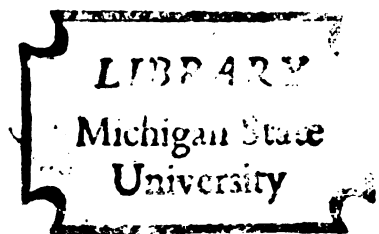


THE SCANLON PLAN:
CAUSES OF SUCCESS

Dissertation for the Degree of Ph. D.
MICHIGAN STATE UNIVERSITY
JOHN KENNETH WHITE
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The Scanlon Plan: Causes of Success

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ABSTRACT

THE SCANLON PLAN: CAUSES OF SUCCESS

By

John Kenneth White

The Scanlon Plan (SP) is a systematic approach designed to help an organization achieve its goals through use of a formal participation program and a financial bonus. The Plan has been implemented in numerous organizations and has met with varying degrees of success. This study examined some of the factors that may account for this variation in success. Most existing research on the SP has relied mainly on data collected from individual organizations which does not allow for systematic examination of those variables that can be measured only at the organizationwide level. The present study attempted to remedy this situation by examining the construct of SP success and its correlates at both the inter and intraorganizational level of analysis.

The relationships were examined with data collected from 4000 employees from 22 manufacturing organizations, 21 of which have or have had a SP.

At the intraorganizational level two measures of SP success were used: (1) employee self reported participation measured at the individual and work group level, and (2) perceived SP success measured at the individual level. Perceived SP success and

participation were highly related but the value of the finding was limited by the fact that the relationship was investigated only at the individual level of analysis.

At the interorganizational level three measures of SP success were used: (1) whether the SP was subsequently retained or abandoned, (2) mean level of participation reported by the employees, and (3) a SP success rating completed independently by three judges. The three measures were highly interrelated, and the rating provided a very reliable (.97) measure of SP success.

At the intraorganizational level, participation was significantly related to work group size (inversely), employee background characteristics, length of service, and expected level of SP success measured four years earlier; but was essentially unrelated to managerial attitudes toward participative management policies. These managerial attitudes were independent of length of service, but were positively related to work group size and the extent to which managers believed they would be rewarded for following participative management policies.

At the interorganizational level, SP success was positively related to the number of years a company had had a SP, average managerial attitudes toward participative management policies, chief executive officer's attitudes toward participative management policies, workforce characteristics, and expected level of SP success measured four years earlier; but was not related to company size.

The study concluded with implications for theory and practice and suggestions for future research.

THE SCANLON PLAN: CAUSES OF SUCCESS

By

John Kenneth White

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
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DOCTOR OF PHILOSOPHY

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1974

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1974

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This dissertation reflects the contribution of many people. I would like to acknowledge the generous help of the many representatives from the participating organizations without whose help the study would never have gotten off the ground.

My guidance committee provided invaluable assistance in helping me transform some fuzzy ideas into a meaningful study. I am grateful to Dr. Frank Schmidt for both his stylistic and methodological contributions; Dr. John Wakeley for his assistance in keeping the study integrated and goal directed; and Dr. Fred Wickert for his help in turning it all into a presentable package.

I would like to express special thanks to my chairman Dr. Carl Frost. Among other things he is directly or indirectly responsible for all that I have learned about the Scanlon Plan; and, he has provided me with many other valuable learning opportunities throughout my graduate studies.

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Final consideration must go to my wife, Sharon, for her infinite patience and understanding throughout my entire career as a graduate student.

FOREWORD

The Scanlon Plan (SP) is a tool to help an organization increase its effectiveness. There are many other tools that can be used to reach the same goal and it is the achievement of the goal, not the particular tool used, that is important. The reader should keep in mind that while the present study is concerned only with the SP, it does not mean to imply that other approaches are any less valid as tools for achieving the desired result. Also the SP is not an all or nothing concept but can, and has been, successfully integrated with other approaches. Furthermore, many of the activities that take place under the name of the SP are common to other approaches and therefore the present study may have direct implications for other approaches which have component activities that parallel those of the SP.

The focus of this study was the total Scanlon Plan concept rather than particular aspects of it. Previous studies of the Plan have emphasized different levels--from the individual to the total organization; and/or different approaches to the Plan--the psychological versus the financial aspects. Because of the current interest in social science approaches to organization development in general, and because the SP is associated with the Psychology Department at M.S.U., most of the recent research (at least here at M.S.U.) has focused on the individual or small group level and on the psychological aspects. However, the SP originated as an attempt to improve or at least maintain

employee income in the face of problems without sacrificing company solvency--the idea of enriching the quality of work life and satisfying ego needs came later. Similarly, the idea of "companywide" is emphasized in the SP literature. Indeed several of those most closely associated with the SP would argue that by definition a SP cannot succeed independent of the company's success. Therefore, it seems only appropriate that examination of the SP should incorporate this financial and macro focus in addition to the more psychological and micro approach. The present study is an attempt in this direction.

However, a macro approach often necessitates looking at the entire organization as the unit of analysis which introduces problems that are not normally encountered in psychological research:

1. Small Ns - the difficulty of getting appropriate research sites often precludes getting enough degrees of freedom for findings to reach conventional levels of statistical significance.
2. Unrepresentativeness of sample - the difficulty of getting research sites precludes the possibility of getting samples that are really representative of the population (of organizations) to which one would most like to make generalizations.
3. Lack of experimenter control - it is virtually impossible for the researcher to exert any control over variables at the organizationwide level and hence interorganizational comparisons are plagued by extraneous influences. When these interorganizational comparisons also involve interindustry comparisons, the economic environment can exert profound differential effects;

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however, restricting analyses to intraindustry comparisons severely reduces generalizability of results.

Because of these reasons, such studies are rare. After reviewing the literature for their text Comparative Studies in Organizational Behavior, Graham and Roberts (1972) concluded: "At present there is a dearth of interorganizational field research in contrast to the vast quantity of single organizational studies...such studies are rare because they are expensive in time, effort, and money. No longitudinal investigations are presented [in the text] because few good ones exist [pp. 131-132]." However, as these same authors point out, the need for such research is strong. Because much of the substance of the SP is individual and perceptual, but success of the SP is to a great extent an organizationwide phenomenon, this study attempted to combine analysis at both the inter and intraorganizational level. With the limitations of such an approach in mind - onward.

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CHAPTER I

INTRODUCTION

Background

History

The origins of the Scanlon Plan (SP) can be traced to a small financially troubled steel mill during the depression. Joe Scanlon, who worked there as an operator in spite of his cost accounting background, took a leading part in a successful drive to organize the company. As president of the newly formed local, he was caught in the dilemma of the workers wanting increased wages and the company on the verge of bankruptcy. He along with other union representatives and the company president took their predicament to Steelworkers VP, Clinton Golden, who told them that only they themselves could solve the problem and suggested that they go back and try to enlist the help of all the workforce. The workers responded with enough suggestions to maintain wages and provide a healthier performance for the company.

The success of this effort led to Joe Scanlon taking a position with the Steelworkers and using this new approach to help other small financially troubled companies. However, the major impetus that really got the Plan going was its success in the Adamson Company. Up until this time the approach had been used to alleviate crisis situations.

But Adamson was a profitable company and the president wanted the Plan to improve an already healthy company rather than to avert a crisis. The Plan was begun at Adamson on January 1, 1945. The first month produced a bonus of \$4200 that was distributed as a percent of base pay to the 100 employees; and wages were already highest in the industry! The year ended with a 46 percent increase in "productive efficiency." Life Magazine (Chamberlain, 1946) reported on Adamson's success, and the SP was on its way.

Doug McGregor became aware of Adamson's success and persuaded Joe Scanlon to join the Industrial Relations Staff at MIT. Jack Ali, union president at Lapointe Machine Tool Company, and Ed Dowd, executive VP of the company, read the Life article about Adamson's success and tracked down Joe Scanlon at MIT. On December 1, 1947, the SP was implemented at Lapointe. It was very successful and was described to the business world in what is probably the best known article on the SP, "Enterprise for Every Man" by Russell Davenport (1950). Scanlon died in 1956 and McGregor died in 1964, but their work has been carried on principally by two others both of whom are still active in implementing and improving SP installations: Fred Lesieur, who was union president at Lapointe, now has his own consulting firm specializing in the SP; Dr. Carl Frost who worked with Scanlon and McGregor while he was on the MIT Industrial Relations Staff from 1946 to 1949, joined the M.S.U. Psychology Department Staff in 1949 and has been very active since then in helping area companies implement the SP. In 1968 many of the organizations which Dr. Frost had helped implement the SP

incorporated as the Midwest Scanlon Associates.¹ This association has provided the member companies an opportunity to share their experience with the SP, and has contributed to the growth and success of the SP in the Midwest.

Underlying Principle

/ The basic notion underlying the SP is that present in every workforce is a reservoir of creativity and experience that if properly tapped has the potential to greatly increase productivity. / According to McGregor (1960) this potential can be realized by what he calls integration - "the creation of conditions such that members of the organization can achieve their own goals best by directing their efforts toward the success of the organization [p. 49]." The SP uses two basic structures to try and put this principle of integration into practice: financial structure and participation structure.

From a labor-management relations viewpoint the SP attempts to focus effort on increasing the "size of the pie" whereas typical management-labor relations through use of the collective bargaining process focuses solely on how to split up the existing pie.

Shift in Emphasis

Since its inception, the emphasis of practitioners and researchers interested in the SP has shifted from purely financial to a more psychological orientation. There are several reasons that may account for this occurrence:

¹The name of the organization has subsequently been changed to the Scanlon Plan Associates.

1. Two of its strongest proponents are professionally trained psychologists - Drs. McGregor and Frost.
2. The general interest of industrial-organizational psychologists in the key SP concepts of participation in decision making (PDM) in particular, and in organization development in general.
3. The current trend, both in professional and secular circles, to place emphasis on nonfinancial needs and motives is evidenced by the interest in the "quality of work life" as a focal point for studying organizations.
4. The application of the SP to companies that were not facing immediate financial crisis.

However, the financial emphasis has not been completely ignored as evidenced by two recent articles on the SP (Doyle, 1970; Ross & Jones, 1972) that have appeared in finance/accounting journals.

Potential Benefits

As originally conceived the direct benefits of the SP were increased pay for workers and increased profitability for the company by providing a larger production base over which to spread the fixed costs. However, it became apparent that there are other, somewhat indirect, benefits to both the workers and the company that may arise from a successfully operating SP. These include:

Company: - other cost savings or company directly sharing in
the bonus

- improved customer service - quality, delivery time
- reduced turnover and absenteeism
- more knowledgeable and hence more versatile labor
force
- greater willingness on the part of the workforce to
accept changes
- favorable recruiting position in a tight labor market
- increased competence of leadership
- forces company to become more aware of costs
- better morale, job attitudes, and general atmosphere

Employees: - job security

- education - personal and career growth
- chance to satisfy social and ego needs
- better morale, job attitudes, and general work
atmosphere

Labor relations: In some situations the SP may eliminate the need for implementing unions and formal labor-management bargaining by providing employees with the influence for which they might otherwise turn to a union. Where there is a union, the SP may facilitate collective bargaining in two ways: (1) As the employees become more knowledgeable about the company and trusting of management and vice versa, both parties may be able to bargain more objectively. (2) Because of better management-labor relations in general both parties may be motivated to bargain more sincerely.

Similarly, in non-unionized situations the SP may facilitate the achievement of mutually acceptable wages, working conditions, and relationships.

Extent of the Scanlon Plan

In light of the possible benefits discussed above it would appear likely that the SP would have received widespread adoption, but such is not the case. It is difficult to get accurate figures on the number of companies that have or have had the SP. Lesieur and Puckett (1968) say they know of 120 to 130 situations utilizing a SP and estimate that "there probably are anywhere from 300 to 500 situations in the United States and Canada employing some version of a Scanlon-type plan [p. 77]." However, others are far more conservative in their estimate of the extent of the Scanlon Plan. Helfgott (1962) writes that "Despite the widespread publicity given the Scanlon Plan, no more than a few dozen companies operate with it [p. 14]." Notwithstanding Helfgott's comments to the contrary, although the SP has been around for 30 years, it has not received widespread attention. Indeed the SP seems to be considerably less well known than much more recent organization development approaches such as job enlargement, Managerial Grid, and the Likert Survey, although it appears to be no less successful than these more recent approaches. There are several reasons that may account for this situation:

1. Simply because it has been around, it is not new and "fashionable."
2. It has centered around a few individuals (particularly Frost and Lesieur in recent years).

3. Related to the above point, the vast majority of SP applications have been geographically located within a relatively small radius of either M.I.T. or M.S.U.
4. The general emphasis on technology to improve productivity and the assumption that machine pacing reduces the importance of employee motivation.
5. It has often been assumed (be it true or not) that its applicability is limited to small companies that do not rely on high technological sophistication.
6. It got started in a mature industry and union and hence did not spread by natural growth.
7. The death of Joe Scanlon, the SP's originator.
8. The death of Doug McGregor, the SP's most famous spokesman.
9. The fact that none of the prominent authors in the area of organization development has identified with the Scanlon Plan or attempted to integrate it into the current literature on organization development.
10. Awareness of situations where the SP has been tried and abandoned.
11. The American cultural emphasis is on individual achievement and rewards based on individual achievement while the SP emphasizes group achievement.

12. The fact that industrial and union leadership has not taken any strong initiative in the area.

However, there are several factors that have served to promote the SP. McGregor's Human Side of Enterprise (1960), which has received widespread attention both in psychology and business circles, has a whole chapter devoted to a favorable discussion of the SP. In the psychology literature Katz and Kahn (1966) and Strauss and Sales (1957) discussed the SP in some length; and the Plan has received some attention in business oriented publications, most notably Fortune (Davenport, 1950) and more recently Harvard Business Review (Lesieur & Puckett, 1969). Also, one of the goals of the Scanlon Plan Associates has been to disseminate information about the Plan.

Relationship to Other Approaches

The basic structures incorporated in the SP, PDM and group incentives, have been used extensively by themselves and in some cases have yielded some dramatic successes. Undoubtedly the best known long term study focusing on PDM is the Marrow, Bowers, and Seashore (1967) monograph describing the use and results of participation at the Harwood and Weldon pajama factories. Similarly, some very positive results have been reported for Rucker Plans (Dowd, 1955; Steen, Fye, Orth & Strong, 1961; Torbert, 1959) which have a financial structure not unlike that of a SP but tend to place considerably less emphasis on PDM. However, the SP seems to be unique in its emphasis, focusing equally strongly on both the financial and participation structures. Probably the approach that comes the closest to this dual emphasis on employee

contribution and financial reward, and one that has received considerable attention of late is productivity bargaining. However, notwithstanding Rosow's comments to the contrary,² the SP is not a form of productivity bargaining which is described by the same author (Rosow, 1972) as "management induces labor to accept new working methods in exchange for gains in pay and working conditions. That is...management defines the changes it seeks and labor responds with modifications...until a suitable bargain is reached [p. 79]." Clearly, employee participation in the SP framework is much more than just this passive acceptance of changes put forth by management.

Basic Structures

As mentioned several times above, underlying the SP are two structures - financial and participation. This section attempts to explain these structures and the rationale for their use in a SP system.

Financial Structure

The financial structure of the SP is a companywide group bonus. The major purpose of the bonus is to reinforce employee contributions and provide an equitable means for distributing the savings that result from these contributions. The bonus also serves to lend credibility to managements' expression of interest in employee participation by tying the goals of the SP to those of the company - something that is often lacking in other organization development programs. The obvious question is why a group bonus? From an expectancy motivation approach (e.g. Vroom, 1964) it would seem that the instrumentality of an individual's

²"Indeed the Scanlon Plan is itself a form of productivity bargaining [Rosow, 1972, p. 88]."

performance in relation to economic outcomes should be higher under a system that ties pay to individual performance. However, there are several problems associated with such individual incentives. McKersie (1963) lists nine possible disadvantages:

The discussion has highlighted a number of disadvantages of this approach. For example, it (1) emphasizes manual effort and fails to recognize the importance of mental effort, (2) focuses only on improving labour costs and misses the importance of other savings, (3) is not applicable to jobs with long cycles of accomplishment, (4) overlooks the gain that can come from focusing people's attention on non-standard conditions, (5) heightens resistance to change, (6) does not emphasize coordination among different groups within the enterprise, (7) fails to recognize the financial need for dependable income and completely overlooks non-financial needs, such as the desire for group acceptance and status achievement, (8) presents problems of administration - a tendency exists for the system to become demoralized, and (9) contributes to cleavages already present within the organization [p. 205].

Additional problems that may arise with this approach are:

1. It may reinforce quantity at the expense of quality (or require additional inspection to maintain quality).
2. It may reduce the mobility of the workforce both from a motivation and ability viewpoint as employees may be unwilling to leave the job they have mastered to learn a new one that would involve at least a temporary drop in earnings. Similarly, it may contribute to employee resistance to technological innovations.
3. It may lead to informal but powerful norms that put restrictions on output.
4. It is difficult and expensive to set up and maintain (e.g. How do you allow for real differences in equipment and machinery?).

5. Because it is impossible to set up standards that are truly isomorphic with total contribution to the company, it may be difficult to get workers to perform the essential but nonincentive aspects of their jobs (e.g. machine maintenance).
6. It cannot be readily applied to jobs that involve nonstandard products or frequent changes in procedure.
7. Its applicability is being limited by the ever increasing ratio of indirect to direct labor.
8. It is not compatible with the emphasis on group participation such as is incorporated in the SP.

There is some empirical research that bears on this issue. However, most of the research in this area has compared individual and work group incentives and has not looked at companywide programs. In two British factories Marriot (1949) found a tendency for productivity to decrease as group size increased and that workers on individual incentives were more productive than those in the smallest groups. Other variables that have been shown to affect the appropriateness of group incentives include the nature of the incentive and how it was developed (Babchuk & Goode, 1951; Lawler & Hackman, 1964), nature of the tasks (Babchuk & Goode, 1951; Marriot, 1957), and the existing social conditions (Selekman, 1941). However, while this research does point out that certain situational and personnel variables may pose limitations on the appropriateness of a group bonus, there is not sufficient evidence to make generalizations. Lawler (1971) does make these generalizations but more on the

basis of rational than empirical foundations. His conclusion is that Scanlon-type bonuses are most applicable in small, centralized, process organizations. In practice SPs are found mainly in small and centralized (the two are highly related) situations but usually involving batch and mass rather than process types of technology.

In summary, it appears that although the financial reinforcers may not be quite as powerful under a group incentive, the number and types of behaviors reinforced is much greater (including such indirect behaviors as cooperation, trust, openness, etc.) and the benefits so gained may offset the loss in motivational power. Furthermore, the need to reward individual achievement can be accomplished through a well developed merit increase/promotion system that is not incompatible with the SP.

As McKersie (1963) writes:

The endorsement of group incentive plans should not be interpreted to mean that all individual incentives are outmoded. On the contrary, recognition of the individual is extremely important ...individual rewards, such as promotional opportunities and merit awards, need to be strengthened in order to help close the motivational gap.

The emphasis of...[the previous points]...has been on wage payment systems. For this aspect of compensation, arrangements should apply more to groups than to individuals. However, the wage structure...should provide the necessary incentives for eliciting and rewarding individual accomplishment [pp. 211-212].

However, individual bonus incentives are certainly not always inappropriate. There are numerous specific situations where they may be the best alternative and have yielded very beneficial results.³

³ Individual incentives are most appropriate in situations where: (1) interdependency among workers, and hence need for cooperation, is low, (2) tasks involved are very stable, and (3) a standard can be developed that accurately reflects total contribution to the organization's success. In practice very few situations meet all these criteria.

One of the most common situations is that of sales commissions which are frequently retained in SP companies.⁴

The second issue is how to define the group that receives the bonus, and its relation to other bonuses that may be in effect. In a pure SP bonus everyone participates in the one bonus and no other bonuses operate. The rationale for this is that as soon as some are excluded or are extended a special bonus, some of the problems discussed above may emerge. However, in practice there are many exceptions to this rule. Restrictions vary from excluding just the chief executive officer (CEO) to including only direct labor. Similarly, other bonuses have been retained alongside the SP bonus. In addition to the salesman example mentioned previously some companies have retained the typical discretionary executive bonus; indeed one company that has achieved national acclaim for its success with the SP had, until recently, a discretionary executive bonus (paid out on top of the SP bonus). Another discrepancy that occurs in practice is to have separate SPs operating in different parts (plants) of a large company. A good case can be made for this approach if there is little interdependency among the units or if interunit cooperation can be accomplished through other means such as the profit center approach.

The third issue is how the bonus is distributed. Almost universally it is paid as a straight percentage of base pay (including

⁴It is interesting to note that in the very successful participative management program described by Marrow, Bowers, and Seashore (1967), individual piece rates for production workers were retained. The author is aware of one situation where such individual incentives have been used along with a modified version of the SP; when the SP was implemented in this large company the employees were given the option of continuing with their individual incentives or switching over to the group bonus.

overtime). The rationale for this is that the existing wage structure should reflect relative differences in employee contributions to organizational effectiveness, and therefore should provide a sound base for distributing the bonus which results from additional employee contributions to the organization's effectiveness. However, inasmuch as U.S. federal wage and hour laws prohibit doing otherwise, it is pointless to debate the merits of this approach. However, it should be pointed out that this payment system amplifies the need for a sound and equitable wage structure because it will magnify any existing wage inequities.

The final issue is how the bonus is determined and paid out. Historically, and still typically, it is done by determining a base ratio that reflects the historical ratio of total labor cost to sales value of production. When this ratio is applied to actual sales value or production it yields "allowable payroll." The difference between this figure and actual payroll becomes the bonus pool and is paid out on a regular basis, usually monthly. However, because this bonus can be negative, a reserve portion is usually set aside to reimburse the company for deficit periods. At the end of the SP year, positive reserve balances are paid out (negative reserve balances are absorbed by the company) and a new reserve fund is begun. A second modification in the bonus determination is to split the bonus so that the company also gets a share. If it is all paid out as in the above example, the only savings accruing to the company are indirect, so to offset this several companies split the bonus typically paying the employees 75% and the company 25%. A simplified example of a typical SP bonus calculation is presented in Table 1.

Table 1

Sample Scanlon Plan Bonus Calculation

1) Gross Sales		\$ 98,000
2) Less Returns and Allowances		<u>- 2,000</u>
3) Net Sales		\$ 96,000
4) Plus Inventory Variation (Increase = +)		<u>4,000</u>
5) Sales Value of Production		\$100,000
6) Allowed Payroll (Base ratio = 25%		
25% × 100,000)		25,000
7) Total Actual Payroll		
Wages & Salaries	20,000	
Benefits & Vacation Reserve	<u>1,000</u>	
	21,000	<u>21,000</u>
8) Bonus Pool (#6 - #7)		\$ 4,000
9) Reserve (25%)		<u>1,000</u>
10) Net Bonus		\$ 3,000
11) Company Share (25%)		750
12) Employee Share (75%)		2,250
13) Participating Payroll (Wages & Salaries)		\$ 20,000
14) Percent Bonus (2,250/20,000)		11.25%
15) Reserve for Deficit Months		\$ +1,000

However, there are several problems that can occur with such a bonus system:

1. It does not directly reinforce savings in non-labor costs (and may even encourage waste).
2. Depending on the particular situation, and the company employee split, it may not yield any direct payoff to the company.
3. Bonus payments may not correspond to company profitability.
4. It does not compensate for shifts in labor content resulting from changes in product mix.
5. It may be difficult to adjust when such adjustment is required by change in factors that would affect the base ratio. Such things as: (1) Changes in selling price without corresponding changes in wages or material costs and vice versa, and (2) changes in technology, particularly increased use of capital equipment.

Ideally a bonus should:

1. Accurately reflect employees' contribution to increased production and improved performance.
2. Maximize the perceived relationship between the financial payoff and employee contributions.
3. Correspond to company performance and profitability.

From a motivational point of view it is obvious why the bonus should reflect employee contributions. There are two reasons why it should

also correspond to company profitability: (1) One of the goals of the SP is to get employees to identify with the entire organization and work toward its success. This is more likely to come about when their financial outcomes correspond to those of the company. (2) Either the employees or the owners are going to be very disgruntled if the bonus and profits go in the opposite direction. The degree to which these three goals are compatible is influenced by the nature of the organization. However, for any one organization, the way their particular bonus is determined can have a significant effect on the degree to which these goals can be simultaneously achieved. The goals are certainly interrelated but the relationship is a complex one. For example it may appear that there is an obvious strong and direct relationship between the first two goals (perceived versus actual reflection of employee contributions). However, this may not be the case. Really accurate measurement may require so many financial adjustments that employees may not understand and hence may not believe the accuracy of the bonus figures whereas coarser, less accurate, calculations may increase the bonus' credibility. As pointed out by Helfgott (1962) and Ross and Jones (1972), SP bonus calculations can become exceedingly complex, and in more than one case the failure of a SP has been partly attributed to a lack of understanding resulting from the complexity of the bonus calculations. Similarly there can be a discrepancy in the relationship between perceived and/or actual contribution and company profitability. The nature of the organization may be such that profits are disproportionately affected by outside technological or market forces, or select groups within the organization such as R & D, product design, or marketing, and

not subject to being significantly influenced by a large portion of the employees. Where there is this potential for employees to significantly influence profits, the participation may not have matured enough to realize this relationship (both real and perceived) between employee contribution and company profitability.

Using the type of formula discussed earlier (labor savings only) the above goals are most likely to be achieved when: (1) the major contribution, real and perceived, that employees can make is to increase labor efficiency, and (2) company profits are strongly related to labor efficiency. However, because these conditions may not occur and because of the other limitations of a labor only formula discussed previously, several variations have occurred.

When there is a major change in technology, it is normally accompanied by an adjustment in the base ratio although some companies have passed on the "unearned" bonus (i.e. not resulting from increases in labor efficiency) arguing that the loss is offset by savings that arise from not having to overcome worker resistance to the innovations. There are many instances where the base ratio has been successfully adjusted following changes in technology. However, as reported by Helfgott (1962), there are also several cases where SPs have gotten into trouble because the parties were unable or unwilling to make the needed adjustments. One approach to reducing the need for such adjustments is to set aside a portion of the bonus for purchase of capital equipment. In this situation employees "pay" for the equipment out of present bonuses and receive the benefits in future bonuses. However, there are problems with this approach. Since it serves to postpone

bonus payments some of the motivational benefits are lost. It also increases the complexity of the bonus calculations which may lead to difficulties as discussed above.

To reduce the difficulties arising from changes in product mix, one company uses standard labor hours, instead of the base ratio percent of sales value of production, to determine allowable payroll. These are engineering determined standards that are also used as the basis for product costing and pricing decisions.

Another possible approach to the problems resulting from changes in product mix is to substitute value added by manufacture for sales value of production. This automatically compensates for different labor allowances resulting from changes in product mix when these differences are proportionally offset by changes in cost of materials or supplies (i.e. constant profit margins). If the value added by manufacture is determined by subtracting material and supply costs at standard, then the characteristics of the bonus would be essentially unchanged,--the base ratio would simply be a larger percent of a proportionally smaller amount. However, if materials and supplies are costed at actual, then variances in these would also contribute to the bonus and thus the bonus base would be greatly expanded. This is precisely what several companies have chosen to do. This corresponds exactly to what takes place in the Rucker Plan developed by the Eddy-Rucker-Nichols Company. In this Plan an examination of historical data is used to determine employees "share" of value added by manufacture. When actual payroll is below this guaranteed "share" then the difference is distributed in the form of a bonus usually with 25% held in reserve

as is done with the SP bonus. The effect of this is identical to that of a SP bonus if savings occur only in labor efficiency and the employees receive 100% of the bonus. However, with this system employees have the opportunity to earn a bonus on savings in materials and supplies as well as increased labor efficiency, and furthermore are prevented from earning a bonus by increasing labor efficiency at the expense of increased use of materials and supplies. Certainly this approach has some appeal. In addition its inventors claim adjustments are seldom needed. As Torbert (1959) writes:

Rucker has shown that, for the United States as a whole, factory workers' pay has been proportionate to production values for 50 years. The relationship has prevailed to within $\pm 1.663\%$. Labor's average share has been 39.395%; management's, 60.605%. (For individual industries and companies similar stable relationships have been established.) Booms, depressions, wars, changes in political leadership in the nation, and the introduction of increasing amounts of labor and time-saving machinery have scarcely affected the ratios. Labor time, says Rucker, has been cut about 70% since 1914, but wages have made up almost precisely the same percentage of value added by manufacture [p. 88].

In light of its obvious appropriateness it is curious as to why this specific approach has not been more widely applied to SPs (certainly one possible reason is the copyright of the Rucker Plan claimed by the consulting firm and indeed all the cases described are those where it has been set up by the one consulting firm). In the Rucker Plan cases reviewed by this writer, some reference was made to employee participation but it certainly did not receive nearly the emphasis it does in the Scanlon Plan case studies. Another benefit to the Rucker Plan approach to bonus determination claimed by its proponents is that it does not require the collection of any data in

addition to that which is normally collected for routine accounting purposes.⁵

However, a very similar approach has been incorporated into the SP. By selectively adding costs other than wages to the bonus base and proportionally increasing the base ratio essentially the same result has been achieved. As the bonus base is broadened, the share of the bonus that the company receives must increase. One company with a bonus base that includes many costs in addition to wages, splits the bonus 60-40 with the larger share going to the company. This is not unlike the Rucker Plan which in effect splits the bonus so that the employees share corresponds to the proportion of labor cost to value added by manufacture. This has certain appeal for in effect it says that labor's share of the bonus corresponds exactly to labor's share of the total company effort. The result is that a one percent increase in productive efficiency (value added by manufacture) results in a one percent bonus and a one percent increase in the company's position.

The ultimate in broadening the bonus base is to go to profit sharing. With some notable exceptions, profit sharing has usually

⁵An interesting sidenote is the emphasis that authors of the Rucker Plan articles place on the precision used in determining employees' "share." Considerable discussion centers around the care with which this figure is determined (by the consulting firm) and one author (McKersie, 1963) goes so far as to suggest that one of the differences between the SP and the Rucker Plan is the greater precision used to determine the Rucker "share" than to determine the SP base ratio. However, there is no reason why the soundness of the SP base ratio is not as critical as that of the Rucker Plan except that possibly the Rucker Plan lacks the implicit assumption present in the SP that adjustments can be readily made when the need arises. However, as mentioned previously, Helfgott (1962) argued that difficulties in making such adjustments may contribute to the failure of the SP. It may be that this difficulty in making such adjustments is more appropriately interpreted as a symptom rather than a cause of failure of the SP.

suffered from the problem that employees do not perceive any significant relationship between their contribution and profits. Furthermore this problem is often aggravated by the fact that usually profit shares are only determined and paid out annually and then often at management discretion rather than as an unqualified right.

Summary. What is the best way to compute the bonus? Unfortunately there is no single answer for what is best will depend on the particular situation. Example: Company A manufactures a large volume of a standardized product which it sells to a few large customers. Therefore, sales (at least in the short run) and hence production volume depend on customer needs. If a labor only formula is used, the only way a bonus can be earned (short of building inventory) is to reduce wages, number of employees, or average bonus worker--all of which may be unrealistic. However, in this same company there may be a considerable potential savings in materials and supplies and by broadening the bonus base to include these a health bonus could be earned. (This description is exaggerated because in practice labor costs can be reduced without threatening employees' job security through company growth and natural turnover.) Company B on the other hand sells to a large number of customers and because of a large backlog of orders needs to increase production volume. In this case where employees can increase the volume of production the labor only formula may well be effective.

Ideally the bonus should:

1. Correspond to company profitability.

2. Should include as many as possible of the costs over which the employees have some control and as few as possible of the costs over which employees have little control.
3. Should maximize the perceived relationship between employee contributions and bonus payments. As discussed previously, this may not correspond to the above point. It would seem that a "proper" bonus (as above) is necessary but not sufficient to assure the perceptual relationship. (See following two points.)
4. Should be as simple and straightforward as possible.
5. Should provide feedback as immediately as possible. Too often bonuses only tell how you did and not how you are doing and lose much of their motivational effect. There may be a tradeoff between this point and the second point because as more is added to the bonus base it becomes succeedingly more difficult to provide prompt feedback, whereas with the labor only formula it may be possible (given a stable payroll) to actually forecast the bonus and provide feedback on a weekly or even daily basis.

An alternative to the second point is that the bonus base should expand as the SP matures. To begin with, particularly if there is no history of participation, the bonus base should be limited to the costs over which management allows employees control, and over which employees believe they really do have some control. Then, as (if) employees actual and perceived control increase, the bonus base should be

correspondingly broadened. With this idea the bonus base can be thought of as on a continuum starting on a limited basis (probably labor only) and eventually going to profit sharing as participation and identification with the entire organization increase. There is some evidence that this has happened. One company that started out with a labor only formula, subsequently broadened their bonus base to include quite a few additional costs. By all indicies their Plan is better because of the switch and they are currently considering going all the way to profit sharing. Another example of this may have occurred in a situation described by Jehring (1967). This company had a SP which originally was very successful but deteriorated as the base ratio was not adjusted to reflect increasing labor content in the product mix. The plan was subsequently replaced with profit sharing with positive results. The article is written as a contrast between the unsuccessful SP and the successful profit sharing. However, it seems very likely, although ignored by the author, that the profit sharing succeeded in part because of the learning and maturation that occurred under the SP.

Participation Structure

The participation that takes place in a successful SP occurs in two forms: (1) the structural committee system for formally processing suggestions, and (2) the unstructured but equally important increased influence in the immediate job situation. Although the literature has tended to emphasize the former, the development of the unstructured participation is an integral aspect and was very apparent even in the early SPs. Much of this unstructured participation corresponds to the sorts of things that have more recently received a lot of attention

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under the headings of job enrichment and job enlargement. These involve increasing the scope of an employee's job to include influence over such things as scheduling, inspection and quality control, job assignments, and work methods.

The structured aspect of participation has shown very little variation either across companies or over time. In the original or pure form employee suggestions are entered on a special form and submitted to a production committee. There is a production committee for each department usually consisting of the supervisor of that department and one or two elected or perhaps union appointed employee representatives. This committee then has the responsibility to evaluate suggestions and either explain to the suggestor why it is not feasible, or implement it if it seems good and does not affect other departments or require more than a set amount of capital expenditure. This committee cannot reject suggestions; if the suggestion cannot be resolved at this level, it is automatically sent to the screening committee as are those suggestions which affect other departments or involve relatively large capital outlays. The minutes of these production committees are taken up at the next monthly screening committee meeting which is usually held as soon as bonus figures for the previous month are available. This committee is usually made up of a senior company executive who chairs the committee, a senior union official (ex-officio) if the company is organized, and elected or appointed representatives from the different departments and levels within the organization. This committee has the responsibility for acting on suggestions forwarded up from the production committees by implementing them or assigning specific responsibility for further

investigation where needed and reporting back to the suggestor whatever action is taken. This committee does not replace the decision making role of top management--it is a consultative body that brings the resources of the company to management's attention so that the latter can make better informed decisions. Another important function of this committee is to provide feedback on the previous month's performance and explain the reasons behind it. This should be done with enough care so that the participants understand it well enough to explain it to the people back in their department. This meeting also provides an arena for general communication among the representatives from the different areas in the company. Specifically it provides an opportunity for top management to communicate the current company position--the market situation and sales forecast, problems and changes expected in the near future, and other items of general concern.

The difference between this system and typical suggestion plans is obvious. By using the SP bonus rather than individual prizes to reward suggestions, problems (parallel to those associated with individual piece rates as discussed previously) are avoided.

Some natural variations have occurred in large organizations, particularly in multiplant situations, where a "super screening committee" may preside over the screening committee for each plant not unlike the works council found in many European organizations. Conversely in very small companies or in small departments the production committee as such may be replaced by the entire work group or department. However, in some medium sized companies where production committees would seem appropriate they have ceased to exist at least in practice if not

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formally. There are several reasons that may contribute to this situation: (1) Foremen may not have the authority or inclination to really act upon employee suggestions and may even interpret such suggestions as a threat to their position. (2) Even when the foremen do have the authority and inclination to act employees may not perceive the situation as such and may simply see it as more efficient to submit suggestions directly to the screening committee.

Another frequent variation is for suggestions to be processed without ever formally being written down. While this is not necessarily bad, it may lead to problems. The communication aspect of the suggestions system--letting other parts of the company know what is going on--may be lost. Also because there is no formal record, it is difficult to assure that suggestions always are followed up on.

One company has tried a quite different variant on the participation structure. Borrowing from the recent organization development emphasis on team building, production committees have been replaced by work teams. These teams are composed of the de facto groups that work on similar or interrelated jobs and their immediate supervisor. It was felt that suggestions could be more effectively dealt with by these groups rather than going through the intermediary representative. Suggestions that cannot be dealt with at this level are processed to the appropriate area through the "linking pin" structure (Likert, 1961) which may or may not correspond to the traditional chain of command, and no screening committee as such is used. This approach has some distinct advantages but may also contribute some possible disadvantages: (1) When the appropriate "link" is not readily available there may be

a delay in transmitting and feeding back suggestions; particularly a suggestion that involves two distinct departments that are not effectively "linked" until you get to the executive committee. The advantages arising from the heterogeneity of the screening committee may be lost. A work team does not have the broad representation that characterizes the screening committee and may not be able to act as quickly or creatively as could a screening committee. The "arena" function of the screening committee may be lost. Management's explanation of the current situation and future plans may be distorted or lost in transit if they are passed through the "linking pin" structure. Upward communication could be reduced preventing top management from keeping abreast of what is happening throughout the company. Similarly, staff-line communications may be hindered.

Problems that may creep into the formal participation system are:

1. Action on suggestions is not taken or taken after unnecessary delay.
2. The action that is taken is not reported back to the suggestor or there is unnecessary delay in the reporting back. (People may be reluctant to report back turned down suggestions.)
3. There is unnecessary delay (or complete failure) in implementing suggestions that have been approved.

Obviously when any of these three situations is allowed to occur, reinforcement of suggestions is reduced and one would expect the frequency of suggestions to diminish.

Another problem that has been discussed in connection with both production and screening committees (particularly in connection with unsuccessful SPs) is that they may get off the topic and deteriorate into gripe sessions (Helfgott, 1962; Gilson & Lefcowitz, 1957).

Interrelation of the Two Structures

The above discussion of the two structures has not emphasized their interdependence. However, the strength of the SP is not either of the structures but the unique combination of the two into a meaningful total system. The structures interrelate in several ways:

1. The first and obvious relationship is that the participation structure provides a key means by which the bonus can be earned.
2. The financial structure may provide a testing ground for participation. If a SP is introduced into a situation which previously was characterized by little or no PDM, then it has to be developed. The bonus provides a good place to start. Employees feel they have a right to ask questions about their paycheck. Their initial attempts at participation may take place in the form of asking questions about the bonus, how it is determined, and what factors affect it. If such early inquiries are reinforced, then participation may follow. Indeed it seems that in early stages the bonus dominates much of the talk regarding the SP but then as the participation matures it seems that other aspects become increasingly important and emphasis on the bonus is reduced.
3. As mentioned earlier the financial structure may lend credibility to management's expressed interest in increasing employee PDM.

Very often when a company attempts to implement such programs as participative management it is perceived by the employees as a gimmick or an attempt to manipulate them. However, when it is specifically tied to a possibility of an increased paycheck, it is far more likely to be perceived by the employees as a sincere interest.

4. Again, the financial structure should be set up so that the employees perceive it as accurately reflecting their contribution. Although often not done in practice, it would seem that this is far more likely to occur if employees participate in determining the financial structure of the bonus. This occurred in some of the very early SPs and may have contributed to their success. This idea is also supported by research done by Lawler and Hackman (1969). In this situation the company was trying to develop an incentive plan to encourage greater attendance. They found that employee participation in the development and implementation of the incentive system had a significant impact on its success and further suggested that the effects of this participation may have been stronger than the effects of the mechanics of the financial structure.

Scanlon Plan Success

Definitions

Before defining Scanlon Plan Success (SPS), it is necessary to define the SP, and this requires determining the focus from which the SP is being examined. Three such approaches are apparent in the

published SP literature. The first approach looks at the SP as a tool for achieving good industrial and labor relations. This approach is a logical one when we consider the origins of the SP, the backgrounds of Clinton Golden, Joe Scanlon, and Fred Lesieur, and in general, the experience with the SP in the East. This emphasis is apparent in the titles of many SP articles: "Causes of industrial peace under collective bargaining..." (Schultz & Crisara, 1952), "The Scanlon Plan: A frontier in labor management cooperation" (Lesieur, 1958), "Profit sharing under collective bargaining..." (Scanlon, 1958), "The causes of industrial peace revisited" (Northrup & Young, 1968), "Some experiences with a union-management cooperation plan, " (Tait, 1952), and "Local union experiences with a cooperation plan," (Lesieur, 1952). However, this labor-management emphasis has not been employed in the area companies who have the SP, and indeed only two Midwest SP companies are organized. Therefore, such an approach seemed to be an inappropriate way to focus on the SP, and SP success, in the present study.

The second approach to the Scanlon Plan is that of a financial incentive system for increasing employee productivity. Again, this emphasis is apparent from the titles of several articles on the SP which mention only the financial aspects: "A contrast between two approaches to total system incentives" (Jehring, 1967), "Wage payment methods of the future" (McKersie, 1963), "Group wage incentives: Experience with the Scanlon Plan" (Helfgott, 1962). However, this focus again seems inappropriate in light of the emphasis the SP has received here in the Midwest.

The third approach, and the one used in this study, is that the SP is an approach to organizational development (OD). This has been the focus of the several authors, mainly psychologists: Frost, Wakeley, and Ruh (1974), Katz and Kahn (1966), McGregor (1960), Strauss and Sayles (1957), and Ruh (1971). This approach differs from the first two in that it emphasizes the psychological processes as well as the formal structures that come into play when an organization attempts to increase its effectiveness through use of the Scanlon Plan. However, the structural components of the SP must not be ignored. One of the main features that distinguishes the SP from other OD approaches is the attempt to alter structural as well as process influence systems within the organization.

Another prerequisite to defining SPS is discriminating between Scanlon Plan and SPS. Lesieur and Puckett (1968) fall into this trap by dismissing unsuccessful SPs described in the literature as not really being SPs in the first place. Such an approach is not very useful in helping understand what makes a SP succeed or fail.

The approach taken in this study is that to a great extent it is the structural mechanisms that define a SP and it is the success of these structures in achieving certain outcomes that define Scanlon Plan Success. With this, and the OD focus discussed previously the following definition of SP was derived. The SP is a system whereby there is a companywide structure for employee participation in improving the organization's effectiveness and sharing in cost reductions and where the members of the organization purport to have a Scanlon Plan.

Three different definitions of SPS were used in the present study. It was stated at the outset that the principle underlying the

SP is that present in the workforce is a reservoir of creativity and experience, that if properly tapped has the potential to greatly increase the organization's effectiveness. Based on this organizational development approach to the SP, the first definition of SPS was derived:

The extent to which the full effort, experience, creativity, and innovative ability of the entire workforce through the use of the SP is directed toward increasing the organization's total effectiveness. (SPS1)

The second definition of SPS, chosen partly for practical measurement reasons, is whether or not the SP is subsequently abandoned or retained (SPS2). It was expected that there would be a strong but less than perfect relationship between this and the previous definition of SPS. Where SPS1 is high it is very unlikely that the SP would be abandoned. However, where it is low it is very possible that the SP would remain "on the books." One of the hypotheses focuses directly on the interrelationship of these two definitions.

Such definitions are very broad and useful only at the company level of analysis. However, as was mentioned previously, much of the substance of the SP is individual and perceptual and can be meaningfully examined at the individual or subunit level. Therefore, a third definition of SPS, participation in decision making (PDM), was used. Certainly PDM is not synonymous with SPS as defined above. It is broader than SPS in that it is applicable to non-Scanlon situations. At the same time, though, it is a much narrower approach in that it takes considerably more than just a lot of PDM to assure high degrees of SPS. However, there are three reasons why it was chosen as an index of SPS. First of all it is central to successful SP--it is the major process by which the contributions of the workforce are directed towards

enhancing organizational effectiveness. For example Frost et al. (1974) discuss the principles of identity, participation and equity, and view the SP as a tool for transforming these principles into organizational reality. However, in their discussion participation occupies a central role; it is not coincidental that the principles are discussed in the above order. Identity is defined as articulating the organization's objectives and the resources available for achieving them--a process that enables effective participation to take place and provides a focus for such participation. Equity follows participation and is the return (social and egoistic as well as financial) an employee receives for his investment, and serves to reinforce and maintain his participatory behavior. The second reason for using PDM is that it is that aspect of SPS which is most applicable to the individual and subunit of analysis. Again, looking at the Frost et al. framework, the other two key concepts, identity and equity, are considerably less applicable, (and less readily operationalized) at the individual level than is PDM. The third reason for using PDM as an index of SPS is that of practicality. More readily than other concepts it can be, and has been reliably measured at the individual level.

Participation. There are several issues, often ignored, that are relevant to the discussion and definition of participation in decision making (PDM) particularly as it operates in a SP situation:

1. Area of influence. Most existing definitions of PDM are inadequate for defining its use in the SP because they include only the influence an employee exercises in his relationship with his supervisor and ignore his ability to influence the larger system. For example, PDM has been defined as: "a mode

of organizational operations in which decisions are arrived at by the very persons who are to execute those decisions [Lowin, 1968, p. 69]," and "the amount of participation of A is...the amount of A's influence on the decisions and plans agreed upon, or equivalently the amount of influence that B, C...accept during the joint decision making process [French, Israel, & As, 1960, pp. 3-4]." Similarly, although not put forth explicitly as a definition of participation, Heller & Yukl (1969) define the extreme end of their influence continuum as "decisions that the manager allows subordinates to make on their own [p. 230]." In addition to excluding the influence a subordinate has in areas other than in his relationship with his superior, these definitions also assume that the source of increased employee influence is the superior, and fail to include employee influence derived from organizational structures rather than supervisory leadership style.

2. Type of influence. Another issue, largely ignored by the above definitions of PDM is that employees can participate vicariously or indirectly. An example of indirect participation is when an employee submits a suggestion that is taken up by others when he is not present. He is exerting influence but it is a quite different phenomenon from the face-to-face joint decision making implicit in the previous definitions. Similarly, an employee can participate vicariously--although an employee may not exert direct influence, his groups may be exerting influence. Such participation is common in the union situation and appears to

have made up a considerable part of the actual employee influence that took place in the original Coch and French (1948) study.

3. Total amount of influence. This issue, raised by Tannenbaum (1968) deals with the fact that the total amount of influence (control) need not be a constant and therefore increasing subordinate influence need not proportionally reduce superior influence. Whether the total amount of control in an organization is constant is not clear; however, it is clear that the total amount of perceived influence can vary, and hence a definition such as Heller & Yukl's (1969) may be inappropriate at least for dealing with perceived PDM.
4. Perceived versus actual influence. This issue, hinted at above, concerns whether it is objective or subjective employee influence that is most relevant. This issue has been discussed by Hoffman and Maier (1961), Lowin (1968), Hackman and Lawler (1971), March and Simon (1958), and Tannenbaum and Smith (1964). Lowin's summary is the most concise. As he points out, it is the particular motives and reinforcers operating that determine the appropriateness of the two approaches. Where ego motives/reinforcers clearly predominate, then perceived PDM would be the most appropriate. In the Scanlon situation where both ego and financial motives and corresponding rewards are operative, then it is both sorts of participation that are of concern. Lowin adds:

It is important to note, however, that perceptual and objective PDM measurements are probably correlated over time. During a series of events the absence of all real influence will surely be recognized as such (viz., the perception of no influence).

The veridicality of long-term influence perception is a useful concept for it enables us to argue that the tactical (manipulative-deceptive) versus organic (true) PDM issue is largely a specious one. It is incredible that tactical PDM could long exist in the absence of organic PDM [pp. 77-78].

5. Unit of analysis. This last issue deals with the level of analysis at which PDM is being examined. Most authors (as in the above definitions) discuss PDM in connection with leadership and hence the unit of analysis is usually the superior-subordinate dyad. However, PDM can apply to a work group, a department, or an entire organization as well as an individual. Likert (1967) has done the most work in this area. He discusses participation as an organizationwide system of management as well as a departmental and individual level phenomenon. The problem involved here is that if PDM is measured at the individual level, as it usually is, then how should scores be combined to get a department or companywide index. The obvious and easiest approach, and the one used by Likert, is simply to average scores. However, implicit in this approach is the assumption that PDM is compensatory--very high levels of PDM in one department, for example, can compensate for average amounts of PDM in another department to yield a fairly highly participative management system. This, however, is probably not the case. Discrepancies in level of PDM, especially when they are seen as such, may be just as important as the average amount of PDM when it comes to achieving desired outcomes. However, although this simple averaging procedure poses these problems, there is no viable alternative, and it was used again in this present study.

Based on the above issues the following definition, adapted from Likert (1961, p. 228), was used to define PDM as it occurs in a Scanlon situation: The extent to which employees influence the methods and activities of their job, department, and entire organization.

One of the hypotheses explicitly deals with the relationship between companywide average individual PDM and the companywide SPS measures. While it is expected that the relationship is a strong positive one, because of the inappropriateness of simply averaging PDM scores and because SPS involves more than PDM it is expected that the relationship is less than perfect.

Causes of Scanlon Plan Success (SPS)

From the above definitions of SPS at the company level and the above definition of PDM which was used as an index of SPS, it is apparent that there can be meaningful variance in SPS across organizations as well as across individuals and groups within organizations.

At the intracompany level, using PDM as the SPS criterion, it would seem that participation is likely to be high when the parties to such participation are able and motivated to participate and where the situation and structures are conducive to participation. At the company-wide level SPS would be high when the PDM is high and focused toward the objective with appropriate feedback and refocusing--"putting it all together." There are two categories of variables that are likely to bear on SPS: (1) Antecedent/independent variables--these are characteristics of the situation and of the personnel that can exist independent of the SP and before a SP is implemented. Within this category there is likely to be interactions, particularly situational characteristics

affecting personnel characteristics. (2) The second category of variables are those involving the SP processes and structures--the way in which PDM takes place, its consequences, and their subsequent influence of these consequences on future PDM.

Conceptual Model. Figure 1 shows a schematic portrayal of this framework. As in all such models it is an oversimplification. It may not include all the appropriate types of relevant variables and certainly there are more possible interactions than those indicated. However, its intended purpose is to provide a framework for examining those variables that may affect SPS, not to explain all the possible relationships.

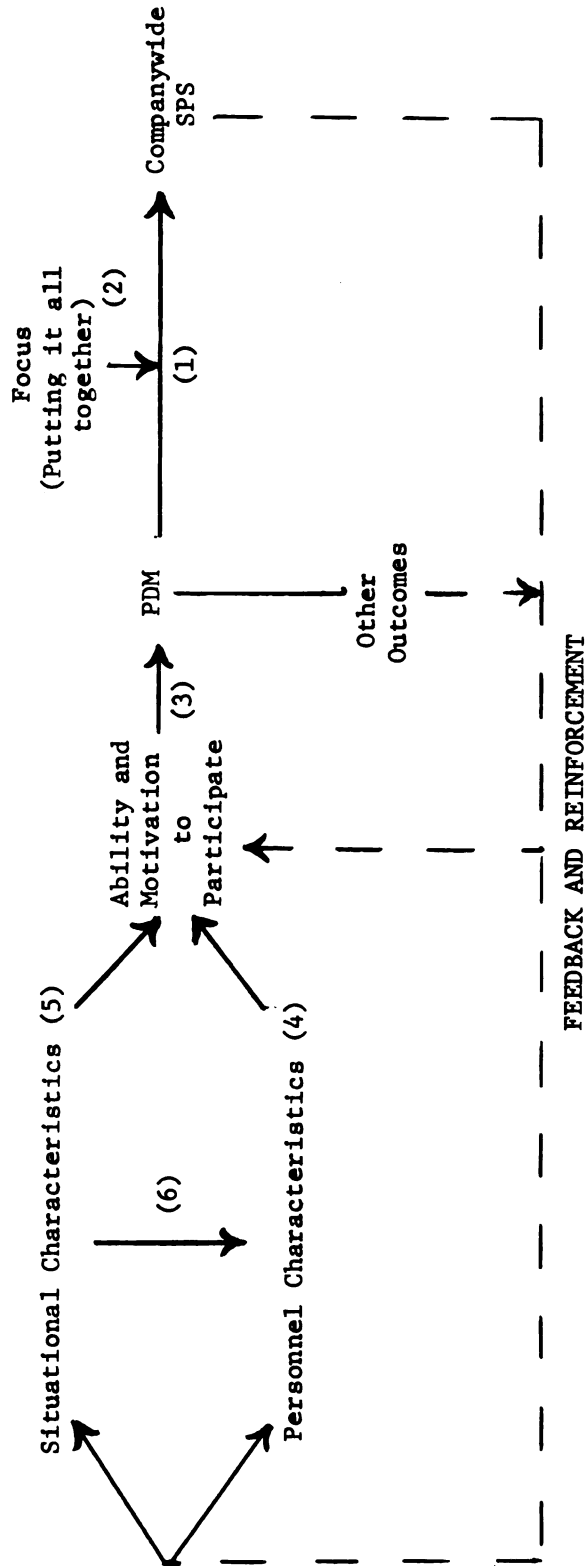
Literature Review

The literature was reviewed to (1) see the extent to which the model is viable, and (2) identify some of the personnel and situational characteristics that may enter into the model. Specifically the literature was examined to determine: (numbers correspond to those in Figure 1).

1. Evidence that PDM was related to SPS.
2. Evidence of factors other than PDM that contributed to SPS.
3. Evidence that manager and employee ability and motivation contributed to SPS in general and PDM in particular.
4. Evidence of personnel characteristics that contributed to such ability and motivation.
5. Evidence of situational characteristics that contributed to such ability and motivation.

Figure 1

Causes of Scanlon Plan Success: Conceptual Model



6. Evidence of situational characteristics that affected personnel characteristics.

This review did not emphasize many of the process variables, particularly at the intracompany level, involved in SPS (these "other outcomes" in Figure 1 with their subsequent feedback and reinforcement function). Certainly these variables are important. However, many of them already have received considerable attention in the organizational psychology literature, particularly the variables: control, managerial assumptions, identification, motivation, job involvement, satisfaction, needs and values, performance reward relationships, equity, organization development, and individual differences as they relate to one or more of the above. These variables were de-emphasized because the focus of this literature review was on the "antecedent/independent" variables and because many of the above topics have already been the subject of thorough review and research in a SP context. As they relate to the SP situation, the above topics have been most thoroughly examined by Frost et al. (1974). The concept of control is closely related to participation. The concept is associated with Tannenbaum (1968) and in this context it has been discussed and researched as it applies to the SP by Burtnett (1973). The job attitudes identification, job involvement, and satisfaction are usually thought of as consequences of the SP in general and participation in particular although causality may be the other way around (White & Ruh, 1973). The person most closely associated with identification is Patchen who did research involving identification at the Tennessee Valley Authority (Patchen, 1965). Using Patchen's framework, it was investigated by Ruh, Johnson, and Scontrino (1973) as it relates to the

Scanlon Plan. The pioneering work in job involvement was done by Lodahl (1964) and Lodahl and Kejner (1965) and using some of their instrument and ideas it has been investigated in the SP situation by Ruh and White (1972) and Siegel (1971). Needs, values, and motivation dominate much of organizational psychology. As they relate to organizational behavior in general, they have been reviewed by Strauss (1970) and have been researched specifically in the SP context by Morrison (1970) and White (1972). Motivation and particularly performance reward relationships dominate much of the current theory and research especially under the heading of expectancy theory (Heneman & Schwab, 1972). As they relate to the SP, they have been discussed by McKersie (1963) and Tobert (1959). The ideas of managerial assumptions is the key concept developed by McGregor (1960) who also discussed it as it applies specifically to the SP situation. The concept has been operationalized (with modification) by Miles (1965) and researched in the SP context by Wallace (1971). The concept of equity has been the subject of considerable theory and research in social psychology in general as well as in the area of organizational behavior. It has been discussed, although from a somewhat different approach, in relation to the SP by Frost (1964), Frost et al. (1974), and Ruh (1971). The SP shares many of its goals and techniques with a broad collection of approaches that are discussed under the heading of organization development. However, while those authors most closely associated with organization development (Beckhard, 1969; Bennis, 1969; Margulies and Raia, 1972) have devoted no attention to the SP, the converse is not the case--"The Scanlon Plan: A System for Total Organization Development" (Ruh, 1971).

Finally, the role of individual differences has not been ignored. Their effect as they moderate the relationship among some of the above variables in the SP situation has been the primary focus of recent research by Morrison (1970), Ruh (1970), Siegel (1971), and White (1972).

Participation. Under various names, the concept of participation has received considerable attention in the professional literature. The vast majority of these studies have either tried to (1) prove or disprove the general hypothesis that high levels of PDM lead to beneficial outcomes in the form of improved performance and/or job attitudes, or (2) identify those individual and situational variables that moderate the relationship between PDM and the outcomes. The major emphasis of this study is identifying those factors that predict the amount of PDM rather than the outcomes of PDM. The two are likely related for those same traits and situations that predict positive outcomes of PDM would no doubt also contribute to the amount of PDM. However, the emphasis here was to examine the SP literature rather than the organizational psychology literature, partly for the above reason but also because, in spite of the large amount of research, recent reviews (Lowin, 1969; Ruh, 1970; Strauss, 1963; Yukl, 1971) have provided few unambiguous conclusions regarding participation. Much of this situation is no doubt due to the lack of conceptual precision regarding the variables involved. For example, included with participation are such topics as democratic and general supervision, job enrichment and enlargement, as well as quite different definitions of the PDM construct itself. Similarly, quite different outcome variables have been thrown together, including even attitude and performance measures despite the known lack of

relationship between the two. Even the contingency variables have lacked careful attention as evidenced by Blood and Hulin's (1967) measure of "alienation from middle class norms." Another reason for the ambiguity in the area is the generalizability of laboratory research to organizational settings. As Lowin (1968) writes:

Of...importance is the question as to whether the extrapolation from nonorganizational research to organized PDM has any merit at all (Pugh, 1966; Weick, 1965). If we assume that the model developed in this paper does focus on the central issues in PDM, then there are several serious reasons for arguing that research in nonorganizational settings is simply not relevant to the organizational issue. (a) The present PDM model leans heavily on attitudes about PDM as an independent and dependent variable. Indeed, we are more concerned with attitudes about PDM than we are about attitudes toward any one specific issue to be decided on. Nonorganizational research has not concerned itself with attitudes to PDM; it has, instead, viewed PDM as a tactic which can be applied more or less at will by the experimenter. (b) We have deemed the manager and subordinate to be equally crucial actors, and the attitudes of each are of central concern. Nonorganizational research has focused only on the "subordinate"; the roles of the "manager" and experimenter are confounded and ignored. (c) The organizational model employs a homeostatic analysis which suggests that attitude change involves more than mere persuasion and which focuses on the critical role of the experimenter as an agent of social change. These issues are ignored in nonorganizational research. (d) In nonorganizational research there is no feedback from the influence process, which alters the future effectiveness of that process. We tacitly assume that the position the experimenter is attempting to inculcate is in fact beneficial for the subject (Gomberg, 1957). Our own model stresses the long-term evaluation of PDM, by which the actors persuade themselves and the researcher as to the (in)effectiveness of the program under the stated conditions. (e) Nonorganization research assumes that the experimenter-manager has already arrived at that decision which simultaneously serves the best interests of all concerned. It considers participation, therefore, as a persuasive tactic, not a heuristic tool for examining alternatives.

Given these issues, it is hard to justify the common use of laboratory experimentation in exploring organizational PDM. In the study of PDM, simplistic laboratory models fail to reflect just those issues which form the very heart of the organizational phenomenon [p. 87].

Furthermore, there are reasons why even much of the organizational PDM research may not generalize to the special SP situation. (1) Unlike many

other situations, PDM in the Scanlon Plan is formalized and institutionalized. (2) The nature of the actual participatory behavior involves much more than narrow joint decision making with a supervisor. (3) The companywide focus on, and evaluation of, participation. (4) The incentives, particularly financial, connected with the participation system. Because of all these reasons, the SP rather than the professional literature was examined to identify those factors that contribute to SPS.

Scanlon Plan Literature Overview. The number of published studies specifically focusing on the SP is relatively small and most of them fall prey to one or more of the following weaknesses: (1) strictly a case study with unknown generalizability, (2) completely devoid of any empirical data, and (3) highly biased either for or against the SP. There have been only two recent empirical investigations that focused on the SP per se: Goodman (1971) [Goodman, Wakeley, and Ruh, 1972] and Wallace (1971) [Ruh, Wallace, and Frost, 1973]. Two other empirical studies while not focusing on the entire SP have looked at major aspects of it: Burtnett(1973), and Ruh, Johnson, and Scontrino (1973). A third study, Iman (1972), focused on the entire organization development effort of one company, a lot of which was the SP. There are some conspicuous "holes" in the published literature. Not one study systematically compares Scanlon with non-Scanlon companies with the exception of the Wallace (1971) study which looked at the special case of Scanlon versus ex-Scanlon companies.

The lack of empirical investigations arises mainly from the fact that most of the published articles are not written by or for academicians. Those authors that have written on the SP and are more academically

oriented (Gray, 1971; Katz & Kahn, 1966; Strauss and Sayles, 1957; Whyte, 1955) seemed to have little or no first hand experience with the SP (excepting Gray). Lesieur who has had considerable first hand experience, has written the most articles on the SP but all have a strong pro Scanlon bias and imply where the SP has failed there never actually was a real SP anyway (Lesieur & Puckett, 1968). Unfortunately there are no research oriented authors (who do not have this axe to grind or at least grind it much more subtly) with both this interest and first hand experience.

The articles were reviewed here in an attempt to identify and evaluate those variables that have been suggested as causing or correlating with success or failure of the Scanlon Plan. It is very apparent that there is considerable variance in the success with which the SP has met. There are numerous case studies of dramatic success. However, it is apparent both from published studies and the experience with the SP here in the Midwest that there are also a lot of failures. It is impossible to get accurate figures but it does not seem an unrealistic estimate that the SP has been abandoned in about as many cases as it has been retained.

Scanlon Plan Case Studies. Ten cases of SP applications were obtained from the published literature, seven successful and three unsuccessful. By far the most frequently discussed application of the SP is at Lapointe Machine Tool Company. Seven articles have discussed Lapointe's success (Daigneault, 1952; Davenport, 1950; Dowd, 1955; Lesieur, 1952; Lesieur, 1958; Lesieur, 1959; Shultz & Crisara, 1952). However, Northrup and Young (1968) discuss problems at Lapointe some

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of which they claim were direct consequences of the SP; Lesieur and Puckett (1969) subsequently attempted to refute their findings and interpretations.

Chamberlain's (1946) description of the SP at the Adamson Company is the earliest case study and it is this article that first brought attention to the SP. This application was a dramatic success. However, the article was written very soon after the SP had been implemented and there has been nothing published since to indicate whether or not this early success was sustained.

Steen, Fye, Orth, and Strong (1961) described the success of the Scanlon Plan at Revco in Adrian, Michigan. However, like the Chamberlain article this case was also written very soon after the SP was implemented. The author's description unquestionably indicates that their SP was successful at the time the article was written; however, the company no longer operates with a SP and was one of the abandoned SPs studied by Wallace (1971).

A 1969 article in Production discussed Michigan Wheel's successful application of the SP. The article is very brief and much of the discussion focuses on non-SP aspects of the company. However, unlike the previous two articles this one was written after 23 years with the Plan and they are still actively operating with the SP today.

The Pfaulder Company has been the focus of two articles on the SP. Martucci (1957) described the situation five years after the SP had been implemented and Lesieur and Puckett (1969) presented a brief discussion of their SP's success twelve years later. This is the only

company that has received both early attention and a follow up showing sustained success with the SP.

In this same article Lesieur and Puckett describe two other successful SP applications both of which had the Plan for fourteen years. Attwood Vacuum Machine Company with 2000 employees is the largest successful SP company that has been described (for which size information has been provided). All of their employees from six plants are covered by one Plan. Each plant has its own production committees but gets together with other plants in each of two geographic areas for monthly screening committee meetings. The third company described in the article is the Parker Pen Company. During the fourteen years that they have had the SP the company experienced major increases in technology but have altered their SP only slightly and have maintained a fairly high and consistent bonus.

The three remaining published cases of the SP refer to situations where the SP was implemented and subsequently abandoned. Jehring (1967) described a company (anonymous) that implemented the SP in 1956. After initial success, the SP deteriorated following a loss of bonuses which arose from shifts in product mix rather than decreases in actual productive efficiency. In 1962 the SP formula was abandoned in favor of profit sharing. Although this study has been referred to as a failure of the SP, such interpretation should be qualified. Unfortunately the author does not mention whether the participative committee structure, which was set up in the conventional manner under the SP, was maintained under profit sharing. If it was then it would seem that the change would be more accurately described as replacing an inappropriate formula

with one that better reflected productive efficiency, rather than abandoning the SP.

Some qualification also seems appropriate in discussing the second unsuccessful case (Gilson & Lefcowitz, 1957). This was a small family owned (anonymous) company engaged in the manufacture of ceramic gifts. In this case the SP never really got off the ground and was abandoned at the union's insistence less than one year after it had been implemented. However, as the authors point out, although both parties concurred in abandoning the Plan, several significant achievements occurred during the period the Plan was in effect. The proportion of direct labor to manufacturing cost dropped 15% during this period, workers received a bonus equivalent to a weeks pay, and management was forced to rationalize its production process and pay more attention to scheduling and planning.

The last unsuccessful case (Gray, 1971) is the largest SP, six thousand employees, that has been described (for which figures have been given). It was the Lindwood plan of the Pressed Steel Company--a large producer of car bodies for the British auto industry. The SP was begun in October, 1963, and abandoned in February, 1966. It appears that one of management's main hopes for the SP was that it would increase manpower flexibility. This was never accomplished to any great degree and according to the author it was employee resistance to redeployment within and between departments that led to the Plan's abandonment. The author argues that the failure of the Plan could not be attributed to management authoritarianism or lack of commitment to the SP philosophy. However, if participation (or at least lack of authoritarianism) was

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present at top management levels it appeared that it did not permeate through the lower supervisory levels. For example, in all the discussions about redeployment and worker resistance to it, no indication was given that those affected had any meaningful input into the system other than to refuse transfer or strike. The author makes no references to the employees being consulted on if and how such redeployment should be accomplished. The formal participation structure may have been present but there was little indication that employees had any influence in their immediate job situation.

In addition to these cases, there are two other articles that refer to several companies' experience with the SP. Unfortunately very little identifying information about the companies is provided so it is impossible to tell to what extent the two articles involve the same companies, or companies that have also been the subject of more intensive analyses as discussed above. Puckett (1958) examined productivity gains of ten firms for the two year period following implementation of (successful) Scanlon Plans. According to the author, the ten situations were representative of situations where the SP had been implemented and represented considerable diversity in market environments and other characteristics. In all ten cases, productivity (sales value of production in relation to total payroll excluding bonus) increased for both years studied with an average annual increase of 23.1 percent. The author claimed that the amount of productivity increase did not correlate with any of the environmental variables he investigated.

Helfgott (1962) analyzed six companies' experience with the SP. Two of the companies had abandoned the SP after two years, two had continued with the SP for periods of eight and ten years, and two had just implemented the Plan (one with no bonus). The author presented no data whatever, but on the basis of these six companies' experiences and other published cases, did draw some conclusions regarding the ingredients necessary for a successful SP.

Two articles have discussed the makeup of the companies (both SP and non-SP) that have attended M.I.T. SP Conferences, focusing on such things as diversity in size and general business environment. Shultz (1958) discussed the variation in environment of the SP companies that attended the 1957 conference. Lesieur and Puckett (1968) focused on the size of the companies that attended the 1965 and 1968 conferences. However, the bias in both of these articles is apparent as they attempt to prove that the SP can be applied to almost any situation. As Lesieur and Puckett (1968) write: "The conclusions reached...are that in spite of size and complexity and changing environmental conditions, Scanlon philosophy can be implemented over the years with continuing success during good times and bad [p. 80]."

Ability and Motivation to Participate

There is indication in the literature, that employee ability and motivation to participate has contributed to SPS. Helfgott (1962) writes:

| ...The Scanlon Plan, by encouraging actual participation, raises the worker's status and importance, making him more than a mere "hired hand." Workers, however, do not always respond positively to the opportunity to participate, and many of them do not care

to share the burdens of decision-making with management, being content to do their jobs and draw their pay [p. 36]. ...Among the most successful applications of the plan which have received widespread publicity have been the Adamson Company of East Palestine, Ohio, and the Lapointe Machine Tool Company of Hudson, Massachusetts. Studies indicate that in both companies the workers have been fairly highly skilled men living in a small community, and having a close and long attachment to their employment. This description of the labor force was also found to be typical in the IRC sample of companies. A National Planning Association study found that "work at Lapointe...tended to attract and develop an inquisitive and self-reliant type of individual." It noted also that a surprisingly high number of Lapointe machinists had at some time operated their own business, and so were more familiar than the average worker with the problems of management, and that some of the management people came from the ranks [pp. 15-16].

However, with the exception of the above passing reference to Adamson and Lapointe, the only discussion of this effect is in connection with unsuccessful SP's. Gilson and Lefcowitz (1957) saw this factor as one major cause of the failure of the SP they investigated:

Since most of the workers were primarily oriented to the outside they had little motivation to participate fully in the operation of the plan or to accept the responsibility of participation. This was most clearly evidenced at committee meetings, where attendance was spotty or hurried because "My husband is waiting outside," or "I have to get home and get supper ready." Since the days on which meetings were held were regularly scheduled, other arrangements could conceivably have been planned by the employees. Their unwillingness to do this is indicative of their lack of motivation to participate.

The preponderance of housewives in the work force had other consequences for the operation of the plan. The fact that they did not look to the factory for any personal satisfactions made the pay check primary [p. 295]. ...The work force consists mainly of women and others, such as Puerto Ricans and displaced persons, who are marginal in the labor market. Most of the women are secondary wage earners for whom layoffs are not catastrophic and may even be desired at certain periods, especially if unemployment compensation can be secured. Thus, the factory plays a minor role in the life of most of the workers, whose primary orientation is toward their roles as housewives [p. 286]. ...[The] members of a weak union were unwilling to accept the responsibility inherent in participation. This accounts for many of the obstacles, such as management's peremptory handling of suggestions and the committee members' willingness to accept management's inflexibility [p. 296].

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To a limited extent, Gray (1971) brought up this argument to explain the failure of the SP he examined:

The worker in a given work situation may therefore adopt a pattern of needs in accordance with his own wider set of objectives. This pattern need not follow the same order as that of Maslow hierarchy. For example, he might elect to satisfy higher needs outside the work situation and accept without any pathological consequence a certain deprivation within it [p. 313].

Intracompany Scanlon Plan Success

In keeping with the approach outlined previously the variables were examined separately for the intracompany and companywide level. However, the distinction is to a great deal an artificial one in that many of the variables are equally applicable at both levels of analysis.

Personnel Characteristics. One obvious set of variables that would fall in this category and likely relate to motivation and ability to participate is background characteristics of the workforce brought to the job. The SP case studies shed only a little light on the specific factors that might come into play. The only relevant information on such characteristics is that contained in the quotes in the previous section. From these quotes came the variables: skill level, small town background, managerial experience, sex, and in general the centrality of work in the person's overall lifestyle. The similarity between these variables that predict employee PDM bears a striking resemblance to those that have been suggested as predicting the outcomes of PDM (White, 1972):

Needs/traits/values - self actualization, independence, achievement, authoritarianism (reversed), intrinsic orientation, religiosity, accomplishment, autonomy, knowledge, elitism (reversed), social mobility, responsibility, status, equality, participation and ego need gratification provided by the job.

Fatalism (reversed) - The degree to which a person believes he can affect his personal outcomes...

Alienation from middle class norms - Hulin and Blood (1968) define middle-class norms as a positive affect for achievement, work, responsibility, etc....

Protestant ethic - ...

Background factors - sex, education, father's occupation and education, hierarchical level, slum conditions, rural/urban, and previous work experience [p. 9].

This list probably includes most of the background factors that affect employee ability and motivation to engage in PDM.

Another variable in this category is expectations and intentions when the Plan is undertaken. If the employees (as well as the managers) never really expected or wanted the increased influence, then it is unlikely to come about. As Shultz (1958) indicates:

Failure is almost completely predictable when one or possibly both parties see the Plan as a substitute for something else. Suppose someone suggests the Plan as the way out of a collective-bargaining impasse. The company proposes to substitute it for a wage increase or the union wants to "give the Plan to the company" in exchange for some concession. Under these conditions, one or both parties do not really want the Plan with any degree of enthusiasm. Workers are unlikely to put forth critical suggestions and insist that these suggestions be carefully examined, nor is management apt to have thought through and faced up to the Plan's implications for information--sharing and consultation with employees. Success will certainly be unlikely or, at best, difficult to achieve.

Do the parties want the Plan, or do they really want something else, with the Plan a sort of pawn in a larger game? [p. 107].

This seems to be precisely the situation of the unsuccessful SP described by Gilson and Lefcowitz (1957):

The acceptance by management and the union of the structure and principles of the plan seems to have been dictated almost completely by the urgency of the immediate problems which faced them and which could not be resolved by other means. For the union, the plan represented a possibility for higher wages, which they felt could not be

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gained through negotiation. For management, it represented a possible means of improving the firm's market position through reduced labor costs, which it had been unable to accomplish through its existing methods of management. Union-management cooperation and worker participation in the work process were negligible as motivating factors. In short, the parties would have accepted any reasonable incentive system [pp. 288-289].

...as has been noted both management and the union saw the plan as something which might secure for them benefits which the other would not otherwise give. In a sense, although every one was willing to go along, since there was nothing to lose, no one was enthusiastic about the plan's potentialities [p. 293].

The third variable in this category is that of managerial attitudes and behavior. Although most of the cases discussed this variable in connection with companywide SPS it undoubtedly differentially influences PDM at the intracompany level as well. The leadership issue is the most frequently discussed variable in connection with the SPS, and there is ample evidence that managerial attitudes play a key role in both general SP success and in PDM in particular. On this issue Shultz (1958) writes:

Another major problem that may lead to failure arises from indecisiveness on the part of management. We have already touched on the problem as related to the large, complex, multiplant organization. But it exists as well in smaller firms, especially if the structure of ownership is such that there is no agreed center of authority in the firm. The Plan may, of course, make a major contribution to the effectiveness of the firm by forcing management to face up explicitly to the decisions it must make. Failing that, however, the Plan will atrophy. As Joe Scanlon used to put the question, "How hard is it to find the boss?" If this is impossible or very difficult, the Plan is not likely to succeed [p. 108].

Wallace (1971) did an empirical investigation of the relationship between managerial attitudes and SPS (defined as retention/abandonment of the SP). He hypothesized that managers in organizations which have retained the SP have more favorable attitudes toward rank and file employees and toward PDM than do managers in organizations where the

SP has been abandoned. Managerial attitudes were measured by an instrument developed by R. E. Miles (1965) to assess attitudes related to his human relations--human resources model of management. Data were collected from managers from all levels in ten companies where the SP had been abandoned and eight companies where the SP was still in operation. The two groups of managers showed a significant difference in the predicted direction both on confidence in first level employees, and attitudes toward PDM. However, there was considerable overlap in company means for the two groups. The mean for managers in the highest abandoned SP company exceeded the mean for five retained SP companies; the two companies with the lowest means were retained SP's (although the lowest company abandoned their SP shortly after the study). Unfortunately, the cross-sectional nature of the study prevents any inferences about causality. It cannot be inferred that managerial attitudes caused the Plan's abandonment; the alternate interpretation that the abandonment, and factors associated with such abandonment, could have caused the observed difference in managerial attitudes is also very plausible. The case studies shed some light on this leadership issue. Certainly, in none of the successful SP cases did there appear to be any lack of management commitment. In two of the cases it was particularly conspicuous--Lapointe (Davenport, 1950) and Adamson (Chamberlain, 1946). The management attitude issue also arose in connection with two of the unsuccessful cases. Gilson and Lefcowitz (1957) discussed top management's authoritarianism and lack of enthusiasm for making the SP succeed and suggest that this was a major cause of the Plan's failure:

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...factors which contributed [to the Plan's ineffectiveness included] ...management's continuance of an autocratic leadership pattern [p. 295]...throughout the Top Committee meetings management continued to dispose of Production Committee proposals in a peremptory fashion. ...thus neither management's authoritarian approach nor the union's willingness to accept the responsibilities inherent in such a plan changed substantially, and true cooperation among equals was never reached. ...management...did not accept the union as a partner on problems and tended to resist suggestions [p. 293].

However, such top management leadership practices do not seem to have characterized the unsuccessful SP described by Gray (1971):

...it seems reasonable to conclude that authoritarianism was no longer a general or serious problem in the factory, and the 1964 figure is so low that it is hard to imagine that authoritarianism was a significant factor in the failure of the plan--unless of course there exists some very low threshold degree of authoritarianism, which is difficult to identify, but above which the plan will not work.

On the question of whether the plan failed for lack of sufficient commitment by top management, there exists a vast amount of documentary evidence demonstrating the huge amount of effort they put into the plan over a period of more than two years. It is difficult to see how they could have done more. Further the leading figures were highly respected in the factory.

Given the highly subjective nature of the concepts of authoritarianism and commitment, however, firm conclusions are impossible, but on balance it seems likely that neither of these factors was involved in the failure of the Linwood plan.

...[it would not] seem that management in general infringed any of the more obvious rules of the game, although the subjective nature of many human relations concepts makes this a hazardous conclusion. Also, where the rules were infringed, the results are again not in line with expectations derived from the underlying philosophy of the plan. In all these respects the conclusions of this article are in sharp contrast to the views expressed by other writers as to the effects of the Scanlon Plan, e.g., the authors of Lesieur's Scanlon Plan, or Argyris, Likert and McGregor [p. 311].

(The major reasons that Gray does give for the failure of the SP is that perceived inequities in the existing wage and salary levels prevented success by generally keeping effort low and creating conflict. It appears that this issue was never articulated and confronted

either before or during the time the SP was in effect and distracted employees from focusing more on the SP.)

Another aspect of the impact of leadership on participation is the role of first level supervision. Care must be taken so that foremen are not threatened by the increased worker influence and possible loss of some traditional management prerogatives. Situations like the following one described by Whyte (1955) must be avoided:

Many foremen look upon a successful suggestion submitted by a worker in their departments as a reflection upon their own competence. They fear that higher management might say, "Why didn't the foreman think of that himself?" Many workers recognize this and fear that the foreman will retaliate against them if they submit suggestions [p. 171].

Similarly (Helfgott, 1962):

The role of supervision, however, can be an important deterrent to adoption or success of the plan. The plan puts supervisors in a particularly vulnerable position, and without psychological preparation, foremen and department heads can develop deep resentment towards suggestions emanating from their subordinates as reflecting upon their own competence. [The] initial loss of prestige and power on the part of supervision is bound to develop conflicts and tension [p. 30].

And Strauss and Sales (1957):

[The foreman's] attitude is critical. An antagonistic foreman can do much to cut off the flow of suggestions (Dreyer, 1952, p. 243). Suggestions can in fact easily threaten his position (Shultz, 1951). Many call attention to his inefficiencies, or bring forth ideas which he should have thought of himself. By now he may well have become adjusted to union grievances against his personnel policies. However, it requires quite an additional adjustment to accept criticism as to how he handles the production end of his job.

Furthermore, the Plan makes it possible for the union to go over the foreman's head and expose his shortcomings to top management through bringing suggestions directly to the Screening Committee. Even if the suggestion implies no failure on the foreman's part, still by-passing takes the decision-making power out of his hands. In a way the Plan provides an added technique for top management to control and check up on the foreman [pp. 18-19].

We feel that if union-management cooperation is to be successful, top management must be constantly alert to the danger that lower levels of supervision may feel left out (see Jacques, 1951, p. 189), that they will feel that top management listens more attentively to the union than it does to them [p. 19].

Unfortunately little information is provided by the case studies on specific occurrences of this problem. However, Helfgott (1962) does present one clear example of this problem:

In one of the companies studied by IRC, the tendency in the early stages of the plan was for the workers to entirely ignore first-line supervision and take all suggestions directly to the production committees. This served to overload the agendas of the committees and, at the same time, breed resentment against the plan among the foremen [p. 30].

(Management did become aware of the situation and it was subsequently corrected.)

Another dimension of this leadership issue is the role of very top management. One notion is that there must be a convert at the top who has total commitment to seeing the SP succeed, and it is his zeal and enthusiasm which makes the Plan work (Helfgott, 1962). Similarly, in relationship to their unsuccessful SP, Gilson and Lefcowitz (1957) write:

A...underlying condition that was lacking is what might be called an "evangelist." In most applications of the Scanlon Plan known to the authors, one or more members of the participating groups become "evangelists" whose enthusiasm infect others. Except for the small contribution of the authors, there was no one to provide the spark...[p. 293]...no one assumed the role of an evangelist who would act as a spark plug and needle the others into following the procedures properly [p. 296].

However, the fact that many SPs have apparently succeeded without such an evangelist at the top indicates that while it might be helpful it is not an essential ingredient. However, there is evidence that a very senior executive must play a key role if the SP is to succeed.

There are two reasons for this situation. First, as Shultz (1957) indicated there is a need for a clear delineation of where the final authority lies. Second, is the critical role that a senior executive can play in setting an example of participatory behavior for other managers. Argyris (1973) devotes an entire article to the critical role of the CEO's behavior. Although, he focuses on organizational development in general rather than on the SP in particular, his interpretations seem very relevant. Unfortunately he provides little information about the data from which his findings were drawn. Nevertheless, based on his analysis of top management decision making in some fifty organizations to which he had access, he concluded:

Because of the way most companies are organized, the chief executive officer is the focal point of power and responsibility for managing and renewing organizations. The CEO is therefore the key to the success of organizational development programs. ...The way the CEO actually behaves is crucial for the survival of organizational renewal and change activities. It is his behavior (and subsequently that of other officers) that ultimately does or does not confirm the idea that organizational development is necessary, credible, and inexorably linked to his leadership style [pp. 64-65].

Another dimension of the leadership issue is the role of the union. The actions and support of the union leaders can play a key role in the amount of participation and general SPS. However, in addition to just supporting the Plan the union must be active in actually getting the membership to participate and avoid situations such as the one described by Strauss and Sales (1957):

There is a real danger that cooperation may involve top union and top management alone. In such a case little effort is made to communicate with union members or lower management [p. 16]. ...If the [union] officers are to be successful in changing standards, they must involve the rank and file members in the discussions of Scanlon Plan problems. They must exercise substantial

skill in human relations--and if possible be themselves informal leaders [p. 17]. ...In one local we studied...there was some evidence that remaining officers [not members of the Scanlon Plan Committee] felt somewhat left out of things and were prone to push traditional anti-company grievances as a means of protecting their status. Many of the officers and active union members not connected with the Plan (1) criticized the Plan committee members for not showing greater militancy in unmasking management's incompetence, and (2) were dubious of the Plan's success. The Plan's committeemen defended themselves by arguing (1) that they had in fact exposed this incompetence, and (2) that the Plan was more of a success than its opponents were willing to concede. (In a way, this forced them alternately to attack and defend management) [p. 18].

Situational Characteristics. There are several situational factors that could contribute to intracompany SPS. Closely related to background factors mentioned previously as affecting motivation and ability to participate is the idea of seniority which is arbitrarily listed here as a situational characteristic. Employees with more experience may be more able to engage in meaningful PDM and are more likely motivated to do so. Helfgott (1962, p. 22) sees low turnover as a necessary ingredient for a successful SP. Similarly, managers with more experience may be more adept at fostering PDM and perhaps have more favorable attitudes toward participative management policies in general. Another situational variable that may affect managers' motivation to foster PDM is the extent to which they are rewarded for such activity. A third situational variable is size. By itself size is a sterile concept. However, there are several ways it can manifest itself on both employees' ability and motivation to participate. A recent study involving participation in a non-Scanlon setting (Froidevaux and Gravejat, 1970--abstracted in International Labor Review, 1970) illustrates how the sheer size of the organization limits employees' ability to participate.

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The authors of this research study carried out in a large firm near Lyons assumed as a working hypothesis that the formal procedures for participation cannot really satisfy the worker if they do not actually change his relationship with his immediate environment and the way in which decisions are taken which affect him directly. The investigation centered on means of enabling workers to influence the aspects of life in the undertaking which are close and familiar to them, i.e., the organization of work in the shop.

...their very thorough inquiry enables them to pinpoint a number of obstacles that must be overcome if genuine participation is to become possible. One of the many interesting points they make is that in the present state of information available to him the productive worker is utterly incapable of understanding the reasons for the orders he has to obey or the constant changes that are introduced...the workers there are given nothing except the information they need in order to do their jobs. They are not consulted about the means of tackling a job, or about the results, whether good, bad or indifferent, they obtain with the methods they are instructed to use.

The investigation therefore shows that the explanation of the "blockage" in regard to participation is to be found not within the individual workshop but in the structure of relations between the particular section and other branches.

...The authors regard this as a structural defect which inhibits participation, arguing that participation "is not primarily a matter of goodwill, nor of relations between individuals, nor the style of command. It is the structure of the production unit, the organization which it establishes that stimulates or prevents participation."

...They note in this connection that the information workers receive from management and union does not enable them to understand or to put forward reasoned suggestions concerning the running of the shop [pp. 196-197].

On a smaller scale the size of an employee's immediate work group may limit his ability to participate particularly when such participation is with his immediate supervisor whose availability may be restricted by having to supervise a large number of employees. Similarly in such a situation a manager's ability and willingness to foster PDM may be reduced. Similarly size may reduce the employees' motivation to participate in that there is an inverse relationship between the financial payoff an employee receives for his contribution

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and the number of employees, and hence, the reinforcement function of the bonus may be reduced.

Another situational variable that may affect ability and motivation to participate is the technology of the job situation. One obvious effect is that where technology is high, the proportion of labor costs of total costs will be smaller and, therefore, if the bonus is based on a labor only formula the effect of technology will be to restrict the bonus potential, and hence, the financial incentive. Another notion is that mass production types of technology restrict the worker such that his opportunity to make significant contributions is very limited. However, with the leverage of a large amount of technology a small contribution may have a greater effect than would a larger change in a lower technology situation. Furthermore, even in situations where technology does impose some restrictions on some employees there are other areas where productivity gains can be made:

A more critical question concerns the applicability of the Scanlon philosophy in situations which are highly automated, and where the technology is of a kind that leaves little room for improvement and change originating anywhere but in engineering or research. Some of us who have watched the development of the Scanlon Plan are optimistic about its applicability even under such conditions. The influence of human behavior upon organization success--in maintenance, in construction, in the clerical force, in management generally--even though the operation is highly automated, is more substantial than most people recognize [McGregor, 1960, p. 119].

Companywide SPS

Personnel Characteristics. The personnel characteristics that relate to companywide SPS parallel those discussed at the intracompany level. Background characteristics of the workforce may systematically

differ between companies as well as within a company. Similarly managerial attitudes and behavior can affect the entire company's level of SPS. However, particularly important at the company level is the role of the CEO as discussed previously. Lastly, expectations prior to the Plan's implementation can meaningfully differ between as well as within companies.

Situational Characteristics. Following directly from the intra-company discussion and likely related to the attitude and behavior of the CEO is the general extent to which managers believe they will be rewarded for encouraging PDM.

Size is another situational variable that can affect SPS at both levels. At the intracompany level, size of a particular department or work group may limit managers and employees abilities to participate. At the companywide level, large size may hinder the ability to direct total effort toward a common goal. With large size comes increased differentiation and therefore more problems to achieve integration. It is all too easy for a key group to be bypassed, and their being left out may prevent the SP from becoming successful. This situation is not unlike what can happen to foremen as discussed earlier. Other groups that may be forgotten include all indirect, office, sales, R & D, and engineering. Strauss and Sayles (1957) draw attention to this problem:

Probably staff (particularly production control) and middle management are most threatened by the Plan. They are subject to the same embarrassment as the foremen, but sit on neither Production nor Screening Committees [?] As the "little men who aren't there" they can easily become the scapegoats for everyone's troubles. (Of course, good relations can develop between staff and workers, as apparently they have at the Lapointe Machine Tool Company, the best publicized of the Scanlon Plan situation (Whyte, 1955, pp. 178-180) [p. 19].

Certainly SPs are concentrated in smaller organizations although Lesieur and Puckett (1968) note that there is an increasing interest on the part of larger organizations. Unfortunately, the data available on size of SP companies is limited. Table 2 shows the size of the companies attending the 1957 M.I.T. Conference, and Table 3, the 1965 and 1968 Conferences. Unfortunately the data are not very useful to see if new SPs are being implemented in larger organizations. The difference in unit of analysis makes comparisons between Tables 2 and 3 impossible. Furthermore, it is impossible to tell whether the difference between 1965 and 1968 is a function of larger organizations implementing the Plan or whether it indicates that they are the same companies that have merely increased their sales during the interim period. (Implementing the SP in a large company is quite a different situation and involves different problems from those encountered when a company that already has the SP expands.) The size of the eleven retained SP firms in the Wallace (1971) study ranged from 23 to 3000 employees with a median of 105. The corresponding figures for the eight abandoned SP firms were 66 to 700 with a median of 154.⁶

Size certainly limits which companies attempt the SP. Because so few large companies have experimented with the SP, it is virtually impossible to learn what limitations large size really does impose. Although passing reference is made to larger organizations (up to 7200 employees), the largest SP company that has received any detailed attention is the unsuccessful case described by Gray (1971).

⁶Size when the Plan was abandoned, not when the study was conducted.

Table 2

Number of Employees in Plants Using the Scanlon Plan
and Represented at the 1957 Conference

Number of Employees	Number of Plants
Under 60	3
61-100	2
101-200	5
201-500	3
501-1000	5
1001-1500	2
over 1500 (7200)	1

Note. - From Shultz (1958) p. 101.

Table 3

Corporate Size Distribution of Companies Attending Scanlon
Conferences: In Terms of Annual Sales Volume (in 000,000)

Annual Sales (Millions)	1968 Conference		1965 Conference	
	With Plan	Without Plan	With Plan	Without Plan
Under 10	4	1	4	3
10-25	3	3	2	1
25-50	1	1	1	1
50-100	1		3	
100-200	2	3	1	
200-300	1	1	1	1
300-400		1		
400-500				
Over 500	<u>1</u>	<u>3</u>	<u>—</u>	<u>3</u>
Total Companies	13	13	12	9
Listed on New York Stock Exchange	4	6	4	3
Listed on American Stock Exchange	1			
Average years of experience with the Scanlon Plan	9		7	

Note. - From Lesieur and Puckett (1968) p. 79.

However, although he has a quite lengthy discussion of the reasons for the Plan's failure, he never emphasized the size issue. The largest successful SP company that has received some detailed discussion is Attwood with 2000 employees (Lesieur & Puckett, 1969).

The largest company in the Midwest that has implemented the SP had about 3000 employees. Their SP was originally set up in 1958 as 12 separate Plans covering 16 plants. The Plan met with some success but ran into the predictable problems of lack of cooperation and rivalry between the different locations which were highly interdependent and not set up as separate profit centers. In 1970, the separate SPs were abandoned in favor of a companywide SP which in turn was abandoned three years later. However, it is hard to make generalizations from this situation because this company was in an industry that was facing particularly severe difficulties--much more severe than those encountered by the other Midwest SP companies. Also the abandonment of the SP came shortly after a change in top management.

The idea of setting up separate Plans in separate units of a large organization certainly has some appeal. It would probably be most likely to succeed where the different units had a minimal degree of interdependency such as in a retail chain or where there are realistic alternatives to interunit cooperation such as true profit centers. Unfortunately, there are no such SP applications to date. However, one large conglomerate does have separate SPs in three of its wholly-owned subsidiaries.

In summary, although the SP is clearly associated with smaller companies, because so few large companies have experimented with the

Plan it is impossible to tell if the limitations imposed by large size are real or imagined.

The issue of technology has already been discussed as affecting the individual employee's and manager's ability and motivation toward PDM, and, as implied earlier in the McGregor (1960) quote, there can be considerable variance within a company in the extent to which the technology poses such limitations. However, general types of technology that characterize the company may affect the appropriateness of applying the SP principles. This parallels the work of Burns and Stalker (1961), Woodward (1965), and Lawrence and Lorsch (1969). Woodward has done the most work quantifying technology. She described production systems on a continuum of unit and small batch, large batch and unit, large batch and mass, large batch with process, and process which corresponds to the amount as well as the type of technology. Her data indicated that the organizational variables, including several that are key to the SP (such as democratic versus autocratic leadership style), that are correlated with organizational success are specific within but do not generalize across types of production process. However, her findings are not supported by the examples of successful SPs which can be found in all of her classes of production except for process.

In practice it seems that there is a slight bias toward applying the SP more in low technology situations. According to Helfgott (1962) the SP companies attending the 1957 M.I.T. Conference all involved operations in which labor costs were large in proportion to total costs. Except for a reference made to one company that operates a "SP" with no bonus, there are no SPs operating in continuing process

firms such as oil refining or chemical manufacturing. However, in both the published cases and in the Midwest, the SP has succeeded and failed in both unit/small batch and mass production companies. A cursory comparison of the retained and abandoned SPs investigated by Wallace (1971) yielded no noteworthy differences in technology within the range of technologies represented in his study. Furthermore one company, Parker Pen, has undergone major increases in technology since they implemented the SP and have maintained a viable Plan throughout the change. (Indeed, the ease with which they have been able to accomplish this shift in technology they attribute to the SP.)

Another situational variable that may affect both managerial attitudes toward participation and the general applicability of the SP to an organization is the relative importance of productive efficiency. The SP, at least as originally conceived, focuses on improving productive efficiency. Therefore, it would seem that its use would be most appropriate in organizations the success of which is primarily determined by productive efficiency as opposed to other sorts of variables. There are two reasons for this. First, if company profits, and in turn the bonus, are determined primarily by "outside forces" then the bonus will not correspond to employee contributions and hence may lose some of its motivating effect. Secondly, if the SP is to succeed, it is necessary that management devote considerable attention to ways of improving productive efficiency, i.e.,--attention to the SP. However, if the nature of the organization is such that other areas such as marketing or R & D preoccupy management, they may not be able to provide this necessary attention.

Actual applications of the SP seem to provide some support for this notion. According to Helfgott (1962) none of the companies which attended the 1957 M.I.T. Conference were in industries where "profits depend more on styling, foresight in inventory accumulation, sales imagination, advertising, and engineering, than on labor costs [p. 15]."

Two of the unsuccessful cases provide conflicting information on this point. In the unsuccessful SP described by Gilson and Lefcowitz (1957) factors other than productive efficiency seemed to have the most effect on profitability:

The product, ceramic giftware, has a demand which is notoriously unstable. This arises from two factors, the first of which is the nature of the product itself. Its appeal involves novelty and design, so that demand is dependent upon style: and as a "luxury" or nonessential good, its demand is very sensitive to general economic conditions. The second factor is the highly competitive nature of the market. Successful items are quickly copied by other domestic producers, and competition from Czechoslovakia and Japan is frequently a factor in the market.

The instability of the market contributes to a peculiar pattern of pricing and production. Samples are made and shown to sales agents and retail store buyers at semi-annual "shows." In pricing an item, the manufacturer starts with a particular price at which he feels it might be popular. He then figures backward to see if after profit, sales costs, and other overhead are accounted for, production costs are covered. A given piece may be a complete failure, sell well for a time and peter out, or be a great success for months or even a year or more. When the orders come in from the shows, they are usually small. Initial production is largely on a job-lot basis, made up of short runs, and is actually at a loss until substantial volume is reached. The few popular items, which only become evident through reorders, must offset the many "dogs" or failures, if a profit is to be made [p. 285].

However, the unsuccessful SP situation described by Gray (1971) was a manufacturer of auto bodies where productive efficiency is a major determinant of profitability. Furthermore, a cursory comparison of

the continued and abandoned SP companies investigated by Wallace (1971) does not reveal any obvious differences in the relative importance of productive efficiency. There were several cases of both abandoned and continued companies being in the same industry.

From all this it might appear that high importance of productive efficiency is a necessary but not sufficient condition for a successful SP. The one Midwest company that has received the most attention for their success with the SP can attribute much of their general company success to the productive efficiency they have achieved. However, there is another successful Midwest SP company that presents a somewhat opposing situation. This involves the role that the SP plays in increasing willingness to accept change. One of the least ambiguous conclusions that can be gleaned from the voluminous research on participation is that it does tend to reduce resistance to change. Therefore, the SP may be particularly appropriate where companies need to introduce frequent changes to maintain profitability. However, very often such changes originate with a small group within the company or even from outside the company, and it may appear that these small specialized groups exert a strong influence on company profitability. However, while these key groups introduce the changes it often is the SP and the entire workforce that "makes or breaks" them. In addition to the Parker Pen situation mentioned previously, this seems to have occurred in one Midwest company that has successfully operated the SP for several years. Much of their recent profitability can be attributed to a new product line that was actually developed by designers not employed by the company.

However, according to one senior executive the SP was critical in successfully and quickly moving the new product from the drawing boards to the production floor. Similarly the company mentioned above in reference to achieving high productive efficiency was able to "steal" a large order from a competitor simply because they were able to get the item into production sooner than could their non-Scanlon competition.

In summary, it seems that little can be concluded about the limitations imposed by a situation where productive efficiency is less important. The gains from reducing resistance to change may be more important in some situations than the reduced importance of productive efficiency. Furthermore, the earlier discussion assumed a labor only bonus formula. Expanding the bonus base may reduce the limiting effects imposed by a lowered emphasis on productive efficiency.

Scanlon Plan Process Variables. There is another group of variables that seem to directly affect the company's SPS in addition to (or instead of) specifically affecting PDM. These are those variables that must be combined with PDM in order to "put it all together" and assure that the PDM is directed toward increasing the organization's total effectiveness. The first of these is the time issue. Time has already been mentioned at the individual level as a factor that could contribute to manager and employee willingness and ability to engage in participation. Similarly, time may be required to focus the participation efforts into a meaningful total company effort. The building up of trust and the development of intergroup cooperation to direct the efforts to a common goal are procedures that require considerable trial and error and one would expect that

SPS would increase with time. On account of the lack of systematic longitudinal studies in the literature it is difficult to find much evidence on this point. However, it should be noted that somewhat contrary to the above hypothesis, are the examples where the SP has met with fairly immediate success (Chamberlain, 1946; Davenport, 1950), and where SP's that were at one time going strong were subsequently abandoned (Steen et al., 1961; Jehring, 1967).

Two other potential causes of Scanlon Plan failures are over-emphasis on financial aspects and lack of feedback on performance. These two differ from other situational factors discussed previously in that they refer to how the SP is managed rather than background characteristics that can exist independent of the SP. SPS, especially as has been defined here, puts the major emphasis on the participation aspects of the Plan. However, in its application very often there is an overemphasis on the financial aspects. The problem is that if the SP becomes synonymous with the bonus, then, when the bonus disappears (often for reasons beyond the control of anybody within the company) the other aspects of the SP may disappear also. It is likely this situation that led Helfgott (1962) to conclude:

Assurance that a regular bonus can be paid continually under the plan. This is without question the most significant aspect of determining the success or failure of a plan, for if the plan does not pay off, the morale of employees is adversely affected. Adoption of the plan, therefore, would be unrealistic for those companies whose profits occur on an erratic schedule [pp. 41-42].

...It is extremely doubtful that the Scanlon Plan can function over any length of time unless it provides a fairly regular bonus to workers. Companies which experience erratic or declining demand for their products, preventing them from stabilizing production levels, might, consequently not find the Scanlon Plan suitable to their needs [pp. 43-44].

There is some evidence of this happening both in the published studies and among the Midwest SP companies. According to Jehring (1967), the unsuccessful SP he described was "patterned in a broad way after the Scanlon Production sharing program [p. 8]." However, his description concentrated solely on the financial aspects and according to the author all interest in the Plan faded when bonus payments disappeared. Similarly in the situation described by Gilson and Lefcowitz (1957) both parties were really interested only in the financial aspects, and when bonuses were not forthcoming the Plan was quickly abandoned. In at least one Midwest company, SP activity (i.e.--Screening Committee meetings) disappeared during a fairly long period of no bonuses.

However, two types of experience provide evidence that a SP should be able to survive periods of no bonuses if the financial aspects are not overemphasized. First are the examples, most notably the Harwood and Weldon plants (Marrow et. al., 1967), where major participation programs have made a sustained contribution without any sort of group bonus. Secondly, there are examples from both the published studies and from area companies where SPs have remained viable throughout fairly lengthy bonus droughts.

It appears that this problem is most likely to occur when the SP is installed as a solution to financial problems--a not uncommon situation:

Financial difficulty or an intolerable incentive system is a favorable climate for seeking a change. Where a company has been foundering, adoption of the plan has seemed to work, at least in the short run [Helfgott, 1962, p. 42].

However, Helfgott goes on to confirm the idea that when the SP is installed solely for this reason, it may only last as long as does the crisis:

The signal stimulus for adopting the plan is that of desperation and the desire on the part of companies, unions and employees to save their plants and their jobs. As problems are solved, however, interest in the plan cools considerably, and its dramatic benefits taper off [p. 43].

In the Midwest, most of the SP installations have not been adopted out of desperation and hence this problem has not been as severe.

The second issue, feedback on performance, would from a psychological viewpoint appear to be a critical ingredient in integrating effort toward a common goal. However, not one of the SP articles reviewed for this study devoted any significant attention to this issue. This feedback can take the form of either bonus earnings or shorter term production accomplishments. Psychological principles suggest that this feedback would be most effective when it is given frequently and in a form that is readily understandable to the people receiving it. However, in practice both of these principles are frequently violated. It is not atypical that the only feedback employees receive is a report on bonus earnings and this often two weeks after the end of the month in which the bonus was earned. In such a case the employees may learn how they did but not how they are doing. Furthermore, often this feedback is in the form of complex financial terms whose relationship to specific production accomplishments is not clear. However, there are some notable exceptions. One Midwest company provides weekly feedback by department that shows

production accomplishments along with the production needed to keep the bonus in the black. Ideally the feedback should:

1. Be frequent.
2. Follow accomplishments as soon as possible.
3. Be presented in a way that includes both financial data and other units such as particular jobs or production runs that may be more meaningful to the employees. Ideally it should be presented in such a way that employees can see what levels of production correspond to what levels of bonus.

I am not aware of any company that has completely achieved the third point, i.e.--employees know (in shop floor terms) exactly what has to be accomplished to earn a certain size bonus. The reason is simply that to do this is time consuming at best, and very often the data are not available at all. To provide this information requires that the company know in advance of the bonus period what the product mix and actual payroll will be. Furthermore, this assumes a labor only formula. As the bonus base is expanded, the difficulties increase. The ideal may never be achieved but certainly in most situations there is plenty of room for improvement. It seems that the accounting personnel must play a key role in helping the companies improve the feedback on performance that they provide, a task that should be greatly facilitated by recent advances in data processing technology.

Unfortunately there is little in the published literature that bears on this point. However, it is interesting to note that in the earliest SP case described (Chamberlain, 1946), feedback on

production was given daily. (The article includes a photograph of the company treasurer setting the "hand" on a large clock-like "production indicator.")

A finding by Burtnett (1973) does have some bearing on this point. One would expect that a direct consequence of quick accurate feedback on performance would be to increase the perceived relationship between employee contribution and bonus payments. Using a cross lagged panel design Burtnett found that the perceived link between suggestions and bonus was the predominant cause of subsequent level of perceived employee influence.

Summary and Interpretation

1. The conceptual model presented earlier did provide a viable framework for organizing the potential causes of SPS.
2. No evidence was found to contradict the assumption made earlier that PDM occupies a central role in success with the SP. All the cases described as successful appeared to have been characterized by a relatively high level of PDM; and conversely, none of the cases described as unsuccessful were so characterized.
3. There was evidence of factors that were needed to supplement PDM to achieve SPS.
4. There was evidence that both ability and motivation of the workforce affected both the level of PDM achieved and the general level of SPS.

5. There was evidence of personnel characteristics that contributed to such employee ability and motivation.
6. There was evidence of situational characteristics that contributed to such employee ability and motivation.
7. There was evidence of situational characteristics that affected personnel characteristics.

Some of the specific situational and personnel characteristics identified from the SP studies were:

Personnel

- expectations before the SP was begun
- supervisory attitudes and behavior
- background characteristics of the workforce
- the attitudes and behaviors of the senior executive(s)

Situational

- size (both entire company and subunits within it)
- length of service
- extent to which managers are rewarded for fostering the PDM
- technology

SP Process (companywide)

- feedback on performance
- overemphasis on financial aspects
- time with the SP

Plan of Study

Conceptual Model

As pointed out previously, there has been little theoretical work on the SP. However, since this study was conceived, and the literature reviewed, two very relevant papers have appeared to fill in some of theoretical and conceptual voids. Moore and Goodman (1973)

reviewed the SP literature in a report for the Productivity Commission and tested some of the theoretical ideas derived from their review. In a subsequent paper, Goodman (1973) went on to identify some conceptual and empirical models that might be useful for examining the Plan. The conceptual and empirical models developed by Goodman and those developed for this study are remarkably consistent. (Perhaps not too remarkable considering it was essentially the same literature that we both examined.) The only major difference is that the above authors have a strong interest in expectancy theory (an interest I do not share) which has obviously influenced Moore's suggested conceptual models. They contain a strong emphasis on cognitive aspects of motivation. Goodman (1973) writes:

[In relation to] a theoretical framework, at least four types of variables should be considered in any study of the Scanlon Plan.

First, individual differences in the attractiveness of outcomes must be specified...

A second category of variables focuses on the processes which affect how people learn about the Plan, accept the Plan, and change their beliefs over time...Process variables focus more on the dynamic aspects of the Plan. For example, reinforcement in the form of bonuses or social approval would be considered a process variable that can influence the effectiveness of the Plan over time...

The fourth category of variables focuses on the structural characteristics of the organization as well as environmental variables. The characteristics of organizational climate, the task structure, superior subordinate relationships, work group structure, labor-management relations and financial conditions all bear on the success of a Plan...

The four categories of variables are best understood in terms of their dynamic interrelationships. The basic assumptions in this framework are that organizational and environmental factors (category 4) affect the processes (category 3) by which people learn to accept beliefs and valences toward certain outcomes relevant to the Plan (categories 1 and 2). These beliefs and valences in turn affect behavior instrumental to the Scanlon Plan (e.g., making suggestions) which in turn leads to outcomes.

The outcomes (e.g., social approval or bonuses) feed back to affect the process variables which can modify the beliefs and valences or lead to modification in structural characteristics (category 4) [pp. 5-7].

The major differences between the conceptual model used in the present study (see Figure 1) and the above approach are: (1) as noted above the present study de-emphasized cognitive issues and is more behaviorally oriented than the Goodman model, and (2) the present study employed a broader focus, examining PDM and SPS in general as the appropriate behaviors and outcomes as opposed to the narrower focus of suggestion making and bonuses as employed in Goodman's model. However, the relevant variables suggested by these other studies, both personnel and situational, correspond very closely to those identified in this study.

Research Model

The research model employed in the present study corresponds extremely closely to that suggested by Goodman (1973):

There are a number of possible research designs that might provide systematic data on the Plan and complement dimensions of a theoretical model discussed above.

The most obvious design is field experiment. A before-and-after design with experimental groups and control group would be most desirable...Another design for investigating Scanlon Plans is a multi-firm cross-sectional study. This design differs from other cross-sectional studies in that it permits assessment over a variety of organizational characteristics by using multiple firms. For example, size, nature of the technology, task structure and other variables probably affect the success of a Plan. However, to assess their independent effect we need organizations with different sizes, technologies, job structures, etc. The multi-firm cross-sectional study then, is most useful for examining the effect of category 4 variables on the Plan's success. A number of problems characterize this design. First, one has to locate a reasonable sample of companies that have Plans. Consultants who have introduced Plans, participants in conferences

about the Scanlon Plan, citations of firms in the literature, or industry associations may be sources for this information. Second, such a design could be quite costly. One way to reduce the costs would be collect most of the data from records as opposed to collecting data from work forces in each firm. For example, size can be estimated from the number of employees, or task structure can be derived from the general product mix. Although this strategy would not permit identifying variables such as climate or beliefs about the Plan at a particular time, the omission of these variables may be offset by the advantages of examining other relevant structural variables [pp. 8-9].

If I were to suggest a starting point for future research I would start with the organizational and environmental variables using a multi-firm cross sectional design [p. 10].

The major format of the present study was a multifirm cross-sectional design. Also employed were the intracompany cross-sectional design as well as both the inter and intrafirm longitudinal design.

Variables Assessed and Variables Omitted

A list of variables was identified earlier as some of the relevant structural and personnel characteristics that may relate to SPS. Based on these, the following variables were used in the present investigation. (A more detailed description is included in the next section.)

1. Scanlon Plan success (SPS)--companywide
2. Participation in decision making (PDM).
3. Managerial attitudes toward participative management policies (MA)--This is just one dimension of the whole leadership issue.
4. As above except only for the chief executive officer (CEO-MA).
5. Expected level of SPS (EXSPS)--measured prior to the Plan's implementation.

6. Background characteristics of the workforce (BACK).
7. Size of work group (W-SIZE).
8. Size of company (C-SIZE)--total number of employees.
9. Reward for following participative management policies (R).
10. Length of service (SENIORITY/TENURE).
11. Number of years with the SP (TIME).

All of these variables correspond to those discussed previously or at least are aspects of them. Four variables were not included, technology, importance of productive efficiency, feedback on performance, and overemphasis on financial aspects. These were omitted simply because the appropriate information was not available in a quantifiable form.

Hypotheses

The following hypotheses all involve interrelationships among the above variables, and all were derived from the previous discussion and follow the conceptual model presented earlier. However, although the model implies causality the research design does not permit conclusions on causality although very often one possible causal direction can be eliminated on temporal or logical grounds.

The hypotheses include relationships at both the intra and intercompany⁷ level. At the intracompany level most of the relationships

⁷The terms "intercompany" and "companywide" are used almost interchangeably. Relationships that involve the company as the unit of analysis are referred to as intercompany relationships. The variables that are involved in these intercompany relationships are referred to as companywide variables.

were investigated at the individual level analysis. However, two of these intracompany relationships were investigated with the work group rather than the individual as the unit of analysis (H.6 and H.9).

Five different measures corresponding to the definitions of SPS were used in the present study:

1. Participation in decision making (PDM)--self reported employee participation in decision making. Used as an index of SPS at the individual level, and when averaged for all employees in a company used as a companywide index of SPS.
2. Rated Scanlon Plan Success (RSPS)--outside, independent raters' estimate of company SPS according to the general definition of SPS presented previously.
3. Perceived SPS (PSPS)--self reported employee estimate of SPS involving different ways the SP helps the organization achieve effectiveness. Used as an index of SPS at both the individual and companywide level.
4. Abandoned versus retained SP (A/R)--a dichotomous measure of whether a company subsequently abandons or retains their SP.
5. Scanlon versus non-Scanlon--a dichotomous measure of whether a company has or never had a SP (S/NS).

The first five hypotheses concern the interrelationship of these different definitions/measures of SPS both at the intra and intercompany level of analysis.

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INTRACOMPANY

- H. 1 Within a SP company there is a strong, positive relationship between PDM and perceived SPS (PSPS).

However, as mentioned previously this relationship is less than perfect because SPS requires more than just a high level of PDM.

INTERCOMPANY

- H. 2 Among SP companies there is a strong positive relationship between mean PDM and rated SPS (RSPS).

Again, this relationship should be less than perfect because SPS requires more than just PDM.

- H. 3 Mean PDM is higher among employees in companies where the SP is subsequently retained than among employees in companies where the SP is subsequently abandoned.

- H. 4 Mean PDM is higher among employees in companies where there is a SP than among employees in companies that have never had a SP.

It is very likely, however, that PDM does not discriminate perfectly in the above two situations. Regarding H.3, where PDM is high it is unlikely that the SP would be abandoned; however, where PDM is low the SP may still remain "on the books." Furthermore, in connection with H. 4, it is quite possible that some non-Scanlon companies may have achieved fairly high levels of PDM.

- H. 5 The rated SPS (RSPS) is higher for companies where the SP is subsequently retained than for companies where the SP is subsequently abandoned.

The remainder of the hypotheses were divided into two groups. The first group deals with the hypotheses that pertain to the intra-company level of analysis and the second group the intercompany level. No measure was available to get a direct index of ability and

motivation to participate. Therefore the hypotheses involve directly relating the personnel and situational characteristics to PDM and SPS (and to each other) with no direct test that ability and motivation were the relevant "intervening" variables.

INTRACOMPANY

- H. 6 There is a positive relationship between a manager's attitude toward participative management policies and the mean level of PDM reported by his immediate subordinate work group.

Leaders' attitudes and behavior have been emphasized in both the Scanlon and psychological literature as key factors in determining employee PDM.

- H. 7 There is a positive relationship between expected level of SPS measured prior to the Plan's implementation and subsequent PDM.

It has been suggested that SPS may be a self-fulfilling prophecy (Shultz, 1958); if employees don't expect the Plan to succeed, it won't. It seems that the same concept may be applicable to individual employee PDM within a company; that is, employees who expect the SP to succeed will subsequently participate in decision making, and conversely, employees who don't expect the Plan to succeed will subsequently not participate. The above hypothesis is a test of this concept.

- H. 8 There is a significant relationship between PDM and employee background characteristics measured by a weighted index of employee responses to sixteen biographical items concerning education, sex, religiosity and geographic background.

In addition to the situational and leadership characteristics frequently mentioned as determinants of employee PDM, background personnel characteristics also likely affect PDM. However, rather than predicting

specific relationships for each of the background factors, this hypothesis just tests that, empirically, there is some significant relationship based on a multiple regression of the background factors on PDM. However, as described earlier (pp. 53-54), the variables were chosen because they are ones that have been suggested as potential moderators of the relationship between PDM and employee attitudes. The rationale and expected effects of each of the variables are discussed in the original study from which they were adopted (White, 1972).

- H. 9 There is a negative relationship between the number of employees in a work group (who report to a single supervisor) and the mean level of PDM reported by the employees.

The size of the work group was identified as one of the situational variables that may limit the amount of effective participation that may occur.

- H. 10 There is a positive relationship between employee seniority and PDM.

Employees with more experience are likely more able to engage in meaningful PDM. Also, they may be more motivated to participate partly because, in general, they are older and therefore perhaps more committed to the organization.

- H. 11 There is a negative relationship between manager attitude toward participative management policies and the number of employees in his work group.

This relationship is closely related to H. 9. It is expected that one of the effects of a large work group, paralleling the effect of reducing employee PDM, is to reduce the favorability of the manager's attitudes toward PDM.

- H. 12 There is a positive relationship between a manager's length of service and his attitude toward participative management policies.

Similar to H. 10 concerning employee seniority, it is also expected that managers with more experience would be more able to successfully foster participation and that this should show up in more favorable attitudes toward participative management policies.

- H. 13 There is a positive relationship between a manager's attitude toward participative management policies and the extent to which he believes he will be rewarded for engaging in such activities.

It is expected that one of the major determinants of a manager's attitudes toward participation is his perception of how he will be treated by the organization for encouraging employee participation.

INTERCOMPANY

The remaining hypotheses all deal with SPS and its causes at the companywide level of analysis. Seven independent and two criterion measures were used.

Independent variables:

1. The total number of employees in a company at the time the criterion measure was taken--(C-SIZE).
2. Average managerial attitude toward participative management policies--(MA).
3. The number of years a company has maintained its SP at the time the criterion measure was taken--(TIME).

4. The average extent to which managers believe they would be reinforced for following participative management policies--(R).
5. The chief executive officer's attitude toward participative management policies--(CEO-MA).
6. Personal background characteristics of the workforce--(BACK).
7. Mean expected level of SPS.

Criterion measures:

1. Rated SPS--(RSPS).
2. Abandoned versus retained SP company (A/R).

- H. 14 There is a negative relationship between the number of employees in a company and rated SPS.

Size of the organization is the most frequently mentioned factor that limits the applicability of the SP.

- H. 15 There is a positive relationship between the number of years a company has had the SP, and rated SPS.

It has frequently been suggested that SPS requires the development of such things as trust and cooperation. However, developing trust and cooperation is often a time consuming process and therefore it is expected that SPS would increase with time.

- H. 16 There is a positive relationship between average managerial attitudes toward participative management policies and rated SPS.

Managerial attitudes frequently have been assumed to be a key determinant of SPS. This hypothesis is a test of that assumption and is closely related to the Wallace (1971) study.

- H. 17 There is a positive relationship between the chief executive officer's attitude toward participative management policies and rated SPS.

This hypothesis is closely related to the previous one except, based on Argyris' (1973) argument, placing the emphasis just on the chief executive officer.

- H. 18 There is a significant relationship between rated SPS and average employee background characteristics measured by a weighted index of the average employee response to sixteen biographical items concerning education, sex, religiosity, and geographic background.

Previously (H. 8) it was hypothesized that employee background factors would predict intraorganizational variance in PDM. Similarly, it is expected that systematic differences in the background characteristics of the workforce between companies would predict interorganizational variance in SPS.

The following three hypotheses concern interrelationships among the independent variables.

- H. 19 There is a negative relationship between the total number of employees in an organization and the average managerial attitude toward participative management policies.

In part this hypothesis follows from two previous hypotheses; size was hypothesized to correlate negatively with SPS (H.14), and managerial attitudes were hypothesized to correlate positively with SPS (H. 16). Also, it was previously hypothesized that at the individual level size correlated negatively with managerial attitudes. It is expected, at the companywide level, that size may have a similar effect, and exert its negative impact on SPS by affecting managerial attitudes.

- H. 20 There is a positive relationship between average managerial attitude toward participative management policies and the average extent to which managers believe they will be rewarded for following participative management policies.

This relationship was previously hypothesized at the intracompany level (H. 13) and it is expected to be equally applicable at the intercompany level.

- H. 21 There is a positive relationship between the chief executive officer's attitude toward participative management policies and the average extent to which managers believe they will be rewarded for following participative management policies.

It is expected that one of the major variables affecting the extent to which managers believe they will be rewarded for encouraging participation is the attitude of the chief executive officer toward participation.

Table 4 summarizes the five hypothesized intercompany relationships between the RSPS criterion measure and the independent variables, and also the three hypothesized relationships among the independent variables.

- H. 22 Mean expected level of SPS, measured prior to implementing the SP, is higher in a company where the SP subsequently succeeds than in a company where the SP subsequently fails.

Previously it was hypothesized at the intracompany level that individual differences in employee expectations of SPS would predict subsequent PDM (H. 7). The present hypothesis predicts essentially the same relationship except at the interorganizational level.

The remaining three hypotheses involve essentially the same relationships as do previous hypotheses, but use a different criterion measure.

Table 4

**Hypothesized Intercompany Relationships Between the Independent
Variables and Rated Scanlon Plan Success**

	C-SIZE	TIME	MA	R	CEO-MA	BACK
TIME	--					
MA	low neg (19)	--				
R	--	--	very high pos (20)			
CEO	--	--	--	very high pos (21)		
RSPS	low neg (14)	moderate pos (15)	high pos (16)	--	high pos (17)	low pos (18)

Note. - The number in parentheses refers to the hypothesis number as used in the text.

- H. 23 The average size (number of employees) is lower in companies where the SP has been retained than in companies where the SP has been abandoned.

This hypothesis corresponds to H. 14

- H. 24 Managers in organizations where the SP is subsequently retained have more favorable attitudes toward participative management policies than do managers in organizations where the SP is subsequently abandoned.

This hypothesis corresponds to H. 16 and actually is a follow-up to Wallace's (1971) study. However, the cross-sectional nature of his study prevented making any inferences about causality; abandonment of the SP could have caused or been caused by (or of course neither) managerial attitudes. The present predictive hypothesis using data collected while all of the companies were operating with

the SP minimized the possibility that abandoning the SP causes managerial attitudes.⁸

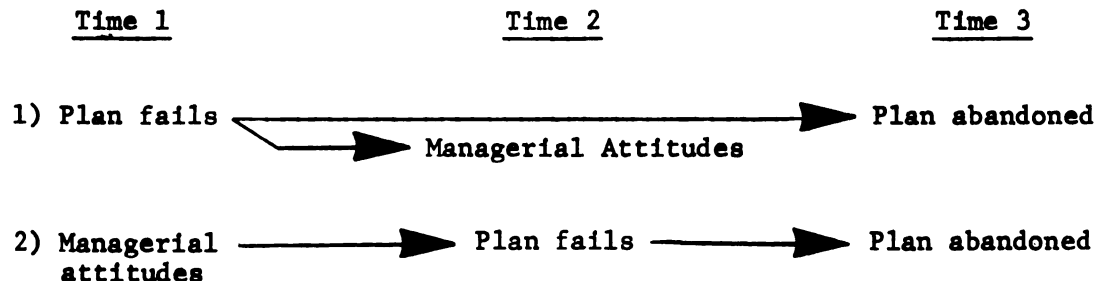
- H. 25 The CEO's attitude toward participative management policies is significantly lower in companies where the SP has been abandoned than in companies where the SP has been retained.

This hypothesis corresponds to H. 17 and is also closely related to H. 24 above.

Hypotheses and Conceptual Model. Figure 2 shows how the hypotheses relate to the conceptual model.

⁸However, it is still possible that in the process sense the SP could fail but still be left on the books. Managerial attitudes could be caused by this failure and this could occur before the Plan is formally abandoned. Therefore, although we could conclude that abandonment of the Plan did not cause managerial attitudes, we cannot conclude that failure of the Plan did not cause managerial attitudes. (Of course we cannot conclude any causality--only eliminate alternatives.)

Examples:

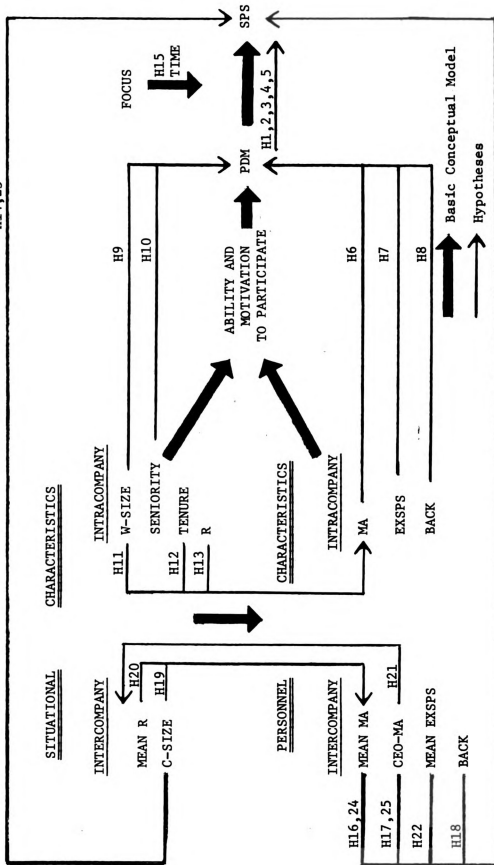


While either of the above two causal sequences would yield support for the specific hypothesis tested, only the second example provides support for the general hypothesis that managerial attitudes cause success/failure of the SP.

Figure 2

Relationship of Hypotheses to the Conceptual Model

H14, 23



CHAPTER II

METHOD

Sample

The study used data from 22 companies all but one of which have, or have had, the SP at one time although in three cases data were collected prior to the Plan's implementation. However, not all of the data were collected from all of the companies, and some similar data were collected from different companies at different points in time. The attempt throughout the study was to maximize the number of companies/subjects used in the analyses. Although the companies are fairly heterogeneous, they have four notable characteristics in common: (1) They are all located in the Midwest and mostly in Western Michigan. (2) With two exceptions (one of which is the non-Scanlon Plan company) they are all relatively small. (3) They are all engaged primarily in manufacturing. (4) There is a disproportionately large number of furniture manufacturers. Table 5 provides a breakdown of the companies, their SP status, questionnaire(s) used to collect data, and time at which data were collected.

Variables Measured

Information for four of the companywide variables was obtained from published sources, the investigator's firsthand knowledge, Dr. Carl Frost, or from Dr. Roger Wallace who, in connection with his 1971 study,

Table 5

Sample: Sources of Questionnaire Data

Company	Approximate Number of Employees	Industry	Scanlon Plan		Question- naire Used	Date Collected	Number of Respondents	Return Rate
			From	To				
1 ^b	3000 (87)	Leather	1958	1973	1	1968	1796	.67
					2	1971	61	.70
2 ^b	520 (13)	Auto Parts	1952	Present	1	1968	244	.64
					2	1971	12	.92
3 ^b	240 (8)	Metal Fabricating	1946	Present	1	1968	156	.64
					2	1971	7	.88
4 ^b	160 (20)	Furniture	1963	Present	1	1968	183	.63
					2	1971	14	.70
5 ^c	147 (10)	Furniture	1954	1968	1	1968	99	.73
					2	1971	9	.90
6 ^b	600 (9)	Furniture	1950	Present	1	1968	320	.64
					2	1971	6	.67
7	145	Furniture	1969	Present	3	1969	110	.77
					4	1973	101	.67
8	105	Metal Fabricating	1969	1971	3	1969	62	.59
9	50	Ladder Mfg.	1973	Present	5	1973	42	.84
10	1500	Fiberglass	Never	--	6	1973	385	.78
11 ^c	200 (19)	Furniture	1950's	1960	2	1971	17	.89
12 ^b	100 (6)	Furniture	1967	Present	2	1971	6	1.00
13 ^b	23 (6)	Furniture	1964	Present	2	1971	6	1.00

Table 5 (cont'd.)

Company	Approximate Number of Employees ^d	Industry	Scanlon Plan		Question- naire Used ^a	Date Data Collected	Number of Respondents	Return Rate ^e
			From	To				
14 ^b	48 (3)	Mouldings	1969	?	2	1971	3	1.00
15 ^b	100 (14)	Research Instruments	1966	Present	2	1971	11	.79
16 ^b	80 (10)	Castings	1969	1971	2	1971	7	.70
17 ^c	70 (3)	Metal Buffing	1966	?	2	1971	3	1.00
18 ^c	180 (12)	Fabric	1964	1968	2	1971	11	.92
19 ^c	66 (5)	Fabric	1957	1965	2	1971	4	.80
20 ^c	75 (7)	Castings	1963	1970	2	1971	7	1.00
21 ^c	160 (15)	Auto Parts	1958	?	2	1971	15	1.00
22 ^c	700 (11)	Refrigeration	1958	1964	2	1971	6	.54
23	200	Furniture	1972	Present	None	--	--	--

^a Questionnaire number corresponds to those used in the body of the manuscript.

^b Abandoned SP companies investigated by Wallace (1971).

^c Retained SP companies investigated by Wallace (1971).

^d Number in parentheses is the number of respondents from whom Wallace (1971) solicited responses i.e., the number of managers.

^e Return rates are in reference to number of employees from whom responses were solicited which may differ from total number of employees (see footnote ^d). For company 10 (questionnaire 6) responses were solicited from a randomly chosen sample of 450.

conducted interviews with a senior executive in most of the SP companies involved in the present study:

1. Abandoned/retained Scanlon Plan (A/R)--H. 3,5,23,24,25.
2. Scanlon/non-Scanlon (S/NS)--H. 4.
3. Company size (C-SIZE)--H. 14,19,23.
4. Time (TIME)--H. 15.
5. Subsequent success or failure of the SP (S/F)--H. 22. This variable, used in hypothesis 24, refers to two companies and represents a judgment by the investigator. Currently, one of the companies exhibits no evidence of a functioning SP while the other has achieved some success,--earning substantial bonuses and having regular screening committee meetings.
6. Rated Scanlon Plan Success (RSPS)--H. 2,5,14,15,16,17,18. Three raters independently rated companies with a paired comparison technique according to "the extent to which the full effort, experience, creativity, and innovative ability of the entire workforce, through the use of the Scanlon Plan, is directed toward increasing the organization's total effectiveness." The raters included (1) the consultant who had the major responsibility for setting up most of the Scanlon Plans, (2) the past executive director of the Scanlon Plan Associates, and (3) a researcher who had collected data from most of the companies involved. Three separate sets of paired comparisons were done to generate ratings that corresponded (period of time and companies involved) to survey data collected from these companies.

The remaining ten variables were all measured with data collected from six separate questionnaires. Four of the variables involve biographical data:

7. Employees length of service (SENIORITY)--H. 10.
8. Managers length of service (TENURE)--H. 12.
9. Number of employees in a work group (W-SIZE)--H. 9,11. As used in H. 11, a direct measure of "W-SIZE" was obtained. However, as used in H. 9, the information had to be inferred from the number of employees who returned questionnaires indicating to whom they reported.

10. Background characteristics of the workforce (BACK)--H. 8,18. This was measured by empirically weighting sixteen items concerning education, sex, religiosity, and geographic background. These items are the same items that were used in the White (1972) study with the addition of the item "sex." The items were coded in the same manner as in the White (1972) study as described in the Appendix.
11. Managerial attitudes toward participative management policies (MA)--H. 6,11,12,13,16,19,20,24. These were measured by an instrument developed by Miles to assess attitudes relating to his human resources--human relations model of management style (Miles, 1965). The scale consisted of 27 Likert-type items.
12. Chief executive officer attitudes toward participative management policies (CEO-MA)--H. 17,21,25. These were based on the same instrument as above. Where a single person could be identified (from whom data were available) as head of the line organization, just his responses were used. Where such a person could not be identified (or where his data were not available) an average score of the top two or three executives from whom data were available was used.
13. Perceived extent to which participatory behavior is reinforced (R)--H. 13,20,21. These were measured by six items also obtained from the Miles instrument.
14. Participation in decision making (PDM)--H. 1,2,3,4,6,7,8,9,10. This was indexed by five Likert-type items.
15. Expected level of SPS (EXSPS)--H. 7,22. This was a nine item scale of different dimensions of desirable outcomes that the SP could help achieve.
16. Perceived level of SPS (PSPS)--H. 1. This scale was developed by changing the tense in each of the nine EXSPS items from future to present tense.

All the items for the scales (variables 10 through 16) and their response alternatives are reproduced in the Appendix.

Six separate instruments were used. Following is a list of the variables used in the present study that were obtained with each of the instruments. With the exception of the second instrument which was given only to employees with supervisory responsibilities (Wallace,

1971), they were all given to all levels and in most cases all the employees in the organization sampled.

<u>Questionnaire</u>	<u>Variables Measured</u>
1. "You and Your Job"	PDM, SENIORITY, BACK, (W-SIZE)
2. "Attitudes Toward Administrative Policies"	TENURE, W-SIZE, MA, CEO-MA, R
3. "Scanlon Plan Research Questionnaire"	EXSPS
4. "Follow Up Scanlon Plan Research Questionnaire"	PDM, PSPS
5. "Your Job and the _____ Corporation"	PDM
6. (Title Unknown)	PDM

Table 5 shows which questionnaires were used with each of the organizations.

Data Analysis

The following discussion of data analysis is divided into two sections. The first section deals with scale development and construct validity. The second section concerns hypotheses testing.

Scale Development and Construct Validity

Independent validity measures were not available for any of the variables used in this study (except of course for the interrelationships among PDM and the SPS measures which were treated as hypotheses) and therefore no direct estimate of validity was available. This section focuses on reliability, and discriminant validity of scales based on comparisons of these reliabilities with correlations with other variables

measured in a similar fashion. The following variables, by nature of the measures involved, were assumed to have high reliabilities and validities: abandoned/retained SP, Scanlon/non-Scanlon, company size, time, subsequent success/failure, seniority, tenure, and work group size.

Rated SPS. Three separate sets of paired comparisons were done:

1. Ranking of the seven companies (#s 1, 2, 3, 4, 5, 6, & 7 in Table 5) from which PDM data were available,--ranked according to SPS at the time the PDM data were collected. Three judges independently completed the task although one judge was unable to make two of the comparisons requested. The interrater rank order correlations were .75, .94, and .89. The ratings were combined by a technique (Lawshe & Balma, 1966) which allows for missing data. The Spearman-Brown prophecy formula yielded a reliability estimate of .96 for the composite ranking.
2. Ranking of thirteen companies (#s 1, 2, 3, 4, 6, 7, 8, 12, 13, 14, 15, 16, & 23), ten from whom managerial attitude (MA) data were collected,--ranked according to SPS at the time the MA data were collected. The ranking was done by the same three judges providing interrater reliabilities of .89, .93, and .89 and a reliability for the composite of .97.⁹
3. One of the companies (#1) involved in this study and in the above ratings actually had twelve separate SP units within the company. These separate units were ranked according to SPS at the time the PDM data were collected. Only one judge did the ranking so no reliability estimate is available.

Participation in decision making. This five item scale was developed as part of prior investigations (Ruh, Johnson & Scontrino, 1973; White, 1972). The measure is narrower than the definition of participation presented earlier in that it only taps participation in the immediate job situation and ignores employee influence in other areas. This was necessitated by the fact that to test the hypotheses

⁹For the six companies that were used in both sets of comparisons, the rankings were very similar ($\rho = .96$).

the measure had to be applicable to non-Scanlon situations which it would not have been had it included items regarding influence through the Scanlon committee system.

Because the scale is a self report measure, it yields a perceived participation score that undoubtedly includes an attitude component. As mentioned previously, the SP is concerned with both actual and perceived PDM. The fact that it correlates more highly with itself than it does with several other attitude measures indicates that it does in all likelihood tap at least some variance in actual participation. As measured in four different questionnaires the scale yielded alpha reliability estimates of .63, .89, .85, and .81 on samples sizes of 26, 69, 382, and 2030 respectively. When correlated with scales of job attitudes relating to job involvement, satisfaction, motivation and identification, also measured by Likert-type items on the same questionnaires, the correlations (nine in all) ranged from .38 to .58 with a median of .50. (These other scales all had high internal consistencies so these correlations were not significantly limited by lack of reliability.) Thus the PDM measure is reasonably reliable and does appear to be measuring something other than just a general attitude toward the job.

Expected level of SPS. This nine item scale had alpha reliabilities of .91 and .86 on samples of 75 and 56 respectively. The scale was developed prior to, and independent of, this investigation and the precise rationale for the items chosen is unknown to this investigator. However, the scale does involve a reasonably inclusive list of the beneficial outcomes that a SP could be expected to bring about. The fact that it correlated .69 and .29 with a reliable

($\alpha = .88, .75, \& .87$) measure of job satisfaction indicates that it probably is tapping more than just a general attitude toward the job.

Perceived level of SPS. This scale is the same as the above scale except that the items were all changed from the future to the present tense. The measure was obtained from only one sample ($N = 101$) providing an alpha of .91 and a correlation with job satisfaction of .69.

Managerial attitudes toward participative management policies. This scale was taken from the instrument developed by Miles. The instrument includes three basic statements regarding participative management policy: (1) encouraging subordinates to engage in participation in their own departments, (2) allowing subordinates to participate in setting their own performance goals, and (3) allowing subordinates to adopt and modify their job procedures. Under each of these three statements are nine questions, three regarding the extent to which they agree with the policy, three regarding whether the policy would improve attitudes, and three regarding whether the policy would improve performance. Within each of these subgroups of three items, one item refers to the rank and file level, one to the manager's own level, and one to the manager's supervisor's level. These items were intended to make six nonexclusive nine item scales measuring (1) general agreement with PDM, (2) effect of PDM on morale, (3) effect of PDM on performance; and, applicability of PDM to: (4) rank and file level, (5) manager's own level, and (6) supervisor's level. However, the intercorrelations among these scales were extremely high, ranging from .71 to .91 with a

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median of .87. Therefore, it appears that in fact the subscales did not tap the different dimensions, and for this reason, all twenty-seven items were combined into a single index of general attitude toward participative management policies which yielded an alpha reliability of .94.

CEO attitudes toward participative management policies. Same as above.

Perceived extent to which participatory behavior is reinforced. This was also measured by the Miles instrument. For each of the three broad statements regarding participation discussed previously there were two yes/no questions regarding the extent to which the respondents thought they would be (1) recognized, and (2) not criticized, for following each of the three policies. The six items had an alpha reliability of .75.

Background characteristics of the workforce. The development of this scale is the substance of hypothesis 8 and is discussed in the next section under hypotheses testing. However, the nature of the variables is such that the reliability and validity of the individual items is undoubtedly very high.

Hypotheses Testing (see pp. 84-92 for the hypotheses)

Interrelationships Among Success Measures.

- H.1 To measure the relationship between PDM and PSPS a Pearson r was calculated for the employees in the one company (company #7 in Table 5) where both measures were obtained.
- H.2 A rank order correlation was computed between ranks based on mean company PDM and the RSPS measure using seven companies (#s 1, 2, 3, 4, 5, 6, & 7).

- H.3 To investigate this hypothesis mean PDM of five companies where the SP was subsequently retained (#s 2, 3, 4, 6, & 7) was compared with mean PDM of two companies where the Plan was subsequently abandoned (#s 1 & 5).
- H.4 To investigate this hypothesis mean PDM of 5 active SP companies (#s 2, 3, 4, 6, & 7) was compared with the mean PDM of two other companies,--one (#9) where the PDM measure was collected prior to the implementation of the Plan (but after the decision had been made to go with the Plan) and the other (#10) where the Plan has never been considered.
- H.5 To investigate this hypothesis the RSPS ranks of nine continued SP companies (#s 2, 3, 4, 6, 7, 12, 13, 15, & 23) were compared with that of four companies where the SP was abandoned (#s 1, 8, 14, & 16).

INTRACOMPANY SPS

- H.6 The purpose of this hypothesis was to determine the extent to which there is a relationship between MA and subordinate PDM at the intracompany level. Therefore, it was necessary to eliminate intercompany sources of variance. This was done (for both measures) by calculating a grand mean and a company mean and subtracting the company mean from the grand mean to get a "company effect" score (+ or -) for each company. Each score used in the analysis was adjusted by adding the appropriate "company effect." Before making these adjustments to correct for company mean differences, an F ratio was computed to determine if there were significant company differences in variance on either of the variables. The relationship was investigated by calculating a Pearson r between the two sets of adjusted measures. Data from 32 managers/work groups from 6 companies (#s 1, 2, 3, 4, 5, & 6) were used in the analyses.
- H.7 A Pearson r was calculated between EXSPS and PDM measured four years later for the employees in one continued SP company (#7).
- H.8 A multiple R was calculated between PDM and the background factors for all the employees of the one large company (#1 in Table 5).
- H.9 Two procedures were used to investigate this relationship using data from companies 1-6. A Pearson r was calculated between adjusted W-SIZE and adjusted mean PDM reported by the work group using the procedure described for H.6. The second procedure was to compute the correlation between the unadjusted variables separately for each of the companies and then calculate the average of these correlations.

- H.10 A Pearson r was calculated between PDM and seniority separately for the employees in each of the companies 1-6, and the average of these correlations was computed.
- H.11 Two procedures were used to investigate this relationship using data from companies 1-6 & 11-22. (1) A Pearson r was calculated between adjusted MA and adjusted W-SIZE, and (2) an average of the correlations, calculated separately for each of the companies, was computed.
- H.12 Two procedures were used to investigate this relationship using data from companies 1-6 & 11-22. (1) A Pearson r was calculated between adjusted MA and adjusted tenure, and (2) an average of the correlations, calculated separately for each of the companies, was computed.
- H.13 Two procedures were used to investigate this relationship using data from companies 1-6 & 11-22. (1) A Pearson r was calculated between adjusted MA and adjusted R, and (2) an average of the correlations, calculated separately for each of the companies, was computed.

INTERCOMPANY SCANLON PLAN SUCCESS

- H.14-H.21 Rank order correlations were calculated for all the hypothesized relationships involving SIZE or RSPS (H.14-19)--the other two (H.20, 21) were investigated with the Pearson r.

<u>Hypotheses</u>	<u>Companies Used in the Analyses (Table 5)</u>
14	1, 2, 3, 4, 6, 7, 8, 12, 13, 14, 15, 16, & 23
15	1, 2, 3, 4, 6, 7, 8, 12, 13, 14, 15, 16, & 23
16	1, 2, 3, 4, 6, 12, 13, 14, 15, 16
17	1, 2, 3, 4, 6, 12, 13, 14, 15, 16
18	1, 2, 3, 4, 5, 6
19	1, 2, 3, 4, 6, 12, 13, 14, 15, 16
20	1, 2, 3, 4, 6, 12, 13, 14, 15, 16
21	1, 2, 3, 4, 6, 12, 13, 14, 15, 16

The measure for background characteristics (BACK - H.18) was developed on the basis of the beta weights derived in testing H.8. By applying these weights to the means for each company for each of the background factors that were significantly

weighted, a predicted score for each company was determined. These scores (ranks) were then correlated with RSPS.

- H.22 Mean EXSPS of company 7 (subsequently successful SP) was compared with mean EXSPS of company 8 (subsequent failure).
- H.23 Average size of nine retained SP companies (#2, 3, 4, 6, 7, 12, 13, 15, & 23) was compared with that of twelve abandoned SP companies (#1, 5, 8, 11, 14, 16, 17, 18, 19, 20, 21, & 22).
- H.24 Average MA of three companies where the SP was subsequently abandoned (#s 1, 14, & 16) was compared with average MA of seven companies where the SP was subsequently retained (#2, 3, 4, 6, 12, 13, & 15).
- H.25 Same as above except using CEO-MA instead of average MA.

Further analyses were conducted where results of the planned analyses were confounded by highly correlated independent variables. These consisted of partial and semi-partial correlations to eliminate confounded relationships where such confounding appeared to reflect peculiarities of the sample rather than actual characteristics of the population of interest. No attempt was made to do such analyses where the situations portrayed by them was unlikely to occur in the natural setting. For example, it was expected that the number of years a company has had the SP and managerial attitudes would be positively correlated, and therefore examining the relationship of one of them with SPS while holding the other constant would not be a meaningful analysis.

CHAPTER III

RESULTS AND DISCUSSION

Interrelationship Among Scanlon Plan Success Measures

Intracompany

H.1 Results. Hypothesis one predicted that, within a SP company there is a strong positive relationship between PDM and perceived SPS. Data for the two variables were available from only one company (#7 in Table 5). The two variables correlated .60 ($N = 95$, $p < .0005$). Based on reliabilities (alphas) of a .91 and .89, the correction for attenuation yielded a correlation of .67.

Discussion. The hypothesis was clearly supported. However, two factors limit the practical significance of the finding. (1) The variables were measured only at one company. (2) The variables were measured only at the individual level and could not be combined to get meaningful work group or department scores. Had such group scores been available it would have increased the likelihood that the measures were tapping variance in real (as opposed to just perceived) PDM and SPS. As SPS was defined earlier, it clearly cannot vary across individuals within an organization and therefore the perceived SPS variable would appear to be measuring only perceived differences. However, as the variable was actually measured (see Appendix), it is conceivable that it taps real differences at the individual level,

but to the extent this is the case the variable is a different construct than is the companywide SPS concept discussed previously. Similarly, although PDM may be measuring real differences, it too may just be reflecting perceived differences. To the extent that the obtained result reflects a correlation involving real differences on the two variables, it provides support for the hypothesis that PDM is an important part of, but not synonymous with, SPS but not SPS as the term was used earlier. However, it is also very likely that the result merely reflects a correlation involving only perceived differences on one or both of the variables in which case it has no real bearing on the relationship between true PDM and true SPS.

Intercompany

H.2 Results. Hypothesis two predicted a strong positive relationship between mean PDM and rated SPS. The rank order correlation between the two variables was .79 ($N = 7$, $p < .05$).

Discussion. The result provided strong support for the hypothesized relationship between PDM and SPS at the intercompany level. Because the PDM measure was a mean for all the employees in a company, it should be a reliable and fairly valid measure of average employee influence. Similarly, the rated SPS measure is a reliable index of SPS. In developing the RSPS ratings, the judges generally were not aware of the individual companies' PDM scores and therefore the obtained relationship should be free of rater bias. Also, because the two measures involved very different methods of measurement, the finding provides evidence of a relationship that is free of method variance.

H.3 Results. Hypothesis three predicted that mean PDM is higher for companies where the SP is subsequently retained than for companies where the SP is subsequently abandoned. Of seven SP companies where PDM data were collected prior to 1970, two had abandoned the SP at the time of the present study. Table 6 shows mean PDM, sample size, year PDM data were collected, and year SP was abandoned (where appropriate), for the seven companies. The mean PDM score of 3.28 for the five continued SP companies, and 3.03 for the two abandoned SP companies provided support for the hypothesis. Only in one case was mean PDM for a continued SP company lower than the higher of the mean PDM scores for the two abandoned SP companies. The point biserial correlation between mean PDM and subsequent retention/abandonment of the SP was .66 ($N = 7$, n.s.).

Discussion. The finding supports the hypothesis but the extremely small sample size limits drawing conclusions about the significance of the results. The data do provide some evidence that average employee PDM of a company predicts whether the company will subsequently retain or abandon the SP.

H.4 Results. Hypothesis four predicted that mean PDM is higher in SP companies than in non-SP companies. As shown in Table 6, mean PDM of five (retained) SP companies was 3.28, mean PDM of the two non-SP companies was 3.35. The point biserial correlation between mean PDM and Scanlon/non-Scanlon was $-.31$ ($N = 7$, n.s.). The finding does not support but actually contradicts the hypothesis.

Discussion. This result, although not statistically significant, was surprising. Mean PDM did not discriminate (actually

Table 6

Mean PDM of Non-Scanlon Plan Companies, and
Companies where the Scanlon Plan is
Subsequently Retained or Abandoned

Com- pany	Mean PDM			Sample Size		Year PDM Data Collected	Year SP Abandoned
	Retained SP Company	Abandoned SP Company	Non- Scanlon Plan Company	Number of Employees	Number of Respondents		
1		2.83		3000	1753	1968	1973
2	3.37			520	244	1968	--
3	3.23			240	156	1968	--
4	3.28			160	158	1968	--
5		3.22		147	99	1968	1968
6	3.37			600	320	1968	--
7	3.13			145	98	1973	--
9			3.22	50	42	1972	N.A.
10			3.48	1500	385	1973	N.A.
Mean	3.28	3.03	3.35				

Note. - Company numbers correspond to those used in Table 5.

discriminated in the "wrong" direction) Scanlon from non-Scanlon companies. This finding is particularly perplexing in light of the results of the two prior hypotheses. (1) Mean PDM was shown to significantly correlate with rated SPS (H.2), and (2) mean PDM predicted subsequent retention/abandonment of the SP (H.3). One would certainly expect that mean PDM would discriminate Scanlon from non-Scanlon companies.⁹ Regarding the

⁹Of course there are many approaches other than the SP to achieve high levels of PDM. However, the author is not aware of any programs at either of the two non-SP companies that one would expect to contribute to above average levels of PDM.

two non-SP companies, inspection of Table 6 shows that mean PDM was moderately high for company 9, and extremely high for company 10. There are several factors that may have served to inflate the scores for these two companies. (1) The same questionnaire was used to collect PDM data from companies 1 through 6. Three different questionnaires were used in the case of companies 7, 9, and 10. In the case of companies 7 and 9 the items were exactly the same as those used for companies 1 through 6, but the questionnaires were much shorter. The ease of completing these shorter questionnaires, as well as other factors arising from the use of different questionnaires, may have affected the responses in the case of company 9 (and perhaps 7 as well). In the case of company 10 the data were collected as part of another (unrelated) study (Schuler, 1973), and in addition to it being a different questionnaire, it is possible that the items or their response alternatives were not worded identically. (The author has not been able to obtain a copy of the questionnaire.) (2) Company 9 was the smallest of the companies where PDM data were collected, and it has been suggested (H.14) that size is inversely related to PDM. This size effect may have increased the PDM score for company 9. (3) Again in the case of company 9, although the company did not have a SP, the decision had been made to implement one. The employees were aware of this decision and their awareness may have influenced their responses to the PDM items. (4) In the case of company 10, unlike all the other companies, the respondents were required to identify themselves on the questionnaire and this factor may have influenced them to report more favorable responses than they would have reported

had the data been collected anonymously. (5) Lastly, both companies 9 and 10 were located in a different geographic area (Ohio) from the rest of the companies which were all located in Western Michigan with the exception of one in Illinois.

H.5 Results. Hypothesis five predicted that rated SPS is higher for companies where the SP is subsequently retained than where it is subsequently abandoned. The results support this hypothesis. Thirteen companies were ranked on SPS (1 = highest SPS). The ranks of the four companies that subsequently abandoned the SP were 9, 10, 12 and 13. The median rank for these four abandoned SP companies was 10/12; the median rank for nine retained SP companies was 5. The correlation between the ranks and subsequent retention/abandonment of the SP was .71 ($N = 13$, $p < .01$).

Discussion. The result does support the hypothesis. Only one of the retained SP companies had a ranking lower than that of an abandoned SP company. Furthermore, this company was the newest of the SP companies and it has been suggested (H.15) that time with the SP is positively related to SPS. However, one limitation should be kept in mind regarding the finding. The judges were asked to rate the companies according to the SPS that had been achieved at an earlier point in time. Some of the judges knew, at the time they did the rating, that some of the companies had subsequently abandoned the SP, and this knowledge may have contaminated their ratings.

Causes of Scanlon Plan SuccessIntracompany

The largest company in this study had, at one time, twelve distinct SP units operating in different plants. When this study was planned it was hoped that this situation would allow for meaningful variance in SPS among SP units that had a very similar external environment. Such factors as size, managerial attitudes, and workforce characteristics could be examined as they affect distinct SP units operating within a similar environment (geography, technology, market forces, etc.). However, events did not have it this way. In developing the RSPS measure three judges were asked to rate the twelve SP units within the company. However, two of the raters declined indicating that they did not have any basis for making the comparisons and therefore ratings from only one judge were available. The RSPS rating from this one judge correlated $-.10$ with the PDM measure collected from the twelve SP units. This is in marked contrast to the intercompany correlation of $.79$. This situation was not due to restriction in range on PDM in the multiunit company where the variance in mean interunit PDM was actually greater than was the variance in mean intercompany PDM. Because just one rater completed the task and therefore no reliability estimate was available, and because his ratings correlated negatively with the PDM criterion, it was decided that these SP units did not provide a valid sample for examining intracompany variance in PDM. Therefore, this entire company was considered as just one SP company and intracompany analyses

were subsequently limited to examining SPS at the individual and work team levels.

H.6 Results. Hypothesis six predicted a positive relationship between a manager's attitude toward participative management policies and the mean level of PDM reported by his immediate subordinates. A sample of thirty-one managers from six companies, for which corresponding subordinate group PDM data were available, were used to test the hypothesis. An F ratio of the companies with the largest and smallest variances indicated that the companies did not have significant ($p = .10$) variance differences on either of the measures. After the scores for both variables had been adjusted to eliminate intercompany mean differences, the two variables correlated .10 ($N = 31$, n.s.).

Discussion. The correlation was surprisingly low. Because the PDM variable was measured at the group level it should be reliable, and should tap a large proportion of variance in real, as opposed to just perceived, PDM. The MA variable was based on questions focusing specifically on the advantages of employee participation, and one would expect that it would account for more than one percent of the variance in subordinate PDM. There are two factors that might explain such a low relationship. (1) There may be little true variance in one or both of the measures at the intracompany level,--eliminating the intercompany variance may have eliminated most of the true variance. At the intercompany level of analysis the two variables were highly correlated ($\rho = .60$, $N = 6$, n.s.). (2) There was a time lag of two and one half years between the collection of the two measures.

During this period there may have been substantial personnel changes such that work group PDM data may have been collected from a quite different group of subordinates than who worked for the manager at the time he completed the MA questionnaire. Also, either subordinate PDM or managers' attitudes may have undergone significant changes during this time period.

H.7 Results. Hypothesis seven predicted a positive relationship between level of expected SPS measured prior to implementation of the SP and subsequent PDM measured four years later. Data were available from only one company (#7 in Table 5). The two variables correlated .32 ($N = 55$, $p < .02$). Based on reliabilities (alphas) of .89 and .91 the correction for attenuation yielded a correlation of .36.

Discussion. The finding did support the hypothesis. However, because the variables were measured at the individual level, and only at one company, some of the same limitations that apply to the results of H.1 are applicable here. The expected SPS variable is an individual difference attitude measure that was not a function of any systematic treatment condition. Therefore, even if the obtained result reflects a relationship between these expectations and differences in real PDM, it does not have any direct implication as to what would happen if you could induce high expectations (although it might have some implications for selecting individuals who subsequently would achieve high levels of PDM). With this limitation in mind, the finding does indicate that prior expectations do account for a small but significant proportion of the variance in self reported PDM at

the intracompany level. However, it is very plausible that the correlation merely reflects a relationship between expectations and only perceived differences in PDM in which case it has no bearing on the relationship between expectations and actual PDM.

H.8 Results. Hypothesis eight predicted a significant multiple correlation between PDM and sixteen background factors related to sex, education, religiosity, and geographic background. The obtained R was .247 ($R^2 = .061$, $N = 931$, $p < .0005$). Because of the large sample size the correlations were only slightly biased. The corresponding unbiased estimates for R and R^2 were .241 and .058 respectively. Only three variables contributed significantly ($p < .05$) to the multiple correlation: (1) sex, (2) church activity during youth, and (3) education. Respondents who were male, who were more active in church activities during youth, and who had more education, reported higher PDM.

Discussion. The finding provided only very marginal support for the hypothesis. The sixteen background factors accounted for only six percent of the total intracompany variance in PDM. Furthermore, two of the three factors that contributed significantly to the correlation, sex and education, are variables that are likely associated with hierarchical level. It has been shown elsewhere (White, 1972) that hierarchical level is positively related to PDM and even the relatively small correlation obtained here may in part just be an artifact of the relationship between PDM and hierarchical level. In conclusion it seems that, at least as far as the variables examined in the present study are concerned, background characteristics are not a major determinant of intracompany variance in PDM.

H.9 Results. Hypothesis nine predicted a negative relationship between mean level of PDM reported by a work group and the number of employees in a work group. The number of employees in a work group had to be inferred from the number who returned questionnaires. Using data from a total of 180 work groups, the correlations ranged from .01 to - .56 with an average correlation of - .32. An F ratio of the companies with the largest and smallest variances did not yield any significant differences in variance on either of the measures. The correlation for the total group, after adjusting both scores to eliminate intercompany mean differences, was - .34 ($p < .01$).

Discussion. The result provided substantial support for the hypothesis. Because the variables were measured at the group level, the correlation should reflect a relationship involving actual PDM. Because the size variable had to be inferred from the number of employees who returned questionnaires, its reliability was lowered and therefore the true relationship would be higher than that indicated by the above correlations. This finding is particularly interesting because this work group size issue has not received much emphasis in the literature; however, in this study it actually accounted for more variance in PDM than did managerial attitudes which have frequently been emphasized as a major determinant of subordinate PDM.

H.10 Results. Hypothesis ten predicted a positive relationship between employee seniority and PDM. Based on a total of 2,638 employees the correlations for the six companies ranged from .10 to .39 with an average correlation of .22 ($p < .01$).

Discussion. The finding did provide modest, but significant, support for the hypothesis. At the individual level of analysis employee length of service is positively related to self reported PDM. However, as in the case of H.8, the relationship may in part be an artifact of the fact that both PDM and seniority are correlated with hierarchical level.

H.11 Results. Hypothesis eleven predicted a negative relationship between the number of employees in a manager's work group and his attitude toward participative management policies. Based on data from 194 managers, the correlations for the eighteen companies ranged from - .13 to .73 with an average of .27. An F ratio indicated no significant company difference ($p = .10$) in variance of MA, but for the W-SIZE variable one small company ($N = 3$) did show significantly less variance than the others. When this company was dropped, the correlation for the total group, after adjusting both scores to eliminate intercompany mean differences, was .21 ($N = 191$, $p < .01$).

Discussion. The finding did not support the hypothesis. At the intracompany level managers' attitudes towards participation appear to be slightly, but positively, related to the size of his work group but with a great deal of variability across companies. The result did not parallel that of H.9 which found a negative relationship between work group size and work group mean PDM. However, since managerial attitudes were only slightly correlated with work group PDM (H.6) there is no reason why the result here should necessarily follow that found for H.9.

H.12 Results. Hypothesis twelve predicted a positive relationship between a manager's length of service and his attitude toward participative management policies. Based on data from 195 managers, the correlations for the eighteen companies ranged from - .61 to .85 with an average of .12. For the TENURE measure, the F ratio indicated that two small companies ($N_s = 3 \text{ \& } 6$) had significantly ($p < .10$) more variance than the others. When these companies were dropped, the correlation for the total group, after adjusting both variables to eliminate intercompany mean differences, was .00 ($N = 186$).

Discussion. The result provided no support for the hypothesis. At the intracompany level, the relationship between managers' attitudes toward participation and his length of service with the organization was highly variable, but overall the variables appear to be independent of each other. The finding did not parallel that of H.10 which found a small but significant correlation between PDM and employee length of service.

H.13 Results. Hypothesis thirteen predicted a positive relationship between a manager's attitude toward participative management policies and the extent to which he believed he would be reinforced for engaging in such activities. Based on data from 194 managers, the correlations for the eighteen companies ranged from - .65 to 1.0 with an average of .22. F ratios indicated no significant ($p = .10$) company differences on variance for either of the measures. The correlation for the total group, after adjusting both scores to eliminate intercompany mean differences, was .16 ($N = 194, p < .05$).

Discussion. The result provided only very marginal support for the hypothesis. The overall relationship was small and highly variable across companies. Furthermore, the significance of the finding is limited by the fact that the variables were measured at the individual level of analysis. Therefore, it is quite possible that even the small relationship obtained was an artifact of method variance or at least could have been substantially inflated by a response bias. Also, even if in fact the variables are not related, one would expect the respondents to report a relationship to avoid cognitive dissonance,--it would be hard to report favorable attitudes toward participative management policies and at the same time report that such behavior is not rewarded or vice versa.

Intercompany

H.14-H.21 Results. Table 7 shows the hypothesized relationships and obtained correlations for H.14 through H.21.

Discussion. Most of the findings supported the hypothesis although some of the relationships are confounded by high inter-correlations among some of the independent variables. There were some noticeable exceptions. Contrary to the hypotheses (H.14, H.19), C-SIZE correlated positively with rated SPS and managerial attitudes. Also particularly surprising was the strong positive relationship between C-SIZE and TIME,--there is no logical reasons why the number of employees in an organization should correlate highly with the number of years the organization has had a SP, and it appears that this relationship may be reflecting a peculiarity of the sample

Table 7

Hypothesized Relationships and Obtained Correlations for the
Independent Variables and Rated Scanlon Plan Success

Item	C-SIZE	TIME	MA	R	CEO-MA	BACK
TIME	-- rho=.56* N=13					
MA	low neg rho=.51 N=10 (H.19)	-- r=.83** N=10				
R	-- rho=.38 N=10	-- r=.59* N=10	very high pos r=.70* N=10 (H.20)			
CEO-MA	-- rho=.51 N=10	-- r=.56* N=10	-- r=.66* N=10	very high pos r=.16 N=10 (H.21)		
RSPS	low neg rho=.43 N=13 (H.14)	moderate pos rho=.77** N=13 (H.15)	high pos rho=.78** N=10 (H.16)	-- rho=.51 N=10	high pos rho=.48 N=10 (H.17)	low rho=.54 N=6 (H.18)

Note. - The number in parentheses refers to the hypothesis number
as used in the text.

*p < .05

**p < .01

rather than a meaningful relationship between the two variables. It was felt that this relationship between C-SIZE and TIME might be the cause of the positive correlations of C-SIZE with RSPS and MA. To investigate this possibility, a series of semipartial correlations were computed. With TIME partialled out of C-SIZE (but not out of RSPS), the correlation of C-SIZE with RSPS dropped from .43 to .01. Similarly, with the effect of TIME partialled out of C-SIZE (but not out of MA) the correlation between C-SIZE and MA dropped from .51 to .05. Therefore, it seems that the surprisingly high correlation between C-SIZE and TIME explains the positive correlations of C-SIZE with MA and RSPS. Going the other way, with the effect of C-SIZE partialled out of TIME (but not out of RSPS), the correlation between TIME and RSPS only dropped from .75 to .61. However, while the correlations involving C-SIZE did drop to zero, they were not negative as hypothesized and the net result seems to be that both MA and RSPS are independent of company size. There are two issues that should be kept in mind in interpreting the relationships involving C-SIZE.

(1) As can readily be seen from inspection of Table 5, the distribution of C-SIZE was extremely skewed and therefore for purposes of analysis the variable was reduced to the ordinal level of measurement. (2) There was restriction in range such that there was only one organization that would not be considered a "small" company. Therefore, the present findings did not really provide an adequate test of the general hypothesis that the SP will not succeed in large organizations.

As predicted (H.15), TIME was positively related to RSPS and as noted above this relationship was not just an artifact of the

correlation between C-SIZE and TIME. However, TIME was highly correlated with the other independent variables MA, R, and CEO-MA. Unlike the correlation between C-SIZE and TIME, these correlations likely represent meaningful relationships rather than sample peculiarities. It seems plausible that one of the ways TIME influences SPS is through its effect on managerial attitudes which in turn may be influenced by the extent to which they are rewarded. For this reason it did not seem appropriate to compute partial correlations among these variables.

As predicted (H.16), MA was positively and strongly related to SPS and its relationship closely paralleled that of TIME. As predicted (H.17), CEO-MA was positively correlated with RSPS but the relationship was not as strong as was expected. It is likely that the relationship was limited by the unreliability of the CEO-MA measure. Unlike the MA variable which was based on the average of all of the managers in an organization, the CEO-MA measure was based on the questionnaire responses of one (or in two cases, two) managers and therefore its reliability is lower. Also, the measure evidenced severe ceiling effects. Four of the ten scores were at the extreme (favorable) end of the scale and this limited the extent to which the variable could correlate with the SPS criterion.

As predicted (H.20), managerial attitudes were strongly correlated with the extent to which managers believed they would be rewarded for following participative management policies.

Contrary to the prediction (H.21), the extent to which managers believed they would be rewarded for following participative

management policies was only slightly correlated with CEO-MA. There are two factors that may have served to lower the obtained relationship: (1) the lack of reliability and ceiling effects of the CEO-MA variable as discussed previously, and (2) use of an inappropriate subject for the CEO-MA measure. The respondent whose score was used to index this variable was identified by a hierarchical code. However, in practice the appropriate key executive officer, the one who has the most influence on the managers, may not be the one with the highest formal position in the organization. Also, in some cases data were not available from the manager at the very top level and the CEO-MA measure had to be indexed by the average responses of two high level executives. Therefore, the obtained result did not provide an adequate test of the general hypothesis concerning the critical role of the chief executive officer.

Hypothesis eighteen was supported,--background characteristics correlated with RSPS although the relationship was not significant with the sample of six. However, the manner in which the background characteristics measure was developed limits the meaningfulness of this relationship. The sample size precluded the possibility of doing a regression of workforce characteristics on companywide RSPS. Had this approach been possible it would have provided the most adequate test of the general hypothesis that an organization's workforce characteristics influence the organization's SPS. To overcome this problem, employee characteristics were regressed on PDM at the individual level within one large company (H.8). Means for each organization, for each of the three significantly weighted background

characteristics, were computed. By applying the beta weights from the multiple regression to company mean background characteristics, a predicted score for each company was obtained. The correlation reported in Table 7 was computed from ranks based on these predicted scores. The problem with this approach is that it tests the extent to which the same background characteristics that account for intracompany variance in PDM also account for intercompany variance in SPS. It is very possible that workforce characteristics account for intercompany variance in SPS but it is very likely that they are different characteristics, behaving in a different fashion, than those that explain intracompany variance in PDM. Two of the three factors that contributed the most to intracompany variance in PDM were ones that are likely associated with hierarchical level. However, factors associated with hierarchical level are not the ones that would be expected to predict intercompany variance in SPS although it is interesting to note that the predicted scores based on background characteristics also correlated with company mean PDM ($\rho = .43$, $N = 6$, n.s.). The specific relationship examined in this study did not really provide an adequate test of the general hypothesis regarding the type of workforce characteristics that may account for variance in intercompany SPS and the nature of the relationships involved. An analysis of variance using company as the independent variable and each of the background characteristics as dependent variables found a significant ($p < .05$) company effect for thirteen of the sixteen background characteristics. Therefore, it seems very plausible that workforce characteristics may influence

companywide SPS but in a quite different fashion to that investigated here.

H.22 Results. Hypothesis twenty-two predicted that mean level of expected SPS (EXSPS), measured prior to the implementation of the SP, is higher for a company where the SP succeeds than for a company where the SP subsequently fails. Data were available from only one company in each of the conditions. Mean EXSPS for the subsequently successful SP company was 3.77 and 3.65 for the subsequently abandoned SP company. The difference between the two groups of individuals, considering sampling from finite populations, was significant ($Ns = 108$ and 52 , $p < .05$). However, the appropriate unit of analysis for this hypothesis is the company, but with zero degrees of freedom it is impossible to estimate the significance of the finding at the intercompany level.

H.23 Results. Hypothesis twenty-three predicted that the average size of companies where the SP is abandoned is higher than that of companies where the SP has been retained. Data from nine continued and twelve abandoned SP companies were used to test the hypothesis. The mean number of employees for the abandoned SP companies was 403 as opposed to 232 for the retained SP companies. The point biserial correlation was $- .17$. However, these figures are deceptive because the abandoned SP company mean was inflated by one very large company (3000 employees); with this company eliminated the mean dropped from 403 to 166, and the correlation changed from $- .17$ to $.13$. The range for the twelve abandoned SP companies was 48 to 3000

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with a median of 105/147; for the nine retained SP companies the range was 23 to 600 with a median of 160.

Discussion. The finding did not support the hypothesis but did parallel the finding for H.14 (after the effects of TIME had been partialled out). That is, for the sample of companies used in this study, SPS seems to be independent of company size.

H.24 Results. Hypothesis twenty-four predicted that managers in companies where the SP is subsequently abandoned have less favorable attitudes toward participative management policies than do managers in companies where the SP is subsequently continued. Data were available from three companies (#s 1, 4, 16) where the SP was subsequently abandoned, and seven companies where the SP was subsequently retained (#s 2, 3, 4, 6, 12, 13, 15). For the three subsequently abandoned SP companies mean MA ranged from 3.74 to 4.18 with a mean of 3.90; for the seven subsequently retained SP companies MA ranged from 4.00 to 4.76 with a mean of 4.32. The point biserial correlation was .65 ($N = 10$, $p < .05$).

Discussion. The finding parallels that of H.16 except with a longitudinal rather than a cross-sectional design. The MA measure did predict subsequent retention/abandonment of the SP. None of the subsequently abandoned SP companies exceeded the mean of the subsequently retained SP companies, and conversely none of the retained companies was lower than the mean of the abandoned companies. However, prediction was less than perfect. Mean MA of one of the abandoned SP companies exceeded that of two companies where the SP was subsequently retained. Nevertheless, the finding did support

the hypothesis and extends the Wallace (1971) findings to show that the MA variable is predictive, as well as just descriptive, of subsequent retention/abandonment of the SP.

H.25 Results. Hypothesis twenty-five predicted that the CEO's attitude toward participative management policies is lower for companies where the SP is subsequently abandoned than for companies where it is subsequently retained. Data from the same companies as used in the previous hypothesis were used to test this hypothesis. In eight of the ten cases the data were from a single executive at or near the top level of the organization. In the two other cases scores were based on the average responses of two executives at equally high levels in the organization. For the three abandoned SP companies CEO-MA ranged from 3.04 to 5.00 with a mean of 4.33; for the seven subsequently retained SP companies CEO-MA ranged from 3.22 to 5.00 with a mean of 4.49. The point biserial correlation was .13 ($N = 10$, n.s.).

Discussion. Although the relationship was in the predicted direction, it was small and insignificant. Furthermore, the CEO-MA measure is questionable because of its low reliability, ceiling effects, and in some cases use of inappropriate respondents on which the measure was based. It will take considerably more data, and more reliable/valid data, before it can be determined whether or not the role of the CEO is as critical as Argyris (1973) claimed.

CHAPTER IV

SUMMARY AND CONCLUSIONS

The Scanlon Plan

As has been pointed out, there is no such thing as the Scanlon Plan. The Plan does not exist as an abstract concept and to discuss it independently of its actual applications is not a viable approach. The SP is just a tool to help an organization achieve its goals and there are as many SPs as there are organizations using it. This should be kept in mind in interpreting the findings of this study which pertain to the experience of a specific group of companies, not to some pure model of the SP.

The organizations used in this study were not a representative sample of any meaningful population of organizations. In relation to a hypothetical population of organizations where the SP might be considered, the present sample differs in many significant ways: geography, technology, ownership, size, product line, manufacturing orientation, etc. Similarly, the SP systems that operate in these companies are not representative of SPs in general. The natural reaction of the reader trained in the social sciences is to view the SP as a "treatment condition" that, depending on the level of analysis, is applied to individuals or organizations of individuals. However, the only "treatment" that was common to all of the SP companies in

this sample was some degree of exposure to Dr. Frost and his associates. The actual treatment that the organizations and their members received was greatly influenced by the particular nature of the organization and the key individuals involved. Therefore, the findings can only legitimately be viewed as descriptive of the experiences of the particular companies and particular SPs that made up the present sample. Inferences to other companies or to the "SP in general," based on the results of this study, must be considered as speculations.

Scanlon Plan Success

Scanlon Plan Success was examined at both the inter and intracompany level. When the study was first planned, it was hoped that the independent SP units within the one large organization would provide a strong basis for examining intracompany variance in SPS. Unfortunately, this approach did not turn out to be viable and therefore intracompany variance in SPS could only be examined at the individual and work group level. However, the individual or work group level may not be the appropriate one at which to examine SPS and therefore the most valuable findings of the present study probably are those that pertain to the intercompany level of analysis.

Intracompany

Only one hypothesis specifically dealt with SPS at the intracompany level. It was found that PDM was highly correlated with perceived SPS. However, the importance of this finding was limited by the fact that the data were available from only one company and the

variables were measured only at the individual level which limited the meaningfulness of the SPS measure.

Intercompany

Four hypotheses examined SPS at the intercompany level. They all dealt with the interrelationships between rated SPS, mean PDM, Scanlon versus non-Scanlon, and subsequent retention/abandonment of the SP. A strong relationship was found among all these measures of SPS except for the one relationship comparing Scanlon and non-Scanlon companies. It was suggested that this one negative finding might have been due to the unusual circumstances surrounding the two non-Scanlon Plan companies.

Causes of Scanlon Plan Success

The major focus of this study was relating personnel and situational characteristics to Scanlon Plan Success at both the inter and intracompany level.

Intracompany

As was mentioned previously, intracompany analyses were done at the individual and work group level and therefore the importance of these findings is limited by the extent to which this is not an appropriate level at which to examine SPS. Two relationships involving SPS were investigated at the work group level. It was found that (1) the size of the work group was significantly, negatively, correlated with the mean level of PDM reported by the work group, and (2) the mean level of PDM reported by a work group was essentially unrelated

to the leader's attitudes toward participative management policies. Three hypotheses examined relationships involving PDM at the individual level. It was found that there was (1) a slight but significant, positive, relationship between PDM and length of service, (2) a significant, positive, correlation between PDM and expected level of SPS measured four years earlier, and (3) a small but significant multiple correlation between PDM and background characteristics. Three other relationships, all investigated at the individual level, involved correlates of managerial attitudes toward participative management policies. It was found that these attitudes were essentially independent of length of service but were positively related to work group size and the extent to which managers believed they would be rewarded for following participative policies.

Intercompany

To examine relationships at the intercompany level two SPS criterion measures were used--rated SPS, and subsequent retention/abandonment of the SP. However, regardless of which criterion was used the findings were quite comparable. Number of years with the SP, managerial attitudes, and CEO attitudes, were all positively related to SPS. Company size was unrelated to subsequent retention/abandonment of the SP and was unrelated to rated SPS when the effects of time were partialled out of company size. Background characteristics of the workforce were related to SPS but the nature of the relationship was not adequately determined. However, two factors pose limitations on the findings. (1) There was a high degree of

intercorrelation among the independent variables; with one exception all of the intercorrelations that were computed were substantial although not always significant given the extremely small sample size.

(2) Many of the relationships investigated were cross-sectional and therefore assumptions of causality are not justified. However, the nature of three of the variables, company size, number of years with the SP, and background characteristics of the workforce, is such that it is unlikely that they are caused by SPS, although of course this does not mean that they in turn cause SPS. In the case of expected level of SPS and managerial attitudes, a longitudinal design was used and therefore we can eliminate the possibility that they were caused by SPS. Because of measurement problems no conclusion could be reached regarding the possible effects of the CEO's attitude toward participative management policies. In summary, it is encouraging to note that those characteristics over which we can exert no control (company size, workforce characteristics) were not significantly related to SPS, and conversely, those variables that were related to SPS (managerial attitudes, time) are ones that can be dealt with.

Implications for Theory and Practice

Theory

The study was not designed as a test of any existing theory or model and therefore it does not provide any major implications for current theories in organizational behavior. However, in connection with PDM the study does point out some issues that have not been adequately dealt with in the professional literature.

Almost all of the research and theory concerning PDM has focused on (1) characteristics, particularly leadership, that "cause" PDM, and (2) situational and personnel factors that interact with these causal variables in determining PDM. However, in this study, although there were some methodological problems, subordinate group PDM did not correlate significantly with the leader's attitude toward participation. Work group size, length of service, and background characteristics, all explained more variance in employee PDM than did managerial attitudes. Future research concerning PDM might well benefit if a more multidimensional approach is used to examine the potential causes of employee participation.

Practice

The nature of this study is such that its findings are perhaps more relevant in terms of implications for practice than for theory. Of course all such implications are limited by the sample characteristics as emphasized previously. However, it appears that:

1. Although it may be rather obvious, it was shown by the study that employee participation, at least as perceived by the employees, is highly correlated with SPS. Therefore, high success of the SP is unlikely unless a high amount of employee participation can be achieved. In striving to achieve this PDM, size of the work groups may be one factor that should be considered. Also appropriate would be attempts to reduce turnover as length of service was shown to be positively related to PDM.
2. Within the range of size represented by the companies in the present sample, company size does not seem to be a major factor in determining SPS. It appears that, at least up to six hundred employees (the actual figure may be higher), the SP can be implemented without size imposing a limiting factor on the degree of SPS that can be achieved.

3. Managerial attitudes are strongly related to SPS and, although not perfectly, they predict whether a SP will subsequently succeed or fail. However, although both PDM and managerial attitudes are highly related to SPS, at least at the individual manager/work group level, they are not that highly related to each other. Therefore, in striving for high levels of SPS it may not be sufficient just to achieve favorable managerial attitudes (or just high levels of PDM) but rather efforts should be focused on both factors.
4. Success of the SP is highly related to the number of years a company has had a SP and therefore patience seems to be in order for achieving high levels of SPS. Expectations of instant changes will likely be met with disappointment.
5. Although the evidence is weak, it appears that expectations may play a part in subsequent SPS. If this is the case, then, depending on the causes of these expectations, the implication would be that (1) care should be taken when the Plan is first considered so that the employees may develop favorable (but realistic) expectations or, (2) we should select persons/organizations with initially high expectations.
6. Although this study did not provide adequate data, prior studies have provided fairly strong evidence that a high level executive must take a leading role if the SP is to succeed. This study did show that managerial attitudes, which are highly related to SPS, are also correlated with the extent to which managers believe they will be rewarded for following participative management policies. The implication of this is that top management must provide the necessary rewards so that lower levels of management will adopt participative management policies.
7. General background characteristics of the workforce were related to SPS. However, given the somewhat inappropriate manner in which the relationship was investigated, and the unclear nature of the relationship, no clear conclusions can be drawn regarding the nature or extent of the effects that general workforce characteristics have on SPS.
8. Although not formally part of this study, technology, does not seem to be related to SPS. The variable was not included because an appropriate manner in which to measure it was not available. However, a cursory comparison of the companies on the extremes of the rated SPS criterion, and on the abandoned/retained criterion, provided no notable differences in technology. Therefore, at least within the range of technologies represented by the present sample, technology does not seem to be a limiting factor in connection with SPS.

Directions for Future Research

As was thought before this study was begun, and as was borne out by this study, examination of the SP and the causes of its success are most meaningfully examined at the companywide level. Therefore, future studies concerning the Scanlon Plan and Scanlon Plan success will probably be most beneficial if they incorporate an intercompany approach. However, the implication of this is that the possibility of using the experimental model is virtually precluded. It would be nice if we could randomly select sixty organizations and assign half of them to implement the SP while the remainder served as controls. Obviously we can't. The alternative therefore is to do cross-sectional (and perhaps longitudinal) examinations of existing Scanlon and non-Scanlon companies. This was the approach taken here and follows the research model suggested by Goodman (1973). However, the present study was severely handicapped by the small sample size and the subsequent restriction in range. To overcome this deficiency, perhaps the best starting point for future research would be to conduct a survey of all the SP companies, collecting the kinds of information that are most readily available (size, time, geographic location, manufacturing versus service, capital investment, type of bonus, bonus history, consultant(s) used, ownership, etc.). Such an approach would overcome the problems associated with the present study and allow for more conclusive, and more widely applicable, findings than those of the present study.

REFERENCES

REFERENCES

- Argyris, C. The CEO's behavior: Key to organizational development. Harvard Business Review, 1973, 51(2), 55-64.
- Babchuk, W., & Goode, W. J. Work incentives in a self-determined group. American Social Review, 1951, 16, 679-687.
- Beckhard, R. Organization development: Strategies and models. Reading, Mass.: Addison-Wesley, 1969.
- Bennis, W. Organization development: Its nature, origins, and prospects. Reading, Mass.: Addison-Wesley, 1969.
- Blood, M. R., & Hulin, C. L. Alienation, environmental characteristics, and worker responses. Journal of Applied Psychology, 1967, 51, 284-290.
- Burns, T., & Stalker, G. The management of innovation. London: Tavistock, 1961.
- Burtnett, G. A study of causal relationships between organizational variables and personal influence during the implementation of a Scanlon Plan. Unpublished doctoral dissertation, Michigan State University, 1973.
- Chamberlain, J. Everyman a capitalist. Life, December 23, 1946, 93-94+.
- Coch, L., & French, J. R. P. Overcoming resistance to change. Human Relations, 1948, 1, 512-532.
- Daigenault, H. Sharing the profits of increased productivity. In Personnel Series No. 147. New York: American Management Association, 1952, 9-16.
- Davenport, R. Enterprise for every man. Fortune, 1950, XLI(1), 51-58.
- Dowd, E. M. The Scanlon Plan. Management Record, June, 1955, 17, 236-239.
- Doyle, R. J. A new look at the Scanlon Plan. Management Accounting, Sept., 1970, 48-52.

French, J. R. P., Israel, J., & As, D. An experiment on participation in a Norwegian factory. Human Relations, 1966, 19, 3-20.

Froidevaux, P., & Gravejat, A. Recherche sur la participation du personnel aux decisions dan l'entreprise. Effectiree pour le commissariat General du Plan d'Equipment et de la Productivite (convention du 15 mai 1970). Lyons, Institut de recherches appliquees en sociologie, 1970. Cited in International Labor Review, 1970, 105(2), 196-197.

Frost, C. The Scanlon Plan: Its reality and potential. Paper presented to Federal Small Business Agencies, Detroit, Spring, 1964.

✓ Frost, C., Wakeley, J., & Ruh, R. The Scanlon Plan for organization development: Identity, participation, and equity. East Lansing: M.S.U. Press, 1974.

✓ Gilson, T., & Lefcowitz, M. A plant wide productivity bonus in a small factory: Study of an unsuccessful case. Industrial and Labor Relations Review, 1957, 10, 284-296.

Goodman, Paul S. The Scanlon Plan: A need for conceptual and empirical models. In R. A. Ruh (Chm.), The Scanlon Plan: Theory application and research. Symposium presented at the meeting of the American Psychological Association, Montreal, August, 1973.

Goodman, Robert K. Employee perceptions of the Scanlon Plan. Unpublished master's thesis, Michigan State University, 1971.

Goodman, R., Wakeley, J., & Ruh, R. What employees think of the Scanlon Plan. Personnel, 1972, 49(5), 22-29.

Graham, W., & Roberts, K. (Eds.) Comparative studies in organizational behavior. New York: Holt, Rinehart, & Winston, 1972.

Gray, R. B. The Scanlon Plan--A Case Study. British Journal of Industrial Relations, 1971, 9, 291-313.

Hackman, J. R., & Lawler, E. E. Employee reactions to job characteristics. Journal of Applied Psychology, 1971, 55, 259-286.

✓ Helfgott, R. Group wage incentives: Experience with the Scanlon Plan. N.Y.: Industrial Relations Counselors, Industrial Relations Memo, #141, 1962.

Heller, F., & Yukl, G. Participation, managerial decision-making, and situational variables. Organizational Behavior and Human Performance, 1969, 4, 227-241.

- Heneman, H., & Schwab, D. Evaluation of research on expectancy theory predictions of employee performance. Psychological Bulletin, 1972, 78, 1-9.
- Hoffman, L. R., & Maier, N. R. F. Quality and acceptance of problem solutions by members of homogeneous and heterogeneous groups. Journal of Abnormal and Social Psychology, 1961, 62, 401-407.
- Iman, S. Fenlon works: The effects of organizational development. Unpublished doctoral dissertation, University of Michigan, 1972.
- Jehring, J. A contract between two approaches to total system incentives. California Management Review, 1967, 10(2), 7-14.
- Katz, D., & Kahn, R. The social psychology of organizations. New York: Wiley, 1966.
- Lawler, E. Pay and organizational effectiveness: A psychological view. New York: McGraw-Hill, 1971.
- Lawler, E., & Hackman, R. Impact of employee participation in the development of pay incentive plans: A field experiment. Journal of Applied Psychology, 1969, 53, 467-471.
- Lawrence, P. R., & Lorsch, J. W. Organization and environment. Homewood, Illinois: Irwin, 1969.
- Lawshe, C. H., & Balma, M. J. Principles of personnel testing. (2nd ed.) New York: McGraw-Hill, 1966.
- Lesieur, F. Local union experiences with a cooperation plan. Proceedings of the Fourth Annual Meeting of the Industrial Relations Research Association, 1952, 174-181.
- ✓ Lesieur, F. (Ed.) The Scanlon Plan: A frontier in labor management cooperation. Cambridge: M.I.T. Press, 1958.
- Lesieur, F. Worker participation to increase production. Management Record, 1959, 21(2), 38-41+.
- ✓ Lesieur, F., & Puckett, E. The Scanlon Plan: Past, present, and future. Proceedings of the Twenty-first Annual Meeting of the Industrial Relations Research Association, 1968, 71-80.
- ✓ Lesieur, F., & Puckett, E. The Scanlon Plan has proved itself. Harvard Business Review, 1969, 47(5), 109-118.
- Likert, R. The human organization: Its management and value. New York: McGraw-Hill, 1967.

- Likert, R. New patterns of management. New York: McGraw-Hill, 1961.
- Lodahl, T. Patterns of job attitudes in two assembly technologies. Administrative Science Quarterly, 1964, 8, 482-519.
- Lodahl, T., & Kejner, M. The definition and measurement of job involvement. Journal of Applied Psychology, 1965, 49, 24-33.
- Lowin, A. Participative decision making: A model, literature critique, and prescriptions for research. Organizational Behavior and Human Performance, 1968, 3, 68-106.
- March, J. G., & Simon, H. A. Organizations. New York: Wiley, 1958.
- Margulies, N., & Raia, A. Organization development: Values, process, and technology. New York: McGraw-Hill, 1972.
- Marriott, R. Socio-psychological factors in productivity. Occupational Psychology, 1951, 25, 15-24.
- Marriott, R. Size of working group and output. Occupational Psychology, 1949, 23, 47-57.
- Marrow, A., Bowers, D., & Seashore, S. Management by participation. New York: Harper & Row, 1967.
- Martucci, N. Productivity and incentive pay. Management Record, 1957, 19(10), 346-349+.
- ✓ McGregor, D. The human side of enterprise. N.Y.: McGraw-Hill, 1960.
- McKersie, R. B. Wage payment methods of the future. British Journal of Industrial Relations, 1963, 1, 191-212.
- Miles, R. Human relations or human resources. Harvard Business Review, 1965, 42(4), 148-163.
- Moore, B., & Goodman, P. Factors affecting the impact of a companywide incentive program on productivity. A report submitted to the National Commission on Productivity, Washington, D.C., 1973.
- Morrison, J. Organizational climate, individual background, and values and job goals in a sample of Scanlon Plan plants. Unpublished doctoral dissertation, Michigan State University, 1970.

Northrup, H., & Young, H. The causes of industrial peace revisited. Industrial and Labor Relations Review, 1968, 22(1), 31-47.

Patchen, M. Labor management consultation at TVA: Its impact on employees. Administrative Science Quarterly, 1965, 10, 149-174.

Production, Profit improvement through better motivated people. 1969, 64(2), 159-164.

Puckett, E. Productivity achievements--A measure of success. In F. Lesieur (Ed.) The Scanlon Plan: A frontier in labor-management cooperation. Cambridge: M.I.T. Press, 1958.

Rosow, J. Now is the time for productivity bargaining. Harvard Business Review, 1972, 50(1), 78-89.

Ross, T., & Jones, G. An approach to increased productivity: The Scanlon Plan. Financial Executive, February, 1972, XL No. 2, 23-29.

Ruh, R. Ego need gratification, extra-work socialization, and attitudes toward the job. Unpublished doctoral dissertation, Michigan State University, 1970.

Ruh, R. The Scanlon Plan: A system for total organization development. Paper presented at the 19th Annual Personnel Mgt. and Industrial Relations Conference, Univ. of Alabama, Tuscaloosa, Alabama, Dec. 1971.

Ruh, R., Johnson, R., & Scontrino, M. The Scanlon Plan, participation in decision making, and job attitudes. Journal of Industrial and Organizational Psychology, 1973, 1(1), 36-45.

Ruh, R., Wallace, R., & Frost, C. Management attitudes and the Scanlon Plan. Industrial Relations, 1973, 12, 282-288.

Ruh, R., & White, J. K. Job involvement, personal background, participation in decision making, and job attitudes. Unpublished manuscript, Michigan State University, 1972.

Scanlon, J. Profit sharing under collective bargaining. In F. Lesieur (Ed.) The Scanlon Plan: A frontier in labor-management cooperation. Cambridge: M.I.T. Press, 1958.

Schuler, R. S. A path goal theory of leadership: An empirical investigation. Unpublished doctoral dissertation, Michigan State University, 1973.

Selekman, B. M. Living with collective bargaining. Harvard Business Review, 1941, 20, 21-33.

- Shultz, G. Variations in environment and the Scanlon Plan. In F. Lesieur (Ed.) The Scanlon Plan: A frontier in labor-management cooperation. Cambridge: M.I.T. Press, 1958.
- Siegel, A. Antecedent determinants and consequences of job involvement. Unpublished master's thesis, Michigan State University, 1971.
- Steen, H., Fye, H., Orth, R. A., & Strong, H. E. Motivating the entire company to work. Industrial Engineering and Management Clinic, 1961, 1-7.
- Strauss, G. Organizational behavior and personnel relations. A Review of Industrial Relations Research, 1970, 1, 145-206.
- Strauss, G. Some notes on power equalization. In H. Leavitt (Ed.), The social science of organizations. Englewood Cliffs, New Jersey: Prentice-Hall, 1963.
- Strauss, G., & Sales, L. The Scanlon Plan: Some organizational problems. Human Organization, 1957, 16(3), 15-22.
- Tait, R. Some experiences with a union-management cooperation plan. Proceedings of the Fourth Annual Meeting of the Industrial Relations Research Association, 1952, 167-173.
- Tannenbaum, A. Control in organizations. New York: McGraw-Hill, 1968.
- Tannenbaum, A. S., & Smith, C. G. Effects of member influence in an organization: Phenomenology versus organization structure. Journal of Abnormal and Social Psychology, 1964, 69, 401-410.
- Torbert, F. Making incentives work. Harvard Business Review, 1959, 37(5), 81-92.
- Vroom, V. Work and motivation. New York: Wiley, 1964.
- Wallace, R. L. A comparative study of attitude scores of managers toward employees and toward selected leadership policies in groups of firms which either discontinued or retained cost reduction sharing plans. Unpublished doctoral dissertation, Michigan State University, 1971.
- White, J. K. Effects of individual differences on the relationship between participation and job attitudes. Unpublished master's thesis, Michigan State University, 1972.
- White, J. K., & Ruh, R. A. Effects of personal values on the relationship between participation and job attitudes. Administrative Science Quarterly, 1973, 18, 506-514.

Whyte, W. Money and motivation: An analysis of incentives in industry. New York: Harper, 1955.

Woodward, J. Industrial organization. Oxford: University Press, 1965.

Yukl, G. Toward a behavioral theory of leadership, Organizational Behavior and Human Performance, 1971, 6, 414-440.

APPENDIX

APPENDIX

Questionnaire Items

This appendix contains the items and response alternatives used to index the seven attitudinal variables used in the study.

I. Participation in decision making (PDM).

1. To what extent are you able to decide how you do your job?

a	b	c	d	e
to a very great extent	to a great extent	to some extent	to a little extent	to a very little extent

2. In general, how much say or influence do you have on what goes on in your work group?

a	b	c	d	e
little or no influence	some influence	quite a bit of influence	a great deal of influence	a very great deal of influence

3. In general, how much influence do you have on decisions which affect your job?

a	b	c	d	e
very much	much	a moderate amount	little	very little

4. In general, how much say or influence do you have on how you perform your job?

a	b	c	d	e
little or no influence	some influence	quite a bit of influence	a great deal of influence	a very great deal of influence

5. My superiors are receptive and listen to my ideas and suggestions.

a	b	c	d	e
always	often	occasionally	seldom	never

II. Managerial attitudes toward participative management policies (MA).

III. Chief executive officer attitudes toward participative management policies (CEO-MA).

IV. Perceived extent to which participatory behavior is reinforced (R).

These three variables were indexed with the same set of items. The items were based on three basic policy statements. For each of the three basic policy statements there were nine, five point Likert-type items to which the subject responded from "strongly agree" to "strongly disagree." These twenty-seven items were used to index MA and CEO-MA. Following the Likert-type items, for each of the three policy statements, there were two "yes/no" items. These six items were used to index R.

Policy Statement

SUBORDINATES SHOULD BE ENCOURAGED TO PARTICIPATE IN
DECISION-MAKING WITHIN THEIR OWN DEPARTMENTS.

Likert-type items (Used to index MA & CEO-MA).

1. This is a good policy for the supervisors to follow at the lowest levels within an organization.
2. This is a good policy for supervisors at my own level to follow with their subordinates.
3. This is a good policy for supervisors at the level of my superior to follow.

Will the actual quality of decisions made be likely to improve if a supervisor allows subordinates to participate in decision-making within his department?

4. Decisions would be likely to improve if supervisors at the lowest level followed this policy.
5. Decisions would be likely to improve if supervisors at my level followed this policy.
6. Decisions would be likely to improve if supervisors at the level of my superior followed this policy.

Will the morale of his subordinates be likely to improve if a supervisor allows them to participate in decision making within his department?

7. Morale would be likely to improve if supervisors at the lowest level followed this policy.
8. Morale would be likely to improve if supervisors at my own level followed this policy.
9. Morale would be likely to improve if supervisors at the level of my superior followed this policy.

Yes/No items (Used to index R).

1. Would a supervisor at your level receive favorable recognition from his superiors if he followed this policy?
2. Would a supervisor at your level be criticized by his superiors for not following this policy?

Policy Statement

EACH SUBORDINATE SHOULD BE ALLOWED TO PARTICIPATE IN THE SETTING OF HIS OWN PERFORMANCE GOALS.

Likert-type items (Used to index MA & CEO-MA).

1. This is a good policy for supervisors to follow at the lowest levels within an organization.

2. This is a good policy for supervisors at my own level to follow with their subordinates.
3. This is a good policy for supervisors at the level of my superior to follow.

Will subordinates be more likely to accept reasonable standards and goals if they have an opportunity to discuss them?

4. Subordinates will be more likely to accept reasonable goals if supervisors at the lowest level in the organization follow this policy.
5. Subordinates will be more likely to accept reasonable goals if supervisors at my own level follow this policy.
6. Subordinates will be more likely to accept reasonable goals if supervisors at the level of my superior follow this policy.

Will subordinates be likely to set reasonable and satisfactory performance goals for themselves if given the opportunity?

7. Subordinates will be likely to set satisfactory performance goals for themselves if supervisors at the lowest level follow this policy.
8. Subordinates will be likely to set satisfactory performance goals for themselves if supervisors at my own level follow this policy.
9. Subordinates will be likely to set satisfactory performance goals for themselves if supervisors at the level of my superior follow this policy.

Yes/No items (used to index R).

1. Would a supervisor at your level receive favorable recognition from his supervisors if he followed this policy?
2. Would a supervisor at your level be criticized by his superiors for not following this policy?

Policy Statement

SUBORDINATES SHOULD BE ALLOWED TO USE THEIR OWN INGENUITY IN
MODIFYING AND ADAPTING THE TECHNIQUES AND PROCEDURES REQUIRED
IN THEIR JOBS.

Likert-Type items (Used to index MA & CEO-MA).

1. This is a good policy for supervisors to follow at the lowest levels within an organization.
2. This is a good policy for supervisors at my own level to follow with their subordinates.
3. This is a good policy for supervisors at the level of my superior to follow.

Will his subordinates' feelings of importance be likely to increase
if a supervisor allows them to shape and modify their own jobs?

4. Feelings of importance will be likely to increase if supervisors at the lowest levels follow this policy.
5. Feelings of importance will be likely to increase if supervisors at my own level follow this policy.
6. Feelings of importance will be likely to increase if supervisors at the level of my superior follow this policy.

Will the actual quality of the subordinates' work be likely to rise
if the supervisor allows them to shape and modify their own jobs?

7. The quality of work will be likely to rise if supervisors at the lowest levels follow this policy.
8. The quality of work will be likely to rise if supervisors at my own level follow this policy.
9. The quality of work will be likely to rise if supervisors at the level of my superior follow this policy.

Yes/No items (Used to index R).

1. Would a supervisor at your level receive favorable recognition from his superiors if he followed this policy?
2. Would a supervisor at your level be criticized by his superiors for not following this policy?

V. Expected level of Scanlon Plan success (EXSPS).

1. I feel the SCANLON PLAN will do much for me on my job.

I agree strongly	I agree	I am undecided	I disagree	I disagree strongly
---------------------	---------	-------------------	------------	------------------------

2. I feel the SCANLON PLAN will be good for the company.

I agree strongly	I agree	I am undecided	I disagree	I disagree strongly
---------------------	---------	-------------------	------------	------------------------

3. I think the SCANLON PLAN will change many things in this company.

I agree strongly	I agree	I am undecided	I disagree	I disagree strongly
---------------------	---------	-------------------	------------	------------------------

4. I think the SCANLON PLAN will change things quickly here at _____.

I agree strongly	I agree	I am undecided	I disagree	I disagree strongly
---------------------	---------	-------------------	------------	------------------------

5. I feel the SCANLON PLAN will make it easier to ask questions about company policy.

I agree strongly	I agree	I am undecided	I disagree	I disagree strongly
---------------------	---------	-------------------	------------	------------------------

6. I feel the SCANLON PLAN will make it easier for my suggestions to be heard.

I agree strongly	I agree	I am undecided	I disagree	I disagree strongly
---------------------	---------	-------------------	------------	------------------------

7. I feel the SCANLON PLAN will make it easier for the employees to work as a team.

I agree strongly	I agree	I am undecided	I disagree	I disagree strongly
---------------------	---------	-------------------	------------	------------------------

8. I feel the SCANLON PLAN will make it easier for me to get my fair share.

I agree strongly	I agree	I am undecided	I disagree	I disagree strongly
---------------------	---------	-------------------	------------	------------------------

9. Under the SCANLON PLAN decisions will be more honest.

I agree strongly	I agree	I am undecided	I disagree	I disagree strongly
---------------------	---------	-------------------	------------	------------------------

VI. Perceived level of Scanlon Plan success (PSPS).

1. I feel the SCANLON PLAN does much for me on my job.

I agree strongly	I agree	I am undecided	I disagree	I disagree strongly
---------------------	---------	-------------------	------------	------------------------

2. I feel the SCANLON PLAN is good for the company.

I agree strongly	I agree	I am undecided	I disagree	I disagree strongly
---------------------	---------	-------------------	------------	------------------------

3. I think the SCANLON PLAN has changed many things in this company.

I agree strongly	I agree	I am undecided	I disagree	I disagree strongly
---------------------	---------	-------------------	------------	------------------------

4. I think the SCANLON PLAN has changed things quickly here at _____.

I agree strongly	I agree	I am undecided	I disagree	I disagree strongly
---------------------	---------	-------------------	------------	------------------------

5. I feel the SCANLON PLAN makes it easier to ask questions about company policy.

I agree strongly	I agree	I am undecided	I disagree	I disagree strongly
---------------------	---------	-------------------	------------	------------------------

6. I feel the SCANLON PLAN makes it easier for my suggestions to be heard.

I agree strongly	I agree	I am undecided	I disagree	I disagree strongly
---------------------	---------	-------------------	------------	------------------------

7. I feel the SCANLON PLAN makes it easier for the employees to work as a team.

I agree strongly	I agree	I am undecided	I disagree	I disagree strongly
---------------------	---------	-------------------	------------	------------------------

8. I feel the SCANLON PLAN makes it easier for me to get my fair share.

I agree
strongly

I agree

I am
undecided

I disagree

I disagree
strongly

9. Under the SCANLON PLAN decisions are more honest.

I agree
strongly

I agree

I am
undecided

I disagree

I disagree
strongly

VII. Background characteristics of the workforce (BACK).

1. In what part of the country did you live most of the time before you were 18?
 - a. The Northeast
 - b. The South
 - c. The Middle West
 - d. The Pacific Coast
 - e. Outside the United States
2. The place in which you spent the most time during your early life was a:
 - a. Farm
 - b. Town of less than 2,000
 - c. Town of 2,000 or more but less than 10,000
 - d. City of 10,000 to 100,000
 - e. City larger than 100,000
3. In what type of community are you now living?
 - a. In the country
 - b. Town of less than 2,000
 - c. Town of 2,000 or more but less than 10,000
 - d. City of 10,000 to 100,000
 - e. City larger than 100,000
4. In what section of town did your family live longest while you were growing up?
 - a. Lived in one of the most exclusive sections of town
 - b. Lived in a good but not the best section
 - c. Lived in an average section of town
 - d. Lived in one of the poorer sections of town
 - e. Lived in a rural area
5. In your home town what was the main source of income?
 - a. Agriculture, dairy, etc.
 - b. Industry or manufacturing
 - c. Wholesale, retail, or tourist trade
 - d. Petroleum or mining
 - e. Diversified

6. What kind of school did you attend between the ages of 12 to 18?
- Military
 - Private or Parochial
 - Public
 - Vocational and trade
 - Did not attend school
7. When you were growing up, about how many books were around the house?
- A large library
 - Several bookcases full
 - One bookcase full
 - A few books
 - Only a few children's books
8. How many years of school have you completed? (circle the highest grade completed)
- 6 or less 7 8 9 10 11 12 Some College College Graduate Work
9. How many years of school did your father complete? (circle highest grade)
- [response format as above]
10. How many years of school did your mother complete? (circle highest grade)
- [response format as above]
11. In how many different cities, towns, or townships have you lived?
- 1 to 3
 - 4 to 6
 - 7 to 9
 - 10 to 12
 - 13 or more
12. What was your father's chief occupation?
- Unskilled worker
 - Semi-skilled or skilled worker
 - Sales or office work
 - Supervisory work
 - Sub-professional (bookkeeper, pharmacist, draftsman, etc.)
 - Scientist (geologist, engineer, chemist, etc.)
 - Professional (lawyer, physician, teacher, etc.)
 - Businessman
 - Executive of large business or industry

13. Under usual conditions how often do you attend religious services?
- a. Twice or more a week
 - b. Every week
 - c. Once or twice a month
 - d. On special occasions
 - e. Do not attend services
14. Religion in your home was considered as:
- a. An essential part of home life
 - b. One of several factors which were important
 - c. A relatively unimportant factor
 - d. Something to be left out of our family life
 - e. One's own business
15. As a young man, were you any of the following?
- a. A church member and active in church activities
 - b. A nominal church member
 - c. A religious rebel
 - d. A non-churchman without any great religious conviction
16. Sex (check one): Male _____ Female _____

These background items were coded "continuously" as they appear above with the exception of four items that were dichotomized. Item 1, part of country where raised, was dichotomized between the South (b) and all other responses (a, c, d, e). Item 5, industrialization of home town, was dichotomized between agriculture, dairy, etc. (a) and all other responses (b, c, d, e). Item 6, type of schooling was dichotomized between military, private or parochial, (a, b) and all other responses (c, d, e). Item 15, church activity during youth, was dichotomized between active church member (a) and all other responses (b, c, d, e).



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