

The Effects of Employee Involvement on the Control of Employees

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Abstract

This study focuses on the effects of diverse forms of employee involvement on the degree of employees' control, included suggestion system, quality circles, quality of working life program and self-managed work team. The primary goals of these participatory programs are to increase productivity, quality, and/or to enhance employees' satisfaction. Although these programs might lead to such benefits, diverse forms of employee involvement have different effects on attitudes and organizational performance. This study posits that diverse forms of employee involvement may delegate different degrees of decision-making power to non-employees. Our results showed that higher levels of employee involvement were associated with higher degree of influence enjoyed by non-managerial employees. However, most employee involvement programs give restricted control to non-managerial employees in personnel and production areas, but not in strategic issues.

Keywords: employee participation in decision-making, employee involvement, industrial relations, industrial democracy

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1. INTRODUCTION

Heightened customer demand for quality products/services, technological changes, as well as the pursuit of employment flexibility during the past two decades forced firms to undertake substantive work reorganization. Under these circumstances, there has been a growing incidence of new work systems taking place in the world. The new work systems focus primarily on employee involvement in decision making (e.g., quality circles, total quality management, work teams, etc.).

It is argued that potential benefits of employee involvement include enhancement of employee satisfaction and motivation (Vroom and Jago, 1988), improvement in labor-management relations (Strauss, 1990), as well as increase in productivity (Blinder, 1990). Thus, these new forms of work systems have attracted increasing attention among public policy-makers, scholars, and practitioners during the past two decades. Many countries have encouraged or even mandated employee involvement in decision-making in the enterprises (e.g., works councils and co-determination), notably Germany and Sweden (Poole, 1989). Recently, scholars and policy-makers in the United States have been proposing such mandated employee involvement scheme (Freeman and Rogers, 1993). In Japan and the United States, institutions sponsored by governments have been established to promote employee involvement in decision-making related to production processes and product quality. In addition, there has been a voluminous body of practical literature written on participatory management. There are increasing numbers of management consultants specializing in helping organizations develop employee involvement programs. Particularly, employee involvement programs have gained attention from academicians. Studies in this area are, however, descriptive and anecdotal in nature, with emphasis on the developments and operating of particular involvement programs (e.g., quality circles). Many of them focus mainly on practices in specific firms, such as NUMMI. Given the increasing importance of employee involvement in decision-making, this subject matter is an area deserving further research, particularly on

consequences of such workplace "innovations".

Although there has been a growing body of literature on the effects of employee involvement programs on organizational productivity and employees' attitudes and behaviors, very few existing studies examine the effects of employee involvement on the degree of control held by non-managerial employees. By investigating the effects of diverse employee involvement programs on employees' control, researchers are able to understand the reasons why diverse employee involvement programs have different impacts on employees' attitudes and behaviors, as well as organizational productivity. These research results can provide practitioners with the insights on the design of effective employee involvement programs. This paper attempts to fill up this research gap by examining the control effects of different employee involvement programs in the United States. We focus primarily on the effects of work teams, quality of work life, quality circles, labor-management committees, and suggestion systems on four decision-making areas at the workplace, namely personnel, production, strategy, as well as information. The paper is organized as below. The next section briefly discusses the characteristics associated with different employee involvement programs. By analyzing the nature of each employee involvement scheme, we derive our hypotheses concerning the control effects of different programs. Then, based on our empirical data, we test our hypotheses using multiple regression techniques. Finally, we draw our conclusions based on the empirical results.

2. CHARACTERISTICS OF DIVERSE EMPLOYEE INVOLVEMENT PROGRAMS

Employee involvement in decision-making varies in form and degree. In general, it differs in the range of issues that employee involvement programs might cover (e.g., immediate working conditions or business strategies), the level at which employee decision-making participation is

introduced and takes place (e.g., shopfloor, board of directors), the basis of participatory arrangements (e.g., formal versus informal participatory arrangements), and the nature of participation (e.g., direct or representative) (Tsiganou, 1991). In a similar typology of employee involvement in decision-making, Levine and Tyson (1990) described participatory arrangements according to several attributes, including the form of participation (direct vs. indirect), the extent of employee influence over decisions (high-level vs. low-level), and the content of decisions (work-related or strategic). Specifically, they categorize three broad types of employee involvement in decision-making: consultative participation, representative participation, and substantive participation in work and workplace decisions. In consultative participation, employees are provided opportunities to make suggestions but final decisions are still retained in the hand of management. This type of participation is usually limited to participation in the domain of direct work-related issues, such as personnel or work organization. Strategic and business issues such as investment plans or profit allocation are not included. Well-known examples can be represented by quality circles prevalent in the early 1980s. Representative participation is typically indirect participatory programs in which employees are not directly involved in decision making. The participation is often delegated from employees to their representatives to participate in joint governance structures, such as joint labor-management committees and works councils. Although representative programs may encompass a wider range of issues, including investment policy, technological changes, etc., they are purely advisory and their influence is limited. Substantive participation in work and workplace decisions is direct participation with a high degree of employee influence, such as self-managing work teams, although the content of decisions may not differ from that of consultative participation.

2.1 Employee involvement in the United States

Since 1980, there have been growing trends in adopting or using employee involvement programs. Appelbaum and Batt (1994) conducted an extensive survey of the literature on the incidence of new work systems

in the United States. The major findings in their study indicated that there were ongoing transformations in work systems in the United States in the 1980s. Most of these work systems emphasize the effective utilization of employees' skills and knowledge. Different forms of employee involvement experiments have been initiated by management to seek valuable suggestions from employees, such as quality circles. The number of firms adopting such work systems has increased since 1980.

These forms of employee involvement programs are typically characterized as employee involvement with different degrees of participation in decision-making (Colvin, 2004; Glassop, 2002). The effects of such participatory arrangements on individual motivation and organizational productivity may vary across different types of employee involvement programs. For instance, substantive involvement in decision-making may give a higher level of discretion and stronger incentives to employees because the degree of employee involvement in decision-making associated with such form is the highest among other forms. This form of employee involvement potentially leads to higher productivity effects.

There are potential impacts of these employee involvement programs on human resource outcomes that may affect firm performance. These participation programs are examined as compared to the following areas considered to be crucial in effecting human resource management. Employee involvement in the decision-making processes may help employees develop skills and knowledge related to production or operation. Also, it may help organizations clarify their goals to employees and thus coordinate concerted efforts towards common goals. Employee involvement in decision-making provides incentives to employees by increasing their discretion and autonomy as well. These attributes associated with employee involvement programs can serve as channels through which employee involvement contributes to improvements in organizational productivity.

2.2 Work Teams

Teams are employee involvement programs characterized by a high level of involvement over a wide range of issues and a new, flexible form of work organization. Teams may have different forms, depending on the degree of control possessed by team members. Lawler, Albers, and Ledford (1992) found that only 7 percent of surveyed firms has high-level teams. High-level teams typically delegate greater decision-making power to team members, and seek their input on broader, higher-level strategic issues. They also give team members greater access to proprietary business information (Kaufman, 2003). Teams usually includes a reduction of job classifications, cross-training of individuals for most jobs in a work group, and team responsibility for such previously separated functions as material handling, maintenance, quality control, and certain personnel decisions (Glassop, 2002; Kaufman, 2003; Lawler, Albers, and Ledford, 1992; Lawler, Mohrman, and Benson, 2001). Team production systems and gain sharing are particularly potent programs according to most evaluations. Although very different in some respects, teams and gain sharing both incorporate major changes in both work organization and compensation, along with an emphasis on moving decisions downward through employee participation, supplemented by joint union-management committees in the organized companies. The American team production model begins with socio-technical job design and the use of collaborative work groups and, frequently, self-directed teams, but incorporates an eclectic set of ideas from other sources: just-in-time inventory from the Japanese, total quality and statistical process control from Deming's ideas, incentive and compensation structures developed in the American HR model, and a uniquely American form of labor-management partnership grow out of the American experience with collective bargaining and joint Quality Work Life (QWL) activities. It incorporates a real redistribution of power and authority in the workplace.

2.3 Quality of Work Life

Concerns for employees' well-being and long-term labor-management cooperation after World War II, academics regenerated the merit of cooperative labor-management relations for the advantage of both parties. Advocated by academic community in the early 1970s, many workplaces established cooperative labor-management programs (i.e., QWL). The most well-known example was the QWL programs launched by General Motors Corporation with the United Automobile Workers of America (UAW). The purposes of the programs were intended to improve all aspects of life in the workplace. Furthermore, in the late 1970s and early 1980s, the economic downturn and intensified international competition facing basic U.S. industries led to another wave of the QWL movement in the early 1980s. Many companies (e.g., Ford, Xerox, AT&T, etc.) and unions (e.g., the UAW and the Communication Workers of America) began to get involved in QWL programs.

In unionized settings, typical QWL programs consist of a joint labor-management committee structure, responsible for the direction of the program. The joint committees are a parallel structure between labor representatives and management. QWL programs usually do not deal with collective bargaining issues which are traditionally handled by unions. Nonetheless, many unions are, in general, skeptical of the real intention of QWL programs that might undermine the collective bargaining arrangements and thus union legitimacy as labor's representatives. The objectives of QWL programs are diverse, including improving product quality and the quality of work life, and/or enhancing firm performance (Wilson et al., 2004; Scott, Bishop and Chen, 2003). To achieve these objectives, joint problem-solving groups are formed to improve work method and working conditions (e.g., physical surrounding, safety, etc.). Training is an important element for the effectiveness of QWL programs. Program participants are in general provided with some training in problem solving and skill building. Information about the business situation may be provided by the company to the groups.

2.4 Quality Circles

In view of intensified competition and the success of Japanese manufacturing firms in the late 1970s, many American firms started searching for the success factors underlying Japanese success. One of the critical elements in the Japanese success was their widespread use of quality circles (QCs) to improve product quality and consequently increase their market share in world markets. To improve their competitiveness, many American firms started mimicking the Japanese way of organizing work in the workplaces by implementing quality circles.

Quality Circles (QCs) are small groups of employees, led by a supervisor, who meet on a regular basis to identify, to analyze quality-related problems, and to suggest methods to improve quality and productivity (Daily and Bishop, 2003; Takeuchi, Wakabayashi and Chen, 2003). The members of most QCs are volunteers from the same work area or from related areas. In many cases, not all members of the work area are involved and membership tends to change over time. QCs may only include blue-collar, non-managerial employees or cover the broad spectrum of the entire organization. Issues and authority for QCs are limited. QCs have no formal authority in the organization but are able to make suggestions. The agenda of most QCs are limited to quality- and/or productivity-related issues. Also, they do not cause a threat to managerial prerogatives in the organization. In general, little information about business operations is provided by management to QC participants.

Like QWL, most QC programs emphasize training in problem-solving techniques and group process. The training may include statistical process control methods as developed by Edward Deming. Deming's approach to management is similar to Taylorism but uses statistical methods and relies on educated workers to improve quality and productivity simultaneously, rather than focusing only on productivity improvements derived from the detailed division of labor and the separation of conception and execution. QCs may reduce costs, improve productivity, and enhance morale,

motivation, as well as self-development among workers. QCs are a way of recognizing that the information and knowledge that employee participants have can contribute to process improvement and are an important form of employee involvement.

2.5 Suggestion Systems

Suggestion systems are the most popular employee involvement programs in the workplace. These systems have been regarded as one of the most important features of modern production systems (Frse, Teng and Wijnen, 1999; Imai, 1986; Juran and Gryna, 1993; Taira, 1996). This participatory scheme normally gives employees only opportunities to make suggestions concerning the workplace issues, such as personnel and production. Nonetheless, decisions at higher level are not subject to these systems. In addition, suggestions made by employees may not be adopted and final decision power is still held by management. Thus, this type of employee involvement is low in terms of the degree of discretion employees can exercise.

2.6 Joint Labor-Management Committees

Joint labor-management committees are *ad hoc* joint governance structures in the workplace. The degree of discretionary power enjoyed by employees varies across countries. For instance, in Germany, members of works councils tend to have higher degrees of legally mandated participatory rights, compared to their counterparts in the United States. These committees deal primarily with workplace issues, such as safety and grievances, personnel matters, etc. They may also deal with production-related issues, such as quality control and cost reduction. To some extent, these committees resemble quality of work life programs. Roberts (2004) suggested that, to develop strategies to enhance labor-management cooperation, organizations can establish joint labor-management committees to collaborate with workers and their representatives to solve workplace disputes. By doing so, the level of trust and communication

increases.

3. ANALYTIC FRAMEWORK AND HYPOTHESES

Confronted with increasing competition in the markets, many firms have initiated new forms of work organization in recent years. One of such efforts is the adoption of employee involvement programs (Juran and Gryna, 1993; Womack, Jones, and Roos, 1990). As discussed above, employee involvement takes many forms, varying in the degree and scope of employee participation in decision-making. The popular forms of employee involvement consist of work teams, quality of work life programs, quality circles, suggestion systems, and labor-management committees. One of the primary objectives of these employee involvement programs is to solicit information, knowledge, wisdom, as well as commitment to improve firm performance (Frese, Teng, and Wijnen, 1999; Womack and Jones, 1996). The most common method is to share information with employees on firm operations related to employees' interests and firm performance (IDE, 1976). In doing so, employees could have much better understanding of business situations and their interests, and might foster their commitment to the organizational goals. Florkowski and Schuster (1992) have suggested degrees of employee participation in decision making have significantly positive impact on employees' organizational commitment. Firms seeking commitment from their employees are likely to share information in business operations by adopting certain kinds of employee involvement. Thus, we hypothesize,

Hypothesis 1a. High-level work teams will be positively associated with non-managerial participation in information sharing.

Hypothesis 1b. Medium-level work teams will be positively associated with non-managerial participation in information sharing.

Hypothesis 1c. Work teams will be positively associated with non-managerial participation in information sharing.

Hypothesis 1d. Quality of work life programs will be positively associated with non-managerial participation in information sharing.

Hypothesis 1e. Quality circles will be positively associated with non-managerial participation in information sharing.

Hypothesis 1f. Suggestion systems will be positively associated with non-managerial participation in information sharing.

Hypothesis 1g. Labor-management committees will be positively associated with non-managerial participation in information sharing.

To foster employee commitment and motivation, management must allow employees to get involved in decision-making. Indeed, research shows that the degree of employee participation in decision making can enhance employees' job satisfaction and organizational commitment which in turn heighten work motivation (Alatrasta and Arrowsmith, 2004; Silverthorne, 200). In particular, when employees have some decision-making rights on matters related to their individual interests and welfare, they tend to display higher positive work attitudes and behaviors (Scott, Bishop, and Chen, 2003). With respect to their interests and welfare, employees are most concerned with their rights in personnel-related issues, such as reasonable work rules, improved working conditions, equitable pay and other compensation, staffing policies, developmental opportunities, social events, job design, as well as workplace safety and health (Ariss, 2003; IDE, 1976). These personnel-related issues are subject to the discussions in many employee involvement programs such as quality of work life programs, joint labor-management committees etc. Thus, we hypothesize,

Hypothesis 2a. High-level work teams will be positively associated with non-managerial participation in personnel-related decisions.

Hypothesis 2b. Medium-level work teams will be positively associated with non-managerial participation in personnel-related decisions.

Hypothesis 2c. Work teams will be positively associated with non-managerial participation in personnel-related decisions.

Hypothesis 2d. Quality of work life programs will be positively associated with non-managerial participation in personnel-related decisions.

Hypothesis 2e. Quality circles will be positively associated with non-managerial participation in personnel-related decisions.

Hypothesis 2f. Suggestion systems will be positively associated with non-managerial participation in personnel-related decisions.

Hypothesis 2g. Labor-management committees will be positively associated with non-managerial participation in personnel-related decisions.

Besides personnel issues, management also wants employees to help enhance firm performance by making suggestions and taking actions to improve business operations, such as quality management, equipment maintenance, cost saving, and production efficiency (Campell, et al., 1993; Frese, Teng, and Wijnen, 1999; Womack and Jones, 1996). In a recent study of the suggestion system, Jaarsverslag (1996) found that the cost savings from the system of the studied firm were approximately 1.5 million Dutch guilders. Many employee involvement programs truly channel employees' efforts into this direction. For instance, quality circles, usually implemented by firms adopting TQM intervention, attempt to solicit employees' input in quality management processes (Snell and Deans, 1992, 1996). Work teams, the currently noticed programs, even involve employees in such decisions much deeper than other programs. In a recent study of high-level employee involvement, Kaufman (2003) found that high-level employee involvement programs (e.g., self-managed work teams) are qualitatively different from low-level programs in that these programs delegate greater decision-making power to team members in a wider range of decision areas, including production. Thus, we hypothesize,

Hypothesis 3a. High-level work teams will be positively associated with non-managerial participation in production-related decisions.

Hypothesis 3b. Medium-level work teams will be positively associated with non-managerial participation in production-related decisions.

Hypothesis 3c. Work teams will be positively associated with non-managerial participation in production-related decisions.

Hypothesis 3d. Quality of work life programs will be positively associated with non-managerial participation in production-related decisions.

Hypothesis 3e. Quality circles will be positively associated with non-managerial participation in production-related decisions.

Hypothesis 3f. Suggestion systems will be positively associated with non-managerial participation in production-related decisions.

Hypothesis 3g. Labor-management committees will be positively associated with non-managerial participation in production-related decisions.

In order to let employees to have sufficient knowledge of the firm's situations and build mutual trust between employees and the firm, management may allow employees to participate in decision making in the area of business strategies, such as investment policies, profit allocation, corporate finance, and planning (Lorenz, 1992). In high-level employee involvement programs, employees tend to have more decision-making rights than their counterparts in low-level programs. Kaufman (2003) indicated that high-level employee involvement programs (e.g., self-managed work teams) typically delegate greater decision-making power to employees and solicit their input on broader and more strategic issues. Nonetheless, low-level employee involvement programs may somehow give certain decision-making power to their non-managerial employees on certain strategic issues but with less influence (Pierce, O'Driscoll, and

Coghlan, 2004). Thus, we hypothesize,

Hypothesis 4a. High-level work teams will be positively associated with non-managerial participation in strategic decisions.

Hypothesis 4b. Medium-level work teams will be positively associated with non-managerial participation in strategic decisions.

Hypothesis 4c. Work teams will be positively associated with non-managerial participation in strategic decisions.

Hypothesis 4d. Quality of work life programs will be positively associated with non-managerial participation in strategic decisions.

Hypothesis 4e. Quality circles will be positively associated with non-managerial participation in strategic decisions.

Hypothesis 4f. Suggestion systems will be positively associated with non-managerial participation in strategic decisions.

Hypothesis 4g. Labor-management committees will be positively associated with non-managerial participation in strategic decisions.

4. METHODS

4.1 Data and Model

The data were drawn from Minnesota Human Resource Practices Survey (MNHRPS) data set. MNHRPS data were collected by our survey of firm-level human resource management practices, conducted in Minnesota in 1994. Our sampling frame consists of 290 publicly-traded firms derived from Compact Disclosure data set and 313 privately-traded ESOP firms obtained from the ESOP Association in Minnesota. The former represents the population of Minnesota publicly-traded firms as of

1993. I employed Dillman's Total Design Method in administering the surveys for all firms selected (Dillman, . After three-wave surveys and follow-up, 177 surveys were returned from the respondents of publicly-traded firms and 133 were returned from privately-traded firms, representing the response rates of 61% and 36%, respectively. Among the respondents, 74.4 percent of the respondents were executives in charge of human resources affairs, 14.1 percent were CEOs or presidents, 11.5 percent were vice presidents for administration, finance, or others. In this study, 275 usable questionnaires were used for data analyses.

In this paper, we examine the effects of major popular employee involvement programs in the United States, including work teams, quality of work life programs, quality circles, suggestion systems and joint labor-management committees.

The empirical models for the equations is as below,

$$C = f(EI, Z)$$

where, C denotes the degree of control held by non-managerial employees in decision-making areas, EI represents a vector of different employee involvement programs, and Z is a vector of control variables. The empirical models were analyzed using OLS regression method.

4.2 Dependent Variables

Our dependent variables comprise four variables measuring the degree of employee participation of non-managerial employees in organizational decision-making areas. This section discusses these variables in more detail.

Information sharing. This variable measures the degree of information management shares with non-managerial employees. In the questionnaire survey, I asked the respondents to answer the questions: 'to what extent does management share information with non-managerial employees in the

following areas, including investment policies, production planning, human resources planning, profitability, and corporate finance. I used five-point Likert scale to measure the degree of information in each area (1 = no, 2 = little, 3 = some, 4 = moderate, and 5 = full). To create a variable measuring the degree of information sharing, I added up the scores for all five questions and generated the average score by dividing the aggregated score by the number of five.

Personnel-related issues. This variable measures the degree of employee involvement in personnel issues. In the questionnaire survey, I asked the respondents to answer eight questions: 'to what extent do non-managerial employees participate in the following issues, including work rules, working conditions, pay and other compensation, selection of personnel, training and development, social events, job redesign, as well as safety and health. Five-point Likert scale was used to measure the degree of employee involvement in each issue (1 = no, 2 = little, 3 = some, 4 = moderate, and 5 = full). To create a variable measuring the degree of employee involvement in personnel issues, we added up the scores for all these eight questions and generated the average score by dividing the aggregated score by the number of eight.

Production-related issues. This variable measures the degree of employee involvement in production-related issues. This measure was calculated by averaging the scores from respondents for all production-related questions. In the questionnaire survey, I asked the respondents to answer three questions: 'to what extent do non-managerial employees participate in the following issues, including equipment maintenance, selection of materials, and selection of new equipment. Five-point Likert scale was used to measure the degree of employee involvement in each area (1 = no, 2 = little, 3 = some, 4 = moderate, and 5 = full). The high score represents that non-managerial employees enjoy a high degree of participation in production-related issues.

Business strategy. This variable measures the degree of employee involvement in the area of business strategy. In the questionnaire survey, I designed four questions concerning strategic decisions in the firm,

including investment policies, production planning, profit allocation and corporate finance. I used five-point Likert scale to measure the degree of employee participation in each issue (1 = no, 2 = little, 3 = some, 4 = moderate, and 5 = full). To create a variable measuring the degree of employee involvement in strategic issues, I summed the scores for all these questions and generated the average score by divided the aggregated score by the number of four.

4.3 Independent Variables

Our key independent variables consist of seven variables, representing diverse types of employee involvement programs. These involvement programs differ in terms of the nature and scope they offer non-managerial employees rights to participate in decision-making at the workplace. Higher level of involvement tends to have substantive impacts on the control of non-managerial employees.

HI_TEAM. This variable represents the presence of the highest degree of employee involvement in the organization. In our analysis, diverse employee involvement programs are not mutually exclusive and sometimes co-exist. In other words, some firms may simultaneously have different types of employee involvement programs. Thus, the co-existence of different employee involvement programs illustrates that the degree of control held by non-managerial employees tends to be higher than other arrangements. *HI_TEAM* is a dummy variable; if the firm simultaneously has four employee involvement programs (including teams, quality of work life, quality circles, and suggestion systems), then *HI_TEAM* = 1; otherwise, *HI_TEAM* = 0.

MI_TEAM. This variable represents the presence of the medium degree of employee involvement in the organization. *MI_TEAM* is a dummy variable; if the firm simultaneously has at least two employee involvement programs (including teams and quality of work life), then *MI_TEAM* = 1; otherwise, *MI_TEAM* = 0.

TEAM. This variable measures the incidence of work teams only in the organization. If the firm has teams, then $TEAM = 1$; otherwise, $TEAM = 0$.

QWL. This variable measures the incidence of quality of work life programs in the organization. If the firm has quality of work life programs, then $QWL = 1$; otherwise, $QWL = 0$.

QCs. This variable measures the presence of quality circles in the organization. If the firm has quality circles, then $QCs = 1$; otherwise, $QCs = 0$.

SUGGEST. This variable measures the incidence of suggestion systems in the organization. If the firm has suggestion systems, then $SUGGEST = 1$; otherwise, $SUGGEST = 0$.

COMMITTEE. This variable measures the presence of labor-management committees in the organization. If the firm has labor-management committees, then $COMMITTEE = 1$; otherwise, $COMMITTEE = 0$.

5. RESULTS

Descriptive statistics and bivariate correlations of all variables in this study are reported in Table 1. Multiple regression analysis method was employed to test the relationships between employee involvement variables and the degrees of control held by non-managerial employees. Because of high correlations among the majority of employee involvement variables in my sample, I separated the analyses for each employee involvement variable in the four decision-making areas discussed above. Table 2 reports the results of the regression analyses for the effects of employee involvement variables on the discretion of non-managerial employees in the area of information sharing. From Equation (1) to Equation (7), I examined the effects of different employee involvement variables on the

dependent variable, without entering control variables in these models. Results indicated that all of employee involvement variables were positively associated with the dependent variable, consistent with Hypotheses 1a to 1g. Except the coefficient of COMMITTEE, statistical significance was found for the coefficients of other independent variables, namely HI_TEAM ($p < .01$), MI_TEAM ($p < .01$), TEAM ($p < .01$), QWL ($p < .01$), QC ($p < .01$), and SUGGEST ($p < .05$). When control variables were entered from Equations (8) to (14), similar results were found for all the models, although the magnitudes of the effects for most employee involvement variables slightly decreased and four coefficients were statistically significant, including HI_TEAM, MI_TEAM, TEAM, and QWL. In general, the results tended to support Hypotheses 1a-1d.

Table 3 reports the results for the regression analyses of the effects of employee involvement programs on the discretion of non-managerial employees in the area of personnel-related issues. Hypotheses 2a-2g suggest that employee involvement programs would likely to enhance the degree of non-managerial employees' control and participation in decision-making. From Equation (1) to Equation (7), I tested the hypotheses without including other control variables mentioned above. Results showed that the coefficients of five employee involvement variables are positive and statistically significant, including HI_TEAM ($p < .01$), MI_TEAM ($p < .01$), TEAM ($p < .01$), QWL ($p < .01$), and COMMITTEE ($p < .05$). When control variables were entered into the equations, statistical significance was still found for the coefficients of these five variables, though the magnitude associated with each variable slightly changed. Thus, the results seemed to support Hypotheses 2a, 2b, 2c, 2d, and 2g.

Table 4 presents the results of the testing of Hypotheses 3a-3g, suggesting that employee involvement programs increase the degree of participation by non-managerial employees on decision-making in the area of production-related issues. From Equations 3a-3b, similar to the previous results, I found that all employee involvement variables were positively associated with the dependent variable and five of them had significant and positive effects on the degree of discretion of non-managerial employees in the area of production-related issues. These variables consist of HI_TEAM

($p < .01$), MI_TEAM ($p < .01$), TEAM ($p < .01$), QWL ($p < .01$), and COMMITTEE ($p < .05$). With control variables entered in Equations (8)-(14), HI_TEAM became statistically insignificant, though still positive related to the degree of employee participation. These results tended to support Hypotheses 3b, 3c, 3d, and 3g.

Hypotheses 4a-4g relate to the effects of employee involvement programs on the degree of control held by non-managerial employees in the area of strategic issues. I tested these hypotheses and found that four employee involvement variables had significant and positive impacts on the degree of the control of non-managerial employees in the strategic issues, with all control variables included. Table 5 reports the regression results for the hypothesis testing. Although coefficients for QCs, SUGGEST and COMMITTEE were positive, none of them reached statistically significant level at $p < .10$. Thus, only Hypotheses 4a, 4b, 4c, and 4d were supported.

Table 1. Descriptive statistics and correlations

Variables	Mean	S.D.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	
1. information sharing	3.036	0.991	1.000																			
2. personnel-related issues	2.83	0.70	0.52**	1.00																		
3. production-related issues	2.67	0.88	0.43**	0.60**	1.00																	
4. strategic issues	1.66	0.55	0.41**	0.52**	0.40**	1.00																
5. HI_TEAM	0.03	0.18	0.24**	0.30**	0.15*	0.18*	1.00															
6. MI_TEAM	0.11	0.31	0.28**	0.37**	0.28**	0.19**	0.55**	1.00														
7. TEAM	0.29	0.45	0.21**	0.39**	0.28**	0.26**	0.29**	0.54**	1.00													
8. QWL	0.17	0.37	0.25**	0.32**	0.26**	0.20**	0.42**	0.77**	0.35**	1.00												
9. QCs	0.19	0.39	0.19**	0.14	0.10	0.13	0.39**	0.38**	0.26**	0.44**	1.00											
10. SUGGEST	0.55	0.50	0.17*	0.09	0.06	0.00	0.17**	0.21**	0.22**	0.28**	0.27**	1.00										
11. COMMITTEE	0.15	0.35	0.10	0.15*	0.17*	0.07	0.12**	0.13*	0.18**	0.19**	0.13*	0.08	1.00									
12. Importance of the core employees	4.40	0.68	0.12	0.18**	0.09	0.14*	0.06	0.04	0.04	0.03	0.00	-0.01	0.00	1.00								
13. Promotion-from-within policy	0.93	0.25	0.15*	0.09	0.05	0.03	0.05	0.09	0.10	0.07	0.04	0.06	0.11	0.02	1.00							
14. On-the-job training	0.86	0.35	0.11	0.07	0.05	-0.03	0.07	0.14*	0.15*	0.12	0.13*	0.03	-0.04	0.18**	1.00							
15. Union status	0.13	0.33	-0.05	0.04	0.13	0.05	0.07	0.11	0.12	0.10	0.16**	0.03	0.34**	-0.12	0.00	0.04	1.00					
16. Bonus	0.29	0.45	0.20**	0.12	0.08	0.12	0.14*	0.14*	0.11	0.25**	0.12	0.17**	-0.04	-0.11	0.13*	0.12	0.01	1.00				
17. Skill level of the core employees	3.12	1.18	0.16*	0.24**	0.26**	0.28**	0.14*	0.14*	0.22**	0.12	0.02	-0.05	0.04	0.30**	-0.03	0.06	0.04	-0.03	1.00			
18. Blue-collar employees	3.53	0.76	-0.14	-0.04	-0.06	-0.15	-0.05	-0.07	-0.06	0.01	0.04	0.04	0.07	-0.04	0.02	-0.05	0.16*	0.06	-0.24**	1.00		
19. Board of director representation	0.11	0.31	0.19**	-0.02	0.04	0.12	-0.06	0.11	0.05	0.07	-0.13*	-0.03	-0.06	-0.06	-0.02	0.06	-0.09	0.05	0.01	-0.09	1.00	

* p < .05 ** p < .01

Table 2. Effects of employee involvement programs on the discretion of non-managerial employees: The area of information sharing

Independent variable	Information sharing													
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
HI_TEAM	309** (.378)							061** (.384)						
MI_TEAM		954** (.229)							591* (.245)					
TEAM			471** (.157)							358* (.174)				
QWL				661** (.185)							607** (.208)			
QCs					494** (.177)							287 (.189)		
SUGGEST						349* (.142)							232 (.162)	
COMMITTEE							270 (.196)							
Control variable														
Year of schooling								014 (.292)	037 (.293)	048 (.294)	039 (.289)	052 (.297)	059 (.297)	.388 (.218)
Importance of the core employees								280* (.118)	277* (.119)	281* (.118)	303* (.117)	261* (.120)	281* (.120)	072 (.294)
Promotion-from-within policy								553 (.376)	526 (.380)	489 (.384)	626 (.373)	652 (.382)	567 (.383)	293* (.119)
On-the-job training								228 (.278)	209 (.281)	241 (.277)	263 (.288)	197 (.289)	268 (.282)	544 (.383)
Union status								-292 (.248)	-307 (.250)	-329 (.241)	-318 (.246)	-349 (.243)	-453 (.250)	299 (.383)
Bonus								454* (.178)	500** (.177)	500** (.178)	435* (.179)	521** (.180)	508** (.180)	561** (.178)
Skill level of the core employees								262** (.073)	248** (.075)	257** (.075)	240** (.074)	282** (.074)	285** (.074)	284** (.074)
Blue-collar employees								-049 (.103)	-060 (.104)	-058 (.104)	-078 (.103)	-051 (.104)	-056 (.105)	-053 (.105)
Board of director representation								748** (.247)	620** (.248)	716** (.249)	654** (.245)	725** (.253)	701** (.252)	710** (.250)
Intercept	976** (.071)	926** (.072)	896** (.082)	909** (.076)	2,927** (.078)	829** (.105)	981** (.077)	1,168 (.168)	1,184 (.184)	1,183 (.183)	1,158 (.158)	1,191 (.191)	1,185 (.185)	1,178 (.178)
R ²	057	081	043	061	038	030	009	358	348	338	363	326	324	331
Adjusted-R ²	053	076	038	056	033	025	004	296	284	289	301	261	259	267
F	11.976**	17.352**	8.943**	12.803**	7.792**	6.079*	1.896	5.752**	5.493**	5.629**	5.877**	5.026**	4.987**	5.151**
Observations	199	199	200	199	200	200	200	114	114	115	114	115	115	115

Values in parentheses are standard errors

* p < .05 ** p < .01

Table 3. Effects of employee involvement programs on the discretion of non-managerial employees: The area of personnel-related issues

Independent variable	Personnel-related issues													
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
HI_TEAM	.045** (.236)							.806** (.289)						
MI_TEAM		.848** (.150)							.733** (.193)					
TEAM			.600** (.103)							.384** (.152)				
QWL				.567** (.122)							.831** (.156)			
QCs					.234 (.123)							.208 (.157)		
SUGGEST						.127 (.098)							.123 (.138)	
COMMITTEE							.284** (.137)							.384** (.181)
Control Variable														
Year of schooling														
Importance of the core employees														
Promotoin-from-within policy														
On-the-job training														
Union status														
Bonus														
Skill level of the core employees														
Blue-collar employees														
Board of director representation														
Intercept	.805** (.048)	.761** (.048)	.687** (.053)	.747** (.051)	.2802** (.054)	.777** (.073)	.2806** (.052)	.866** (.058)	.261* (.118)	.819# (.118)	.975* (.118)	.613# (.118)	.486 (.118)	.393 (.118)
R ²	.091	.140	.149	.100	.018	.008	.021	.173	.222	.163	.308	.123	.114	.147
Adjusted-R ²	.086	.135	.145	.096	.013	.003	.016	.089	.143	.077	.237	.033	.024	.059
F	19.45**	31.752**	34.076**	21.740**	3.621	1.658	4.295*	2.050*	2.797**	1.89#	4.367**	1.374	1.268	1.684*
Observations	197	197	196	197	197	197	197	109	109	108	109	109	109	109

Values in parentheses are standard errors
p < .10 * p < .05 ** p < .01

Table 4. Effects of employee involvement programs on the discretion of non-managerial employees: The area of production-related issues

Independent variable	Production-related issues													
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
HI_TEAM	.742* (.358)							.447 (.389)						
MI_TEAM		.818** (.208)							.482* (.234)					
TEAM			.551** (.138)							.311# (.166)				
QWL				.602** (.161)							.615** (.192)			
QCs					.215 (.162)							.197 (.174)		
SUGGEST						.107 (.127)							.055 (.148)	
COMMITTEE							.445* (.185)							
Control Variable														
Year of schooling														
Importance of the core employees														
Promotion-in-front-within policy														
On-the-job training														
Union status														
Bonus														
Skill level of the core employees														
Blue-collar employees														
Board of director representation														
Intercept	.624** (.064)	.570** (.064)	.508** (.071)	.543** (.067)	.613** (.070)	.593** (.095)	.594** (.067)	.017** (.106)	.303* (.108)	.066** (.104)	.084** (.101)	.006** (.106)	.920** (.106)	.734** (.105)
R ²	.022	.076	.078	.069	.009	.004	.030	.207	.231	.226	.274	.209	.199	.222
Adjusted-R ²	.017	.071	.073	.064	.004	-.001	.124	.150	.198	.146	.198	.126	.116	.141
F	4.292*	15.491**	15.942**	13.920**	1.748	2.488*	2.853**	2.809**	3.596**	2.860**	3.532**	2.388*	2.742**	2.742**
Observations	190	190	191	190	191	191	191	106	106	107	106	107	107	107

Values in parentheses are standard errors
p<.10 ** p<.05 *** p<.01

Table 5. Effects of employee involvement programs on the discretion of non-managerial employees: The area of business strategy

Independent variable	Business strategy													
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
HI_TEAM	.593* (.233)							.688* (.298)						
MI_TEAM		.357** (.134)							.291# (.164)					
TEAM			.316** (.084)	.291** (.101)						.256* (.113)	.416** (.137)			
QWL					.177# (.098)							.164 (.123)		
QCs													.027 (.103)	
SUGGEST						-.002 (.074)								
COMMITTEE							.097 (.106)							
Control Variable														
Year of schooling														
Importance of the core employees														
Promotoin-from-within policy														
On-the-job training														
Union status														
Bonus														
Skill level of the core employees														
Blue-collar employees														
Board of director representation														
Intercept	644** (.037)	631** (.038)	581** (.041)	615** (.039)	629** (.040)	661** (.054)	646** (.040)							
R ²	.032	.035	.067	.040	.016	.000	.004	.222	.204	.222	.252	.193	.178	.178
Adjusted-R ²	.027	.030	.063	.035	.011	-.005	-.000	.139	.120	.138	.172	.107	.091	.091
F	6.542*	7.106**	14.092**	8.240**	3.272#	.001	8.31	2.682**	2.416*	2.655**	3.162**	2.253*	2.044*	2.046*
Observations	198	198	197	198	198	198	198	105	105	104	105	105	105	105

Values in parentheses are standard errors
p < .10 * p < .05 ** p < .01

6. DISCUSSIONS

This study examined the effects of employee involvement programs on the degrees of control of non-managerial employees in four decision-making areas. Consistent with my analytic framework and hypotheses, to some extent, I found employee involvement currently operating in the United States had positive effects on the degree of employee control. Facing the increasingly volatile business environments in recent years, organizations have searched new forms of work organization to improve competitive advantage. Employee involvement has been promoted as one of the most useful management tools to enhance a firm's competitiveness. Its primary function is to channel employees' suggestions, knowledge, and/or wisdom into decision-making processes related to business operations or employees' motivation at workplace and/or firm levels through a formal participation mechanism. Most employee involvement programs popular in the United States attempt to accomplish these two objectives with the ultimate goal of competitiveness enhancement. Thus, the results showed no negative relations between any employee involvement program and the control of non-managerial employees. In addition, most employee involvement programs had significant impacts on the control of non-managerial employees, measured by four decision areas including strategic, production-related, personnel-related and information issues at the workplace. These results indeed reflect some kinds of transformation of work organization taking place in American workplace in the past decade, with an emphasis of increasing the influence of non-managerial employees in decision-making.

Another interesting finding in this study was that the magnitude of the effects on the control of non-managerial employees varied across diverse employee involvement programs. In particular, those programs with high degrees of employee involvement tended to have larger impacts on the control of non-managerial employees than other low-degree employee involvement programs. These results seemed to prove the argument made by Levine and Tyson (1990) that only substantive employee participation

leads to meaningful employee influence in decision making. Indeed, empirical evidence shows that work teams, particularly self-managing work teams, usually empower employees by entrusting them with greater rights to participation in decision making than other programs. In contrast, consultative employee involvement gives employees very limited participation rights to decision-making, like quality circles and suggestion systems do. Thus, we usually found that quality circles and suggestion systems had insignificant impacts on the control of non-managerial employees. These findings can be explained by the social contexts in which these participatory arrangements are embedded. The attempts to implement democratic participation in the workplace posed a threat to dominant economic arrangements favoring capitalist control. Industrial democracy was regarded as a secondary issue, as the firms blended in to the dominant economic system (Hammer and Stern, 1980).

7. CONCLUSIONS AND SUGGESTIONS

In recent years, employee involvement has gained attention by academics and practitioners. A body of research has been accumulated to examine the impacts of this new form of work organization on these aspects. Practitioners are also eager to know the effectiveness of various employee involvement programs in terms of their effects on employees' attitudes and behaviors, as well as firm performance. Without digging into the nature of diverse employee involvement programs, it is difficult to know the reasons why some employee involvement programs outperform others in evaluating the effects of these employee involvement programs on firm performance. I suggest that researchers should investigate the effects of employee involvement programs on the control of non-managerial employees in order to know better the differences among diverse employee involvement programs. This study demonstrates that employee involvement programs indeed enhance the control of non-managerial employees through management sharing of information with them and their participation in decision-making in personnel-related, production-related as well as strategic issues. In particular, those programs

with higher levels of involvement tend to have larger effects on the control of non-managerial employees. Thus, the degree of control held by non-managerial employees depends on the types of employee involvement programs.

This study has filled the research gap in the area of employee participation by investigating the effects of employee involvement on the control of non-managerial employees in more detail. It found significantly positive effects of some employee involvement programs on the control of non-managerial employees and showed differences in the magnitude of the effects associated with different types of employee involvement. Although this study initiated such research effort, there are some limitations to be overcome in the future research. First, employee involvement programs surveyed in this study are nominal, without getting information about the contents and characteristics associated with these programs. Future research should collect much more detailed information on each employee involvement program. Second, respondents of the survey questionnaires were typically management, who might have prejudices on the questions related to the control of non-managerial employees. In order to objectively measure the degree of control of non-managerial employees, future research should collect data on the part of non-managerial employees to generate better measurements. Third, the sample of this study restricts to the case of Minnesota firms. Although it might show some evidence on employee involvement in the United States, more data should be collected from other part of the world in order to generalize the research results. Fourth, the time when the study was conducted might cause readers to be suspicious of the results of the study. The future research should collect new data on employee involvement in order to verify the validity of the findings of this study.

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員工參與對於員工控制的影響

韓志翔*

摘 要

本研究的目的是在於探討不同類型的員工參與對員工參與決策的程度影響。員工參與的類型包括建議制度，品管圈，工作生活素質方案，以及自主式管理團隊。這些參與制度的主要目的在於提升組織的生產力，品質，與員工滿意。雖然如此，不同參與類型對員工態度與組織績效的影響效果不同。本研究認為不同類型的員工參與授予員工不同程度的決策權。本研究的實證結果顯示，越高層次的員工參與授予越高程度的決策權，而低層次的參與僅給予員工有限的決策權。

關鍵詞：員工參與決策、工業關係、產業民主

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