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A STUDY OF PRODUCTIVITY LEVELS UNDER THEORY X AND THEORY Y MANAGEMENT STYLES

Kevin R. Hranicka, B.S.

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An Abstract Project Presented to the Faculty of the Graduate School of Lindenwood College in Partial Fulfillment of the Requirements for the Degree of Master of Business Administration

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ABSTRACT

This thesis will focus on management and the effect of management orientation and style upon work group productivity.

Researchers have attempted to find methods for managers to use to increase employee work output or productivity for decades. As early as the beginning of the nineteenth century industrialists were experimenting with different methods of operation and organization in the hopes of raising output levels and increasing worker satisfaction. In the last fifty years management styles and employee productivity have played an ever increasingly important role in the economy as society has continued to institutionalize its needs and its providers.

This change has led to yet another challenge for top executives in industry who are concerned with the productivity of their organizations and the careers of young employees: to speed the development of managers who will treat subordinates in ways that lead to high performance and career satisfaction. For managers not

050

only shape the expectations and productivity of their subordinates, they also influence their attitudes toward their jobs and themselves.

The purpose of this study is to investigate the possibility that the use of different management systems will increase employee productivity in a modern business setting. Specifically, it is hypothesized that the use of Theory Y management styles in the work place will raise employee productivity levels by a statistically significant amount.

The study's sample group was composed of 10 first-line supervisors and their respective work groups. All of the participants were employed by the same company. The supervisors were administered the Management Orientation Inventory research tool to determine their particular individual management orientation within the three broad categories of Theory X (Traditional), Theory Y (Enlightened) and Theory Z (Emergent). Then, using company supplied productivity reports to indicate work group performance, Pearson r correlational tests were conducted to validate any statistically sound relationship that may exist between supervisor management style and work group productivity.

The results of the study produced evidence that suggests the use of Theory Y based management styles will not improve employee productivity by a statistically significant amount and so the hypothesis should be rejected. However, though the results did not support the original hypothesis, they did support the idea that there is a more productive management style that supervisors could practice.

A STUDY OF PRODUCTIVITY LEVELS UNDER THEORY X AND THEORY Y MANAGEMENT STYLES

Kevin R. Hranicka, B.S.

A Culminating Project Presented to the Faculty of the Graduate School of Lindenwood College in Partial Fulfillment of the Requirements for the Degree of Master of Business Administration

1989

COMMITTEE IN CHARGE OF CANDIDACY:

Assistant Professor Daniel Kemper,
Chairperson and Advisor

Adjunct Assistant Professor Joseph Ancona

Adjunct Assistant Professor Michael Wood

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Chapter I

INTRODUCTION

Management

Within an incredibly short 60 years, our society has turned into a society of institutions; every major social task has been entrusted to large organizations--from producing economic goods and services to health care, from social security and welfare to education, from the search for new knowledge to the protection of the natural environment (Drucker Management Preface). As organizations increased in size and number it became necessary to develop a method for solving the problems of a technological society. The management process, a potent force in our society, is one of the main institutions used to solve these problems (Haimann 10-11). It is managers and management that make these tasks happen and keep society's needs supplied with goods and services (Drucker Management Preface).

The management process is bound by elements of technical, organizational, and political rationality. Technical rationality is at work in questions of efficiency. Organizational rationality's purpose is to

achieve and maintain systems organizational coordination while political rationality affects those decisions that managers make to maintain their organizational positions (Haimann 10-11).

Drucker also has the following comments to offer on management. Management has its own skills, its own tools, and its own techniques. Management is the life-giving, acting dynamic organ of the institution it manages. Management is a discipline. It is not just common sense or codified experience. Management is a culture with social functions, values, customs, and beliefs. Management is polycentric. From the beginning management as a discipline and as a practice was tackled by men of many nationalities and races. Management is people; people manage, rather than forces or facts. Management is practice: its essence is not knowing but doing (Drucker Management Preface).

Management Theory

"The pioneers of management laid its foundation without realizing what it was," states Drucker (Best Of 18).

Over 160 years ago Robert Owen, a Scotsman, turned a

bankrupt textile mill in New Lanark into a highly successful business and a model of human relations and plant organization. A Frenchman, Saint Simon, first saw the importance of the entrepreneur as the creator of wealth during this same period (Drucker Best Of 18-19).

The Japanese entered the picture in the second half of the nineteenth century. They wanted to both excel in the techniques and economics of the west plus maintain the social and cultural values of their own rich past. Due to this desire, the Japanese were the first to seriously consider the social responsibility and the function of the manager (Drucker Best Of 18-19).

Toward the end of the century Henry Towne, an American, espoused a theory which emphasized the wealth creating contribution of knowledge and the sharing of managerial experience (Drucker Best Of 19).

Even though these pioneers had an influence, their ideas did not spread as far or as deeply as they could have because these forerunners lacked the realization that management was a distinct field and managing was a distinct kind of work (Drucker Best Of 19).

Modern management theory is usually divided into three approaches or schools of thought. These are the classical approach, the behavioral approach, and the management science approach.

The classical approach focuses on increasing efficiency and productivity in the American work force and saw its beginnings in the early years of this century. Scientific management concentrates on the problems of lower level managers dealing with the everyday problems of the work force and classical organization theory deals with the problems of managing the entire organization (Ivancevich 10-11).

The behavioral approach developed partly because managers found that existing management ideas did not achieve total efficiency and work place harmony. The behavioral school has two branches: the human relations approach and the behavioral science approach (Ivancevich 14).

The human relations approach concentrated on the social environment at work and on the manner in which managers interact with subordinates. Human relations experts believe managers should be aware of their

employees' need for recognition and social acceptance (Ivancevich 14).

The behavioral science approach was started by individuals that were university trained in fields like psychology, sociology, and anthropology. These behavioral scientists believed that the human race is more complex than it is under the views held by the classical and human relations theorists. Behaviorists emphasize the nature of work itself and the degree to which it can fulfill the human needs to use skills and abilities (Ivancevich 14-15).

Management science's key feature is the use of mathematics and statistics to aid in resolving production and operations problems. Management science began during the early part of World War II when England formed teams of scientists, mathematicians, and physicists to try to solve complex military problems such as anti-submarine warfare strategy. After the war, American business started using this approach to provide management with quantitative bases for decisions (Ivancevich 15-16).

In his 1910 work, The Principles of Scientific Management, Frederick W. Taylor proposed the principal

object should be to secure the maximum prosperity for the employer, together with the maximum prosperity for each employee. This belief is the foundation of scientific management (F. Taylor 9).

Taylor stated management must take on new responsibilities. These duties included developing a science, which replaces the old rule of thumb method, for each element of a person's work; scientifically selecting and then training, teaching, and developing the worker, whereas in the past he chose his own work and trained himself as best he could; heartily cooperating with the workers so to insure the work is done in accordance with the newly discovered scientific principles; and dividing the work and the responsibility between the management and the worker. This would insure that the task was done by the group best suited to handle the task (F. Taylor 36-37).

Taylor pictured scientific management as being composed of these elements:

- Science, not rule of thumb.
- Harmony, not discord.
- Cooperation, not individualism.
- Maximum output, in place of restricted output.

- The development of each man to his greatest efficiency and prosperity.

Taylor believed that prosperity would replace conflict if managers and workers each knew what was expected (F. Taylor 133-44).

Classical organizational theory was first proposed by Henry Fayol. Fayol proposed 14 principles to guide managers in their work. These principles are:

1. Division of work
2. Authority
3. Discipline
4. Unity of command
5. Unity of direction
6. Subordination of individual interest to the general interest
7. Remuneration
8. Centralization
9. Line of authority
10. Order
11. Equity
12. Stability of tenure of personnel
13. Initiative
14. Espirit de corps (Fayol 19-42)

Fayol also discussed five elements of management including planning, organizing, commanding, coordinating, and control (Fayol 43-110).

Fayol believed that managers should make forecasts and create an operating plan based on future expectation. In other words, they should plan (Fayol 43-53).

Organizing consists of providing a business with everything useful to its functioning; raw materials, tools, capital, and personnel (Fayol 53-97).

Fayol states, "For every manager the object of command is to get the optimum return from all employees of his unit in the interest of the whole concern" (Fayol 97).

Coordinating is to harmonize the activities of a business so as to ease its working and make it successful (Fayol 103-07).

Control consists of checking to see that everything happens in conformity with the established plan, organization, and command (Fayol 107-10).

Mary Parker Follett, an early believer in the behavioral approach, attempted to establish a management philosophy based on the thoughts that any

productive, enduring society must be founded upon the recognition of the motivating desires of the individual and the group (George 130-31).

As Follett, a social worker and educator, consulted with industrial and political leaders, she discovered that a new principle of association was needed because man had not yet learned how to live together in harmony. She called this principle the group concept and prophesied that it would become the basis for our future industrial systems, the new approach to politics, and the foundation of international order. Follett added two new words "togetherness" and "group thinking" to management literature (George 131-32).

Hugo Munsterberg, a Harvard professor and an early behaviorist, reasoned that in as much as managers get things done through people, the study of management must be centered around the workers and their interpersonal relations. In 1913 Munsterberg published Psychology and Industrial Efficiency thus introducing the new field of industrial psychology (George 141-42).

Each of these modern approaches have their own contributions to offer and also their own limitations. The classical approach identified management as an

important element of organized society and identified the management functions of planning, organizing, controlling, commanding, and coordinating. Many management techniques such as time and motion analysis, work simplification, incentive wage systems, production scheduling, personnel testing, and budgeting are derived from the classical approach. Its biggest limitation is the fact that the majority of its insights are too simplistic for today's complex organizations (Ivancevich 13).

Among the behavioral approach contributions are a wealth of important ideas and research results on the people managing aspect of the discipline of management. Its limitations include the facts that in some situations a psychologist and a sociologist may have a different suggestion for solving the same problem and that behavioral scientists tend to use technical terms when trying to communicate their research findings to practicing managers. These differing ideas and terms sometimes tend to confuse the managers rather than assist them. One must remember, human behavior is complex and there are not simple solutions to all "people problems" (Ivancevich 15).

Among management science's contributions are techniques that help solve complex production scheduling problems, budgeting problems, optimal inventory level problems, aircraft flight scheduling problems and help plan for manpower development programs. Management science's biggest limitation is that it does not deal with the people aspect of an organization. After all, management is more than applied science (Ivancevich 16).

In 1960, Douglas McGregor, dissatisfied with existing management theory, stated that traditional management principles fall considerably short of being beyond challenge. He cites three reasons as being especially significant for this situation: the conventional principles were derived primarily from the military and the Catholic church which differ in important respects from modern industrial organizations; classical organization theory ignores the significance of the political, social, and economic milieu in shaping organizations and influencing managerial practice; the principles of classical organization theory are based on a number of

assumptions about human behavior which are only partially true (McGregor 15-17).

An assumption which pervades conventional organizational theory is that authority is the central indispensable means of managerial control. This authority in its most primitive form is direct physical coercion, however, it also exists as persuasion and as the authority of knowledge type of influence involved in the professional help offered by lawyers, doctors, architects, and engineers (McGregor 18-19).

The effectiveness of authority as a means of control depends upon the ability to enforce it through the use of punishment. A half century or more ago industrial management had, in the threat of unemployment, a form of punishment which made the use of authority relatively effective. Today with unemployment compensation, limitations on arbitrary discharge and greater mobility of the population the threat's power is considerably diminished (McGregor 21).

Another limitation upon the effectiveness of authority as a means of control is the availability of countermeasures. These can range from a minimal but relatively ineffective compliance to open rebellion and

include elaborate collective bargaining relationships which render authority less effective, restriction of output, featherbedding and other more subtle forms of sabotage of organizational objectives. Moreover, these counter measures are not limited to workers or to unionized plants. Although given different names, restriction of output and featherbedding can be observed within management (McGregor 22).

This leads to the fact that relationships in the modern industrial organization involve a high degree of interdependence in order to achieve both the employees' goals and the organization's goals.

A simple anecdote will serve to illustrate this point quite readily.

> An agent of the Textile Workers Union of America likes to tell the story of an occasion when a new manager appeared in the mill where he was working. The manager came into the weave room the day he arrived. He walked directly over to the agent and said, "Are you Belloc?" The agent acknowledged that he was. The manager said, "I am the new manager here. When I manage a mill, I run it. Do you understand?" The agent nodded, and then waved his hand. The workers, intently watching this encounter, shut down every loom in the room immediately. The agent turned to the manager and said, "All right, go ahead and run it." (McGregor 23).

The common sense assumption that the managerial relationship is essentially a single uniform one is just not the case. At different times the manager may play the various roles of leader of the group, member of the group, teacher, decision maker, disciplinarian, helper, consultant, or simply an observer. Conventional theories do not recognize the significance of managerial role flexibility in the management process (McGregor 27-28).

For these and many more reasons authority is an inappropriate method of control in today's industrial environment.

There have been two major transitions in regards to controlling human behavior in organizational settings. The first was the migration from the use of sheer physical force to reliance on formal authority. This change is not very far along in lesser developed countries and international relations. It may take centuries before primitive force is replaced by higher forms of influence (McGregor 30).

The second transition is the move away from formal authority. A major difficulty here is that managers are not at all clear what they are tending towards.

Authority is appropriate under certain circumstances; however, there are many circumstances where the exercise of authority delivers less than optimal results. In such situations the answer is not more or less authority, it is the employing of other means of influence. This knowledge has important implications for industrial management (McGregor 31-32).

Theory X

McGregor suggests the name Theory X for a set of assumptions that traditional managerial decisions and actions are based on. He goes on to say that the organization principles which comprise the bulk of management literature could only have been derived from assumptions such as those of Theory X (McGregor 33-35).

McGregor's Theory X assumptions are:

1. The average human being has an inherent dislike of work, and will avoid it if he can.
2. Because of this human characteristic of dislike of work, most people must be coerced, controlled, directed, threatened with punishment to get them to put forth adequate effort toward the achievement of organizational objectives.

3. The average human being prefers to be directed, wishes to avoid responsibility, has relatively little ambition, wants security above all (McGregor 33-34).

Theory X styles do not serve to meet the needs of workers in the areas of self-respect, self-confidence, autonomy, achievement, competence, knowledge, status, recognition, appreciation, and the respect of one's peers. Because of this, Theory X is inadequate to motivate workers in today's society (McGregor 33-42).

Theory X explains the consequences of a particular managerial style; it does not look at the causes for these effects. What appears to be new strategies -- decentralization, management by objectives, consultative supervision, democratic leadership -- are usually but old wine in new bottles, since the procedures used to implement them are derived from the same inadequate assumptions about human nature. Therefore, as long as the assumptions of Theory X continue to influence managerial strategy, managers will fail to discover, let alone utilize, the average human being's potential (McGregor 41-3).

Theory Y

Management has adopted a far more humanitarian set of values and it has reduced economic hardships, eliminated the extreme forms of industrial warfare, provided a safe and generally pleasant workplace, but it has done all these things without changing its fundamental theory of management. Management needs to move into a new arena of beliefs and assumptions which are referred to as Theory Y (McGregor 45-47).

Theory Y's assumptions are:

1. The expenditure of physical and mental effort in work is as natural as play or rest.
2. External control and the threat of punishment are not the only means for bringing about effort toward organizational objectives. Man will exercise self-direction and self-control in the service of objectives to which he is committed.
3. Commitment to objectives is a function of the rewards associated with their achievement.
4. The average human being learns under proper conditions, not only to accept but to seek responsibility.
5. The capacity to exercise a relatively high degree of imagination, ingenuity, and creativity in the solution of organizational problems is widely, not narrowly, distributed in the population.
6. Under the conditions of modern industrial life, the intellectual potentialities of the average human being are only partially utilized (McGregor 47-48).

Theory Y suggests using the principle of the integration of employee and organizational goals by setting up conditions where employees can best achieve their own goals by directing their efforts toward the success of the business. In adopting this principle, management seeks that degree of integration in which the individual can achieve his goals best by working toward company goals. Best means this alternative is more attractive than indifference, irresponsibility, minimal compliance, hostility, or sabotage is to the employee (McGregor 49-53).

Acceptance of Theory Y does not imply permissiveness in management. Theory Y assumes that people will exercise self-direction and self-control in the achievement of company goals to the degree that they are committed to those objectives. If the commitment is small, a large amount of external influence will be needed. If the commitment is substantial, external controls will be relatively superfluous. The assumptions of Theory Y do not deny the appropriateness of authority, but they do deny that it is appropriate in all situations (McGregor 56).

Implication of Theory Y Application

If a manager believes and accepts McGregor's Theory Y's propositions, then he must also believe that by applying management styles based on these assumptions in the workforce, he will increase the level of productivity in the workforce. This assumption or belief leads one to the main hypothesis of this project: The use of Theory Y management styles in the workplace will raise employee productivity levels by a statistically significant amount.

Chapter II

LITERATURE REVIEW

The Need for Change

A growing body of evidence suggests old management assumptions, based on principles developed by Fredrick W. Taylor, have been disproven as a pattern for modern factory and office jobs. Studies of employee-owned companies show that ownership alone does not motivate employees, while ownership together with participation does (Hoerr The Payoff 60).

Economists are beginning to see marked evidence of employee involvement's impact on efficiency. Steve Levine and Laura D'Andrea Tyson of the the University of California recently reviewed all major studies of employee involvement for a report for the Brookings Institution. Their findings include "...meaningful participation has a positive effect on productivity. It is almost never negative or neutral." (Hoerr The Payoff 59-60)

Debra Dinnocenzo, a vice-president at Development Dimensions International, states case studies increasingly show that cooperation between labor and management is critical to their survival. A

cooperative labor/management stance will lead to improved quality and increased productivity; an adversarial stance will lead only to discord and divisiveness (Dinnocenzo 36-40).

Stephen Harper, a professor of management at the Cameron School of Business Administration, University of North Carolina, thinks a new model for American management must include state-of-the-art techniques, must be within the context of a new set of values about how to capitalize on the talents of all the people in the firm, and must also include a renewed attitude about innovation and how firms should meet the challenges that lie ahead. He states that it is time for American managers to recognize that people are the real and only source of products, processes, and profits (Harper 43-47).

According to David Hounshell, U.S. manufacturing is rigid, mechanistic, hierarchical, and functionally divided, while Japanese manufacturers are flexible, agile, and organic. Unlike American businesses Japanese workplaces treat workers as contributors to and developers of corporate knowledge (Hounshell 54-59).

These researchers are not suggesting old-fashioned leadership qualities will disappear in the 21st century. Indeed a Chief Executive Officer will need a double helping of moxie and charisma, however, he or she must be less a commander and more a coach who "converts people and persuades them to share values," suggests Michael Silva, co-author of The Future 500 (Work 51).

Implementation Methods

As today's leaders are investigating participative management systems and the various forms in which they can be instituted, they are discovering a myriad of implementation methods and opinions concerning those methods.

Donald Petersen, Ford Motor Company's chairman, attributes only 15 percent of Ford's improvement in efficiency and quality to new technology. The other 85 percent comes from managing smarter he says. Once the most autocratic of carmakers, Ford has recast its culture to spread decision-making all over through a program called Employee Involvement (Fisher Ford 21).

John Sculley, Chief Executive Officer of Apple Computer, believes there are no easy steps to anything

in management. However, Sculley offers six principles through which a manager can work to reach a higher state of creativity within an organization. These principles are the safer you can make a situation, the higher you can raise the challenge; do not give people goals -- instead tell them which way to go; encourage contrarian thinking; build a work environment to extend not just people's aspirations but also their sensibilities; build emotion into the system; and encourage accountability over responsibility (Loeb Sculley's 117-19).

Thomas J. Watson Jr, retired Chief Executive of IBM and son of IBM's founder, states that he managed with a council of 8 to 10 executives and changed the committee from time to time to keep it staffed with the "hottest boys in town." (Loeb The Greatest 29)

Watson, Jr. feels his most important contribution to IBM was his ability to pick strong and intelligent men and then hold the team together by persuasion, by apologies, by financial incentives, by speeches, by chatting with their wives, by thoughtfulness when they were sick or involved in accidents, and by using every tool at his command to make that team think that he was a decent guy (Loeb The Greatest 29).

Teamwork, says John C. Read, plant manager of a diesel engine plant, brings out an entrepreneurial cowboy spirit in American workers and that is a tremendously powerful tool (Hoerr Management 71-72).

George Hatsopoulo's, founder and chairman of Thermo Electron Corp., believes the whole idea behind creating responsibility and minimizing your risk is to get many people's advice and many people knowing. He feels if people do their homework -- explain their ideas, listen to others' feedback, and rethink their approach -- it is rare that they make mistakes (Posner 40).

Arnold "Red" Auerbach, inspiration and leader of the most successful sports franchise in America, has 16 green-and-white championship banners hanging from the rafters of the Boston Gardens as testimony to his managerial genius. As coach, general manger, and now president of the Boston Celtics, Auerbach has practiced his management philosophy based on the values of loyalty, pride, teamwork, and discipline in an enterprise in which the difference between winning and losing is very clear and very public (Webber 84).

Auerbach offers the following lessons to managers everywhere:

- Statistics can not measure the real contribution players make.
- Loyalty is a two way street. Managers who expect loyalty should also give it.
- If you want employees to take risks and come up with new ideas, you have to trust them. Managing through fear only eliminates ingenuity.
- The greatest motivator of all is pride.
- Honesty can be the best negotiating tool of all.
- A good manager pays the dues needed to gain a full knowledge of the product (Webber 85-89).

Chip Bell, a management consultant located in Charlotte, North Carolina, offers 10 ingredients for high performance in day-to-day supervision. The ingredients which will lead to increased productivity are task clarity, task commitment, task priority, role-person match, tools and training, "rewards" expectations, performance feedback, personal feedback, work freedom or latitude, and barrier destruction (Bell 12-13).

Richard E. Dauch earned his place in Chrysler Motor Corp.'s history by turning around Chrysler's manufacturing on a shoestring and in an extraordinarily short time. Part of his secret includes arduous recruiting and training programs which have increased the number of salaried manufacturing personnel with degrees from 11 percent to 45 percent in 8 years. Dauch also gives every hourly worker at a new plant a minumum of 40 hours of training and in some cases over 100 hours (A. Taylor 42).

Motorola puts about 2.6 percent of its payroll costs into training its employees on plant and office automation and production process control techniques aimed at reducing defects to virtually zero. In any given year about 30,000 employees receive 2 to 3 million hours of training. The results have been dramatic. Bill Wiggenhorn, head of training, says, "We're running a rate of return of about 30 times the dollars invested -- which is why we've gotten pretty good support from senior management." (Brody Helping Workers 87)

Hallmark's philosophy is to maintain a continous retraining process rather than laying off people. One example of this idea in action is Ray Smith, a 52 year

old cutting machine operator who becomes a custom card imprinter, painter, or modular office furniture assembler as needed. Hallmark also conducts classes in shorthand and typing, filling clerical positions with former factory floor employees when factory jobs are eliminated (Saporito Cutting 27).

Hallmark also installed a new management system for its creative departments that has Hallmark's artists pumping out 15 percent more designs than they did two years ago. This raise in productivity came hand in hand with a switch to a team approach where an artist, writer, and marketing expert work as a team on a broad category of cards such as the entire Father's Day Line. With this arrangement rejections are lower and it takes fewer people to produce a new line of cards (Saporito Cutting 28).

Hallmark's results in its creative departments appear to confirm Herzberg's belief that job enrichment concepts such as removing some controls, increasing employees' accountability for their own work, giving people complete natural work units, and assigning individuals specialized tasks so they can become experts in them produce positive effects on employee

motivation and increase productivity (Herzberg 114-15).

David Hurst states the traditional hard box view of management is valid only within a narrow range of phenomena. Once managers get outside that range, they need new principles. These principles are the soft bubble view or theory. Hurst, executive vice president of Russelsteel, Inc., believes that the service, a soft concept, Russelsteel offers is what distinguishes it from its competitors as they all offer the same quality steel products and they all use similar "hard box" standards (Hurst 88).

Some of these soft concepts are also found beneath the surface of the usual images of California. The Golden State offers some important messages about the art and science of management. It's managers prize results ahead of old-school manners. In Silicon Valley managers look to institutionalize creativity, finding a way to manage magic. What many outside observers take for California cuteness, beer blasts and informality, turns out to be management's efforts to build loyalty and commitment among highly mobile, individualistic workers (Kirp 77-79).

Americans are not the only mangers and workers having to modify their management systems. When the

Japanese open factories in Great Britain (and can not keep the unions out) they insist on single union deals. They also like to put all workers into one job classification, not only to gain an efficient workplace, but also to stop who-does-what disputes between classifications. To settle grievances the Japanese have added their own touch to the old British tradition of a works council. In the past councils settled minor matters while shop stewards handled major grievances. The Japanese added a few managers to the councils and gave them power over all grievances. The idea being to settle differences through discussion not confrontation (Brody British Unions 61).

In contrast, Eaton, one of the first large American companies to try to switch to participative management, discovered a curious irony of participative management: it can not be installed participatively. The program needs leadership ready to cram it down the organization's throat (Saporito The Revolt 64).

Resistance to Change

At many companies participative management remains a geehaw bolted on to the management machinery by social engineers. It fails often. The consensus among

academics, consultants, and mangers is that most efforts to introduce participation never make it. William Cooke, a University of Michigan professor researching the subject concludes, "About 75 percent of all programs in the early 1980's failed." (Saporito The Revolt 58-59).

There is resistance to adopting participative management as it means wiping out tiers of managers and tearing down bureaucratic barriers between departments. Plus without union assent and help, companies can not implement work reforms to boost productivity in an unionized environment. The problem here is that many union leaders, who survived a decade where management fought hard to avoid, oust, and beat down organized labor, are suspicious and view management proposals for work teams as union-busting ploys (Hoerr The Payoff 57-58).

The preliminary steps being taken in the realm of labor/management cooperation are encouraging, however, a lot remains to be accomplished. "As meaningful as our successes have been, we must not delude ourselves into thinking we are anywhere but at the beginning," said Lynn Williams, International President of the United Steelworkers union in the Pittsburg Business

Times-Journal. "Our greater task lies ahead, against formidable opposition." (Dinnocenzo 40)

Haruo Shimada, an economics professor at Keio University in Tokyo, has studied Japanese and American labor systems and understands why employee involvement opponents use the slogan of "no cooperation." He states, "If American unions give in to American management, they run the risk of being destroyed because management always wants to destroy them." Shimada points out General Motors and Scott Paper Co. as just two of the companies that threatened plant shut downs in recent years if the union would not accept employee involvement programs (Hoerr The Payoff 61).

Another problem area is that to American unionists, real participation means not only participation in shop floor activities but also in higher-level decisions. Whereas to management, the team concept is not intended to increase workers' autonomy but to help them find out the problems in the production line so that no defective goods will be produced (Hoerr The Payoff 61-62).

Even for those employed in them, teamwork plants are by no means Utopias. For two years after General Electric's (GE) Salisbury plant converted to team-based

production in late 1985 it had a 14 percent turnover rate; many workers quit rather than accept more responsibility and face constant movement from job to job. "It's not all wonderful stuff," says plant manager Roger Gosaway, "But we've found that when you treat people like adults, 95 percent act like adults." (Hoerr The Payoff 59).

Most programs fail not at the shop floor level but at upper, middle, and lower management levels. GE began experimenting with employee involvement in the late 1960's and by 1975 had work teams in 12 plants. The experiment has survived in only one plant today. Most of the programs failed due to management's benign autocracy -- do it your way, but. Gary Kissler, a GE human resources manager blames the company's slow progress on what he calls the lack-of-pain issue. Managers who think their businesses are producing acceptable results aren't interested in changing their ways (Saporito The Revolt 59).

In general even managements that take pride in being on the leading edge in new product development or in the use of state-of-the-art manufacturing technology are sometimes mired in human resource practices that have hardly changed since the 1930s. And they are

extremely reluctant to experiment with new systems as they are afraid they might upset the status quo (Shuster 67).

Plant managers are feeling new pressures in addition to the responsibility to "make the number" on the bottom line that top management has always insisted on. Tom Fussner, a young plant manager in GE's Newark work team plant, says that he also feels pressure from the workers to do better. To add to the cultural problems plant managers with this new kind of experience are sometimes seen as tainted by higher-ups and may have a harder time getting promoted (Saporito The Revolt 59-60).

At many corporations the intial glow of participation brightens the productivity landscape with a sort of Hawthorne effect. But this is not true cultural change. The true change comes when companies look at management's function. Here arises the catch. The higher up the corporate ladder, the harder it is to get managers to change. As a chief executive of an aerospace company puts it, "It's no fun if you can't make the right decisions." (Saparito The Revolt 60)

In a six-month experiment in 1973, an insurance company set up satellite offices in the Los Angeles

suburbs near the homes of clerical workers in order to reduce their commutes. These clerks would use computer terminals connected to the main office to do their work. During this experiment the turn-over among suburban data-entry clerks dropped to 0 percent compared to a 33 percent turn-over rate downtown and productivity rose 18 percent. Even after these impressive results the company decided to stick with the traditional arrangement of pink-collar factories. Why? Because the managers still believed "if you do not watch the people, they will not work." (Lewis 104-05).

McDonalds' executives emphasize strong traditional values -- loyalty, dedication and service -- in McDonalds' family-like culture, and McDonalds is so intent on fostering a family feeling that one vice-president is dedicated to "making the company feel small." However, within McDonalds' "family" environment there are unusually rigid operating procedures which run contrary to its desire to promote a family feeling. In fact, McDonalds is so rule-bound that one sociologist claimed jobs in its restaurants are unfit for young people. "These are breeding grounds for robots working for yesterday's assembly

lines, not tomorrow's high-tech posts," contends Professor Amitai Etzioni of George Washington University (Deveny 79-80).

Janice Klein, an assistant professor of production and operations management at the Harvard Business School, divides supervisors who resist participative management systems into five broad categories. These are the proponents of Theory X who resist because the concept goes against their belief system, the status seekers who fear losing prestige, the skeptics that doubt the sincerity and support of upper management, the equality seekers who feel they are being by-passed and left out, and the deal makers that feel the program interferes with one-on-one relationships with workers (Klein 90).

Klein also feels some resistance to changing to Theory Y based management systems originates from the fact that though good supervisors can easily switch from traditional to participative management systems, the switch is not as easy for average performers who often flounder without strict rules and clear-cut lines of authority to fall back on (Klein 127).

Along with the other problems associated with switching to a more participative management system,

there may be some legal obstacles in certain situations.

Intent on negotiating a contract for Saturn that would cut labor costs without incurring workers' wrath, General Motors (GM) invited the United Auto Workers Union (UAW) in on the planning of the Saturn project in its beginning. It was the first time ever that GM allowed the union to participate in corporate planning. The result was an innovative contract in which the UAW agreed to give up restrictive work rules that hamper productivity and to accept salaries, not hourly wages, of only 80 percent of the average industry wage. In exchange GM promised lifetime job security to 80 percent of Saturn's workers and a greater voice in decision making (Fisher Behind The Hype 44).

There is one problem with the Saturn-UAW contract: it may be illegal. The National Right to Work Legal Defense Foundation noticed that the Saturn pact names the UAW as the collective bargaining agent for all Saturn workers even though no workers are hired yet. The contract also states the "primary source" for recruitment of workers will be current UAW members. As the Foundation sees it, the National Labor Relations

Act of 1935 proscribes both provisions (Fisher Behind The Hype 44-48).

Finally many consultants believe that the if-it-ain't-broke-don't-fix-it notion may be holding back United States management. Ralph Barra, a 30 year veteran of the Westinghouse human resources department observes, "We're great at maintenance management and in making small improvements. But why should the status quo be acceptable? Why not 40 percent improvement instead of 10 percent?" (Saporito The Revolt 65).

Successful Implementations

Indeed, why not 40 percent? Many companies are willing to attempt radical changes to gain workers' knowledge and commitment along with productivity gains that exceed 40 percent in some cases. The process is not always easy or quick but it is worthwhile as demonstrated by some businesses' experiences.

Richard Boyle, vice president and group executive of Honeywell Defense and Marine Systems Group, first joined Honeywell in 1957 when the company was ran by "steely, no-nonsense executives" in an autocratic manner. Then in 1980 he had a chance to participate in a change in Honeywell's style of management to a more

collaborative way of operating. Now Boyle states he spends less time refereeing internal squabbles or soothing irate customers. His employees are solving little problems before they become big problems and decisions are made at lower levels of the organization (Boyle 83).

Boyle feels participative management does require a greater commitment of time compared with traditional management intervention in the short term, however, the long term rewards of managed particpative management are abundant. "Not the least of them is the fun I'm having doing my job," espouses Boyle (Boyle 83).

In 1973, 3M Company had problems with cost control in its factories. In the Bedford Park tape plant workers complained managers never listened to them and only spoke to them to give them orders. Today, after reorganizing management duties by product line, not function, and passing more responsibility down to the individual workers, quality is way up, excess inventory has been trimmed, and manufacturing time has improved by two-thirds. Plus the workers appreciate the new responsibilities (Mitchell 60-61).

Henry Schacht, Chief Executive Officer of Cummins Engine Co., broke down the rigid assembly lines of a

number of Cummins' plants so workers no longer build only one product, instead they quickly switch to different products as needed. He also organized workers into teams of 10 to 30 people. These teams are responsible for scheduling shifts, ordering materials, and even hiring more workers when necessary. One such group reworked the engine housing line so drastically that it cut costs by 75 percent (Therrien 75-76).

Tektronix Inc. converted a metals group plant to work teams from an assembly line environment. Each team of 6 to 12 workers turns out a product that can be manufactured in relatively few steps. One particular cell now turns out as many defect-free products in 3 days as an entire assembly line did in 14 days with twice as many people (Hoerr Management 74-75).

Corning Glass workers form short-lived "corrective action teams" to solve specific problems. They also give their supervisors written "method improvement requests" which differ from the traditional suggestion box in that they get a prompt formal review and the employee gets a response in a short time frame. In the company's Erwin ceramics plant, a maintenance employee suggested substituting one flexible tin mold for an array of fixed molds used in making the ceramic product

in catalytic converters for automobile exhausts. By making the change the plant is saving $99,000 annually (McComas 76-77).

In 1987 A.O.Smith reorganized workers in its Milwaukee frame assembly plant into production teams that, for all practical purposes, manage themselves. In this process Smith reduced the ratio of foremen to workers from 1 to 10 to 1 to 34. The company is also training these remaining supervisors to substitute a participative management style for their old dictatorial methods. These changes have led to a doubling in the productivity growth rate and a drop in defects to around three percent (Hoerr The Cultural 66-68).

Within four years after a Rohm & Haas Co. plexiglass plant in Knoxville, Tennesee began changing to a team organization, productivity, as measured by square feet of plexiglass manufactured per worker-hour, rose some 60 percent (Hoerr Management 79).

A "socio-technical system" is used in Volvo's Kalmar Sweden assembly plant. The work force is divided into about 20 production teams and each team assembles a major unit of a car in an average of 20 to 40 minutes. This concept has resulted in production costs 25

percent lower than the costs at Volvo's conventional plants (Hoerr Management 74).

Richard Dauch negotiated work agreements with Chrysler's union that slashed the number of job classifications from 93 to 10 at the Jefferson Avenue assembly plant. In return the workers get more say about overtime and vacations (A. Taylor 42).

The payoff from the earlier mentioned Dauch supported education program (pg. 25) and the new labor agreements has been a productivity boom. In 1987 Chrysler was building 8,000 cars and trucks a day compared to 4,500 a day in 1981. The number of man-hours per vehicle has shrunk from 175 to 102. Plus absenteeism is down sharply, along with friction (A. Taylor 42).

Ford plant workers are asked for their ideas before a car goes into production; the resulting small changes in design have cut costs and reduced quality problems. When the Aerostar minivan was being designed one worker told an engineer that the access hole in the door was too small to get his hand through comfortably, so the hole was enlarged, thus reducing the risk of dropped bolts rattling around inside the door. "These are not dramatic things," says Ford's vice president

for employee relations, Peter Pestillo. "But the dozens of employee suggestions we've used have saved us between $300,000 and $700,000 each and given us a better car besides. It adds up." (Fisher Ford 21).

In the early 1980s, Shenandoah Life Insurance Co. marched into the world of high technology and installed a $2 million system to computerize processing and claims operations at its headquarters. But the results were disappointing. It still took 27 working days, 32 clerks, and 3 departments to process a typical application for a policy conversion. Today, after reorganizing the clerks into semiautonomous teams of five to seven members, it take two days. In 1986 Shenandoah was processing 50 percent more applications with 10 percent fewer employees than it did in 1980 (Hoerr Management 70).

Shenandoah learned that in many cases office computers do not raise productivity until managers find different ways to do the work as compared to precomputer days. As Paul Strassman, former vice president of the information products group of Xerox, advises, "Automate only after you simplify." (Bowen 20-22).

Mercury Marine, the boat motor business that produces half of Brunswick's sales, cut out a layer of management just below the division level that provided sales and marketing support at each division. The outright cost savings from cutting these 200 positions was $6 million a year. Brunswick also eliminated 330 headquarters jobs with titles such as staff economist and corporate safety director. The total savings was $20 million annually. The surprising effect is that productivity went up because suddenly middle management found they could get the job done as they were finally in control of their own operations (McComas 76).

In 1986 the United States Army discarded a system that assigned soldiers to their units individually in favor of a system that keeps teams of soldiers together for their entire tours of duty. An Army spokesman explained, "We discovered that individuals perform better when they are part of a stable group. They are more reliable. They also take responsibility for the success of the overall operation." (Reich 82)

William Peace, currently vice president of KRW Energy Systems, Inc. formerly the Westinghouse Synthetic Fuels Division, first went to the division with the charge to determine if a promising coal

gasification technology could be made into a good business. He was a kind of hired gun committed to the challenge in 1980. Two years later he found himself a general manager under siege who had lost his people's support. By the spring of 1983 he had learned some important lessons including this one concerning human behavior: emotional forces drive people toward the choices they make and then they later justify the choice logically (Peace 65).

Ninomiya, a 20-year veteran of the middle management ranks in the automobile industry, is convinced that the key to all our business goals is an emphasis on people. Like the wagon masters of the Old West, effective managers understand that their own success is inseparable from the success of their fellow travelers. Good managers get things done by caring about the people who do them (Ninomiya 90).

Alan Blinder, professor of economics at Princeton and author of Hard Heads, Soft Hearts, organized a conference on how to make American labor work harder and better for the Brookings Institution. The conference's findings were somewhat unexpected to Blinder. The reseach indicated that some form of institutionalized participation by workers can raise

productivity as well as increase the effectiveness of other productivity-enhancing measures such as profit-sharing (Blinder 10).

Research has also shown that every aspect of the first-line supervisor's job is changed by participative management -- except the way the best performers behave. A comparison of supervisors in two plants owned by the same company shows that outstanding supervisors in new and traditional work systems will deliver what they say they will, always get others involved in problem solving and decision-making, share information with their workers, see and treat their units as parts of the whole operation and set goals accordingly (Klein 125-28).

For top executives in industry who are concerned with the productivity of their organizations and the careers of young employees, the challenge is clear: to speed the development of mangers who will treat subordinates in ways that lead to high performance and career satisfaction. Managers not only shape the expectations and productivity of their subordinates but also influence their attitudes toward their jobs and themselves. If managers are unskilled, they leave scars on the careers of young people, cut deeply into

their self-esteem, and distort their image of themselves as human beings. But if managers are skillful and have high expectations, subordinates' self-confidence will grow, their capabilities will develop, and their productivity will be high (Livingston 130).

Even Eliza Doolittle appreciates what a difference a person's attitude can make as she explains in George Bernard Shaw's Pygmalion:

> "You see, really and truly, apart from the things anyone can pick up (the dressing and the proper way of speaking and so on), the difference between a lady and a flower girl is not how she behaves but how she's treated. I shall always be a flower girl to Professor Higgins because he always treats me as a flower girl and always will; but I know I can be a lady to you because you always treat me as a lady and always will." (Livingston 121).

Hypothesis Statement

This chapter touches on the need for a change in American management methods, discusses the major methods used today to implement a Theory Y or participative management, style, looks at the resistance to change present in American industry, and reviews the success being enjoyed by companies that have made the change to a Theory Y based management system. Even though the positive results are not

overwhelming, they do tend to support this hypothesis: The use of Theory Y management styles in the workplace will raise employee productivity levels by a statistically significant amount.

Chapter III

RESEARCH METHODOLOGY

Subjects

The subjects were volunteer first-line supervisors and their work groups employed by a major company in the eastern and south-eastern area of Missouri. A total of 10 first-line supervisors completed the Management Orientation Inventory instrument. The supervisors were male with a mean age of 40.5 years and a range of 26 years to 53 years. The mean number of years of supervisory experience was 8.2 years with a range of 3 years to 20 years.

Table 1 contains the mean ages, range of ages, mean years of experience, and range of years of experience of the work groups.

The work groups all perform their work duties in similar geographical land formations, meteorological conditions, company work environments, and areas of population density.

Table 1

Work Group Description

Work Group	# of Employ.	Mean Age	Range of Age	Mean Years of exper.	Range/Yrs of exper.
A	7	48	38-64	23	16-34
B	7	36	23-48	12	3-19
C	6	29	21-53	7	1-31
D	7	40	32-56	25	9-30
E	8	40	26-53	15	2-31
F	7	46	35-56	20	11-29
G	6	37	30-54	15	2-25
H	7	41	24-58	15	1-33
I	7	43	33-53	20	12-30
J	7	36	28-48	9	1-20

The supervisors and their work groups had no prior knowledge of this study, nor were they familiar with the Management Orientation Inventory research instrument.

Research Instruments

There were two research instruments used in this study. The first instrument, Management Orientation Inventory, is available commercially. The second instrument is a management report used internally by the participating company to measure the productivity

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of individual work groups as well as the trend of a work group over time.

The Management Orientation Inventory instrument was developed by Harry V. Pollard. The inventory (Appendix A) examines the supervisor's philosophy about people in organizations. It consists of eight statements which the participant must answer by allocating three points among the five possible completions for each statement. If one completion best describes how the respondent feels they give it all three points. If two choices fit, the respondent may give two points to the best fit and one point to the next best fit. Or the respondent may give three of the five completions one point each. Through the use of a scoring procedure the inventory categorizes the participant as having a Traditional (Theory X), Enlightened (Theory Y), or Emergent (Theory Z) management orientation. The research tool leaves open the possibility of a low congruence fit or a person who has not established a personal management orientation. The tool also indicates the presence of dominant, primary, and secondary tendencies. A respondent is scored from 0 to 90 in each of the areas

with a score of 0 to 30 being considered very low congruence with that particular orientation, a score of 31 to 45 considered a secondary orientation, a score of 46 to 60 considered a primary orientation and a score of 61 to 90 considered a dominance of the orientation. In all cases, with a properly completed and scored inventory tool, the sum of the three orientation scores will equal 90.

The corporate internal productivity management report was developed through and based on functional time reporting studies. The time reported by the workers for accomplishing task "A" was tracked by the report developers and they then used the collected data to calculate an average time per worker to complete the task. After the various individual task average completion times were assembled, the developers converted them to units with one unit being equal to six minutes of job time. This process established the baseline for the average worker's output at 10 units per hour. Actual productivity is calculated by using the quantity of job tasks completed in one hour, as reported on the employee's functional time sheet and is expressed in units per hour. Thus if a particular job

is assigned six units and the worker completed two such jobs in one hour his productivity was 12 units per hour. The reports used in this study are those issued by the company based on the actual time reported for job completions by the individual and include a work group average productivity level.

Procedures

A total of 16 first-line supervisors and their work groups met the criteria for this study. The determining criterion was that the work group, as tracked on the company productivity report, consisted of more than three employees. All 16 of the supervisors were contacted by telephone and asked if they would participate in the Management Orientation Inventory study. At the time of the contact it was explained to the supervisor that the research was part of a master's thesis project and that all information was confidential and would be reported anonymously. It was also explained that the individual's tendencies, as determined by the Management Orientation Inventory, would be shared with the person if he or she was interested in knowing the results. Of the 16 first-

line supervisors contacted, 10 volunteered to take part in the study. The management inventory was mailed to the supervisors along with a simple questionnaire (Appendix B) which asked the supervisor's age and number of years of management experience plus the mean age, range of ages, mean years of experience and range of years of experience of the supervisor's work group. The completed inventory tools and questionnaires were then returned to the researcher by mail.

The company supplied the researcher with the productivity information for the 10 work groups under study. The reports were for the first and second quarters of 1989.

Data Analysis

This is a correlational study with supervisor management style as the independent variable and work group productivity level as the dependent variable. The individual supervisor's management style and his group's productivity level will be compared and contrasted to the other supervisors' styles and their groups' productivity levels to see if a relationship

between management style used and work group productivity exists.

The Pearson _r_, an index of the linear relationship between two variables, will be used to test for any statistically significant relationships between the workgroups' productivity and the supervisors' managerial styles. The alpha level of the critical _r_ was set at .05.

Chapter IV

RESULTS

Results

All 10 of the potential respondents participated in the study.

Table 2 contains the means and standard deviations of the supervisors' age and experience. All of the supervisors were male.

Table 2

Descriptive Statistics of Participating Supervisors

	$\bar{X}$	S.D.
Age (in years)	40.5	7.83
Experience (in years)	8.2	5.65

As discussed earlier, the Management Orientation Inventory identifies three primary managerial orientations: Traditional (Theory X), Enlightened (Theory Y), and Emergent (Theory Z). A respondent is scored from 0 to 90 in each of the areas, with a score of 0 to 30 being considered very low congruence with that particular orientation, a score of 31 to 45

considered a secondary orientation, a score of 46 to 60 considered a primary orientation and a score of 61 to 90 considered a dominance of the orientation. In all cases, with a properly completed and scored inventory tool, the sum of the three orientation scores will equal 90.

Table 3 contains the Management Orientation Inventory scores of the participating supervisors.

Table 3

Supervisor's
Management Orientation Inventory
Scores

Supervisor	X Score	Y Score	Z Score
A	10	50	30
B	31	25	34
C	20	28	42
D	24	53	13
E	16	37	37
F	11	30	49
G	4	36	50
H	11	46	33
I	27	31	32
J	28	43	19

As demonstrated in Table 3 not all of the supervisors had a primary orientation in either X, Y,

or Z style. The supervisors in groups B, C, E, I, and J display only secondary leanings towards any single management style, while the supervisors in groups A, D, and H have a primary orientation towards Theory Y styles and the supervisors in groups F and G have a primary Theory Z orientation. None of the participants had a Theory X primary orientation. These results will not harm the study as it is looking for linear relationships between the degree of a particular management style orientation and work group productivity e.g., looking over the 10 work groups, does the group productivity level increase as the supervisor Theory Y score increases.

Table 4 contains the means and standard deviations of the respondents' scores.

Table 4

Descriptive Statistics of
Supervisor's Inventory Scores

	$\bar{X}$	S.D.
X Score	18.2	8.67
Y Score	37.9	9.19
Z Score	33.9	11.14

The *t* test for correlated samples was used to determine if the mean differences between the X score, Y score, and Z score are significant. The alpha level was set at .01 and the degrees of freedom was equal to 9. Thus a critical *t* of 3.250 was required for statistical significance. As the test results in Table 5 display only the mean difference of the X scores and the Y scores was statistically significant.

Table 5

t Values of Inventory Score Mean Differences

Study	*t* Value
X Score/Y Score	-4.23
X Score/Z Score	-2.66
Y Score/Z Score	.65

The individual work group January through June year-to-date productivity levels were furnished to the researcher by the company. The productivity levels are stated in units per hour. Table 6 contains the work group productivity levels.

Table 6

Work Group
Productivity Levels

Work Group	Productivity Level
A	8.6
B	11.3
C	10.0
D	7.1
E	9.8
F	9.0
G	10.0
H	11.5
I	9.3
J	8.9

Table 7 contains the mean and standard deviation of the productivity levels.

Table 7

Descriptive Statistics of
Work Group Productivity Levels

	$\bar{X}$	S.D.
Productivity Level	9.55	1.23

Table 8 contains the work groups' mean years of experience and the supervisors' years of management experience.

Table 8

Years of Experience

Work Group	Work Group Mean Years of Experience	Supervisor Years of Management Experience
A	23	10
B	11.6	3
C	7	4
D	25	14
E	15.2	3
F	20.3	12
G	15	3
H	15.2	3
I	20	10
J	8.5	20

The Pearson r test was used to locate any possible correlation between a work groups' productivity level and the supervisor's management orientation. The alpha level was set at .05 and the degrees of freedom was equal to 8. Thus a critical Pearson r of .632 was required for statistical significance.

Table 9 contains the Pearson r values of the correlation studies performed on the acquired research data.

Table 9

Pearson r Values of Correlational Studies

Study	Pearson r Value
W.P.L./Supervisor X Score	- 0.14
W.P.L./Supervisor Y Score	- 0.53
W.P.L./Supervisor Z Score	+ 0.64
W.P.L./Mean Years of Experience of Work Group Members	- 0.49
W.P.L./Years of Supervisor's Management Experience	- 0.44

W.P.L. = Work Group Productivity Level

As presented in Table 9, the work group productivity level was tested for a correlation with the supervisor's X score, the supervisor's Y score, the supervisor's Z score, the mean years of experience of the work group members, and the number of years of supervisor management experience. Of these possible relationships only the work group productivity level and supervisor Z score correlation was reliable.

CHAPTER V

DISCUSSION

Study Discussion

Through the examination, comparison, and contrasting of the information contained in the various tables in the preceding chapter, one can uncover a few possible relationships that engage one's curiosity and stimulate thought for future research.

Table 2 shows that though the mean age of the supervisors is 40.5 years the range of ages is fair considering the normal ages of the adult working population. This points out that the spread of the supervisors' ages is substantial and that this study is probably not biased by an age of participant factor. This is also true of the mean and range of number of years of supervisory experience of the supervisors involved in the study as evidenced by the data in Table 2.

Table 4 displays the fact that, as a group, the supervisors have a secondary orientation in Theory Y and Theory Z management styles and a low congruence

with Theory X management style, though the standard deviations are large enough to indicate there is a considerable spread in the individual scores in each area. It is interesting to note that the mean Y score is double the mean X score and the mean Z score is nearly double the mean X score; however, when tested for significance, only the mean difference of the X score and the Y score is statistically significant. Given their spread in ages, years of supervisory experience, and geographical locations, one might speculate that some employer introduced factor such as training or corporate culture has influenced the supervisors in their choice of management style orientation.

This use of corporate influence on management style is also visible in other corporations. As discussed in the literature review, A.O. Smith is training its supervisors to use participative management methods on the shop floor; Shenandoah Life Insurance Co. compelled managers to find different ways to process policy applications; and Mercury Marine reorganized its management ranks in order to allow middle managers more control.

The data in Table 7 shows that the group mean productivity level is 9.55 units per hour which is very close to the mean of 10.0 units per hour which the productivity report designers had determined as the company mean from the original studies. This demonstrates that the work groups used in this study are typical of the workers employed by the company.

Table 9 contains the correlations between work group productivity and the management orientations and also between productivity and years of experience of the work group and the supervisor. The correlations are stated in terms of Pearson r test results. Only the correlation between the work group productivity level and the supervisor's Z score is higher than the critical r value (.64 versus .632). The other relationships are not statistically significant; however, the correlation values of the productivity level to the supervisor Y score, the productivity level to the mean years of work group members' experience, and the productivity level to the years of supervisor's management experience do pose some intriguing questions that could be explored by future research projects. Questions such as: Is there truly a negative

relationship between a more participative (Theory Y) supervisor and his work group's productivity?; If a negative relationship actually exists between a work group's mean years of experience and its productivity level, what is the primary cause of the relationship?; and If there is a negative relationship between a work group's supervisor's years of management experience and its productivity level, what is the underlying cause of the relationship?

Other researchers in the area of productivity have uncovered related findings. As outlined in Chapter 2, studies of employee-owned companies show that ownership alone does not motivate employees, while ownership together with participation does; Levine and Tyson found that meaningful participation has a positive effect on productivity; Ninomiya is convinced that the key to all business goals is an emphasis on people; and Blinder found that some form of institutionalized participation by workers can raise productivity as well as increase the effectiveness of other productivity - enhancing measures such as profit-sharing. As also pointed out in the chapter, not all of the findings are positive: Cooke concluded that about 75 percent of all

relationship between a more participative (Theory Y) supervisor and his work group's productivity?; If a negative relationship actually exists between a work group's mean years of experience and its productivity level, what is the primary cause of the relationship?; and If there is a negative relationship between a work group's supervisor's years of management experience and its productivity level, what is the underlying cause of the relationship?

Other researchers in the area of productivity have uncovered related findings. As outlined in Chapter 2, studies of employee-owned companies show that ownership alone does not motivate employees, while ownership together with participation does; Levine and Tyson found that meaningful participation has a positive effect on productivity; Ninomiya is convinced that the key to all business goals is an emphasis on people; and Blinder found that some form of institutionalized participation by workers can raise productivity as well as increase the effectiveness of other productivity - enhancing measures such as profit-sharing. As also pointed out in the chapter, not all of the findings are positive: Cooke concluded that about 75 percent of all

participative management programs in the early 1980's failed.

The statistically significant relationship between the work group's productivity level and its supervisor's Z score as discovered by this study is interesting. As indicated in the literature review section, many companies have sought to raise productivity levels and some have done so by introducing participative managment systems based at least partially on Theory Z ideas. 3M Co. reorganized management duties by product line and passed more responsibility down to individual workers. As a result quality is up, inventory has been trimmed, and manufacturing time has been cut by two-thirds. Cummins Engine Co. implemented work teams responsible for scheduling shifts, ordering materials, and even hiring workers in a number of its plants. One such group drastically reworked an engine housing line and cut costs by 75 percent. A Tektronix Inc. work cell turns out as many defect-free products in 3 days as an entire assembly line used to produce in 14 days. Volvo's Kalmar Sweden "socio-technical system" assembly plant operates 25 percent less expensively than its

conventional plants. Even though this positive relationship between a work group's productivity level and its supervisor's Theory Z orientation does not support the original hypothesis of the study, it does indicate there may be a more productive management style that supervisors could practice.

As stated earlier the relationship between a work group's productivity level and its supervisor's Y score, as uncovered by this study, is not statistically significant; therefore, the hypothesis that the use of Theory Y management styles in the workplace will raise employee productivity levels by a statistically significant amount is not supported by the statistical analysis of the data collected during this study and is hereby rejected.

Limitations

The limitations of this study must be considered when examining the research results. First, the participant pool is extremely limited with only 10 supervisors and their work groups involved. This small sample size (N=10) hampers the power of the correlational tests and increases the probability of

retaining the null hypothesis when the null hypothesis is, in fact, false and should be rejected. Also, all of the participants are employed by the same company which limits the amount of generalization of the results that can be done. While the supervisors and work groups may be typical of those employed by this particular company that is not to say that they are not atypical when compared to the remainder of the companies in this industry segment or to employees in all businesses. There is also the possibility that the Management Orientation Inventory research tool is too simple for use as a tool in this type of a study. Perhaps a more complex instrument is called for in order to increase the validity of the study.

Suggestions for Future Research

A replication of this study with a broader base of participants would be appropriate. It is suggested that the subject pool be composed of several companies and multiple groups from within each individual company. It is also advised that several alternative research instruments be examined to determine which one is best suited to the needs of the proposed study. In

addition, based on the results of this study, the hypothesis should address the relationship between Theory Z management style and work group productivity level.

APPENDIX A

MANAGEMENT ORIENTATION INVENTORY TEST

Organization
Design
and
Development

Management Orientation Inventory
(Revised)

Developed by Harry V. Pollard

Each time a person in a management, supervisory, or leadership capacity takes action, his or her analysis of the situation and choice of alternatives reflect assumptions about the nature of people at work. These assumptions are acquired and developed throughout life and represent deeply held individual values or a personal philosophy.

Values about management are a function of experience, influential role models, education, socialization, peer pressures, religion, trends, etc. Values are slow to form and even slower to change. They represent what each individual has discovered is workable and applicable - they are the basis of judgement. Without the ability to reach quick conclusions about situations, people, and their behavior, people would never make sense of all the information that bombards them as a result of their relationships with others.

Directions: This Inventory examines your philosophy about people in organizations. Respond to the following items by allocating 3 points among the five possible completions for each of the eight statements. If just one completion describes how you usually feel, give it all 3 points. If two choices fit you, give 2 points to the best fit and 1 to the next best. Otherwise, choose the three completions that fit you somewhat and give each 1 point. Respond from your

first impressions, because those quick impressions are most likely to reflect accurately your true values. Place your distributed points in the line provided to the right of each letter. Do not transfer your scores until you have completed the Inventory page.

Inventory

Directions: Allocate 3 points among the five alternatives.

1. My power to influence others is ...

   A.____ based on my ability to do a good job.
   B.____ based on cooperation.
   C.____ based on where my position fits on the organization chart.
   D.____ immaterial - the most competent person should direct each job.
   E.____ based on a recognition of me in my position.

2. When I am concerned that expectations are clearly understood, the majority of my communication involves...

   A.____ clear direction, followed by others' questions.
   B.____ listening to others' suggestions and facilitating decisions.
   C.____ discussion, during which I ensure that directions are clearly understood.
   D.____ clarifying the issues with each person who is involved in them.
   E.____ putting directions in writing.

3. As a leader, I am most comfortable...

   A.____ delegating - giving people jobs and letting them do them.
   B.____ supporting - using feedback to encourage desirable performance.
   C.____ coaching - giving direction and support to encourage performance.
   D.____ directing - giving clear direction and instruction.
   E.____ contracting - mutually agreeing with the follower about leadership.

Inventory

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4. I believe that people usually...

   A.____ feel committed to their jobs.
   B.____ need to be monitored to assure that they perform as desired.
   C.____ want to work.
   D.____ want to cooperate.
   E.____ work best with clear rules and directions.

5. Most employees...

   A.____ give time as contracted.
   B.____ give energy, dedication, and ideas freely.
   C.____ give time and suggestions as requested.
   D.____ put in time.
   E.____ offer suggestions for improvement.

6. What most employees find motivating is...

   A.____ personal recognition.
   B.____ tangible rewards, security, and working conditions.
   C.____ money.
   D.____ involvement in decision making.
   E.____ responsibility and "ownership" of their jobs.

7. Employees need to decide...

   A.____ to accept the conditions of employment or leave.
   B.____ how to take on more responsibility in the organization.
   C.____ how to develop professionally and personally.
   D.____ to put personal concerns aside and get on with the job.
   E.____ to find a "fit" in the organization.

8. In managing organizations what is important is (are)...

   A.____ standards and controls to assure productivity and predictability.
   B.____ accountability for assuring productivity within guidelines.
   C.____ developing the performance capabilities of all team members.

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8. In managing organizations what is important is (are)...

   A.____ standards and controls to assure productivity and predictability.
   B.____ accountability for assuring productivity within guidelines.
   C.____ developing the performance capabilities of all team members.

D.____ encouraging innovative ways to increase productivity.
E.____ encouraging productivity and flexibility.

9. Review the previous eight sets of statement, and select the two that you feel should be the most important considerations in creating an excellent organization.
First Choice Set: _____ Second Choice Set: _____

APPENDIX B

QUESTIONNAIRE

Name:_____

Age In Years: _____ Number of Years of Supervisory Experience: _____

Age In Years Of Youngest Work Group Member: _____

Age In Years Of Oldest Work Group Member: _____

Average Age in Years of Work Group Member: _____

Number of Years of Experience Of Least Experienced Group Member:_____

Number Of Years Of Experience Of Most Experienced Group Member: _____

Average Number Of Years Of Experience Of Work Group Member: _____

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