices and the CEOs' ranking order to these practices. The findings of these authors revealed that the seven management practices developed by Pfeffer and Veiga (1999) are the way that companies should manage their people as their most important asset.

This study extends Hagen, Udeh and Wilkie's (2002) work and examines the impact of progressive management practices (selective hiring, extensive training, employment security, self-management teams and decentralization, comparatively high compensation contingent on organizational performance, reduction of status differences, and sharing information) on the future performance of organizations (return on assets, return on sales, sales growth, and earning per share).

**MANAGEMENT PRACTICES AND ORGANIZATIONS PERFORMANCE**

Numerous researchers from various disciplines (e.g., Cascio, 1991; Arthur, 1994; Delery & Doty, 1996; Hagen, Udeh, & Hassan, 2001) proposed various conceptual frameworks to explain the link between progressive management practices and organizational outcomes. For example, Pfeffer (1994) claimed that management practices including employee participation and empowerment job design (team-based production system, extensive employee training, performance-contingent incentive compensation, etc.) are widely believed to improve performances of organizations. Similarly, Huselid (1995) concluded that certain management practices affect turnover, productivity, and financial performance of organizations.

In the same vein, Pfeffer (1998) claimed that employee participation and empowerment job design (team-based production system, extensive employee training, performance-contingent incentive compensation, and others) are widely believed to improve the performance of organizations. Huselid (1995) also concluded that some management practices affect turnover, productivity, and financial performance of organizations. Delery and Doty (1996) found that
progressive management practices have the most significant effects on firm's outcomes such as productivity, turnover, and financial performance.

Pfeffer and Veiga (1999) asserted that these tremendous gains come about because high performance management practices provide a number of important sources for enhanced organizational performance. People work harder when organizations increase their involvement and commitment that come from having more control and say in their work. People also work smarter if they are encouraged to build skills and competences. Finally, people work more responsibly because more responsibility is placed in the hands of employees further down the organizational hierarchy. These practices are grounded in sound social science principles that have been shown to be effective by a great deal of evidence.

However, chief executive officers (CEOs) often look for evidence; they do not want to hear anecdotes that are specifically selected to make some point. There is a substantial and rapidly expanding body of evidence that confirms a strong connection between how firms manage their people and the economic results achieved. This evidence is drawn from studies of five-year survival rates of initial public offerings; studies of profitability and stock price in large samples of companies from multiple industries; and detailed research on the automobile, apparel, semiconductor, steel manufacturing, oil refining, and service industries. It shows that substantial gains can be obtained by implementing certain management practices (Pfeffer, 1998).

According to an award-winning study of high performance work practices of 968 firms representing all major industries, a one standard deviation increase in the use of such practices is associated with a 7.05 percent decrease in turnover and, on a per employee basis, $27,044 more in sales and $18,641 and $3,814 more in market value and profits, respectively (Huselid, 1995). That is an $18,000 increase in stock market value per employee. A subsequent study conducted on 702 firms in 1996 found even larger economic benefits: A one standard deviation improvement in the human resources system was associated with an increase in shareholder wealth of $41,000 per employee, about a 14 percent market value premium (Huselid & Becker, 1997).

These results are not unique to firms operating in the United States. Similar results were obtained in a study of more than one hundred German companies operating in ten industrial sectors. The study found a strong link between investing in employees and stock market performance. Companies that place workers at the core of their strategies produce higher long-term returns to shareholders than their industry peers (Biomes, Wetzker & Xhonneux, 1997).

One of the clearest demonstrations of the causal effect of progressive management practices on performance comes from a study of the five-year survival rate of 136 non-financial companies that initiated their public offering in the U.S. stock market in 1988. By 1993, only 60 percent of these companies were still in existence. The empirical analysis demonstrated that with other factors such as size, industry, and even profits statistically controlled, both the value the firm placed on human resources—such as whether the company cited employees as a source of competitive advantage—and how the organization rewarded people—such as stock options for all employees and
profit sharing—were significantly related to the probability of survival. The difference in survival probability for firms one standard deviation above and one standard deviation below the mean (in the upper 16 percent and the lower 16 percent of all firms in the sample) on valuing human resource was almost 20 percent. The difference in survival, depending on where the firm scored on rewards, was even more dramatic, with a difference in five-year survival probability of 42 percent between firms in the upper and lower tails of the distribution (Welbourne & Andrews, 1996).

PROGRESSIVE MANAGEMENT PRACTICES

Hagen, Hassan and Maghrabi (2002) concluded that different management practices have different effect on organizational outcomes. Based on related literature, personal observation, and experience, Pfeffer and Veiga (1999) developed what he called progressive management practices that seem to characterize most, if not all, of the systems that improve organizational performance through human resources. Each one of these practices is briefly summarized below.

Employment Security

Employment security has been emphasized as an important dimension on the effects of high performance management systems by most researchers (Dessler, 1999). In his cross-national review, Locke (1995) proposes that innovations in work practices or other forms of worker-management cooperation or productivity improvement are not likely to be sustained over time when workers fear that by increasing productivity they will work themselves out of their jobs. According to Pfeiffer and Vega (1999), providing employment security in today's competitive world seems impossible and very much at odds with what many firms are doing.

However, employment security is fundamental to the implementation of most other high performance management practices. For example, when General Motors wanted to implement new work arrangements in its innovative Saturn plant in the 1990s, it guaranteed its people job security, except in the most extreme circumstances. When New United Motors Manufacturing firm was formed to operate the Fremont automobile assembly plant, it also offered its people job security (Kelleher, 1997).

Assurance of job security has various benefits. One advantage to firms is the workers' free contribution of knowledge and their efforts to enhance productivity. A second advantage is the decreased likelihood that employees will be laid off during downturns. In the absence of a commitment to retain the work force (either through pledges about employment security or through employment obligations contractually negotiated with a union) firms may lay off employees too quickly and too readily at the first sign of financial difficulty. This hasty action constitutes a cost for firms that have done a good job of selecting, training, and developing their workforce because
layoffs put important strategic assets on the street for the competition to employ (Pfeffer & Veiga, 1999).

Selective Hiring

Companies that are serious about obtaining profits through people will expend the effort required to ensure that they recruit the right people in the first place. Selective hiring requires several things. First, organizations need to have a large applicant pool from which to select (Pfeffer & Veiga, 1999). Southwest Airline uses a large pool of applicants. Second, organizations must specify the most critical skills and attributes needed in applicants. Southwest Airline requires certain skills for flight attendant positions (O'Reilly, 1996). Third, skills and abilities sought by organizations need to be carefully considered and consistent with the particular job requirements and the organization's approach to its market. Enterprise Rent-A-Car seeks certain skills and attributes for its employees (O'Reilly, 1996). Fourth, organizations should screen primarily on important attributes that are difficult to change through training and should emphasize qualities that actually differentiate among those in the applicant pool. Interviewers at PeopleSoft (a producer of human resource management software) apply these rules to differentiate themselves from other interviewers (O'Reilly, Chatman & Caldwell, 1991; Chatman, 1991).

Self-Managed Teams and Decentralization as Basic Elements of Organizational Design

Various studies attest to the effectiveness of teams as a principle of organizational design (Farren, 1999; Gregory, 1999). Team-based organizations are largely successful in having all of the people in the firm feel accountable and responsible for the operation and success of the enterprise, not just a few people in senior management positions. This increased sense of responsibility stimulates more initiative and effort on the part of everyone involved. In addition, teams permit removal of layers of hierarchy and absorption of administrative tasks previously performed by specialists, avoiding the enormous costs of having people whose sole job is to watch people who watch other people do the work.

For example, the implementation of teams in Honeywell's defense avionics plant led to credits improvement on-time delivery from 59 percent in the late 1980s to 99 percent in the first quarter of 1996 (The Wall Street Journal, 1996). Teams at Saturn and at Chrysler Corporation's Jefferson North plant provide a framework in which workers more readily help one another and more freely share their production knowledge--the innumerable 'tricks of the trade' that are vital in any manufacturing process (Shaiken, Lopez & Mankita, 1997). The key to this success lies in its use of self-managed teams and the consequent savings in management overhead (Van Beusekom, 1996). Comparatively High Compensation Contingent on Organizational Performance: It is often argued that high compensation is a consequence of organizational success rather than its progenitor, and
that high compensation is possible only in certain industries that either face less competition or have particularly highly educated employees. In fact, neither of these statements is correct (Lewis, Goodman & Fandt, 2001).

In 1972, Pathmark Company had about 90 days to live, and was in a desperate financial situation. The new manager, who assumed leadership in 1972, discovered that 120 store managers in the chain were paid less than the butchers, who were unionized. He decided that the store managers were vital to the chain's success and its ability to accomplish a turnaround. He gave the store managers a substantial raise of about 40 to 50 percent. Subsequent success of the chain was attributed to improving performance instead of managers complaining about their pay (Pfeffer & Veiga, 1999). The idea that only certain jobs or industries can or should pay high wages is belied by the example of many firms. Home Depot has been successful and profitable, and its stock price has shown exceptional returns. Even though the chain emphasizes everyday low pricing as an important part of its business strategy and operates in a highly competitive environment, it pays its staff comparatively well for the retail industry, hires more experienced people with building industry experience, and expects its sales associates to provide a higher level of individual customer service (Pfeffer & Veiga, 1999).

Contingent compensation also figures prominently in most high performance work systems. Such compensation can take a number of different forms, including gain sharing, profit sharing, stock ownership, pay for skill, or various forms of individual or team incentives. Wal-Mart, AES Corporation, Southwest Airlines, Whole Foods Markets, Microsoft, and many other successful organizations encourage share ownership.

**Extensive Training Programs and Development**

Training is often seen as a frill in many U.S. organizations, or something to be reduced to make profit in times of economic stringency. Studies of firms in the United States consistently provide evidence of inadequate levels of training (Grossman & Mangus, 1989; Lawler, Mohrman & Ledford, 1992). Even when there is training, it focuses on special skills rather than general list of competence and organizational culture. Although knowledge and skill are critical for organizational success, few organizations act on this insight.

Men's Warehouse (an off-price specialty retailer of men's tailored business attire and accessories) discovered that training could be a source of competitive advantage if used wisely. In Men's Warehouse's 2001 Annual Report it stated that it had achieved compounded annual growth rates in revenues and net earnings of 32 and 41 percent, respectively, and that the value of its stock had increased by approximately 400 percent. The company attributes its success to how it treats its people and particularly to the emphasis it has placed on training, an approach that separates it from many of its competitors. The company built a 35,000 square foot training center at its headquarters in Fremont, California. During the winter, experienced store personnel come back to headquarters
in groups of about 30 for a three or four-day retraining program (Men's Warehouse Annual Report, 2001).

**Reduction of Status Differences**

The fundamental premise of high performance management systems is that organizations perform at a higher level when they are able to tap the ideas, skill, and effort of all of their people. In order to help make all organization members feel important and committed, most high commitment management systems attempt to reduce the status differences that separate individuals and groups and cause some to feel less valued. This notion can be accomplished through the use of language and labels, physical space, dress, and substantively in the reduction of the organization's degree of wage inequality, particularly across levels (Dessler, 1999).

At the New United Motor Manufacturing firm, everyone wears the same colored smock; executive dining rooms and reserved parking don't exist. At Kingston Technology, the two cofounders sit in open cubicles and do not have private secretaries. By limiting the difference in compensation between senior management and other employees, status differences are reduced (Pfeffer & Veiga, 1999). When Southwest Airlines negotiated a five-year wage freeze with its pilots in exchange for stock options and occasional profitability bonuses, the CEO of Southwest, Herb Kelleher, agreed to freeze his annual base salary at $395,000 for four years reduced from $500,000 per year, including base and bonus. Sam Walton, the founder and chairman of Wal-Mart, was one of the most underpaid CEOs in the United States (The Economist, 1995).

**Sharing Information**

Information sharing is a basic and essential component of high performance work systems. The sharing of information on such things as financial performance, strategy, and operational measures conveys to the organization's people that they are trusted. For example, Whole Foods Markets shares detailed financial and performance information with every employee, including individual salary information. Every Whole Foods store has a book that lists the previous year's salary and bonus for all 6,500 employees (Fisherman, 1996).

Even motivated and trained people cannot enhance organizational performance if they don't have information on important dimensions of performance and training on how to use and interpret that information (Dessler, 1999). The famous case of Springfield ReManufacturing Corporation (SRC) is a good example that illustrates this assertion. When General Motors canceled an order in 1986 that represented about 40 percent of SRC's business for the coming year, the firm averted layoffs by providing its people with information on what had happened and letting them figure out
how to grow the company and achieve the productivity improvements that would avoid layoffs. SRC has since enjoyed tremendous financial success (Pfeffer & Veiga, 1999).

ORGANIZATIONAL PERFORMANCE

Weiner and Mahoney (1981) stated that there are various measures that can be utilized to measure the performance of organizations. One of the principal measures is the financial performance. Prior work on the measurement of organizational financial performance is extensive. Some researchers used profitability variables to measure financial performance of organizations (e.g., Gerhart & Milovitch, 1992; Huselid, 1995; Delery & Doty, 1996; Peffer, 1998; Hagen & Haj, 2003). Other studies used sales per employee and market value (Huselid, 1995), shareholder wealth (Huselid and Becker, 1997), and stock market performance (Blimes, Wetzker & Xhonneux, 1997; Welbourne & Andrews, 1996).

Finally, Zahra, Neubaum and Huse (2000) used return on assets (ROA), return on sales (ROS), sales growth (SG), and earnings per share (EPS). Since the selection of variables used in measuring financial performance of an organization is left to researchers, we selected ROA, ROS, SG, and EPS to test the impact of progressive management practices on organizational performance.

RESEARCH HYPOTHESES

Literature review suggests that certain management practices affect firm's performance. Therefore, management practices should be related to at least some relevant outcomes of firms. Arthur (1994) claimed that because some management practices increase employee's discretionary effort, such practices would affect firm's outcomes. Bartel (1994) asserted that because returns from investments in human resources exceed their real costs, lower turnover and greater productivity should in turn enhance the firm's financial performance. Based on these arguments, the following hypotheses have been formulated:

| H1: | There is a positive and significant relationship between return on assets (ROA) and progressive management practices (selective hiring, extensive training, employment security, self-management teams and decentralization, comparatively high compensation contingent on organizational performance, reduction of status differences, and sharing information). |
| H2: | There is a positive and significant relationship between return on sales (ROS) and management practices (selective hiring, extensive training, employment security, self-management teams and decentralization, comparatively high compensation contingent on organizational performance, reduction of status differences, and sharing information). |
H3: There is a positive and significant relationship between Sales growth (SG) and management practices (selective hiring, extensive training, employment security, self-management teams and decentralization, comparatively high compensation contingent on organizational performance, reduction of status differences, and sharing information).

H4: There is a positive and significant relationship between earnings per share (EPS) and management practices (selective hiring, extensive training, employment security, self-management teams and decentralization, comparatively high compensation contingent on organizational performance, reduction of status differences, and sharing information).

**RESEARCH METHODS**

Research methods used in this study included survey questionnaire, sample and data collection, measurements, and statistical techniques.

**Survey Questionnaire**

The survey questionnaire was developed by the researchers of this study and included seven management practices. The items and statements utilized in this survey were adapted from Pfeffer and Veiga's (1999) study. The first section of this survey included 29 statements measuring progressive management practices that treat human resources as a valuable asset. Statements measuring progressive management practices were categorized under seven management practices as follows: employee security (4 items), selective hiring (5 items), self management teams and decentralization (5 items), comparatively high compensation contingent on organizational performance (4 items), extensive training programs and development (6 items), reduction of status differences (2 items), and sharing information (3 items). Each statement has a five-point Likert response format ranging from strongly disagree (1) to strongly agree (5). Cronbach alpha (.72-.88) was obtained for the overall scale scores measuring the management practices.

The second section concerning some control variables included 22 statements grouped under innovation process innovation (5 items), product innovation (4 items), and organization's innovation (4 items), and venturing domestic venturing (5 items), and international venturing (4 items). Cronbach alpha (.72-.79) was obtained for the overall scale scores measuring innovation and venturing.

This survey elicited opinions from the participating CEOs who actually practiced some or all the suggested seven management practices in their organizational settings. Respondents were asked to assign the degree or the extent of their agreement or disagreement with each of the 29 items concerning management practices, and each of the 22 items concerning innovation, and venturing of organizations.
The third section included demographic information (age, education, experience of responding CEOs) and organizational variables (age and size of participating organizations).

Sample and Data Collection

Data collection included primary data and secondary data. Primary data were collected from a research sample. Since most research has focused on larger corporations our study utilized a sample of medium-size public companies (i.e., companies in the $25 to $500 million asset range) (Roth, 1992). Moreover, medium-sized firms have recently internationalized their operations (Acs & Preston, 1997).

For a firm to be included in this study, it must meet three criteria. First, all firms had to have been in existence for at least eight years, which reduced the potential bias associated with organizational newness. Second, firms had to be in the $25 to $500 million-asset range to qualify as being medium in size. Finally, all firms had to be publicly held so that data to validate the survey-based measures could be obtained. Using these criteria, 427 firms located throughout the United States, falling in ten industry groups, were identified from Combat Disclosure. Firms were selected from different industries to capture potential variations in technological opportunities, innovation, and venturing. CEOs of the chosen firms were mailed a cover letter requesting their participation, the survey questionnaire, a stamped return envelope, and a brief summary of the seven management practices used in this study. Of the 427 mailed questionnaires, 112 (26.2%) were returned to the authors. Of the 112 complete and usable questionnaires, there were 19 and 93 female-male CEOs, respectively. Firms of responding CEOs were identified by certain codes previously designed for collecting financial variables. Secondary data were collected from various sources related to the four financial variables.

Measurements of Variables

Measurements included progressive management practices (independent variables), the firm’s performance (the dependent variables), and control variables. The following procedure was implemented:

Progressive Management Practices

The adapted survey questionnaire was used to measure the seven management practices identified in this study. Each management practice was measured by the mean scores assigned by respondents to the items associated with each practice.
**Firm's Performance**

This study used four performance measures to examine the impact of progressive management on the future performance of firms. Return on assets (ROA) was measured as a company's net earnings divided by its total assets. Return on sales (ROS) was measured as a company's net earnings divided by its total sales. Sales growth (SG) was measured by the year-to-year average change in a company's sales. This meant subtracting a company's sales in a given year from its sales in the previous year and then dividing the difference by the previous year's sales. Earning per share (EPS) was measured by dividing net earnings by the average common shares outstanding. EPS shows returns to shareholders for each share they owned. Financial data for the responding firms (identified by certain codes) were collected from Compact Disclosure, Moody's Industrial Manual, the Standard & Poor's Guide and annual reports. The questionnaire was administered and completed during the first quarter of 2002. Subsequently, financial data were collected in the three-year period (1999-2001).

**Control Variables**

The control variables used in this study included the size and age of the firm, technological opportunities, innovation, and venturing in organizations. The firm's size was measured as the total dollar value of assets. The firm's age was measured by the number of years from the founding date of each firm. Technological opportunities were measured by the three-year average of industry R & D spending as percentage of sales obtained from COMPSTAT. Innovation and venturing were measured by the responses of CEOs to the 13 and 9 statements, respectively, identified in the second part of the survey questionnaire.

**Statistical Analysis**

Statistical analysis in this study utilized the Statistical Package for Social Science (SPSS-X) to generate means, standard deviations, and intercorrelations among the study variables, and to conduct factor analysis and multiple regressions.

**FINDINGS OF THIS STUDY**

One of our goals was to investigate the factor structure of the scales by incorporating all scales of the seven management practices into a separate confirmatory factor analysis (CFA). The CFA conducted on these data collected from the responding CEOs revealed that the measures were distinguishable from one another. Another CFA incorporated all scales of the four innovation dimensions and the two venturing dimensions. The CFA conducted on these data also revealed that
the measures were distinguishable from one another. Due to the limited space, these CFAs are not reported in this study. However, all CFAs can be obtained from authors upon request from their published addresses and e-mails.

The matrix correlation presented in Table 1 shows moderate correlations among included items. These correlations indicate that the seven management practices and the four performance measures are not completely independent. These correlations were expected because the items measuring progressive management practices and the firm's performance measures are interrelated. However, such moderate correlations should not be considered a serious problem in previous research (e.g., Hagen, Udeh, and Hassan, 2001).

Table 1 shows correlation between four management practices (employment security, selective hiring, comparatively high compensation contingent on organization's performance, and extensive training and development programs) and the four firm's performance measures. Employment security was correlated with ROA (r = .22; P < .01), ROS (r = .15; P < .05), and SG (r = .21; P < .01). Selective hiring was correlated with ROA (r = .18; P < .05), ROS (r = .19; P < .05), SG (r = .18; P < .05), and EPS (r = .13; P < .05). Comparatively high compensation contingent on organization's performance was correlated with ROA (r = .19; P < .05), ROS (r = .16; P < .05), and SG (r = .12; P < .05). Extensive training and development programs were correlated with ROA (r = .22; P < .01), ROS (r = .24; P < .01), SG (r = .21; P < .01) and EPS (r = .19; P= < .05).

This notion refers to a potential relationship between the progressive management practices and a firm's future performance. However, our results indicate that none of the above four progressive management practices are correlated with all dependent variables. This notion suggests that if an independent variable is correlated with one or two of the dependent variables, it is not necessarily that it will be correlated with all dependent variables.

Multiple regressions were also used to examine the four hypotheses, which suggested a positive relationship between the seven progressive management practices and a company's future performance. This analysis required four regressions, one for each performance criterion. For each dependent variable (ROA, ROS, SG, and EPS), the analysis was run by entering control variables (i.e., company's age, size, technological opportunities, product innovation, process innovation, organizational innovation, domestic venturing, and international venturing) and the seven measures of progressive management practices (independent variables). The outcomes of the four multiple regression analyses are presented in Tables 2.

As Table 2 shows, the four regression equations were statistically significant, with adjusted R² ranging from 0.27 to 0.32. There is positive and significant relationship between "employee security" and three company's performance measures (ROA, P < .05; ROS, P < .01; SG P< .05). A similar relationship can be seen between "selective hiring" and the same measures of firm's performance (P < .01, .05, .05 for ROA, ROS & SG respectively). A positive and significant relationship does also exist between comparatively high compensation contingent on firm's performance and ROA (P < .05), ROS (P < .01), and SG (p < .01). However, employment security,
selective hiring, and comparatively high compensation contingent on firm's performance are not related to EPS. While a positive and significant relationship appears between extensive training programs and ROA (P < .01), ROS (P < .05), SG (P < .05), this management practice has a marginal-positive relationship with SG (P < .10). Finally, there is a marginal-positive relationship between sharing information and both ROA (P < .10) and ROS (P < .10), with the exception of SG and EPS.

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* P < .05  
** P < .01

With respect to control variables, product innovation is positively and significantly related to ROA, ROS and EPS (P < .05), with the exception of EPS. Process innovation is also positively and significantly related to ROA, ROS and EPS (P < .05), but not with SG. Firm's innovation is positively and significantly related to EPS (P < .05) and marginally significant with ROA (P < .10).
Domestic venturing is positively related to SG (p< .01) and negatively related to both ROS (P < .05) and EPS (P< .01). The relationship between domestic venturing and ROA is negative but insignificant. Finally, international venturing is positively associated with SG (P < .01) and negatively with both ROA and ROS (P < .05).

Technological opportunities are significantly and positively related to ROA, ROS, and SG (P < .05), but marginally significant to EPS (P < .10). Firm's age is significantly and positively related to ROS (P < .05) and marginally significant to ROA (P < .10). Firm's size is significantly and positively related to ROA (P < .05) and marginally significant to EPS (P < .10).

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<th>Table 2: Regression Analysis of Variance for the Seven Management Practices and the Future Performance of Organizations</th>
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* P= < .05  
** P= < .01  
+ P= < .10
**DISCUSSION**

Recently, researchers have shown a strong interest in understanding the factors that enhance or impede a company's future performance. The results of this study provided support for the perspective of progressive management practices. Four of seven individual management practices (selective hiring, extensive training, employment security, and comparatively high compensation contingent on firm's performance) have strong and positive relationships with the four performance measures (ROA, ROS, SG, EPS).

The relationship between comparatively high compensation contingent on comparatively high firm's performance measures supports the explanation of agency theory (Eisenhardt, 1988) and behavioral theory (Katz & Kahn, 1978). Agency theory suggests that basing employee rewards on firm's performance is aligned with the owner's interests. In terms of the behavioral perspective, rewards may be seen as a substantial inducement for desired performance, especially for profit-making business organizations. By tying employee compensation to firm's performance, the firm tends to reward employee behavior that is consistent with its overall performance goal (Delery & Doty, 1996).

The significant relationship between selective hiring and the firm's performance variables is consistent with the agency theory (Eisenhardt, 1988), control theory (Snell, 1991), and the transaction cost perspective (Jones & Wright, 1992). Each theoretical perspective claims that selective hiring will enhance performance when measures of the firm's performance are either readily available or are less costly to obtain than other performance measures (Delery & Doty, 1996).

The effects of employment security on firm's performance are more difficult to explain in terms of the theories mentioned above. Granting employment security without monitoring employee performance does not guarantee employees engaging in appropriate behavior. However, employment security may marginally align the interest of employees and owners. If employees fail to perform in a manner that produces continued profits for a profit-making firm, the firm may not exist, thereby ending the guarantee of employment security. Moreover, employment security sends a signal that a firm is committed to its employees. If employees reciprocate this commitment, the firm should have a workforce with a high level of commitment and motivation (Delery & Doty, 1996).

The effects of training programs are consistent with the perspectives of the resource-based theory (Barney, 1991), resource-dependency theory (Pfeffer & Cohen, 1984), and human capital theory (Becker, 1964). Resource-based theory assumes that each organization is a collection of unique resources that provide the organizational returns. This theory also argues that a firm is a collection of evolving capabilities that is managed in pursuit of above-average returns. According to the resource-dependency theory, differences in firm performances across time are driven primarily by their unique resources and capabilities rather than by the structure or characteristics of industry.
Human capital theory views employees as human capital. Human capital refers to the knowledge and skills of the entire workforce of a firm. Much of the development of U.S. industry can be attributed to the effectiveness of its human capital. One-third of the U.S. gross national product is attributed to increases in the educational level of the U.S. workforce (Hitt, Ireland & Hoskisson, 1998).

Technological opportunities reflect the extent to which a company believes its primary industry offers major opportunities for growth and innovations. When these opportunities are abundant, the company is expected to vigorously support innovations and hence, technological opportunities. Conversely, when technological opportunities are limited, the company is expected to venture domestically or internationally to create new revenue streams.

Medium-size firms are more likely to innovate than larger firms. The literature suggests that, on average, larger companies may have the resources and skills necessary for venturing in domestic or international. Younger firms are expected to be more innovative than older firms because new firms are often created to exploit specific technological advances by introducing radically new products. Older companies are more likely to engage in venturing to renew their operations.

**IMPLICATIONS AND CONCLUSIONS**

It appears that progressive management practices are viable and lead to different assumptions about the relationships between these respective management practices and the future performance of firms. These results reflect explicit relationships between the characteristics of the employment systems of a firm and its performance (measured by certain financial variables). Firms adopt progressive management practices can generate and achieve greater returns. (Pfeffer, 1994) pointed out that the implementation of these practices is not always an easy task. Therefore, he argued that it is unlikely that firms can quickly or easily imitate certain management practices of the best organizations. Consequently, organizations that adopt a greater number of these practices are likely to gain at least a short-term competitive advantage and enjoy superior performance.

**RECOMMENDATIONS FOR FUTURE RESEARCH**

We recommend longitudinal studies to address the causal relationship between progressive management practices and a firm's performance. There is a need for future studies that include additional management practices related to a firm's performance to provide more accurate estimates of the full effect of progressive management practices on a firm's performance.
REFERENCES


