AN EMPLOYEE PARTICIPATION CHANGE PROJECT AND ITS
IMPACT ON THE ORGANIZATION: A CASE STUDY

THESIS

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By

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The purpose of this study was to document and assess the consequences of implementing employee involvement in a manufacturing setting. Using a quasi-experimental design, the study utilized information from various sources of data including archives, interview, and questionnaire data for a three to four year period. Time series comparisons were used. The results indicated that production increased initially, but then dropped back to original level. Quality of products increased and continued to improve gradually. The highest rate of improvement was observed in safety. An attempt was made to measure current level of commitment at the plant but was unsuccessful due to a low return rate of questionnaires. Overall, data collected partially support the hypotheses. Implications for further research and practice are discussed.
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CHAPTER I

INTRODUCTION

In recent years there have been growing concerns in the United States with foreign business competition, Japanese in particular, in the marketplace. The trade deficit created by the Japanese glutting the market with their goods has created a major concern in U.S. industries, particularly high tech industries. Therefore, many U.S. manufacturing companies have been exploring different ways of increasing quality and quantity of production through innovative human resource management efforts as well as stepping up research for technological improvements. Many of these innovative work management styles tried in the United States are based on approaches used in foreign countries such as Japan. The question remains whether the success of these approaches is culturally, and situationally dependent or whether they can flourish in any culture and result in tangible improvements. Exploring this topic has been the prime, underlying motivation of this study.

Until the last decade or so, most organizations in the United States have been run according to the traditional models of work management. Donavan (1989) points out that in the traditional organization, jobs and departments only focus on small pieces of the whole process; accountability
is pushed upward at a time when it should be pushed down to the lowest operational unit. This division of the organization into functional units and single-skill jobs gives people a narrow focus. As a consequence of this narrow focus, workers lose sight of the overall process and overall goals. Improvement is always "someone else's job, problems are pushed upward, and people feel powerless" (Donavan 1989, p. 2). All this results in an uncertainty and lack of adequate commitment at a time when high commitment to getting the job done is essential. These organizational structures may also be limiting the ability to achieve a flexible work-force, capable of responding to rapidly changing requirements. Therefore, there seems to be a need for exploring options and moving beyond the traditional patterns of organization.

One of the basic directions for the evolution of the traditional organization is moving from a functional organization with highly specialized, single-skilled jobs to the creation of self-contained business units within which people have the skills that enable them to do the whole job. The basic premise is that this kind of organization results in greater identification with business goals and needs and increased flexibility (Donavan, 1988). Donavan also stresses that, to redesign, an organization's thinking needs to shift from focusing on the individual and basic task to
identifying whole processes and putting together a team who can carry out the whole process.

The second direction of this change is to "move from the planning, control and improvement to empowering the employees within the self contained units to not only do their work but to plan, control, and improve it as well" (Donavan, 1988; p. 4). This is the step that seems to be the most difficult to achieve in the hard-core, traditional structures.

The new forms of work organization which proliferated in 1970s were in many ways revolutionary and represented fundamental changes in the traditional organization. Essentially, these new forms involved reorganization of work and establishment of more democratic management of work. In the following sections a review of organizational change efforts aimed at moving the traditional organizations towards more open and less hierarchical systems will be presented. Many such change efforts have come under the banner of Quality of Work Life (QWL) programs which are always characterized by their focus on greater participation by workers, usually through labor-management teams (Wells, 1987). The structures and decision-making processes of these teams vary considerably within different industries. QWL programs have been called by many different names including participative management, employee involvement programs, quality circles (QCs), participative problem
solving, team management, and labor-management participation, all of which are, essentially, work reorganization programs encouraging greater worker participation.

Historically, participation has been seen as an avenue for achieving a variety of outcomes. Previous research has often cited participation in enhancing employee attitudes and behaviors. For example, Griffin and Bateman (1986) studied participation in conjunction with satisfaction, and Munchus (1983) has linked organizational commitment to both satisfaction and participation. But a broad review of the literature proves inconsistent regarding the effects of participation on various outcomes. At one point participation was believed to lead to employee satisfaction and therefore higher productivity and other tangible outcomes such as better quality. The research on which these beliefs was based has been questioned by more recent investigators for methodological deficiencies (Miler & Monge, 1986; Wagner & Gooding, 1987).

Participation methods such as QCs are hoped to achieve better overall organizational performance through two phenomena, the first of which is aggregation of better individual performances. Second, participation is expected to lead to tangible and objective suggestions and methods which will in turn lead to such direct benefits as lower costs, improved quality, and more efficient work procedures.
Employee Involvement

Employee involvement methods such as "work teams" and "work groups" have been the topic of many discussions in organizational effectiveness (e.g., Brammel & Friend, 1987; Marks, Hackett, Mirvis & Grady, 1986; Sudstrom, DeMeuse & Futrell, 1990; Zelner, 1989).

In a comprehensive review Bramel and Friend (1987) identified several periods at which worker power within industries peaked and democratic and group-oriented methods were advocated. Following is a brief review of these periods.

Evolution of Worker Participation

According to Bramel and Friend (1987) the period of 1964 to 1974 was a time of rising popular movements, such as the student anti-war and civil rights movement which challenged the authority structures. This period witnessed a weakening of the power that management could exert over labor and an increase in worker independence. Therefore the industry welcomed the advice of academics and those in government (e.g. Work in America) who promised that the use of more democratic methods such as semi-autonomous work groups and quality circles would increase worker satisfaction and productivity.

The developments in the United States were influenced by the studies in other countries. One of the more extensive of these democratic effects was the sociotechnical
systems concept developed by the Tavistock Institute. These efforts have generally attempted to develop a better "fit" between the technology, the organizational structure, and the social interaction of a particular production unit (French & Bell, 1984). The sociotechnical approach focused on the face to face work group and its technical and social interdependence (Cherns, 1987).

In India the researchers at a textile weaving mill used increased job scope and semi-autonomous work groups to gain beneficial consequences (Rice, 1953). The term "semi-autonomous groups" has been gradually replaced by the term "self-managing groups" (Emery, 1980).

In a mid 1970's study researchers reintroduced a team approach in a British coal mine and accrued a number of benefits such as improved productivity, safety, and morale (Trist, Higgins, Murray & Pollack 1985). Other experiments with work groups took place in Scandinavian countries where both government and industry were particularly sensitive to the disenchantment of young workers who were refusing to work. These experiments were therefore backed by labor, government, and corporations (Katz & Kahn, 1978).

In the United States, less extreme interventions took place in the form of work redesign, job enrichment or enlargement, and participation. Greater worker control, enlarged jobs and opportunity for participation in decision making, and problem solving were believed to increase the
intrinsic value of work and reduce job stress. This, therefore, provided more healthy psychological and physical environments which would in turn result in higher productivity.

In the 1970's there was a proliferation of new projects aimed at improving the quality of working life (QWL), the quality of union-management relationships, and organizational effectiveness (Donavan, 1989). These new forms of work organization represented fundamental changes in how labor and management could work together, how work could be organized, and how organizations might be designed (Donavan, 1989).

In recent years the team concept has been spreading rapidly in industries such as autos, aerospace, electrical equipment, electronics, food processing, paper, steel, and financial services (Zellner, 1989). Although work teams are different from company to company, they generally include "5 to 12 unskilled workers who rotate jobs and produce an entire product or service with minimal supervision" (Business Week, 1989; p. 57).

Work Team Effectiveness

Work team effectiveness is dynamically intercorrelated with "organizational context, boundaries and team development" (Sundstrom, DeMeuse, & Futrell, 1990; p. 124). Organizational context includes features from the organization such as reward systems and training resources
which are external to the work team. These factors have a
direct impact on team effectiveness by providing resources
needed for team performance and continued viability.

In an organization, boundaries both separate and link
work teams (Alderfer, 1987; Friedlander, 1987). Sundstrom,
DeMeuse, and Futrell (1990) describe boundaries as features
that "differentiate a work unit from others, provide a
barrier to access, or transfer of information, goods or
people" (p. 121). A group's effectiveness within it's
context is partly defined by its boundaries. If the
boundaries are too open the group can be overwhelmed and
lose its identity. If the boundaries are too exclusive then
the group can lose touch with peers, customer, managers, or
suppliers (Alderfer, 1987).

Types of work Teams

There is little evidence on how widely work teams are
used or whether their use is expanding. However,
introduction of autonomous work groups was reported to be
the most common intervention in 134 experiments in
manufacturing firms (Pasmore, Francis, Haldeman, & Shani,
1982). Following sections present an overview of two broad
and popular types of work teams, quality circles and special
purpose teams.

Quality Circles. In the 1970's problem solving teams
or "Quality Circles" began to gain widespread adoption in
the United States. The primary focus of quality circles
tends to be maintaining and enhancing product quality (Zellner, 1989).

Quality circles have been extensively used in Japan since the 1950's and 1960's introduction of quality control techniques by Deming and Juran (Drucker, 1980). Quality circles were born out of Ishikawa's integration of quality control techniques with the theories of American behavioral scientists such as Maslow, McGregor, and Herzberg (Dewar, 1980).

Quality circles generally consist of a group of seven to ten voluntary employees and their supervisors who have agreed to meet together regularly to analyze and make proposals about product quality and other problems (French & Bell, 1984). The group meets once a week on company time and makes recommendations to a coordinating or steering committee. Usually the meetings are chaired by the supervisor or by an employee elected from the group. Generally the supervisor and the group are trained in problem identification, problem solving procedures, statistical control procedures, and sometimes, group dynamics (French & Bell, 1984). The groups use this training to identify and solve work related problems and to set workable goals during regular meetings.

With the exception of a few studies, almost all literature reviewing quality circles has praised them for their impact on organizational effectiveness (e.g.,
Bencoster, 1983; Hunt, 1981). Among the list of organizational and individual outcomes that contribute to organizational effectiveness and which are claimed to be affected by quality circles process are productivity (Bencoster, 1983), quality (Hunt, 1981), absenteeism (Hunt, 1981), job satisfaction (Jenkins & Shimada, 1984), organizational commitment (Benjamin, 1983), and morale (Horn, 1982; Seybolt & Johnson, 1984, 1985). Barrick and Alexander (1987) also stated that cognitive and motivational benefits may accrue from enhanced hierarchical and lateral communication, increased feedback, and goal-setting, as well as the group process itself.

Special Purpose Teams

In the early to middle 1980s, special purpose teams began to grow out of the quality circles approach. These teams are still spreading, especially in the union sectors in the United States. These teams work to create an atmosphere for quality and productivity improvements by involving workers and union representatives in decisions at higher levels. Special purpose teams may be involved in designing and introducing work reforms and new technology, meeting with suppliers and customers, linking separate functions. In unionized places, labor and management collaborate on operational decisions at all levels (Zellner, 1989).
Work Team Development: An Organizational Change Project

Organizational change programs which introduce the team concept within an organization involve overall changes of the organization. These programs, as in any other change in work organization, are impacted by various factors which determine the direction, speed, and institutionalization of change within the organization.

Factors That Affect Organizational Change Projects

Goodman and Dean (1981) discussed the processes involved in the introduction and institutionalization of work organization projects such as QWL programs. These factors include training, commitment, reward allocation, diffusion and evaluation, and calibration.

Other important factors that affect the program include the structure of the program and organizational culture and characteristics. Structure of the program includes such things as the program's generality and the critical roles associated with the change (e.g., consultants, facilitators, etc.). Organizational characteristics include such things as existing values and norms, average worker skill-level, and labor-management relations.

Processes

In an organization, making changes of any significant magnitude involves the process of training the organization's members on the new work behaviors. Goodman and Dean (1981) discuss the three major situations in which
training is important: when the program is started, retraining after the program has been in place, and training the new members coming into the organization.

Training has been demonstrated to be of importance in manufacturing firms (Golembiewski and Carrigan, 1970; Ivancevich, 1974) and in an underground coal mine (Goodman, 1979). In most organizations initial training is extensive but retraining and training of new members are less consistent. Goodman and Dean (1981) found that programs in which attention was paid to these latter types of training were more likely to last.

Commitment is another process important to the longevity of a program. Commitment refers to the motivation of the organization's members to continue to perform the essential behaviors (Goodman & Dean, 1981). Commitment toward a behavior is increased when people voluntarily select that behavior in some public context. For example Goodman and Dean reported that an autonomous work group seemed to grow and develop when personal choices were carried out freely, but the growth declined when the organization required others to participate. Ivancevich (1972) demonstrated that the failure of a new work design program can be attributed to a lack of commitment, while Walton (1980) noted the importance of high levels of commitment in successful programs of work innovation.
A third process important to the survival and success of work innovation programs is reward allocation. "This is a process by which rewards are distributed to employees in connection with the change program" (Goodman & Dean, 1981; p. 8). Reward allocation is important in terms of the types of rewards available, the link between behaviors and rewards, and inequity in the distribution of the rewards.

In many organizational change efforts intrinsic rewards, such as autonomy and responsibility, were assumed to be sufficient in ensuring survival and institutionalization of the effort. This assumption was questioned by Goodman (1979) and Walton (1980). Goodman and Dean (1981) demonstrated that a combination of extrinsic (e.g., bonuses) and intrinsic rewards enhanced the institutionalization of the change program.

The link between the required behaviors and rewards is another issue in reward allocation. Statements by Vroom (1964) and Lawler (1971) indicate the importance of linking the rewards to the actual performance of the behaviors, as opposed to a mere participation in the program. Goodman and Dean (1981) also found a higher degree of institutionalization in programs where the links between performance and rewards were strong.

The potential for problems of inequity is another issue in reward allocation. Problems of inequity exist when employees feel they are not being fairly compensated for the
work they are doing. These problems often complicate new programs such as the 1979 study of autonomous work-groups in a coal mine (Goodman, 1979). The problem arose when the entire crew was to be paid the same (higher) rate, which was originally paid only to certain crew members.

The fourth process involves the spread of the change program from one part of an organization to another. Goodman and Dean (1981) call this process diffusion and emphasize the importance of it for a program's successful institutionalization. Goodman (1979) demonstrated that when an intervention failed to spread beyond the original target group, it was perceived as inappropriate. But a too rapid spread is also cautioned against, because widespread understanding, acceptance, and resources are deemed necessary to support such efforts (Goodman & Dean, 1981).

The last process important to the introduction and institutionalization of a work organization project is continual evaluation and calibration. Through evaluation the organization can find out how well the program is doing, learn from its mistakes, and take steps to correct problems. Walton (1980), who has undertaken a number of case studies in work reorganization, says that the lack of evaluation and calibration mechanisms is a major cause of the failure of institutionalization.
Organizational Characteristics

Organizational characteristics include aspects of the organization such as norms and values which will have an effect on the degree of success of a change program. Research has shown that congruence with organizational values and structure is essential for the success and institutionalization of the program. Previous researchers have found that congruence between the organizational change and policies (Fadem 1978), the authority system (Mohrman et. al. 1977), the skills of the employees (Walton, 1980), organizational norms and values (Levine 1980, Crockett 1977), and cultural norms and values (Miller, 1975) are of high importance.

Another organizational characteristic of importance is stability of the environment. Stability of the environment includes such external factors as the economic well-being of the market and forces which affect an organization's workload and therefore its workforce. Goodman and Dean (1981) discuss two cases where a decline in demand for the organization's product led to curtailment in the workforce. This lower demand led to changes in the composition of the work groups and ultimately affected the degree of acceptance and institutionalization of the change program.

Tichy (1977) notes that three major variables are important to assess in evaluating improvement programs: (a) the environmental context, (b) the actual program, and (c)
the outcomes. He also notes that an organization's climate or culture reflects the norms held by its members. Norms regarding change and improving the organization are of particular concern in evaluating an improvement program. Therefore, in evaluating a program it is absolutely necessary to ferret out, even if by inference, the assumptions and models that guide the program and to consider the environmental characteristics in respect to the organization.

Hypotheses

In summary, institution of organizational change efforts such as worker participation/employee involvement are presumed to have positive effects on two levels. At the individual level, these change efforts may result in improvements in attitudes and behaviors of the individual employees. For the organization as a whole, they may result in improved financial performance through higher productivity and better quality. Therefore, the following hypotheses will be tested in this research:

**Hypothesis 1.** Participants in employee involvement efforts will report an above average level of organizational commitment after the implementation of the program.

**Hypothesis 2.** Productivity of the organization will be at a higher level after the implementation of the program than before the program introduction.
Hypothesis 3. The product quality will be higher after the implementation of the employee participation program.

Hypothesis 4. The safety record of the organization will improve after the implementation of the program. These theories are consistent with the implicit theory underlying the use of participation methods and with the information available to date. The first hypothesis pertains to individual outcomes, and the latter three pertain to overall organizational benefits that should follow from the use of participation methods. In addition, other possible relationships between such variables as tenure and commitment will be investigated.
CHAPTER II

METHOD

Subjects

The subject group consisted of 97 employees of a division of a national snack foods manufacturing plant in the southwestern region of the United States. The sample included employees from all levels and all different work groups within the plant. All three shifts were equally represented in the sample.

The plant population was divided into nine work groups each of which consisted of 15 to 20 employees. All employees within the same team worked on one product line. The plant had a large population of long-tenure employees. The composition of the employee group was 44% female and 56% male with 38% of the population comprised of Hispanics.

Description of the Organization

The corporation involved in this study, a subsidiary of a Fortune 50 company headquartered in the southwest, operates snack food manufacturing plants as the manufacturing end of their operation. Each plant is typically staffed with one plant manager, and three other levels of management staff with level three being the first line supervisors who directly oversee the operation of each product line during each shift. The plants also employ a
number of production employees whose duties range from machine operators to packers. Production employees are divided into three basic groups: kitchen workers, packaging machine operators, and packers. The kitchen worker's job is typically more difficult and requires a higher level of understanding of the manufacturing process. The packer's job is more simple in nature and consists of packaging the product in boxes in the right quantity. Packing therefore, requires less "thinking" and more speed in performing the repetitive tasks. To facilitate the understanding of how work groups were formed in this organization, a brief review of the manufacturing process is provided.

The Production Operation From Start to Finish. The processing starts from the kitchen where the machine operators process raw materials and the finished product is sent over a wall, on conveyor belts to the other side where product packaging takes place. Once the product has gone over the wall from the kitchen, it goes through very sensitive scales, where the correct weight is proportioned for each package. The proportions then go through the packaging machine, which is constantly supervised by a packaging machine operator. It is the responsibility of the packaging machine operators to see that individual packages contain the correct amount of the product, are sealed properly, and list the correct expiration date.
From the time raw product reaches the kitchen to the time the individual packages are boxed and stored in the warehouse numerous problems can occur. The problems can usually be identified anywhere along the line but traditionally it is the supervisor's job to link all different components of each product line and ensure the goodness of the end result.

Environment. The location of this plant imposes some physical limitations on the plant, some of which lead to higher costs of operation. For example, the city charges higher rates for sewage and water service to the area of the plant's location, and city ordinances limit building structure which would allow modifications in the structure that would help run the plant more efficiently. Aside from impacting the physical nature of the plant, the area also provides for a unique plant cultural atmosphere. A review of the demographics and the culture of the area provides some insight into the nature of the existing workforce at the plant. Table 1 presents some highlights of the demographics of the city where the plant is located. A quick review of this table reveals that the area is highly influenced by the Hispanic culture, providing a different set of norms and values which in turn define the norms and values of the available work force.

Table 2 presents the available sources of employment within the city and reveals some important information about
Table 1

Demographics of the City

<table>
<thead>
<tr>
<th>Population*</th>
<th>Percentage</th>
<th>Income</th>
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<tbody>
<tr>
<td>Hispanic</td>
<td>53.69%</td>
<td></td>
</tr>
<tr>
<td>Anglos</td>
<td>38.9%</td>
<td></td>
</tr>
<tr>
<td>Blacks</td>
<td>7.34%</td>
<td></td>
</tr>
<tr>
<td>Ages 65 &amp; Up</td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td>Average Per Capita Income</td>
<td>--</td>
<td>$8,499</td>
</tr>
</tbody>
</table>

* Total area population = 915,000. 21% of the population and 17% of the families live below poverty.

Various sources of competition for the industry. A quick glance at this table reveals that the armed forces are the major source of employment in the area. Three major bases are housed at the heart of the city.

Next to armed forces, recreational facilities, restaurants, and hotels employ a large number of people. The city draws a large portion of its annual income from tourism. It is also important to note that the city government employs a large percentage of the unskilled, civilian workforce. Therefore, production workers, as indicated in the Table 2, make up a fairly small percentage of the workforce in the city.
Table 2

Percentage of the City Population in Each Employment Category

<table>
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<tr>
<th>Employment Source</th>
<th>Percentagesa</th>
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<tbody>
<tr>
<td>Armed Forces</td>
<td>53.6%</td>
</tr>
<tr>
<td>Civilian Labor</td>
<td>46.4%</td>
</tr>
<tr>
<td>Production Workers</td>
<td>2.75%</td>
</tr>
<tr>
<td>City Govt. Employment</td>
<td>1.4%</td>
</tr>
</tbody>
</table>

aTotal number of manufacturers in the area = 816. Average production wages = $12,371.

Predominant Features of the Plant. The influence of the area norms is highly visible at the plant. Table 3 reveals demographic highlights of the plant. This table shows that the number of males and females within the plant is approaching equality; however, most managerial jobs are occupied by white males. At the production level, packers and quality control technicians include the largest number of female employees. Although a large number of the production workers are Hispanic, only one member of the high second level management is of Hispanic descent.

It is important to note the difference between the average yearly income of plant employees and average per
Table 3

Plant Demographics

<table>
<thead>
<tr>
<th>Employee Composition</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Male Employees</td>
<td>56%</td>
</tr>
<tr>
<td>Hispanics</td>
<td>19%</td>
</tr>
<tr>
<td>Anglos</td>
<td>27%</td>
</tr>
<tr>
<td>Blacks</td>
<td>11%</td>
</tr>
<tr>
<td>Female Employees</td>
<td>44%</td>
</tr>
<tr>
<td>Hispanics</td>
<td>19%</td>
</tr>
<tr>
<td>Anglos</td>
<td>15%</td>
</tr>
<tr>
<td>Black</td>
<td>7%</td>
</tr>
</tbody>
</table>

*Total workforce at the plant = 244. Average education = 10th grade, and average yearly income = $17,740.80. (Information obtained from Affirmative Actions Reports)

capita income of the city. This difference may be a contributing factor to high tenure at the plant.

Short Historical Review of the Plant

This section will provide a brief summary of the plant's operation prior to the implementation of the employee involvement program.

Previous Management Styles. For years the approach to management at the plant was one of strict supervisory
control of all decision making processes. Minimal effort was made in sharing information with the technicians and in delegating decision making down to the floor.

Employee perception of their accountabilities was to "show up" on time and do what they were told and leave. One of the previous plant managers was recalled by the employees as describing the technician's role at the plant as: "just put the product in the bag, the bag in the box, box on the skid, skid in the warehouse!"

Management believed it was unimportant to share performance information with technicians. It was common for staff members to speak of plant performance issues in very general terms and give no details to the technicians. Therefore technicians often did not understand the magnitude or the source of performance problems. Technicians were never included in the goal setting process or problem solving and planning stages.

This management orientation towards tight control of the decision making process resulted in a need for a large supervisory staff to make decisions which were in turn carried out by technicians. There was no ownership of the process by the technicians carrying out the decision.

Organizational Structure of the Plant. Before the inception of the employee involvement program and quality circles, the plant management had 36 members of which 25 were first line supervisors. Figure 1 in Appendix A
provides an overview of the plant's organizational structure before the employee involvement effort.

Changes Leading to the Employee Involvement Program. According to the plant files and interview information two key factors were responsible for setting the conditions right for the employee involvement program. One was a serious need for the plant to become competitive with other plants to protect its service area. The other was the incoming of several new members of the management team who recognized the need for a more responsible workforce.

In early 1986 management attempted to develop an effective performance measurement system for the plant. One department devoted its weekly meetings entirely to detailed planning to accomplish productivity improvements. Among specific topics covered were individual contributions, performance, and commitment.

Later that year a new plant manager arrived at the plant and immediately began to search for areas of opportunity where changes could be made to improve performance. The new plant manager strongly advocated individual accountabilities, supported regular performance appraisals, implemented an open-door policy, strongly and openly supported employee involvement, and demanded a more open communication system. In an effort to reduce distinctions among classes of employees, the new management substituted the word "technician" for "hourly" in referring
to production employees and implemented a new uniform policy under which all employees and management wore golf shirts with company logos embossed on them.

Later in 1986 the plant lost part of its service area to another plant in the same state. This loss was communicated to all levels of employees. This communication resulted in a greater sense of need for quick changes and better performance at the plant.

In an effort to improve performance, management decided to develop an employee appraisal system for the plant. The expected benefits included promotion of regular, one-on-one communication with technicians and the setting of higher expectations for performance. The development of this performance appraisal system was delegated to selected, floor supervisors. The final product was primarily subjective but included some key objective performance measures for various positions.

In mid 1987, the plant underwent a number of physical improvements which enhanced its production ability. Larger equipment was added in one product area which led to an output increase of 25% in that department. Other new equipment installed in the packaging department resulted in elimination of one person per shift per machine and a production increase of 100 pounds per hour. Addition of new sorting equipment on another product line led to the
elimination of one to two production employees per shift which amounted to a savings of $284,160 per year on payroll.

The technological changes led to a slightly better performance at the plant. But the improvements were not deemed significant or rapid enough to keep the plant profitable. At this point the management felt the need to develop a strategy to permit a more rapid escalation of improved performance. Management also considered individual employee efforts an essential component in any improvement effort. Through deliberations it became evident to plant management that most production workers did not feel the urgency to improve, because they were unaware of the details of the performance problems. Therefore, the only perceived way to gain production worker's cooperation was to communicate to them the seriousness of the need for change by communicating detailed data available to management.

**Hourly Work Groups**

Up until the inception of the employee involvement program the production employees were divided into work groups which consisted of all those responsible for one part of the process during one particular shift. For example, all first shift kitchen workers were in one work group even though they did not work on the same product, and they each operated a different machine, independently.

The work groups held periodic meetings which were not on a regular schedule. The meetings were often described as
"gripe sessions" by the workers and "dump sessions" by the supervisors. Participants would speak of their problems with equipment, conditions, management, etc., but there was no attempt by the group to solve their problems or even work on possible solutions. Management was perceived as the party responsible for taking care of all problems. In a plant-wide meeting, the plant manager communicated the performance issue and the serious threat of loss of business if improvement did not take place. The importance of individual involvement in making changes for the better was also communicated. The plant manager encouraged technicians to get involved in setting and achieving goals for their own plant and asked the interested individuals to step forward.

In November of 1987, initial Target Groups were formed from a number of production workers who participated in setting performance targets for the upcoming year. Management's main purpose was to communicate the urgency for improvements to the entire plant by first communicating with representatives of various work groups.

The target group was educated on the elements of goal setting through extensive training sessions. This training included lessons on interpretation of performance indicators, and statistical comparison of plant's performance in key areas to that of other plants. Next, they were trained on setting performance goals necessary for the plant to remain competitive. They then worked together
in "brainstorming" sessions to list various ways to accomplish these goals. These training sessions also provided valuable team building experience.

Early in the following year, after the first quarter, the plant conducted a review meeting in which all plant employees participated. During this meeting the target group presented their involvement to the plant. They then reviewed plant performance through that period, compared performance to other competing plants and developed action plans oriented toward making the goal setting process more effective in work groups. Management also presented plans to restructure the work groups.

Following this meeting, work groups were restructured and work group meetings were changed to a more product oriented team structure. Business Teams were organized by different product groups. The new structure included business teams composed of all production employees involved in the production of one product. The old structure in contrast had grouped all employees who performed the same job in the same work group (e.g., all mechanics were in the same work group). The new system included one business team for each product for each shift. A regular schedule was worked out for weekly business team meetings and the meetings were mandatory.

The objective of the business teams was to encourage team work among all individuals working on the same product
Certain guidelines were agreed upon to help business teams achieve this objective. The primary activities in business team meetings included performance tracking, goal setting, and problem solving. Each business team member was expected to contribute to the meetings by either facilitating, presenting or taking part in discussions. The business teams meetings were facilitated by the supervisors of each product line during each prospective shift. Facilitation was later delegated to members of the teams primarily on a voluntary basis. Some supervisors appointed individuals to facilitate teams in the event that there were no volunteers.

**Instruments**

To evaluate productivity changes, this study utilized the standard computerized productivity reports compiled by the company. These reports were compiled on a monthly basis and included information on percentage to standard, waste, and cases shipped from the plant. Percentage to standard was an index derived through comparison of the plant's actual performance with the standards of performance set by the parent organization. The main index of productivity was cases per employee hour (cs/mhr.) which was calculated by the organization using the information provided in the productivity reports. The researcher obtained productivity reports for 1986, 1987 and 1988 from the plant files with plant manager's permission. The productivity figure for
1989 was obtained from a reliable source within the parent organization.

Safety was measured in terms of the number of lost-time injury accidents at the plant. These accidents were logged in the personnel department's monthly report.

Commitment was another important variable in evaluation of the impact of this participation program. An attempt was made to assess this variable with the aid of a commitment questionnaire. This commitment questionnaire is described in more details in one of the following sections entitled Questionnaires.

**Procedures**

The use of a second plant which had not incorporated the EI program and was of approximately same size as the experimental site was proposed but ultimately rejected due to logistic problems and budgeting and security issues. It was, therefore, decided to use data from the study site alone.

The data necessary to conduct this study were obtained through: (a) thorough research of the archival files of the plant, (b) individual interviews with the plant employees and management, (c) observation of the day-to-day operations, business team meetings, management meetings and other various group activities over a period of time, (d) questionnaire administration.
Memos concerning the nature of the study and requests for cooperation of the individual employees were posted upon introduction of the researcher at the weekly group meetings. Purpose and procedures and confidentiality issues were also discussed during a plant-wide employee meeting.

Archival Data

Permission to study the files was obtained from the plant management. Plant files contained several different types of information such as production data, quality information, and employee-related information which were utilized in the analysis. In addition, a copy of selected formal and informal correspondence was made by plant management and placed in the archival file. This correspondence provided further information regarding major changes at the plant or major issues faced by the plant at different times prior to and during the change effort.

Employee Relations logs such as Affirmative Action reports, and period reports were used to retrieve information on absenteeism, turnover and safety. Permission to study these logs was granted by the Employee Relations manager at the plant.

Employee Interviews

To better demonstrate the pattern of empirical results, the questionnaire data gleamed through the interviews are considered. The researcher moved to the city of the plant's location and conducted individual interviews, 45 minutes to
one hour each. These interviews were designed to assess employees' understanding of the program, their perception of the change program, and their commitment to the program. A sample consisting of employees from every shift was interviewed using a predetermined set of questions (see Appendix B). The interview questions consisted of general and specific questions concerning the status of the program as perceived by the employees and its perceived effects. To avoid negative associations with discipline and to establish rapport with employees it was decided to conduct the interviews at the employee's work station or in the breakroom. This decision was made by the researcher and plant management due to previous observations of undue nervousness by the employees and subsequent discussion which made it clear that the employees had generally anticipated negative implications such as discipline when they were called into an office from their work station or break area. It was assumed that conducting the interviews in an office would encounter higher resistance and a lack of full cooperation in open communication in answering interview questions. All responses and relative comments were written verbatim for future analysis by the researcher. Individual interviews provided the major bulk of the data used in this case study.
Observations

As another source of data and to provide a better understanding of the actual daily interactions, day-to-day operations were observed by the researcher and relevant information and events were carefully recorded. The researcher attended group meetings, management meetings, and other formal and informal meetings to observe and report on group dynamics. Observations focused on group interaction, employee-supervisor relations, group leadership, individual participation and input, employee problem solving initiatives, and group training among others.

Questionnaires

To supplement the interview information and standardize data collection, a questionnaire consisting of three parts was distributed to all 244 employees at the plant by the plant Employee Relations manager. The questionnaire was accompanied by a cover letter from the researcher explaining its importance and confidentiality (see appendix C). It was expected that the return rate would be between 20 to 30 percent which would have provided a fairly adequate sample size. Employees were provided with a self-addressed, stamped envelopes which were addressed to the researcher's home in another city.

Part one of the questionnaire included general demographic and biographical information such as tenure, education, personal goals with the company, and specific
questions concerning employee understanding of the program and its goal and employee perception of the changes due to the program.

Part two of the questionnaire consisted of more specific questions adapted from previous organizational surveys. This section was concerned with providing a more detailed understanding of the level of autonomy perceived by the employees, perceived impact on employee tasks, and overall employee satisfaction.

The last part of the questionnaire consisted of an adapted version of the Organizational Commitment Questionnaire (OCQ) (Porter & Smith, 1970). This test is based on the following definition of organizational commitment:

The strength of an individual's identification with and involvement in a particular organization. Such commitment is characterized by at least three factors: (a) a strong belief in, and acceptance of the organization's goals and values; (b) a willingness to exert considerable effort on behalf of the organization; (c) a definite desire to maintain organizational membership. (Porter, Steers, Mowday, & Boulian, 1974, p.604).

The Organizational Commitment Questionnaire has 15 items, six of which are negatively phrased and reverse scored. There is a seven point response dimension. Item scores are
summed and the mean is taken. Thus, there is a possible range of scores from one to seven, and the higher the score the more organizationally committed an individual is judged to be. Evidence for reliability and validity has been provided by Dubin, Champoux and Porter (1975), Mowday, Porter and Dubin (1974), Peter, Crampon & Smith (1976), Porter, Steers, Mowday and Boulian (1974), Steers and Spencer (1977) and Stone and Porter (1975). These studies along with several other studies consistently reported an alpha coefficient ranging from 0.82 to 0.93 with a median of 0.90. Internal validity is also demonstrated in two other studies where a coefficient of 0.86 and 0.91 were obtained (Mowday, Steers, & Porter, 1989). Test-retest reliability coefficients from Mowday and colleagues' review are 0.72 across two months and 0.62 across three months.

The questionnaire was used in this study to assess the current level of employee commitment. To adapt the OCQ to this study minor changes were made in the questions. For example, the word "organization" was changed to "plant" in most questions. A copy of the questionnaire is presented in appendix C.

Method of Analysis

Each type of data collected required a different method of analysis. Productivity, safety, quality, and turnover data each included several measures taken before, after, and during the program introduction. Considering the lack of
data from a control group a quasi-experimental, time series design was deemed to be most suitable (Campbell & Stanley, 1963). The data were plotted on line graphs, and the slope of the line segments joining each pair of adjacent data points was measured. This procedure was recommended by Matheson, Bruce and Beauchamp (1978) for testing changes due to treatment with respect to time. The corresponding null hypothesis is: slope of the line at all points would be equal to zero. The testing of this hypothesis is described as a "powerful statistical test of significance" by Matheson, et al. (1978, p. 88).

Since comparable previous measures of commitment were not recorded, and the questionnaire return rate was significantly low, data on this measure was not tested for statistical significance. The hypothesis that were intended to be tested here was that a higher than average level of commitment would be reported by plant employees participating in the program.

Finally, all quantitative and qualitative data were pulled together and examined closely to provide further insight to the changes and fluctuations in the variables of interest since the inception of the EI program. This analysis included some possible explanations of the impact of such factors as the culture, political factors, economical forces, and geographical location on the
inception and institutionalization and the perceived success or failure of the program.
CHAPTER III

RESULTS

The data from this study were analyzed both qualitatively and quantitatively. The following sections have been organized to present the results of this study in a more comprehensible fashion by presenting the quantitative results of the study followed by the qualitative findings.

Quantitative Results

Figure 1 presents the productivity data from three consecutive years, before the program (1986), during the program implementation (1987), and after the initial implementation (1988). This figure presents the slope from each line segment connecting two consecutive data points. Upon inspection of these slopes it is evident that the line segment representing the productivity before the program introduction and productivity during the introduction of the program has a positive slope indicating a gain in productivity from 1987 through 1988. But the next line segment covering 1989 has a negative slope indicating a loss in productivity in 1989. This may reflect a seasonal change brought on by external factors unrelated to the program, or it may reflect a trend in the EI program's progression.
Figure 1. Productivity as a function of time.

Figure 2 reflects the changes in quality measured in terms of total consumer complaints (a measure used by the organization in quality assurance). The figure presents the line segment joining the quality measurements from one year to the next. Line segment Q2 with a slope of -0.02 indicates a drop in total number of consumer complaints, therefore, indicating an improvement in quality from before the introduction of the EI program through the first phase.
Figure 2. Quality as a function of time. Quality is measured as the total number of consumer complaints for each year.

of program introduction (1987). The next line segment, Q3, has a slope of -0.05, indicating another gain in quality at the plant.
Safety was measured in terms of total number of lost time injuries. The safety data from 1989 were not available at the time of this report. Therefore, the researcher is limited to reporting the available data from before, during and immediately after the introduction of the program. Figure 3 presents the fluctuations in safety as the program...
Figure 4. Supervisory turnover rate as a function of time.
(Turnover rate = number of supervisors leaving their post/total number of employees.)

progressed. Line segment S1, joining the data from year ending 1986 (safety measure before the program introduction) and next data point from year ending 1987 (safety measure during the implementation) has a negative slope of -0.74 indicating a lower number of accidents and an improving
Figure 5. Hourly employee turnover rate as a function of time (turnover rate = Number of employees leaving their jobs/total number of employees).

safety record for that period of time. Line segment S2, joining the data from 1987 with that of year ending 1988 also has a negative slope of -2.15 indicating another improvement in safety.
Figure 4 presents the trend in supervisory turnover over the span of four years, from before the program's inception to after its introduction. The figure presents an increase in supervisory turnover with the peak rate during the first year of program introduction (37.5%) and gradual drop after the first year (N=36).

Hourly employee turnover rates are presented in figure 5. Upon inspection, this figure reveals a gradual drop in turnover with the lowest turnover rate during the first year of program introduction (2.8) and then another gradual increase. These trends are not unusual and are further explored in the following section (N=219).

Qualitative Results

The interview results along with observations provided a few leads into the nature of the events at plant as well as of the employees of the employees. These results are categorized and summarized in the following sections.

Floor Observations

Floor observations indicated that the initial excitement created by the program introduction had ceased. This finding was supported by the interview answers in which employees consistently commented on their perception of the process as "a temporary change which will eventually pass." During the course of this study the plant was preparing for one of its busiest seasons, July 4th through Labor Day (Memo File, 1989). The business teams met according to schedule,
and task forces were assembled to work on various issues but performance was clearly slipping as was discussed in the business team meetings.

Employees had varied approaches to the program. Few of them were negative, but most had become indifferent about their participation. The comment "management does not practice what they preach" was often offered as an explanation during the informal discussions.

There was also growing concern among the technicians with an anticipated change in plant management. The employees were concerned that a new plant manager might not support this program. They based their concern primarily on their past experiences with programs and policies which were implemented by one plant manager and ultimately vanished with the arrival of another manager.

Cultural Influences on the Process

Results from observations and interviews implicated that some aspects of the dominating Hispanic culture combined with other influences on the plant may have been instrumental in the acceptance of the process, while other cultural beliefs hindered its advancement. Among helpful influences is the Hispanic's pride in the "know how" of the business (Simmons, 1974). Interviews revealed that the concept of employee ownership of the business "know how" strongly appealed to the technicians, and with the EI
program they felt that they were recognized for "running" the operations and "knowing it better than anyone else."

Among cultural hindrances was the perception of the reward system and employee reactions to their peers who were rewarded for involvement. Researchers of Hispanic culture point out that while Whites try to "keep up with the Joneses" the Hispanics "try to keep the Garcias down to their own level" by using such leveling mechanisms as gossip or ridicule (Simmons, 1974). At the plant, those individuals who participated in the program received more attention from plant management and received training in other aspects of business such as report interpretation which ultimately better suited them for positions. It was observed that sometimes these individuals were ridiculed by a few of their peers who used this leveling mechanism to discount the "involved" employee's efforts. Some of the participating employees were called "lazy," "brown nosers" who would do "anything to get off the floor and get away from real work." Some employees expressed concern and did not participate out of fear of being subjected to ridicule and humility. Upper management did not view this problem as a cause for concern. But, it is important to note that the majority of the upper management were Anglos who did not hold the same norms and values as those of the large portion of the Hispanic hourly employees. One second level manager
acknowledged the cultural problem and the resistance caused by it but noted that management could do very little to overcome this counter force and that they just had to work around it.

Other Observations and Key Learnings
Several other notable pieces of information were obtained based on daily observations, and results from interviews with a sample of 97 employees. Qualitative information were compiled and percentages were calculated and rounded to the nearest whole number. These pieces of information were then divided into categories based on the main topic they covered and are presented in the following sections.

Involvement. Participation in the program was most commonly referred to as involvement by the employees at the plant. A review of the interview results revealed the following on employee perception of their involvement.

1. Thirty one percent of the 97 interviewees identified themselves as participants.

2. Of the interviewees who identified themselves as non-participants, 91% justified their decision to not participate with "nothing will change anyway". The remaining 9% did not participate because they felt that participation required more time than they can afford to give.
2. Approximately 5% of those interviewed attributed their decision to get involved to their perception of what others had achieved through participation.

3. Ninety seven percent of the interviewees attributed non-participation (theirs and/or that of their peers) to "shyness" or fear of public speaking and lack of formal training in presentation skills.

**Understanding of the Program.** When the interviewees were asked to define the EI program in their plant as they understood it, the responses varied from those who simply did not have any idea of the program's mission and how and why it was instituted to those who had a clear understanding.

Positive interview results include responses indicating some effectiveness of training received by the employees in understanding the performance goals on various performance measures such as quality and safety. Approximately 55% of those interviewed expressed that they have been able to understand more about the overall business since the program inception. They liked having information such as performance goals shared with them. They were also supportive of the management's recognition that hourly employees know the production process better than anyone.

Interview questions regarding the business team meetings and their effectiveness revealed that 62% of those
interviewed did not understand some or all of the performance figures which were presented in weekly business team meetings. Therefore, they did not know how they should use this data in their everyday operations.

Approximately 82% of the respondents incorrectly defined EI as attending weekly team meetings and presenting performance figures during these meetings. But all those who did understand the program and its goals agreed with the program's underlying concepts.

The topic of being "bought in" was frequently discussed at various formal and informal management meetings. Management considered those employees who truly understood the program's mission and the path to achieve this mission as "bought in". It was decided that an operational definition of "bought in" consisted of: those who correctly define participation and correctly identify the underlying principles of the program. Based on this definition, questions were included in the interviews to provide an assessment of the percentage of employees who were "bought in". These interview questions indicated that only 22% of the sample interviewed were "bought in". Other observations combined with the interview results indicated that widespread understanding of the program by the plant employees had not yet been achieved and management's assessment of who was actually "bought in" was not always
correct. Therefore rewards were often misplaced. This in turn led to further division among employees. Combined with misperception of the program's goals this misplacement of rewards had led to lack of cooperation of a few of the key, tenured employees. This misperception of the program was evident from answers such as "the only difference is that we are now doing more" or "we are now doing our job and our supervisor's job but for the same pay" or "it is just a plot to get me to do more."

A few also misunderstood the original mission of the program and the reason for its inception. They also responded to questions about their support of the program as if they did not have much control over its longevity. 89% of those interviewed believed that the program was brought in by their current plant manager and it would be "done away with" with the arrival of another plant manager. They did not believe that their support would change matters if a new plant manager decided to do away with the program.

Commitment Questionnaire Results

It was expected that at least 20 to 30 percent of the questionnaires distributed at the plant would be returned. But surprisingly only 19 out of 244 questionnaires were returned to the researcher. This left reporting of descriptive statistics as the only plausible approach to
presenting the data from these questionnaires. This return rate was too low to be analyzed to provide an assessment of overall commitment. Another noteworthy topic is the possible reasons for this low return rate. This topic is further explored in the discussion section.
The purpose of this study was to document a program unique to a manufacturing plant and perceived as successful by the plant management. The study was also intended to provide an assessment of the EI program and its consequences both for the participants and the sponsoring organization. The study employed a quasi-experimental design with time-series data available from the organization. The results were fairly variable. Productivity improved up to the 24th month but dropped during the following 12 months. During these same periods management's perceptions of the effectiveness of the EI program followed the same pattern. They reported that the program seemed to be creating some positive results during the first few months but performance in all areas was dropping since the 24th month.

Quality, however, remained on an upward trend. This improvement in quality may be due to a number of factors. The program may have been effective in training the employees on importance of product quality and various measures used to assess product quality, or tactics of quality improvement. It is also feasible that during 1989
more attention was paid to quality at the expense of productivity.

Safety, as measured by number of lost time injuries, indicated the largest drop in accidents. The drop in number of lost time injuries may be related to the extra training efforts, or increased awareness due to discussions of these accidents during the business team meetings, or partially attributed to possible improvement in employee attitudes immediately after inception of such programs. This is a positive finding that often occurs in manufacturing sites experiencing work redesign of this nature. To interpret this finding further experimental research is warranted.

Absenteeism did not vary by much according to the plant personnel reports. Attendance was high at 99.5% and remained at the same rate or slightly higher after the implementation of the program. An interview with the plant Employee Relations manager revealed that the attendance reports from which absenteeism data was retrieved were often incorrectly completed by the supervisors and that they usually did not "top the supervisor's list of priorities". Therefore any evaluation of this measure would be invalid without more exact attendance figures. However, it is noteworthy that a high rate of attendance was observed by the researcher consistently during the course of this study, and considering the stringent plant policies governing
attendance, the attendance logs may not be completely erroneous.

The results on turnover also warrant some discussion. Given the result of interviews combined with data on high rate of supervisory turnover during the first year of the program introduction the researcher was able to ask questions and conclude that the plant manager had decided to cut back in supervisory personnel because of the new EI program. The program implemented check points within the process and the system checks were performed by the employees, therefore leaving no need for some supervisory positions. The plant was able to cut back on its supervisory staff and save over one million dollars in payroll during the first year. In the following year, even though the supervisory turnover rate dropped, it still remained at a high level. Interviews and observations pointed to lack of job security and work overload as the prime reasons for this turnover.

Thus, the evidence is fairly straight forward, partially supportive of the the research hypotheses, and consistent: in this location EI appears to have been successful from the standpoint of both the participants and the organization for around one year, but then improvements began to decline. Before that conclusion is accepted at face value, however, rival hypotheses and alternative explanations should be considered.
The design used in this study entails one basic threat to validity. That is, the rival hypothesis exists that some more or less simultaneous event and not the program produced the shifts in performance. These simultaneous events may include such things as improvements in equipment, turnover resulting in a new group of employees and management, and seasonal and environmental changes outside the realm of the program.

Other limitations and issues constrain the findings also. For one, it is always possible in research on change of this nature that nothing more than a "Hawthorne Effect" has occurred. It is possible that the employee perceptions and attitudes have changed because of increased attention, measurement efforts, or other factors rather than because of the specific intervention.

Another consideration, as noted by Griffin (1988) is that there is no meaningful way to determine the representativeness of these EI programs. There are very few published statistics available as to what the exact percentage of involvement is. Published statistics on the extent of employee involvement in American companies that have adopted EI are also rare. This study therefore provides a contribution by presenting statistics on the percentage of actual involvement in a participation program. The fact remains that a reasonable number of people in the organization studied did participate in what appears to be
an EI program. Beyond those considerations, it can only be noted that as much care as possible was taken to ensure a thorough assessment of the EI program, given the imposed limitations.

It is also important to consider the clash of the inherent culture of the organization with the employee involvement's underlying concepts. Agreement between the organizational culture and the basic concepts of EI may be one of the most important factors in further institutionalization, and success of the program at this location. This clash is most obvious from the low return rate of the questionnaires distributed for further data collection. To the researcher this low return rate along with the observations implied an organizational culture which had resulted in low levels of trust by the employees. Since this program was sponsored by the management, a low level of trust may hinder advancement of positive results and ultimately affect its survival.

Given the inherent weaknesses of the design, there are several possible implications that can be drawn from this study both for theory and research and for practice. Lawler and Mohrman (1987) noted that participation programs often go through a "honey moon" phase when a few small groups are formed and are motivated to produce good ideas and improvements, as a result the organization often realized significant gains. Most organizations then add more groups
which will compete for management's attention and are established more mechanistically than the original groups. The overall program is subject to declining interest, non-productive groups, and extra costs. Lawler and Mohrman (1987) suggest adding a reward component to participation after a program is institutionalized.

Taken together with the results of this study it seems quite plausible that honeymoon effect may have occurred at this study site. Although business teams were adopted plant wide there was clear evidence of an increasingly mechanistic approach and declining interest and enthusiasm among the employees and management.

An organization may use work redesign programs such as the one noted in this study as a short-term strategy for enhancing organizational effectiveness. In some settings, in particular, it might be possible to develop a program using business team formation, monitor the results, and disband groups as their effectiveness diminishes. But, any organization using this approach runs the risk of resentment or hostility from the employees who may feel exploited. Interview data from this study did reveal that some employees at the study site perceived the program as management's way of exploiting the work force.

The organization studied did apparently achieve some value from the EI program. The plant incurred some costs but is likely to realize some long-term gains. But the fate
of the program seemed grim, for there was widespread perception among employees that the program was only the result of current plant manager's policy and that it would probably not be supported by another plant manager. Interview results revealed that this perception was commonly held as a result of a long history of short-life programs and policies instituted by various plant managers and eliminated by their successors. Although the employees witnessed praise and recognition of the program and of their achievements from various members of upper level corporate management, they were not satisfied that this support would also remain within the parent organization. Again, the interview data revealed that a large group of employees (84%) expressed reluctance to support the program without top-down support.

Although the program was still in vogue at the time of this study, recent contact with the organization's officials has revealed that the EI program is no longer in effect at the study location. It seems that the program has become another in a set of organizational change interventions that were deemed appropriate and effective in some settings but less effective in others. Thus, there is a clear need for additional research into the effects of EI programs of this nature. Some of the questions that need to be answered include: When and where is EI most effective? Who chooses to participate? How should EI programs be managed? Can the
extent of their effectiveness cycle be increased? What are the effects of external environmental factors such as area culture, area unemployment rate, etc., on program institutionalization? How can negative effects be overcome or at least minimized? What role does the parent organization's manifested culture play in success or failure of EI programs? To attempt such questions, further research needs to include a variety of organizations and more controlled experimental designs over a longer span of time.

Finally, the literature on participation strongly argues for its positive effects on a variety of outcomes, even though the empirical research on such effects is less than convincing. The present case study makes a contribution to that literature. The participative strategies used in other studies may have yielded different effects; the approach studied here resulted in a pattern over time. It seems reasonable to speculate that the context and general nature of participation, not a given technique, cause change effects to first increase and then diminish.

In conclusion, the findings of this study suggest that carefully managed interventions such as employee involvement have the potential to aid managers and organizations to compete in both domestic and international arenas. To ensure effectiveness of such interventions the key may be to avoid faddish, bandwagon approaches and instead developing
an appropriate menu of interventions that we some basis for recommending and some understanding of how to manage.
APPENDIX A

ORGANIZATIONAL CHART
INTERVIEW QUESTIONS

1. How long have you been with the company?

2. How long at this location?

3. What type of work did you do before coming to this company?

4. What shift do you work on?

5. Why did you choose f/l to work for?

6. What are your career goals with the company?

7. In your opinion what is the Target Process?

8. Why do you think Target Process started?

9. How do you think Target Process started?

10. What was the extend of the technician involvement before the process? Explain/give examples.

11. How did the process evolve?

12. Did the process encounter any resistance? What kind of resistance?
13. Did you agree with the process?

14. Do you agree with the process now?

15. Did you see big changes in your co-workers attitudes after the process started?

16. How committed would you say you are to the process:
   Not at all committed   Somewhat committed.
   Committed            Very Committed

   Explain.

17. In your opinion has your job changed in any way since the process started? Explain.

18. Do you feel any different about your job than you did before?

19. In your opinion, have you and/or your plant benefited from the process? Explain.

10. Do you attend business team meetings regularly? If No why?

11. What do you see as participation in the meetings?
12. Do you understand the information presented at the meetings? What do you not understand?

13. Do you know how to use the info?

14. Has the target process helped you in communicating with your co-worker? With plant mgmt.?

15. What is your vision of SA plant and the target process?
APPENDIX C

QUESTIONNAIRE
To Employees of the San Antonio Plant:

The attached questionnaire is designed to capture everyone's input in the documentation of the Target Process. During the course of my study at the San Antonio Plant I had planned to talk to all the employees at the plant. Due to unforeseen scheduling problems it became impossible for me to personally speak to everyone.

Since every individual's input is equally valuable in obtaining a clear picture, I urge everyone of you to spend 45 minutes to read and complete the following questionnaire.

ALL QUESTIONNAIRES WILL BE TREATED CONFIDENTIALLY. ONLY I WILL HANDLE AND REVIEW COMPLETED QUESTIONNAIRES.

Later on this year, I will present my findings to you.

Thank you for your cooperation. It is my hope that the results of these questionnaires will be beneficial to all employees of the San Antonio Plant.

With my appreciation,

Simin Roustaei
Project Director
INSTRUCTIONS

1. **DO NOT PUT YOUR NAME ON ANY OF THE SHEETS.** Read each question carefully and answer as thoroughly as possible and to the best of your ability.

2. Some questions can be answered by circling the appropriate response. Following is an example:
   - Are you satisfied with your hours?
     Very Satisfied  Satisfied  Dissatisfied

3. Please print.

4. The value of the project depends on you being straightforward in answering these questionnaires. You will not be identified by your answers.

5. Feel free to add any relevant explanations or comments in the margins.
PART I

1. How long have you been with ____ year(s)?
   How long at the San Antonio Plant? ____ Year(s)

2. What type of job did you hold before coming to Frito-Lay?

3. What shift do you currently work on?
   First      Second      Third

4. Why did you choose Frito-Lay to work for?

5. What are your career goals with ____?

6. In your opinion has your job changed in any way because of the Target Process? Yes  No
   If yes please explain what kind of changes have happened in the nature of your duties or the amount of work you do.
7. Do you feel any different about your job now than you did before?
Yes  No

Please explain


8. What are Business Teams for?


9. In your opinion, have you and your plant benefited from having Business Teams?


10. Do you attend your Business Team Meetings regularly?
Yes  No
If not please explain why.


11. Do you actively participate in the Business Team Meetings?
Yes  No


12. What are some of the changes you would like to see in the Business Team Meetings that would help improve the outcomes?
13. Do you understand the information presented on the six Key Indicators in your Business Team Meetings?
   Yes  No

14. Do you know how to use the information presented to make improvements in your work condition and your performance?
   Yes  No

15. How committed are you to the Target Process? (Circle one)
   Not at all  Committed  Somewhat Committed  Committed  very Committed

16. What do you expect the Target Process to do for your plant?

17. Has the Target Process helped your communication with your peers?
   Yes  No

18. Has the Target Process helped your communication with your supervisors?

19. What is your vision of the San Antonio Plant's future?
PART II

Please circle the most appropriate response.

1. I feel I can use the open door policy or the formal problem solving programs without fear of reprisal.

   Strongly Agree  Agree  Disagree  Strongly Disagree

2. Problems in our Business Team are being solved rather than hidden or ignored.

   Strongly Agree  Agree  Disagree  Strongly Disagree

3. The standards by which my performance is evaluated are known to me.

   Strongly Agree  Agree  Disagree  Strongly Disagree

4. We have all the information needed to do our jobs.

   Strongly Agree  Agree  Disagree  Strongly Disagree

5. Cooperation and team work exists among various Business Teams at the San Antonio Plant.

   Strongly Agree  Agree  Disagree  Strongly Disagree

6. How does your immediate supervisor rate at helping your Business Team work together as a team?

   Poor  Fair  Good  Excellent

7. How would you rate the training you have received in understanding the information presented at the Business Teams?

   Poor  Fair  Good  Excellent

8. How often does your immediate supervisor tell you that he appreciates your efforts when you do a good job?

   Very Often  Fairly Often  Occasionally  Rarely or Never

9. How often does your job allow you to use skills from your previous training?

   Very Often  Fairly Often  Occasionally  Rarely or Never
10. How often do you have a clear idea of what your boss expects you to have accomplished by the end of shift?

Very Often    Fairly Often    Occasionally    Rarely or Never

11. The amount of work expected of you is:

Far Less Than    Less Than    More Than    Far Too
I Can Do        I Can Do      I Can Do      Much

12. How satisfied are you with the communications between your crew and the on-coming crew at shift change?

Very    Somewhat    No    Too    Not At All    Does Not Apply
Satisfied    Satisfied    Satisfied    Satisfied    To My Job

13. My job makes me feel good.

Strongly Agree    Agree    Disagree    Strongly Disagree

14. My job is important to me.

Strongly Agree    Agree    Disagree    Strongly Disagree

15. My work is interesting to do.

Strongly Agree    Agree    Disagree    Strongly Disagree

16. My boss gives me sufficient amount of information for me to properly do my job.

Strongly Agree    Agree    Disagree    Strongly Disagree
INSTRUCTIONS

Please read every question very carefully. Using the given choices of 1 through 7, select the best answer and write the number corresponding to your selected answer on the line next to the question.

1= Strongly disagree  
2= Moderately disagree  
3= Slightly disagree  
4= Neither disagree nor agree  
5= Slightly agree  
6= Moderately agree  
7= Strongly agree

Example:

_____ 6  a. I feel good about my job.

_____ 1. I am willing to put in a great deal of effort beyond that normally expected in order to help this plant be successful.

_____ 2. I talk up this plant to my friends as a great place to work for.

_____ 3. I feel very little loyalty to this organization.

_____ 4. I would accept almost any type of job assignment in order to keep working for this plant.

_____ 5. I find that my values and the organization's values are very similar.

_____ 6. I am proud to tell others that I am part of this organization.

_____ 7. I could just as well be working for a different organization as long as the type of work were similar.

_____ 8. This organization really inspires the very best in me in the way of job performance.

_____ 9. It would take very little change in my present circumstances to cause me to leave this organization.
10. I am extremely glad that I chose this organization to work for, over others I was considering at the time I joined.

11. There's not too much to be gained by sticking with this organization indefinitely.

12. Often, I find it difficult to agree with this organization's policies on important matters relating to its employees.

13. I really care about the fate of this plant.

14. For me this is the best of all possible companies to work for.

15. Deciding to work for this company was a definite mistake on my part.
REFERENCES


Emery, F. E., and E. L. Trist, Socio-Technical Systems. in

Fadem, J. (1976, March). *Fitting computer-aided technology to workplace requirements: an example*. Paper presented at the 13th annual meeting and technical conference of Numerical Control Society, Cincinnati, OH.


