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A Comparative Analysis of Advertising Agencies and Commercial Printing Companies to Determine the Relationship Between Employee Education Level and Implementation of Participative Decision Making

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A COMPARATIVE ANALYSIS OF ADVERTISING AGENCIES AND COMMERCIAL PRINTING COMPANIES TO DETERMINE THE RELATIONSHIP BETWEEN EMPLOYEE EDUCATION LEVEL AND IMPLEMENTATION OF PARTICIPATIVE DECISION MAKING

BY

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This thesis is approved as a creditable, independent investigation by a candidate for the degree, Master of Science, and is acceptable as meeting the thesis requirements for this degree, but without implying that the conclusions reached by the candidate are necessarily the conclusions of the major department.

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PREFACE

The author firmly believes that any research, in order to have meaning and value, must be viewed in the context of an entire situation. Judgments regarding the validity of specific research findings should be made only after the findings have been studied in relation to an entire body of knowledge in a particular area.

The subject of investigation for this study involves a segment of human relations. An understanding of the entire field of human relations is essential for justification of the findings which relate to the particular segment.

The area of human relations of concern in this study involves a theory often called "participative decision making." It is a theory which is dependent upon other closely related areas. Motivation, satisfaction and other factors which are prevalent in personal fulfillment are important things to consider in relation to the theory. Because of interdependence, one must relate research concerning participative decision making to other areas of human relations which have been explored by behavioral scientists.

Communication is one means which individuals often use for personal fulfillment of psychological needs. A situation structured by organization allows management to communicate with subordinates. Subordinates, however, frequently find it difficult to communicate effectively with superiors.

Human wants and needs are difficult to satisfy when communication barriers exist. Thus basic problems arise when upward flow of information is restricted. It is therefore becoming increasingly important that management become aware of the psychological factors which determine all human activities.

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CHAPTER I

INTRODUCTION

Management has been aware of the need for participative or group procedures for years. Recently, however, increasing emphasis has been placed on the value of such methods of management. Two studies have been selected for mention here as representative of many conducted in the past.

Probably the first research findings in the area of human relations were those which resulted from a study conducted in 1924 at the Hawthorne Plant of Western Electric Company. Regardless of physical variables introduced, productivity rose. Elton Mayo concluded that productivity was not a function of physical variables, but rather, was the result of the production workers' increased motivation which resulted from investigators demonstrating an interest in the workers and their jobs. The human relations findings were serendipitous, however, inasmuch as the intent of the investigators was to determine the relation between plant illumination and productivity of the workers.[1] A recent investigation conducted at Tennessee Valley Authority (TVA) suggests that greater attention should be directed toward satisfying the social, egoistic and self-fulfillment needs of the employee, possibly

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1 Anonymous, "Famous First: Workers Can Be A Team, Too: Hawthorne Workers," Business Week (May 25, 1963), p. 49.

by increasing the opportunity for individual employees to participate directly in decision making.[2]

One contemporary individual concerned with human relationships, W. Phillips Davison, has stated that ". . . all human actions and reactions, including changes in attitude and knowledge, are in some way directed toward the satisfaction of wants or needs."[3]

The desire to satisfy needs and wants undoubtedly prompted early men to "band" together for mutual benefit. Thus, man has unconsciously indicated that group participation is necessary for the benefit of each individual concerned. Participation is constructive effort, mental as well as physical, solicited from everyone. Each individual has the opportunity and feels the obligation to work for the best interests of the group.[4] These same wants and needs most likely convinced man that he must suppress certain individual activities so that the groups which were formed could function harmoniously. The complex social structure of modern man developed from relatively small and uncomplicated social groups. However complex the social structure has

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2 Arthur A. Thompson, "Employee Participation In Decision Making: The TVA Experience," Public Personnel Review, Vol. 28 No. 2: 87 (April 1967).

3 W. Phillips Davison, "On The Effects of Communication," in Lewis Anthony Dexter and David Manning White, eds., People, Society, and Mass Communications (New York: The Free Press of Glencoe, 1964), p. 72.

4 George P. Shultz, "Worker Participation in Production Problems: Experience with the "Scanlon Plan," in Elizabeth Marting, Dorothy MacDonald and Juliet H. Halford, eds., Management and Its People (New York: American Management Association, Inc., 1965), p. 168.

become in society today, it has not been without design, planned integration and development of need-satisfying components. A. H. Maslow, Brandeis University, stated that man has a hierarchy of needs, and as the needs of one level become fulfilled, man seeks satisfaction at the next need level in the hierarchy. Following are the needs which Maslow believed man is always attempting to satisfy.[5]

1. Physiological needs. These are the needs for food, water, air, shelter, rest, exercise, and so on required to satisfy biological demands of the human organism.

2. Safety needs. These are the needs to be free from fear of deprivation, danger and threat, on the job and off.

3. Social needs. These are the needs people have for gregariousness and social interaction. Men like to group together for many purposes of life. They need to associate, to belong, to accept and to be accepted, to love and to be loved.

4. Ego needs. These are the needs for reputation, self-respect, and self-esteem. Men need to feel competent and knowledgeable. They need respect, recognition and status.

5. Self-actualization needs. These are the needs for the realization of individual potential, the liberation of creative talents, the widest possible use of abilities and aptitudes--in short, for personal fulfillment.

The social groups mentioned by Maslow are significant determinants in the formation of various institutional organizations. Some of these include political, economic, military and religious structures. Of the various institutional structures noted, the primary concern of

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5 Arthur H. Kuriloff, "An Experiment in Management--Putting Theory Y to the Test," in Marting, MacDonald and Halford, pp. 312-13.

this study is the industrial organization, an important representative of economic institutions. Of all possible industrial organizations in which to investigate decision making, the author has chosen the printing industry.

In political, religious and other institutions of society, individuals are recognized and permitted to express themselves. Industry, however tardy in granting similar freedom to individuals, is now experiencing a basic change away from autocratic and arbitrary vagaries of the past toward democratic decision making.[6] Increasingly, man has become discontent with industry and has earnestly attempted to fulfill his wants and needs through self-expression. Employees who become dissatisfied with their work environment and challenge the formal organization are fighting to satisfy needs they now consider crucial. "They are fighting to get new needs satisfied--needs that the old control system did not recognize."[7] Failure to recognize an employee's desire for self-expression may result in disunity, lack of cooperation and failure to conform to organizational goals. Workers may seek social satisfaction to fulfill the needs which are not satisfied in the work environment. Often social satisfaction of the self-fulfillment needs are sought in places and times which interfere with the job.[8] Thus,

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6 P. E. Slater and W. G. Bennis, "Democracy Is Inevitable," Harvard Business Review, Vol. 42: 53 (March 1964).

7 Clare W. Graves, "Deterioration of Work Standards," Harvard Business Review, Vol. 44: 119 (September-October 1966).

8 John M. Pfiffner, The Supervision of Personnel (New York, N. Y.: Prentice-Hall, Inc., 1951), p. 131.

problems may develop unless management realizes the needs and wants of its personnel.

The above paragraphs are an attempt to emphasize the importance of recognizing the psychological wants and needs of workers in an industrial organization. Decision making, which is the problem of primary concern, is involved in an employee's psychological satisfaction.

"Decision making can be defined as the selection, based on some criteria, of one behavior alternative from two or more possible alternatives."[9] Decision making is a basic principle used by the management of industrial firms. This principle of management has been used as the primary means of accomplishing the goals of the firm, both long and short range, and has gone unchallenged and unmodified until recently.

Industrial management has traditionally been authoritative in nature. Authoritative management, termed "Theory X" by Douglas McGregor, operates under the following assumptions:[10]

1. Human beings are inherently lazy and will shun work if they can.
2. People must be directed, controlled and motivated by fear of punishment or deprivation to impel them to work as the company requires.
3. The average human being prefers to be directed, wishes to avoid responsibility, has relatively little ambition, and wants security above all.

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9 George R. Terry, Principles of Management (Homewood, Illinois: Richard D. Irwin, Inc., 1964), pp. 107-8.

10 Kuriloff, p. 311.

This traditional concept is based on the philosophy of economic man as presented by Adam Smith in his famous The Wealth Of Nations. Smith's philosophy that man exchanges time for money in the industrial situation appears to be synonymous with the precepts of "Theory X."

Many of the management principles developed during the period in which the economic-man philosophy thrived are still applied to the methods and techniques of modern industry. The same principles of management are applied to the organization of computerized tasks which, in the past, were performed by men.

Not only have the methods and means of production changed, the basic attitudes of society and the working population have also undergone a basic change. According to P. H. Irwin and F. W. Langham, Jr. ". . . the traditional patterns of managing are not adequate to cope with change factors in our swiftly developing world, and bold methods are called for."[11] Individuals no longer complacently accept directives and commands. Many individuals today believe that they should be given the opportunity to, at least in part, make decisions about those problems which will ultimately affect them. They contend that many management principles are no longer applicable in today's society. "Increased living standards and education level tend to stimulate individual thinking and cause people to yearn to guide their own

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11 P. H. Irwin and F. W. Langham, Jr., "Change Seekers; Management of Change," Harvard Business Review, Vol. 44: 81 (January 1966).

lives--and know that it is right to do so."[12] It appears logical to assume that management principles are in need of modification and updating if they are to conform to the altered needs and wants of society. Satisfaction of the physiological needs of man caused industrial structure to develop. Today physiological needs have become secondary because they have been largely satiated. Irwin and Langham claimed that the basic needs--food, shelter, clothing--of the entire work force are already satisfied. Therefore, attempts to motivate employees through satisfaction of these physiological needs is not likely to be successful. The appeal must be to satisfy the higher needs--those in the areas of security, social interaction, and recognition and dignity.[13] Updated management principles may serve as the mechanism for fulfilling the higher level of needs and altering the entire industrial structure.

As Albert F. Watters stated, "today, with his sense of intellectual independence and his consciousness of the significance of his own competence, initiative, and freedom, the individual man rebels at being denied full opportunity to participate in decisions affecting his own destiny . . ."[14] This basic shift in attitude from unquestioning

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12 Richard S. White, "Individual Freedom In An Age Of Automation," Advanced Management Journal, Vol. 33 No. 2: 16 (April 1968).

13 Irwin and Langham, p. 84.

14 Albert F. Watters, "Management and Motivation: Releasing Human Potential," in Marting, MacDonald and Halford, p. 295.

obedience and submission to a realization of the value of each individual is the result of a number of factors. Probably the primary factor contributing to the attitude change is the increasingly higher education level of the populace. "Today, just about 2 out of 3 workers in the 25 to 34 age group--people who have more or less obtained the education and training necessary for beginning a career--have a high school education or better. By 1975, 3 out of 4 workers in this age group will be similarly equipped."[15]

Contributions of social scientists have made it clear that ". . . autocratic leadership is based on beliefs and attitudes that have become increasingly at variance with what we know about human behavior."[16] A major revision of the antiquated management techniques in use today needs to be given serious consideration. The continued existence of the firm as it presently functions may depend on such action initiated by management. Indeed "survival [of industrial firms] may depend on extremely wise decisions of management."[17] Perhaps the most wise decision would be to adapt the firm to the present needs of society. If the firm's structure and operation can no longer satisfy the needs and wants of those involved in its operation, it may very well become the useless object of a changed society. Rejection of

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15 Bureau of Labor Statistics, Occupational Outlook Handbook (United States Department of Labor, 1966-67), p. 19.

16 Joseph A. Raffaele, "Automation and the Coming Diffusion of Power in Industry," in Marting, MacDonald and Halford, p. 363.

17 Anonymous, "Management in Graphic Arts," Graphic Arts Progress, Vol. 12 No. 5: 1 (September-October 1965).

autocratic techniques by management, or rejection of the firm and industrial structure by society appear to be the alternatives from which a choice must be made.

Management can make the principle of decision making conform closely to the needs of the society. This is only one principle, and at best will only partially fulfill the needs, but it can make an important contribution in solving the problem. One recent variation of the principle of decision making that has developed and has already been mentioned is known as "participative decision making." This decision making technique is an integral part of McGregor's "Theory Y."

"Theory Y, holds, first of all, that people do not like or dislike work inherently, but rather develop an attitude toward it based on their experiences with it."[18] This statement is in direct opposition to the principle of "Theory X" and would indicate, backed by behavioral research, that the basic belief upon which some management principles were developed has become a faulty foundation on which to build adequate principles.

McGregor placed authoritative techniques into even greater disrepute by challenging the basic precepts upon which authoritative management has developed. McGregor stated that "Theory Y" operates under the following assumptions:[19]

1. The expenditure of physical and mental effort in work is as natural as play or rest.

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18 Saul W. Gellerman, Motivation and Productivity (New York: American Management Association, Inc., 1963), p. 87.

19 Kuriloff, p. 312.

2. External control and the threat of punishment are not the only means of inducing people to work toward organizational goals. Man will exercise self-direction and self-control in the service of objectives to which he is committed.

3. Committment 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 also to seek responsibility.

5. The capacity for exercising a relatively high degree of imagination, ingenuity and creativity in solving 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.

The list of assumptions upon which "Theory Y" operates becomes more creditable when the human needs which Maslow presented earlier are considered. Maslow stated that the present authoritative management techniques satisfy the hierarchy of human needs as follows:[20]

1. Physiological needs 85%
2. Safety needs 70%
3. Social needs 50%
4. Ego needs 40%
5. Self-actualization needs 10%

The figures presented by Maslow indicate that authoritative management has been unable to satisfy the highest level of needs.

"Theory Y" is a technique which proposes to "tap" the higher levels of the need hierarchy. As previously stated, when those needs

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20 Kuriloff, p. 313.

at the lower end of the hierarchy become satisfied, or nearly satisfied, man seeks to satisfy the next higher need.

Money and job security have been used as motivators in the past, but these needs have been, to a great degree, satisfied. Money and similar benefits no longer serve as motivators. Psychologists tell us that satisfied needs are not motivators for actions. "To the hard-headed businessman all this [need satisfaction and motivation] may appear to be an idealistic sop to coddle the work force. Our point is that management has frequently failed to recognize that people's needs shift upwards as their lower needs are satisfied."[21] The economic man philosophy of the authoritative method has become obsolete. No longer will economic rewards alone provide the motivation they have in the past. "According to Maslow, once the basic human wants have been satisfied, the next to come into play are the needs for self-actualization, self-expression and self-esteem."[22]

Purpose Of The Study

There have been a number of studies conducted in recent years regarding "Theory Y" and the various segments of this theory. For example, research has been done to determine which personality traits a successful employee-centered supervisor possesses that the unsuccessful supervisor does not. Studies relating to the employee have been

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21 Irwin and Langham, pp. 84-5.

22 Chris Argyris, "Employee Apathy and Noninvolvement--The House That Management Built?" in Marting, MacDonald and Halford, p. 302.

conducted to determine why some workers are motivated by participative techniques whereas others are not. Such studies have been primarily concerned with the internal characteristics of the individuals involved in the participative work situation.

Other studies have been conducted which attempt to determine relationships between the internalized needs and wants of the individual and external factors. Many of the studies in this area deal with group dynamics, job characteristics, work environment, and the relationships between such factors as individual goals and corporate goals.

The purpose of this study is to help close a research gap. To the best knowledge of the author, there have been no studies done which attempt to determine the relationship between the education level of employees and the degree to which they are permitted to participate in decision making. The author believes that as the level of education increases, the individual expects to have a greater degree of responsibility for planning and altering the activities and environment which directly affect him. Not only do the individual workmen want to plan and make decisions relating to such matters, but it seems reasonable to assume that management people would have confidence in a well-educated workman to make "good" decisions. Confidence in the judgment and ability of a well-educated worker would be the probable result of the high value placed on education in this society.

All people possess the hierarchy of needs which were presented by Maslow. However, it is the contention of the author that the higher the education of the individual, the greater is his desire to

fulfill the higher need levels. This follows when one realizes that in the American society the more highly educated people have been able to fulfill their lower level needs. One of the primary advantages of "participative decision making" is its ability to fulfill the higher level needs such as self-actualization, ego needs, self-expression and self-esteem. As the average level of worker education increases, management undoubtedly permits worker participation on increasingly important decisions. This is not to say that management realizes this trend. It may be that management unknowingly accepts a better-educated worker's judgments and suggestions on decisions of importance to the company.

Based on the above reasoning, the working hypothesis of this study is that a positive correlation exists between the average education level of employees and the degree to which management permits participation, particularly regarding decisions of increasing importance to the company.

Literature Review

Many of the early advocates of participative management techniques were impressed with the success of the system rather than the structure itself. They saw it improve worker satisfaction and motivation and pragmatically concluded that it was a good system. Some individuals of this bent even suggested that "the more participative management is, the better it is supposed to be."[23]

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23 Anonymous, "Everyone Wants A Hand In (Participative) Management," Business Week, (April 9, 1966), p. 89.

In recent years however, social scientists and psychologists have begun to ask why participative management operates successfully. What causes this system to produce results that the traditional system has not been able to attain? Analysis of the elements of this system which differ from the traditional system is beginning to produce interesting answers to such questions.

Advocates who once held "the more participation, the better," are being forced to review their position. Study of individual needs in relation to organizations has made it evident that incongruency may develop between individual needs and the organizational climate. If the individual needs freedom to make his own decisions but the organization is highly formalized, or when workers need to be directed, but the organization is highly democratic, unexpected consequences may result.[24]

Other studies have concentrated upon the work group and its relation to the supervisor. One study concluded that the effectiveness of democratic leadership depends greatly upon the interdependence of the work group and restraints on interaction between supervisors and subordinates. This conclusion was made after discovering that the small work group which had a high degree of interaction between employees, and between employees and supervisors had positive attitudes

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24 Harry Diamond, "Implications of the Behavioral Sciences for Management," Public Personnel Review, Vol. 28 No. 1: 27 (January 1967).

toward equalitarian leaders. Large work groups where the interaction was restricted had positive attitudes toward authoritarian leaders.[25] Thus it has been shown that not only do worker needs and organizational structure determine if the democratic system will function to produce satisfaction, but also work-group size and its relation to the supervisor's leadership style partially form the worker's attitude toward the democratic system.

Individuals within work groups have personality characteristics which affect the success of the democratic system. Victor H. Vroom, University of Michigan, conducted a study to determine the effects of participation on people with specific personality characteristics. Data from Vroom's study indicate that persons with a low level of authoritarian need and a high level of independence need are favorably affected by opportunities to participate in making decisions relating to their jobs. People with high authoritarian needs and low independence needs are not affected by the opportunity to participate.[26] In a follow-up study conducted by Vroom and Floyd C. Mann, a slightly different conclusion was forthcoming. This study also indicated that the attitudes of persons high in need for independence and low in authoritarianism were most favorably affected by "participative decision making." The findings of this study, however, further

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25 Victor H. Vroom and Floyd C. Mann, "Leader Authoritarianism and Employee Attitudes," Personnel Psychology, Vol. 13 No. 2: 125 (Summer 1960).

26 Victor H. Vroom, "Some Personality Determinants of the Effects of Participation," Journal of Social Psychology, Vol. 59: 324 (November 1959).

indicated that this group was also most negatively affected by lack of participation.[27] This characteristic factor had not been evident in the first study.

Research conducted by Paul Lawrence and Arthur N. Turner at the Harvard Business School discovered a relationship between the size of the city in which a company is situated and the degree to which employees seek participation. Small-town workers seek more participation, whereas city workers "find more simple tasks less stress-producing and more satisfying."[28] This research indicates that in a large city, participation may be viewed as a "dissatisfier" rather than a "satisfier."

Many of the research programs designed to determine which factors promote employee satisfaction have been paralleled by studies concerning motivation of employees in relation to participation. One of the arguments which has been directed at participative techniques is that most workers have neither the desire nor the capability to meet the challenge.[29] This charge has been refuted by advocates of participation in various ways. One rather common counter to this charge is that the traditional management system has forced employees to become dependent and apathetic. "Research findings of the behavioral sciences indicate . . . that an excess of detailed rules and regulations to meet every contingency, detailed supervision, stifles initiative and

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27 Vroom and Mann, p. 135.

28 Robert C. Albrook, "Participative Management: Time For A Second Look," Fortune, (May 1967), p. 197.

29 Raymond E. Miles, "Human Relations or Human Resources?" Harvard Business Review, Vol. 43: 160 (July 1965).

individual growth, and innovative solutions to problems, and promotes dependency."[30] The farther down the hierarchical structure one goes, the more rules and regulations are present to direct employees. Paul A. Vatter, of Harvard Business School's Advanced Management Program, found that the farther down in the ranks of the subordinates one goes, the more conservative the subordinates become regarding willingness to take risks when company money is involved in the decisions being made.[31] Vatter contended that this conservativeness occurs because of the increasing restrictions on the employee as one proceeds down the "hierarchical ladder." Elimination of the restrictions and rules which direct the activities of the lower ranks of subordinates would permit them to become more self-directed. Douglas McGregor of Massachusetts Institute of Technology stated that, "if people have a hand in setting targets for themselves, they'll set good targets, and they'll see that what's good for the company can also be good for them."[32] Clare Graves of Union College in Schenectady, New York did not agree. On the basis of limited samplings, Graves concluded that over half the people in the United States are not "eager beaver" workers and many never will be.[33]

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30 Diamond, p. 26.

31 Anonymous, "How To Make Better Decisions," Nation's Business, Vol. 54: 58 (January 1966).

32 Watters, p. 296.

33 Albrook, p. 170.

The trend among social scientists is in favor of McGregor's philosophy, however. Perhaps because the sampling was limited, Graves did not obtain accurate results from his investigation. "Social scientists now take the view that poor performance on the job is due more to lack of involvement than to laziness or incompetence."[34] "Rensis Likert, of the University of Michigan, also maintains that employees would not be indifferent and apathetic if they had more influence on the decisions that affect them, and a sense of identification with both the problems and the solutions."[35] Study of a large shoe manufacturer tended to raise a question about job satisfaction and workers becoming more involved in their work when they are permitted to set their own goals. It was found that employees in the shoe factory were more satisfied with their jobs when a computer system was installed and their jobs were made more rigid and they were not able to plan their work.[36] No general conclusions can be drawn from this study however, inasmuch as it applies to only one company.

Concern about the effectiveness of decisions under various organizational situations has also produced experimental evidence which indicates that participative techniques are not always best. Dean C. Barnlund conducted an experiment to compare the performance of individuals working alone, under majority rule, and as members of

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34 Watters, p. 295.

35 Watters, p. 296.

36 H. C. Lee, "Do Workers Really Want Flexibility on The Job?," Personnel, Vol. 42 No. 2: 74 (March-April 1965).

discussion groups, on a complex intellectual task. Discussion groups were found to be significantly superior to the other two experimental groups in making superior decisions. "As a result of discussion, experimental groups obtained mean scores that were significantly higher, at the .01 level, than "superior" members of the same groups were able to attain through individual effort."[37] George R. Terry, however, stated that when the group has little knowledge or background in the subject area, or the issue is of an emergency nature, the individual approach is probably superior.[38] Research at Massachusetts Institute of Technology (MIT) relating to organization and communication reveals that "for simple tasks under static conditions, an autocratic centralized structure, such as has characterized most industrial organizations in the past, is quicker, neater, and more efficient." But conclusions from this research also indicated that for adaptability to changing conditions, for "rapid acceptance of a new idea," for "flexibility in dealing with novel problems, generally high morale and loyalty . . . the more egalitarian or decentralized type seems to work better."[39] Harold J. Leavitt, a social psychologist at Stanford University, agrees with the MIT group. He stated that the group or participative style works best where there is a continuous need to change

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37 Dean C. Barnlund, "A Comparative Study of Individual, Majority, and Group Judgment," Journal of Abnormal Social Psychology, Vol. 58: 56-9 (1959).

38 Terry, p. 115.

39 Slater and Bennis, p. 53.

and adapt.[40] Chris Argyris believes that "no one man seems to be able to have all the knowledge necessary to make an effective decision." Group participation becomes essential when increasingly complex information is being fed in for effective decision making.[41]

Investigation regarding management's attitude toward participation has revealed that statements about the desirability of sharing information and allowing employees to participate in decision making do coincide with their belief in the lack of ability of subordinates to function in a participative situation. The results of a study by Allen R. Solem, University of Maryland, indicate that a superior who reserves to himself the authority to make final decisions does not expect results to be as satisfactory when he delegates full responsibility for the decision to a subordinate.[42] Other studies have also been done which support this finding regarding management's lack of confidence in a subordinate's ability. A study by Haire, Ghiselli and Potter, at the University of California, indicated that managers who appear to accept such concepts as the desirability of sharing information with employees, allowing workers to participate in decision making, and increasing the amount of employee self-control, have, nevertheless, little respect for the average individual's capacity for

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40 Albrook, p. 170.

41 Chris Argyris, "Interpersonal Barriers To Decision Making," Harvard Business Review, Vol. 44: 95 (March 1966).

42 Allen R. Solem, "An Evaluation Of Two Attitudinal Approaches To Delegation, Journal of Applied Psychology, Vol. 42: 38 (1958).

leadership and initiative.[43] A group of California researchers found that 87 per cent of the managers questioned felt that employees performed best when they were given responsibility and opportunity for decision making. About 50 per cent of the managers who held this opinion, however, felt that few workers were capable of self-leadership and control and must be told in detail.[44] A plan developed by Dr. Paul Pigors, Massachusetts Institute of Technology, Sloan School of Management, may be a technique which will make managers more willing to accept subordinates as capable participative decision makers. The plan, called the "incident process method," involves the use of an incident which precipitates a decision. Through situations which are used for learning purposes, the trainee proves to himself the value of and profit from group discussion.[45]

Experiences at the Tennessee Valley Authority (TVA) in regard to "participative decision making" are examples of the effects of subscribing to the new technique and then not implementing the system completely. TVA has pioneered in the democratic approach to personnel management, but recent investigations indicated the degree to which dissatisfaction can occur if complete participation is not used. Only

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43 Raymond E. Miles, "Theories of Managing: Conflicting Attitudes Among Managers and Their Bosses," Personnel, Vol. 41 No. 2: 55 (March-April 1964).

44 Miles, "Theories of Managing," p. 55.

45 Paul Pigors, "They Teach Business How To Make Decisions," Business Week, (September 18, 1965) p. 72.

10 per cent of the 12,000 employees were directly involved in decision making. The other 90 per cent were participating through their union officials. Productivity began to drop and the rate of job dissatisfaction increased to 18.9 per cent. This investigation noted that 12 to 13 per cent has been determined to be the normal level of employee job dissatisfaction. The conclusion was that indirect participation through union officials resulted in employees feeling that they were not accepted as part of the decision group and their contributions to the group were perceived as meaningless. Those 10 per cent who were directly involved in decision making felt that their contributions and suggestions were meaningful and they showed no dissatisfaction.[46]

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46 Thompson, p. 82-8.

CHAPTER II

METHODOLOGY

The first procedure used in the investigation of this subject was a systematic review of the pertinent literature available. Periodical guides such as: Social Science and Humanities Index, Business Periodicals Index, Reader's Guide to Periodical Literature and Applied Science and Technology Index, as well as the Psychological Abstracts and Sociological Abstracts were reviewed. Before 1950, references to literature concerning "participative decision making" were not common.

The library research served two functions. First, it provided a background of information which assisted the author in conducting the original research which was performed. Second, it provided a list of sources on the subject which may be used by investigators conducting subsequent research in this general area.

The mail questionnaire technique was chosen as the method for conducting the original research because it was the most advantageous method available when all the prohibitive factors of other techniques were considered. With the use of this technique, a widely dispersed geographic sample could be contacted at small cost. The time factor was another element which made the mail questionnaire method especially attractive. A great number of companies could be contacted simultaneously, thus gaining the maximum number of contacts in the minimum amount of time.

Two distinct populations were surveyed to obtain information for the study. One population consisted of commercial printing companies, the other was composed of advertising agencies. Although the research was designed to study the printing industry, advertising agencies were used as a control group for specific variables which were to be analyzed. Of prime importance were variables such as the education level and the age and sex distribution of employees, although variables of secondary importance were also of concern. Comparison of prevalent management attitudes in each of the two populations in relation to employee competence is an example of one secondary variable considered in this investigation. The attitudes of the two groups were solicited for possible significant differences in belief which could be of importance to the study.

Dun and Bradstreet's Million Dollar Directory, 1968 edition, was consulted in order to compile a mailing list for the questionnaires. From the industrial classification, all commercial printing companies listed were chosen as the printing population. Only those companies with at least $1 million annual gross sales were listed in the directory. Sales volume was believed to be an important characteristic which could be used as the criterion for the lower limits of acceptability for the sample because it was believed that smaller companies would be unable to provide the information which the questionnaires sought.

Consulting the directory also increased the probability that only those companies which were classified as "large" companies in the

printing industry would be chosen. George A. Mattson, managing director of Printing Industries of America, Inc. (PIA), stated in a letter to the author, April 25, 1968,[47] that there are 38,000 printing plants in the United States. Of the 38,000 plants, 81 per cent have fewer than 20 employees.[48] Only 7,220 printing plants, or 19 per cent of the 38,000, have 20 or more employees. Of these 7,220 plants, only 278 had the $1 million gross annual sales required for inclusion in the investigation. It is thus obvious that the printing population of concern in this investigation was a minority of all printing plants in the United States.

Dun and Bradstreet's Million Dollar Directory was used as the source for information regarding the population composed of printing firms for a number of reasons. Classification of the firms by sales volume of course simplified the task of compiling the mailing list. Also, the directory made available a geographically representative population. The ratio of companies in any specific region will appear in an equivalent ratio if representativeness is assumed in the random sample. This factor was believed to eliminate the possibility of any variable which may be unique to a specific region. Another advantageous characteristic of the directory was the current nature of the information which was presented. This was the most recent listing available of firms situated within the United States.

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47 A copy of the letter from Mattson has been reproduced for reference in Appendix I.

48 George A. Mattson (letter to the author).

Commercial printing companies were selected because it was believed that research relating to "participative decision making" in the printing industry would be most appropriate to that group. This assumption appeared logical because of the type of work performed by such companies. Work performed by commercial printing companies requires individual planning and organizing for each new job. It is entirely possible that no two jobs will require the same processes and task performance. Russell Thorndike concluded from research that as the range of possible responses increases, the superiority of group over individual decisions increases.[49] ". . . Repeated studies in group dynamics have demonstrated the superior thinking ability of an average group over an average single individual, in problems involving either creative ability or judgment, or both."[50] A large degree of cooperation between employees, and employees and management is essential in intermittent, job-lot manufacturing concerns, which category includes commercial printing plants. Management has generalized knowledge and workers have specific knowledge of the jobs which they perform. For this reason the worker can provide a valuable assist to management's discovering ways of improving processes, reducing waste and increasing efficiency.[51] Printing companies that are engaged in producing

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49 Harry F. Stalder, "Creative Problem Solving: Individual, Group, or Both?" Personnel, Vol. 41 No. 6: 29 (November-December 1964).

50 Stalder, p. 29.

51 Irving Knickerbocker and Douglas McGregor, "Union-Management Cooperation: A Psychological Analysis," in Marting, MacDonald and Halford, p. 129.

individual orders, each order stipulating varying specifications, are commonly classified as commercial printing establishments. Because employee cooperation is essential in this type of organization, it appears that decision making at the lower levels of the organization would be of immediate concern. Flow of information throughout all levels of the organization would improve if the employees were to become more involved in the actions which are of immediate concern to them. The feeling of greater involvement would probably also improve the accuracy of information, which is important to the effectiveness of decisions.

Advertising agencies were chosen as the second population primarily because of the control they would provide with regard to the variables present in this investigation. The average education level of advertising agency employees was assumed to be higher than that of commercial printing industry employees. This assumption was based on library research and personal discussion with individuals familiar with the internal operation of advertising agencies. Because research is conducted by advertising agencies to a greater degree than is true in printing companies, the ratio of college-educated personnel should be higher in advertising agencies.

A second reason for the selection of advertising agencies was the similarity of organization structure, methods of work-flow and other internal operations between advertising agencies and printing companies. Because of the characteristics common to the two groups selected, it was believed that greater confidence could be placed in

the results and conclusions of this research. Groups with basic similarities can be compared more satisfactorily than can dissimilar groups. The similarity of the factors of concern in this investigation should provide a more meaningful insight into the functioning of both groups. For example, the average education level of employees of each group, when compared to the degree to which "participative decision making" is present in each, would be more meaningful than if dissimilar groups were compared.

Selection of the population composed of advertising agencies was made by consulting the February 26, 1968 issue of Advertising Age. This periodical published a list of advertising agencies classified into groups based on the total dollar volume of billing. The editors of Advertising Age stated that to the best of their knowledge, all agencies which had a total billing of more than $5,000,000 were listed.[52] It can be assumed therefore, that the entire population of advertising agencies billing $10,000,000 and more are represented in the test group.

Advertising agencies which billed $10,000,000 or more were selected for use in the study. The advertising agencies in this category were believed to have a total number of employees in each company which was comparable to the printing companies with $1 million gross sales which were selected for the investigation. This conclusion was

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52 Anonymous, "Profiles of U. S. Agencies: Their Billings, Income, New Accounts, Media Used, Total Employees," Advertising Age, (February 26, 1968), p. 31.

reached after comparing the two sources from which the populations were drawn. Both sources contained the total number of people employed by those companies listed. It was believed that similarity with regard to the number of persons employed by the two test groups would further enhance the value of the results obtained from the research.

Addresses of the advertising agencies selected were obtained from the 1967 edition of The Standard Directory of Advertising Agencies.

The two populations each received two separate mailings.

The first questionnaire for commercial printing companies can be found in Appendix A. The first questionnaire for advertising agencies can be found in Appendix B. These two questionnaires are actually one, with necessary modifications. Both forms of this questionnaire were designed to elicit the same types of responses. Variation in the wording of the questions and instructions was necessary for adaptation to the two specific types of respondents. For example, the questionnaires which were sent to advertising agencies referred to the workmen as non-management employees. The questionnaires which were sent to commercial printing companies referred to workmen as foremen and subordinates. The main concern was to construct the questions in such a way that both the commercial printing companies and the advertising agencies would be answering the same questions, and the questions would also be stated in a context which was meaningful to the specific respondent.

A general purpose of the first questionnaire was to determine the beliefs of high-level management about certain factors which were related to their organizations and business operations in general.

This was important because it would indicate significant trends in the industry which would provide direction when construction of the material for the second mailing was undertaken.

Another general function which the first questionnaire served was to elicit information concerning the variables related to the investigation. After library research and personal discussion with individuals, a list was made of the variables which could have significant effects on decision making. These variables were incorporated into statements, about which respondents were asked to indicate their attitudes. Also, the respondents were asked to state any factors which they believed could significantly affect decision making. The purpose of this request was to discover variables which were considered important by management personnel, but which had not been discovered when the library research was conducted.

Because the questionnaires which were sent to each of the two experimental groups were designed to elicit the same information, the purpose of each question will be stated for the commercial printing questionnaire only. Thus, question one of the commercial printing company questionnaire will have exactly the same statement of purpose as question one for the advertising agency questionnaire. Any variation between the intent of the questions for the two experimental groups will be stated where the explanation of purpose is given for each specific question.

The first questionnaire was constructed and a pretest was conducted on March 11, 1968. The 20 respondents in the pretest group were

juniors, seniors and some graduate students enrolled in a printing management course entitled Plant Administration at South Dakota State University, Brookings, South Dakota.

Concern regarding content as well as construct validity were the primary reasons for pretesting the questionnaire. For these reasons, subjects in the pretest group were asked to complete the questionnaire without receiving any further interpretation of the questions. When subjects had completed the pretest questionnaire, they were instructed to indicate any questions they believed were difficult to answer because of sentence construction. If they believed that the fixed alternative categories were inadequate, they were instructed to indicate which answer they thought was most appropriate. This procedure was valuable because it decreased the possibility that an alternative to certain questions would be omitted.

The pretest results indicated that some emphasis was necessary on the instructions for completing the questionnaire. Many pretest respondents indicated that they were confused about the "level" of decisions referred to in the questionnaire. To insure proper interpretation, the instructions given at the top of the questionnaire were underscored and capitalized. It was felt that the respondent's attention would be aroused by this procedure and that the probability of reading the instructions would be enhanced.

A random sample of 100 was drawn from the population of commercial printing companies. The randomization was accomplished by referring to a table of random numbers. The total population from which the random sample was selected consisted of 278 companies.

The entire population of 110 advertising agencies was used as the second group which would receive the first questionnaire.

Each respondent in both groups received a questionnaire accompanied by a cover letter and a pre-addressed, stamped, return envelope. The complete letter can be found in Appendix C.

The cover letter introduced the author, but although recipients were told that the research topic was decision making, the specific topic of the research was not stated because it was believed the attitudes which were solicited would be subject to respondent bias if the relatively controversial theory of participative techniques was mentioned. It was stated that information from those involved in decision making was essential for additional research to be conducted for this study. By stating the importance of the information possessed by those presently involved in decision making, it was believed that the respondents would become more concerned and attempt to answer the questions as competently as possible.

The letter stated that a questionnaire and pre-addressed, stamped envelope were included for the convenience of the respondent. The anonymity of the questionnaire was emphasized. Reassurance in the confidentiality of the responses was thought to be a way to increase the rate of return and also decrease the bias which is always a problem to consider in attitude research.

Each letter was addressed to the president of the company contacted with the request that if the respondent would rather have someone else complete the questionnaire, to please forward it to that

individual or inform the author of his name and address. This emphasized to the respondent the significance of the information to the author and his willingness to make another contact if necessary to obtain the information. It also indirectly implied that the author realized the value of the respondent's time.

Finally, the potential value of the research for those involved in decision making was mentioned. The respondent was briefly thanked for his time and consideration in completing the enclosed questionnaire.

The first mailing was March 27, 1968. Responses incorporated into the study were accepted until May 10, 1968. Data from respondent returns received after that date were not used.

Forty-six of the 100 commercial printing companies initially contacted returned the questionnaire. This represented a 46 per cent return. Of the 110 advertising agencies contacted, 50 returned the questionnaire, a 45.45 per cent return. Two hundred and ten contacts were made with the first mailing. Ninety-six returns were received for an overall 45.71 per cent return.

Questions 1 and 2 were intended to determine what the respondents believed was the relation between age and decision-making ability. Age was believed to be a variable which could have significant effects on the research pertaining to decision making. Question 1 asked if the respondent believed the age of persons making decisions was important. If the response to question 1 was "yes," the respondent was referred to question 2. The second question asked the

respondent to indicate which 10-year age category he believed to be the prime age for persons making decisions. There were eight age classifications from which to make a choice. It was believed that 10-year increments would provide information which could indicate trends of thought among the respondents.

Question 3 was an attempt to determine the attitude of respondents concerning the relation of decision-making activity to the sex of those making the decisions. It was believed that if prejudice existed, the degree to which either of the sexes was permitted to participate in decision making activities would be affected. It was important that attitudes regarding sex prejudice be evident. If the ratio of women in a specific industry is high, and the degree to which "participative decision making" is implemented is low, it may be assumed that prejudice is a significant factor.

Questions 4, 5, 6 and 7 were attempts to elicit information regarding education in relation to decision making or the decision maker. The questions were stated in a manner which would make attitudes of the respondent evident. Question 4 solicited a "yes" or "no" answer in regard to the respondent's attitude toward the amount of formal education which he believed was important for a decision maker to possess. The dichotomous nature of the question was important because of the significance of determining attitude direction. Respondents indicating a "yes" answer to question 4 were referred to the next question. Question 5 was an attempt to solicit a more specific answer regarding formal education. Respondents were asked to select, from four

alternatives, which level of formal education they believed to be best. The four categories of possible responses were developed so that a relation between grade school, high school, college and advanced college educational activities was evident. Question 6 was necessary because the time in which a person received an education was a potentially significant factor. Question 6 was an attempt to determine attitude direction. It is closely related to question 7, which is intended to increase the knowledge relating to the time element. If question 6 was answered "yes," question 7 requested that the respondent indicate the time period he believed was best in which to have been formally educated. Another important factor which question 7 served was to show any possible bias between the response given in question 2 and that given in question 7. It was believed that respondent bias would become discernible to the author if the age category marked in question 2 was related to the response category checked in question 7. In other words, if question 2 was marked in the space next to the "50-59" category, and question 7 was marked in the blank next to the "1921-1940" category, it would indicate that the respondent had answered the question from a personal experience bias.

Question 8 was included to discover management's attitudes regarding the importance of general knowledge of organizational operations. It was believed that general knowledge of the entire operation was essential for a decision maker to perform his duties. Also, it was believed that if "participative decision making" was being used by an organization, workers would need to have information concerning the

entire organization available to them. The attempt here was to determine if the management of the companies in the population sample were in agreement with this belief. If management did not allow production workers to have access to general company information, or if management did not believe production workers were knowledgeable enough of the overall operation, it was believed that the degree of "participative decision making" permitted would be drastically reduced.

Question 9 was similar to the preceding question because its purpose was to obtain a general indication of management attitude. This question was primarily used as a sensing gauge which would enable the author to gain some degree of understanding with regard to the present thoughts and beliefs of management toward the concept of participation in decision making. A general question was believed to have the potential of soliciting a less biased answer than if the question had referred specifically to participative management. This is a concept of current discussion and argument and it was thought to be a potentially loaded question.

Question 10 was included because it was believed that management must be willing to take risks if it is to implement new methods or systems of control, including such innovations as "participative decision making." An individual unwilling to accept risk when faced with change could be expected to resist change. Therefore, if management was found to regard risk taking as bad, it was felt that this attitude could retard the implementation of "participative decision making."

Question 11 was an open-end question. The purpose of this question was to discover any personal characteristics which the respondents believed were important for a decision maker to possess. It was hoped that unaided recall would elicit characteristics which respondents believed to be closely related to decision making. The potential value of the characteristics listed was that they would produce variables which the author had failed to realize might affect decision making.

Question 12 was included to determine the attitude of management with regard to the ability of production workers to assist in decisions which are important to an entire organization. It was thought that decisions concerning equipment purchase, methods of production and similar matters could be important areas in which production workers and foremen could make contributions if they were consulted. Response categories were constructed in such a way that intensity as well as direction of respondents' attitudes could be determined. The intensity was believed important because construction of the second mailing piece would be related to management's hostility or acceptance of participative decisions relating to equipment purchase and production methods. The open-end section of question 12 was included because it was important to understand the general trend of thought which prevailed among respondents with regard to the reason such an attitude was held.

Question 13 was similar to question 12 in that categories of response were constructed to determine intensity of attitude and an open-end section was included. Question 13 was an attempt to determine

the respondent's attitude intensity regarding the free flow of information of concern to the entire organization. There was believed to be a relation between willingness to consult workmen and willingness to communicate with workmen. For this reason question 12 was important. It would appear that without access to information pertinent to the decisions mentioned in question 12, foremen and production workers would be severely restricted in their ability to contribute to those decisions.

Advertising agencies received the same cover letter that was sent to the printing companies. The questionnaire which advertising agencies received was the same as that received by printing companies with the following changes.

Preliminary instructions on the advertising agency questionnaire were worded somewhat differently. Decision making in this questionnaire referred to selection of suppliers, work-flow and determination of deadlines. These decisions were believed to be of equal importance to those mentioned in the printing company questionnaire.

Questions 12 and 13 were similar in content to the printing company questionnaire. However, production workers and foremen were referred to as non-management employees in the advertising agency questionnaire. The persons referred to were presumed to be at the same levels of the hierarchical structure as foremen and production workers in printing companies. The advertising agency questionnaire may be found in complete form in Appendix B.

The second mailing was composed of four enclosures; a cover letter, questionnaire, attitude scale and a pre-addressed, stamped, return envelope. Unlike the first questionnaire, which sought attitudes, the second questionnaire was basically seeking specific facts regarding the respondent's company. The attitude scale which was included in the second mailing was an attempt to determine how much participation was actually permitted within the companies contacted.

The questionnaire was pretested on May 6, 1968 by members of the faculty and a group of graduate students enrolled in printing management at South Dakota State University, Brookings, South Dakota. Of primary concern was construct validity. The construction of the sentences and the alternatives listed for responses were discussed and revision of the questionnaire was made taking into consideration the pertinent criticisms of the pretest members.

The attitude scale was also presented to the pretest group on the same date as the questionnaire. Of primary concern was organizing the statements on the scale into a specific sequence. This was necessary because the attitude scale developed was based on the Guttman technique. Statement sequence is one of the criteria which Guttman scaling requires. It is essential that non-error be greater than error when considering the order in which the statements are presented.[53] Another important purpose of the pretest was to insure that statements on the

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53 Allen L. Edwards, Techniques of Attitude Scale Construction (New York: Appleton-Century-Crofts, Inc., 1957), p. 181.

attitude scale sent to commercial printing companies would be of equal importance to the statements on the scale developed for advertising agencies. The development of two scales was necessary because the types of decisions made in the two organizations were too diverse to permit sending the same scale to both groups. Copies of the two scales may be referred to in complete form in Appendix E for commercial printing companies or Appendix F for advertising agencies. The order of the statements is random on the scales. The correct order is discussed in Chapter III.

The second mailing was made on May 20, 1968. Returns were accepted until June 10, 1968 which was the cut-off date for the second mailing.

Respondents contacted for the first mailing were contacted for the second mailing also. In other words, the population of 110 advertising agencies and the random sample of 100 commercial printing companies used in the first mailing were retained for the second mailing. Thus, the attitudes indicated on the first questionnaire could be compared to responses to the second questionnaire. Any problem which might arise with regard to the comparability of the data between advertising agencies and commercial printing companies was thus eliminated.

Twenty-eight of the 100 commercial printing companies receiving the second mailing responded. This represented a 28 per cent return. However, one respondent did not complete the questionnaire and two did not complete all of the attitude scale. These returns were not used. Of the 110 advertising agencies contacted, 30 returned the attitude

scale and questionnaire for a 27.3 per cent return. Three respondents did not mark all of the attitude statements. Therefore, these returns were not used. Two hundred and ten contacts were made with the second mailing; 58 returns were received for an overall 27.62 per cent return.

The second questionnaire was primarily an information-gathering device. The questionnaire sent to commercial printing companies may be found in Appendix G. The questionnaire included in the second mailing which was sent to advertising agencies may be found in Appendix H. Both forms of the questionnaire included in the second mailing were designed to elicit the same information. Variation between the two forms of the questionnaire was basically a matter of word usage.

Question 1 asked the respondent to indicate how many men and women were employed by the firm. It was stipulated that only non-management employees in advertising agencies were of concern. It was believed that the ratio of women to men employed by advertising agencies was higher than for commercial printing companies.

Question 1 was included for two reasons. First, management people indicated in question 3 of the first questionnaire (Appendix A and B) that they believed men were better decision makers than women. It was believed this attitude could have an effect on the degree to which "participative decision making" was permitted if a high number of women were involved. Second, it was anticipated that the ratio of female employees in advertising agencies would be greater than that present in commercial printing companies.

No data had been previously compiled which indicated the average age of production workers and foremen in the type of commercial printing companies included in this investigation. Question 2 was included to obtain this information. It was included in the questionnaire sent to advertising agencies for the same reason. Average age was necessary for determining if the attitude of management solicited in question 2 of the first questionnaire (Appendix A and B) was related to the actual age of employees. Comparison of the average age of employees from each group would also become possible upon obtaining this information.

Six age categories were presented and respondents were asked to indicate the category which most nearly represented the average age of workers employed in their firms. Alternatives were in ten-year increments. Information obtained from this question could be compared to the response made to question 2 of the first questionnaire.

Question 3 was included to obtain information about the average education level of employees in both samples. This was necessary because no information had been compiled previously concerning education level of employees in specific size firms in the two industries surveyed.

The alternatives offered were in year groupings of grade school, high school, college and post graduate. These groupings were offered because this would facilitate comparison of the information obtained from this questionnaire with question 5 of the first questionnaire.

Question 4 was included to determine what effect management believed group decision making had on the risks relating to decisions.

"Participative decision making" is a group process and it is important to understand management's position regarding risk in relation to group and individual processes.

This question also gave insight into management's attitude regarding risk in relation to question 10 of the first questionnaire. Respondents indicated in the first questionnaire that those confronted with decisions should regard risk as good. Question 4 of the second questionnaire was intended to uncover management attitudes about risk taking when another factor, group processes, was introduced. Four alternatives were presented to determine if the respondents believed group action increased, decreased or did not affect the risks involved in decision making. The fourth alternative was included for respondents who did not believe risk was a factor of concern in group decision making activity.

No attitude scale was available which would produce the desired results. A scale was therefore developed which was adaptable to this investigation. A scale was needed which would indicate the point on a continuum at which attitudes change. The Guttman scale was a technique that served this purpose. A Guttman scale is a tool designed to be used on individuals rather than groups. Because the attitude change was desired for groups, this scale in its original form was not applicable.

The first variation from standard Guttman technique included implementation of a projective technique. "Only when the social atmosphere is free from felt or actual pressures toward conformity might we

expect to obtain evidence about a person's attitudes by means of direct questioning."[54] Social pressure toward conformity was believed to be present with regard to the theory of human relations and participation which was the central focus of this study. Therefore, the respondents were asked to mark the statements on the scale in terms of what they thought was the belief of most people in their industry. It has been found that people will respond to questions if they believe that they are answering not on the basis of their own belief, but rather on the basis of what they think others believe. The concept of what a person believes he is, is determined by what he thinks others believe he is.[55] This is especially true when the statement presented has social pressure directing the response made. Research indicates that a person is unable to answer any question regarding attitudes except from his personal experiences and values. Thus, the attitude he has formed is what he thinks others feel toward a "psychological object."

Normally, statements in a Guttman scale are organized along a continuum from least to most favorable toward a stated "psychological object."[56] This, however, did not fulfill the requirements of the investigation. Therefore, the statements were organized along a continuum of least to most important decisions. The scale statements are arranged in random order when presented to respondents. This procedure

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54 Edwards, p. 3.

55 Gellerman, p. 185.

56 Edwards, p. 176.

was followed for the scale used in this study. No "psychological object" was clearly present. The implied "psychological object" was "participative decision making," but respondents were not aware that "participative decision making" was, in reality, what they were indicating by their responses on the scale. A true Guttman scale specifically states the "psychological object" to which the attitude statements refer.[57] The scale, constructed in this manner, would yield a point at which they, themselves, rather than others in their industry, do not permit certain levels of decisions to be made by production workers and foremen.

The final deviation from the construction of a true Guttman scale was the extent to which it was perfected. A Guttman scale is normally pretested with a group of about 100 individuals.[58] The scale is then perfected by analyzing the results of the pretest and placing all attitude statements in the proper sequence along a unidimensional continuum. The revised scale is then presented to another group to determine if the proper sequence of statements has been obtained. For purposes of this investigation, the results of the pretest were considered adequate. The pretest group, in terms of true Guttman scaling, would be the advertising agencies and commercial printing companies. After the cut-off points had been established it was possible to determine with an adequate degree of accuracy in which order the attitude

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57 Edwards, p. 177.

58 Edwards, p. 179.

statements should appear. If the results of the pretest analysis indicated that the non-error in scaling was greater than the error, the data would be usable. In other words, if more attitude statements were in proper sequence than improper sequence, the levels at which "participative decision making" occurs could be determined.

The second mailing, the attitude scale and questionnaire, was accompanied by a cover letter. The complete letter can be referred to in Appendix D.

The cover letter briefly introduced the author and stated that decision making techniques was the topic of a thesis being written. A general statement of the topic was believed to be a better method than stating that "participative decision making" was the topic of the thesis. It was believed that respondent bias would be eliminated to a greater degree if the exact title were not included in the letter.

Respondents were reminded of the questionnaire they received in March and were asked to give their assistance in providing the information necessary to complete the investigation.

Reference to the list of 15 statements on the attitude scale was made and respondents were asked to mark the statements agree or disagree, according to their reaction to each statement. The importance of indicating their response to the statements regarding what was currently done in their industry was emphasized.

The information requested in the questionnaire was mentioned and it was stated that no company's name would be used in the thesis. This was necessary because the information solicited concerned the individual

firm. It was believed that the respondents would more readily provide the requested information if their company's name was not related to the information supplied. The person to whom the mailing was made was asked to refer the letter to another person in his firm if he would rather someone else completed the enclosures.

Appreciation for returning the enclosures in the self-addressed, stamped, return envelope was indicated and the respondent was thanked for his time and consideration.

Method of Analysis

Chi-square was selected as the statistical tool for analyzing the data obtained from the mail survey. This tool was selected because of the non-parametric, discrete nature of the data. Figures obtained from chi-square analysis are found on a table of expected frequencies and a level of significance is thus determined. Computation of all chi-square problems was facilitated through computer use.

Scalogram analysis was performed on the two forms of the attitude scale. This analysis produces a coefficient of reproducibility which indicates the degree of accuracy of statement sequence along a unidimensional continuum.

CHAPTER III

RESULTS AND FINDINGS

First Questionnaire Sent to Commercial Printing Companies

Question 1 asked respondents to indicate whether they believed the age of persons making decisions was important. Forty-five respondents answered this question. Twenty-four, or 53.3 per cent, of the respondents answered "yes;" twenty-one, or 46.7 per cent, answered "no."

Respondents answering "yes" to question 1 were requested to answer question 2, which asked which of eight 10-year age groupings respondents believed was the prime age for persons making decisions. Some respondents marked more than one of the age categories presented. When this occurred, each category marked was tallied as one response. Thirteen respondents selected more than one category, making the total response to this question 37 rather than 24. The "under 20" and "20-29" age categories each received one response, or 2.7 per cent of the total. Age category "30-39" was marked by 14, or 37.9 per cent, of the respondents. Eleven, or 29.7 per cent, of the respondents indicated age category "40-49;" seven, or 18.9 per cent, marked "50-59," and one marked each of the top three age categories, "60-69," "70-79" and "over 79."

Question 3 asked respondents to indicate whether they believed "men" or "women" were able to make the best decisions. A third alternative of "men and women equal" was included for those who did not

believe sex was relevant to decision-making ability. This question was answered by 45 respondents. Thirty-one, or 68.9 per cent, thought that "men" made the best decisions; fourteen, or 31.1 per cent, thought that men and women were equal, and none felt women to be superior decision makers.

Question 4 asked respondents to indicate whether they believed the amount of formal education to be important in decision making. Of 45 respondents, 68.9 per cent (31) answered "yes," and 31.1 per cent (14) answered "no."

Respondents who answered "no" to question 4 were requested to omit questions 5, 6 and 7. Three respondents who answered question 4 "yes" did not answer question 5, making total response 28 rather than 31.

Question 5 asked respondents to indicate the number of years of formal education they believed to be best. Categories offered were grade school, high school, college and post-graduate. No respondents marked the "1-8" years category, and only one marked the "9-12" category. Twenty, or 71.4 per cent, marked "13-16," and seven, or 25 per cent, indicated "more" formal education was best.

Question 6 asked respondents if they believed the time in which a decision maker received his formal education was important. Of the 30 respondents who answered this question, 54.8 per cent, (17) answered "yes," and 45.2 per cent (14) said "no." Those who answered this question "no" were asked to omit question 7.

Question 7 asked respondents to indicate which of four time periods for formal education was the best--"1901-1920," "1921-1940," "1941-1960" or "1961-present." One respondent circled two of these categories, making a total of 18 responses rather than 17. No respondents indicated "1901-1920" as the best time-period, and only two, or 11.1 per cent, marked "1921-1940." Five, or 27.8 per cent, marked "1941-1960," and 11, or 61.1 per cent, marked "1961-present" as the best period.

Question 8 asked the respondent to indicate whether he believed it was important for a decision maker to have general knowledge of the organization in which he was employed. Forty-two, or 93.3 per cent of the 45 respondents answered "yes," whereas only three, or 6.7 per cent, said "no."

Question 9 asked respondents whether a person should seek information and help from subordinates when making decisions. All 45 respondents answered "yes" to this question.

Question 10 asked respondents to indicate their belief regarding one's willingness to take risks when confronted with a decision. "Good," "bad" or "other" were the response categories provided. Risk-taking was considered "good" by 88.6 per cent (39) of the 45 respondents answering this question. No respondents said risk-taking was "bad," and only five, or 11.4 per cent, selected the "other" category. Of these five respondents, two said that the willingness to take risk depended on the amount of money involved, and three said that risk should be reduced as much as possible before the decision is made.

Question 11 asked respondents to list what they thought were the most desirable characteristics for persons involved in decision making to have. Following is a list of common responses.

Characteristic	Number of Respondents Indicating this Characteristic
Knowledge	10
Self-confidence	10
Integrity	8
Judgment	6
Intelligence	5
Experience	5
Thoroughness	5
Courage	5
Objectivity	5
Logic	5
Emotional Maturity	4
Common Sense	3
Leadership	3

Question 12 asked respondents to indicate how frequently they thought workmen should assist management with decisions relating to such factors as equipment purchase and methods of production. Response categories were "always," "usually," "sometimes" and "never." Forty-three respondents answered this question. Eight, 18.6 per cent, marked "always;" twenty, 46.5 per cent, marked "usually;" and fifteen, 34.9 per cent, indicated "sometimes." No respondents marked the "never" category. Twelve respondents commented on the choice they had made by saying that workers have better knowledge of the immediate situation and therefore are often capable of assisting management with decisions.

Question 13 asked respondents to indicate to what degree company information should be made available to employees. The categories of response were "always," "usually," "sometimes" and "never."

Six, or 13.3 per cent, answered "always," 16, or 35.6 per cent, answered "usually;" 18, or 40 per cent, answered "sometimes," and five, or 11.1 per cent, said employees should "never" be given information which concerns the entire firm.

First Questionnaire Sent to Advertising Agencies

Question 1, the importance of age of persons making decisions, brought a response of 50. Sixty per cent (30) of the respondents said age was important and 40 per cent (20) said it was not.

Question 2, prime age for persons making decisions, elicited 51 rather than 30 responses because some respondents marked more than one of the age categories. No respondents chose the "under 20" age category, and only two marked the "20-29" category. Twelve, or 23.5 per cent, marked "30-39;" 23, or 45.1 per cent, marked "40-49." Eleven, or 21.6 per cent, marked "50-59," and three, or 5.8 per cent, marked "60-69." No respondents marked either the "70-79" or "over 79" categories.

Question 3, "men" or "women" as decision makers, was answered by 50 respondents. Fifty-six per cent (28) indicated that "men" make the best decisions, and 44 per cent (22) thought men and women were equal in this ability. No respondents indicated that "women" make the best decisions.

Question 4, the importance of formal education, also brought 50 responses. Thirty-seven, or 74 per cent, felt that the amount of formal education was important, and 13, or 26 per cent, said it was not.

Question 5, best amount of formal education, brought answers only in the college and post-graduate categories. Sixteen, or

43.2 per cent, said "13-16" years were best, and 21, or 56.8 per cent, said more than 16.

Question 6, importance of the time formal education was received was answered by 36 firms. Twenty, or 55.6 per cent, said time was important, and 16, or 44.4, said it was not. Those answering this question "no" were asked to omit question 7.

Question 7, which time-period was best for formal education, brought 21 responses rather than 20 because one respondent chose two categories. No respondents indicated "1901-1920" as the best time-period in which to have been educated. Two, or 9.5 per cent, marked "1921-1940;" five, 23.8 per cent, marked "1941-1960," and fourteen, 66.7 per cent, marked "1961-present."

Question 8, importance of decision makers having general knowledge of the organization, was answered by 49 respondents. Forty-five, 91.8 per cent, said such knowledge was important and four, 8.2 per cent, said it was not.

Question 9, whether a person should seek information from subordinates when making decisions, was also answered by 49 respondents. Ninety-eight per cent (48) said "yes," and 2 per cent (1) said "no."

Question 10, whether risk-taking is good or bad, was answered by 49 respondents. Forty-five, 91.8 per cent, said that risk was "good;" one, 2.1 per cent, said that risk was "bad," and three, 6.1 per cent, selected the "other" category. Nine respondents added that some risk is always present and necessary in decision making.

Question 11, most desirable characteristics for a decision maker, elicited the following list of common responses.

Characteristics	Number of Respondents Indicating this Characteristic
Knowledge	14
Courage	13
Experience	12
Judgment	12
Integrity	12
Objectivity	10
Intelligence	8
Innovativeness	8
Self-Confidence	8
Analytical Ability	8
Thoroughness	6
Insight	6
Common Sense	6
Patience	4
Inquisitiveness	3
Communication Skill	3

Question 12, attitude toward the frequency with which workmen should assist with decisions relating to selection of suppliers and determination of work flow, brought 50 responses. Six, 12 per cent, marked "always;" twenty-five, 50 per cent, marked "usually;" seventeen, 34 per cent, indicated "sometimes," and two, 4 per cent, marked "never." Thirteen respondents said that employees have a more immediate knowledge of the situation than does management.

Question 13, degree to which company information should be made available to employees, was answered by 50 respondents. Fourteen per cent (7) answered "always;" 30 per cent (15) indicated "usually;" 48 per cent (24) said "sometimes," and 8 per cent (4) answered "never."

Table 1 represents the results of chi-square analysis performed on corresponding questions of the first questionnaire sent to

advertising agencies and commercial printing companies. Thirteen chi-square computations were run to determine if the difference between the responses of the advertising agencies and the commercial printing companies was significant.

TABLE 1

Chi-Square Values Obtained From Analysis Of Corresponding Questions Of The First Questionnaire Sent To Advertising Agencies And Commercial Printing Companies

Question	d.f.	χ^2 Value	Value Needed .05	Value Needed .01	Level of Significance
1	1	0.42908	3.841	6.635	N.S.
2	7	7.57583	14.067	18.475	N.S.
3	1	1.67180	3.841	6.635	N.S.
4	1	0.30413	3.841	6.635	N.S.
5	2	7.33898	5.991	9.210	.05
6	1	0.00346	3.841	6.635	N.S.
7	2	0.13000	5.991	9.210	N.S.
8	1	0.07623	3.841	6.635	N.S.
9	1	0.92824	3.841	6.635	N.S.
10	2	1.66456	5.991	9.210	N.S.
11	11	4.50793	19.675	24.725	N.S.
12	3	2.45328	7.815	11.345	N.S.
13	3	0.81654	7.815	11.345	N.S.

Although no statistically significant difference was found on 12 of the 13 questions, question 5, concerning the amount of formal education deemed best, was found to be significant at the .05 level of confidence. The statistical results indicate that 95 times out of 100 advertising agencies would be expected to place a higher value on more education than would printing companies. Only five times out of 100 would the difference in response be a chance occurrence.

Second Questionnaire Sent To Commercial Printing Companies

Question 1 asked respondents to indicate the number of "male" and "female" foremen and production workers employed by the organization. The number of males and females employed by all 27 respondents was added, and an overall ratio was determined--10,723 males to 7,322 females, or 1.47/1.

Question 2 asked respondents to check one of six 10-year age groups which would approximate the average age of employees referred to in question 1. The ten-year age categories were: "20-29," "30-39," "40-49," "50-59," "60-69" and "70-79." Twenty-five respondents answered this question. One respondent circled two of the ten-year categories, making the total response 26. Two respondents, 7.7 per cent, marked "20-29;" seven, 26.9 per cent, marked "30-39;" fifteen, 57.7 per cent marked "40-49," and two, 7.7 per cent, marked "50-59." No respondents marked either of the last two categories.

Question 3 asked respondents to mark the category which most nearly approximated the average number of years of formal education of

production workers and foremen employed by their organization. The categories presented were "1-8," "9-12," "13-16" and "more than 16." Twenty-six respondents answered this question. Twenty-five, or 96.2 per cent, marked "9-12," and only one, or 3.8 per cent, marked "13-16." No respondents marked either the first or last category.

Question 4 asked respondents to indicate the effects of group decisions on the factor of risk in relation to individual decision making. The four response categories were "increases," "decreases," "stays the same" and "risk is not a factor of primary concern." Of the 26 respondents answering this question, 26.9 per cent (7) said group decision making "increases" risk, and 42.3 per cent (11) said groups "decrease" risk. No respondents believed that group decisions did not affect risk, but 30.8 per cent (8) did not believe risk was a factor.

Second Questionnaire Sent To Advertising Agencies

Question 1, number of "male" and "female" non-management people employed, produced an overall ratio of 3,142 males to 3,221 females, or .98/1 for 29 advertising agencies responding.

Question 2, average age of employees, produced a response of 29 rather than 28 because one respondent circled two of the ten-year categories. Eight, or 27.6 per cent, marked the "20-29" year category, 19, or 65.5 per cent, marked "30-39," and two, or 6.9 per cent, marked "40-49" as the average age of employees. No respondents marked the last three categories.

Question 3, average years of formal education of non-management employees, elicited 23, or 76.6 per cent, responses for the "13-16" year category and seven, or 23.3 per cent for the "9-12" year category. Neither the "1-8" nor "more than 16" year categories received any response.

Question 4, effects of group decisions on risk, was answered by 29 respondents. Four, 13.8 per cent, said that group decision making "increases" risk; fourteen, 48.3 per cent, said groups "decrease" risk; three, 10.3 per cent, believed that risk stayed the same, and eight, 27.6 per cent, did not believe risk was a factor.

Table 2 shows the results of chi-square analysis conducted on corresponding questions of the second questionnaire sent to advertising agencies and commercial printing companies.

TABLE 2

Chi-Square Values Obtained From Analysis Of Corresponding Questions Of The Second Questionnaire Sent To Commercial Printing Companies And Advertising Agencies

Question	d.f.	x^2 Value	Value Needed .05	.01	.001	Level of Significance
2	3	20.97839	7.815	11.345	16.268	.001
3	1	30.15981	3.841	6.635	10.827	.001
4	3	4.02652	7.815	11.345	16.268	N.S.

Responses to questions 2 and 3 were found to be significant beyond the .001 level, but question 4 responses were not statistically significant.

Chi-square values derived from responses to question 2, which concerned the average age of employees, indicate that the higher average age of commercial printing company employees as opposed to the age of advertising agency employees was a true difference. The probability that these results would be repeated if the same populations were surveyed again would be well beyond 99.9 per cent. Thus the possibility of the difference between average age of printing company and advertising agency employees being a chance occurrence is extremely slight.

The chi-square value obtained from analysis of question 3 was nearly five times larger than that needed for statistical significance at the "practical certainty," or .01 level of confidence. It was even considerably larger than needed for significance at the .001 level. There thus appears to be a highly significant difference between the average education level of non-management advertising agency employees and foremen, and subordinates employed by commercial printing companies surveyed for this study.

Chi-square analysis of question 4 of the second questionnaire revealed no significant difference between advertising agency and commercial printing company respondents regarding the effects of group decision making on the element of risk.

Analysis Of Other Related Questions

The author suspected that a relationship existed between the degree to which management thought subordinates should assist in making decisions and the amount of company information which management was willing to make available to subordinates. Chi-square analysis therefore was performed on questions 12 and 13 of the first questionnaire sent to both commercial printing companies and advertising agencies. The results of this analysis are presented in Tables 3 and 4.

TABLE 3

Chi-Square Value Obtained From Analysis Of Questions 12 And 13 Of The First Questionnaire Sent To Commercial Printing Companies

d.f.	X^2 Value	Value Needed .05	Value Needed .01	Level of Significance
3	5.96051	7.815	11.345	N.S.

TABLE 4

Chi-Square Value Obtained From Analysis Of Questions 12 And 13 Of The First Questionnaire Sent To Advertising Agencies

d.f.	X^2 Value	Value Needed .05	Value Needed .01	Level of Significance
3	4.43871	7.815	11.345	N.S.

Chi-square analysis revealed no significant difference for either calculation at the .01 or .05 confidence levels. At the .20 confidence level, however, analysis of questions 12 and 13 of the first questionnaire sent to commercial printing companies revealed significance. Advertising agency chi-square value was significant at the .30 level of confidence for the same questions.

Question 2 of the first questionnaire sent to both samples asked respondents to indicate the prime age for decision makers. Responses to this question were analyzed, through the chi-square method, for comparison or contrast with actual average age of foremen and subordinates employed by both commercial printing companies and advertising agencies.

Table 5 contains the results of chi-square analysis for commercial printing companies, which indicate that there is no significant difference between the age believed best for decision makers and the actual average age of subordinates.

TABLE 5

Chi-Square Value Of Question 2 Of The First And Second Questionnaire Sent To Commercial Printing Companies (Actual Average Age And Believed Best Age)

d.f.	X^2 Value	Value Needed .05	Value Needed .01	Level of Significance
5	6.88176	11.070	15.086	N.S.

Table 6 contains the results of chi-square analysis for advertising agency responses to question 2 on each questionnaire. This analysis revealed a difference which was significant beyond the .001 level of confidence.

TABLE 6

Chi-Square Value Of Question 2 Of The First And Second Questionnaire Sent To Advertising Agencies (Actual Average Age And Believed Best Age)

d.f.	X^2 Value	Value Needed .05	.01	.001	Level of Significance
4	33.28801	9.488	13.277	18.465	.001

Table 7 shows the results of chi-square analysis performed on question 5 of the first questionnaire and question 3 of the second questionnaire sent to commercial printing companies. Question 5 asked respondents to indicate the number of years of formal education they believed was best for a decision maker to possess. Question 3 asked respondents to indicate the average number of years of formal education of the foremen and production workers employed by their companies. Chi-square analysis of the responses to these questions revealed a highly significant difference between these ages. The chi-square value obtained was nearly three and one-half times larger than needed at the .001 level.

TABLE 7

Chi-Square Value Of Question 5 Of The First Questionnaire And Question 3 Of The Second Questionnaire Sent To Commercial Printing Companies (Actual Average Education Level And Believed Best Level)

d.f.	X^2 Value	Value Needed .05	.01	.001	Level of Significance
2	46.33377	5.991	9.210	13.815	.001

Table 8 contains results of chi-square performed on the data received from responses to the same two questions on the questionnaire sent to advertising agencies. In this group, too, the chi-square value obtained was significant beyond the .001 level of confidence.

TABLE 8

Chi-Square Value Of Question 5 Of The First Questionnaire And Question 3 Of The Second Questionnaire Sent To Advertising Agencies (Actual Average Education Level And Believed Best Level)

d.f.	X^2 Value	Value Needed .05	.01	.001	Level of Significance
2	28.83984	5.991	9.210	13.815	.001

Analysis Of The Equality Of Attitude Scale Statements

Chi-square analysis was performed on each of the 15 statements on the attitude scales sent to commercial printing companies and advertising agencies. This was necessary to determine if a significant difference existed between the reaction to corresponding statements presented to commercial printing company and advertising agency respondents. Five corresponding statements were found to be significantly different. Four were significant at the .05 level and one was significant at the .01 level of confidence.

These results indicate that statement 10 (Appendices E and F) was not considered to be of equal importance by both groups. In fact, less than one time in 100 would this statement be considered equal by both groups.

Statements 5, 3, 13 and 14 were found to be significantly different at the .05 level of confidence. It can thus be assumed that statements 10, 5, 3, 13 and 14 are not of equal importance to both commercial printing companies and advertising agencies.

The statement order presented in Table 9 is that order derived from the responses to the statements by commercial printing companies. The statements are arranged from least to most important decision statements. The statement numbers presented in Table 9 can be found in Appendices E and F, and the chi-square values presented are based on the observed frequencies which can be found in the agree-disagree blanks preceding each statement in the Appendices.

TABLE 9

Chi-Square Values Obtained From Analysis Of Corresponding Statements Of The Commercial Printing Company And Advertising Agency Attitude Scales

Statement Number*	d.f.	X^2 Value	Value Needed .05	Value Needed .01	Level of Significance
10	1	7.81468	3.841	6.635	.01
4	1	2.35659	3.841	6.635	N.S.
5	1	5.30734	3.841	6.635	.05
11	1	2.69638	3.841	6.635	N.S.
3	1	6.79498	3.841	6.635	.05
13	1	5.03848	3.841	6.635	.05
7	1	0.07207	3.841	6.635	N.S.
1	1	1.52298	3.841	6.635	N.S.
6	1	3.17192	3.841	6.635	N.S.
8	1	3.62018	3.841	6.635	N.S.
12	1	1.76564	3.841	6.635	N.S.
2	1	0.15112	3.841	6.635	N.S.
9	1	1.00254	3.841	6.635	N.S.
14	1	5.81104	3.841	6.635	.05
15	1	0.00678	3.841	6.635	N.S.

*Statements are in the order which commercial printing companies themselves indicated by their response to be ascending order from least to most important.

Scalogram Analysis Of Attitude Scales

Scalogram analysis was performed on each of the two attitude scales. The primary objective of this analysis was to give subsequent investigators an indication of the degree of accuracy to which the scales could be reconstructed.

The attitude statements presented on the scales in Appendices E and F are in random order. Randomization of the statements was necessary because a sequence of agree to disagree statements might cause respondents to become aware of the sequential nature of the statements and to respond accordingly. A more accurate response can be obtained for each statement if statements are randomized.

The responses were calculated and the statements were arranged in an order from the largest to the smallest number of agree responses. The order of statements for commercial printing companies, based on the frequency of most-to-least agree responses was: 10, 4, 5, 11, 3, 13, 7, 1, 6, 8, 12, 2, 9, 14 and 15. The frequency of responses to each of the statements on the commercial printing company scale can be found in Appendix E. The frequency of responses to each of the statements on the advertising agencies' scale can be found in Appendix F.

The advertising agency scale statements were also arranged in statement order: 10, 4, 5, 11, 3, 13, 7, 1, 6, 8, 12, 9, 14 and 15, the same order as the commercial printing company attitude scale. This was believed to be the most objective method of arranging the statements because the investigation was concerned primarily with commercial printing companies, and the author believed that his greater

familiarity with printing establishments would make the commercial printing company scale a more accurate representation of the decisions pertinent to that group. Based on the arrangement of the statements in the commercial printing company scale, a coefficient could be obtained for each scale which would indicate the degree of accuracy with which each scale could be reproduced. Thus, comparison of coefficients for the two scales would indicate the reproducibility of the advertising agency scale in relation to the commercial printing company scale.

After placing the statements in the order of most-to-least agree responses, it was necessary to place the respondents on a continuum from those with the greatest number of agree responses, to those with the fewest number of agree responses. This was necessary to locate "cutting points" for the statements.

Once "cutting points" had been determined, the total error could be computed and a coefficient of reproducibility calculated. This calculation was accomplished as follows: The total number of respondents was multiplied by the total number of scale statements. This produced the total number of possible responses. The total possible responses were divided into the total number of errors. This division produced a decimal number which, when subtracted from unity, yielded the coefficient of reproducibility.[59]

Twenty-six commercial printing company respondents completed the attitude scale. Total possible responses were therefore 390, (15

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59 Edwards, pp. 182-83.

statements multiplied by 26 respondents.) The total error was 56, which, when divided by 390 yields .14. Thus, the coefficient of reproducibility for the scale among a population of commercial printing companies is .86.[60] Unity indicates a perfect scale.

Twenty-seven advertising agency respondents completed the attitude scale. Total possible responses were therefore 405, (15 statements multiplied by 27 respondents.) The total error computed was 72, which yields .18 when divided by 405. The coefficient of reproducibility for the advertising agency scale is therefore .82.

The mean number of agree responses was calculated for commercial printing company and advertising agency respondents. Advertising agencies had a mean agree response of 8.55. Commercial printing companies had a mean agree response of 7.99. Total possible agree responses was 15 for each of the groups mentioned above.

Comparative Analysis Of Selected Respondents And Scale Statements

The overall response to the attitude scale obtained from commercial printing companies and advertising agencies was compared through

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60 Guttman himself arbitrarily assumed that a coefficient of reproducibility of at least .90 was necessary before an area could be considered scalable. See Samuel A. Stouffer, Louis Guttman, Edward Suchman, Paul Lazarsfeld, Shirley A. Star and John A. Clausen, Measurement and Prediction (Princeton: Princeton University Press, 1950) p. 77. Mildred Parten, in her Surveys, Polls, and Samples (New York: Harper & Brothers, 1950), p. 197, indicates that coefficients of .85 or more suffice in practice. Other researchers have been able to use the Guttman technique effectively with coefficients of .80 or even .75. See Allen L. Edwards and F. P. Kilpatrick, "Scale Analysis and the Measurement of Social Attitudes," Psychometrika, 13:99-114, and P. H. Kriedt and K. E. Clark, "Item Analysis versus Scale Analysis" Journal of Applied Psychology, 33:114-121.

the use of chi-square analysis. Because the attitude statements for each of the two scales had been arranged in the same order for scalogram analysis, combining the total response from both groups was possible. This procedure yielded a total frequency of agree responses. The total agree responses subtracted from the total responses equals disagree responses. The two scales were then separated and the observed frequencies of agree and disagree responses were compared. This procedure produced some revealing differences when chi-square analysis was performed.

As mentioned earlier, 405 agree responses were indicated by advertising agencies; 390 agree responses were indicated by commercial printing companies. This constitutes a combined agree response of 795. When the two scales are separated, one would expect the frequency of agree responses to almost equally divide between the two scales. This would not be entirely true because there were 26 commercial printing company respondents and 27 advertising agency respondents. It appears that advertising agencies had a slightly larger number of agree responses than was expected, taking the difference in number of respondents into account. Chi-square analysis revealed no significant difference between the responses made by commercial printing company respondents and advertising agency respondents, however.

Table 10 contains the results of chi-square performed on the total scale responses. The difference between advertising agency and commercial printing company response was not significant.

TABLE 10

Chi-Square Value Obtained From Analysis Of Total Response To The Commercial Printing Company And Advertising Agency Attitude Scales

Total Response To Both Scales	d.f.	X^2 Value	Value Needed .05	Value Needed .01	Level of Significance
795	1	0.14279	3.841	6.635	N.S.

Chi-square analysis was performed in the same way on the five most important statements on each scale. These were the statements which commercial printing companies had indicated by their response to be the most serious decisions, hence the least likely to be subjected to "participative decision making." Total agree responses (commercial printing companies and advertising agencies responses combined) were 92. Separation of the responses to the two scales would yield an expected frequency of 46 for both the commercial printing companies and the advertising agencies. Although the commercial printing companies indicated by their responses that questions 12, 2, 9, 14 and 15 were decision areas of greatest importance, only 26 agree responses among commercial printers were observed for these five statements. Based on the same order of statements, advertising agencies had an agree response of 66. Thus, advertising agencies were far more participative in decision areas which commercial printing companies indicated were highly important than were the printing companies themselves.

Table 11 indicates that at the .01 level, there is a significant difference between the response made by commercial printing company and advertising agency respondents regarding the five most important decision statements. The value obtained was found to be two times larger than that needed for significance at the .001 level of confidence.

TABLE 11

Chi-Square Value Obtained From Analysis Of Commercial Printing Company And Advertising Agency Responses To Statements 12, 2, 9, 14 And 15

Number of Responses to Statements 12, 2, 9, 14 and 15			x^2	Value Needed			Level of
Agree	Disagree	d.f.	Value	.05	.01	.001	Significance
92	173	1	24.38130	3.841	6.635	10.827	.001

Total: Agree and Disagree--265

Even those advertising agency respondents who were below average in the number of agree responses were more participative in the five most important decision-statement areas than were the below average commercial printing company respondents. The number of agree responses from those below average in agree responses were totaled for each group and added together. This total was 15. An expected frequency of agree responses from each group would be 7.5. However, only one

commercial printing company respondent who was below the group average agreed with any of the five most important decision statements. Of the advertising agency respondents who were below average, 14 agree responses were indicated for the five most important decision statements. Therefore, based on commercial printing company ranking of statements, even those advertising agency respondents who were below average in their participativeness agreed with a significantly greater number of highly important decisions than did the below average commercial printing company respondents.

Table 12 contains chi-square results which indicate that at the .01 level, those advertising agency respondents who are below the group average in agree responses indicated a significantly greater acceptance of participation than did commercial printing company respondents who were below their group average in number of agree responses.

TABLE 12

Chi-Square Value Obtained From Analysis Of Those Respondents From Commercial Printing Companies And Advertising Agencies With Below Average Number Of Agree Responses

Number of Responses to Statements 12, 2, 9, 14 and 15						
Agree	Disagree	d.f.	x^2 Value	Value Needed .05	Value Needed .01	Level of Significance
15	80	1	9.0694	3.841	6.635	.01

Total: Agree and Disagree--95

CHAPTER IV

CONCLUSIONS

Advertising agency and commercial printing company respondents both believed that the age of persons making decisions was important. The modal age groups for the two samples were different, however. More than 45 per cent of the advertising agency respondents indicated that they believed the best age to be "40-49" years, whereas nearly 38 per cent of the commercial printing company respondents believed "30-39" years was the best age for decision makers. An interesting contrast exists between the average age of employees of each group and the age each believes best for decision makers. Although advertising agencies indicated that they believed "40-49" was the best decision-making age group, the actual average age of their non-management employees was "30-39" years in 65 per cent of the respondent agencies. On the other hand, commercial printing companies said the best age was "30-39" years, whereas the actual average age of their foremen and subordinates was "40-49" years in 58 per cent of the respondent companies.

Because the actual average age of non-management employees in advertising agencies was less than respondents deemed best for decision making, "participative decision making" may have been retarded somewhat. It may also be that the modal age of the responding management personnel was "40-49" and this fact biased the response.

The average age of foremen and subordinates in commercial printing company respondents was 10 years greater than the age which was believed best for decision making by a modality of respondents. These commercial printing company respondents may feel that older craftsmen are not capable of, or do not want to be involved in decision making. Another possible explanation is that many of the management jobs today are filled by younger college-educated personnel and the craft-type jobs are left to the older printers. This would indicate a bias similar to that which may have occurred among advertising agency respondents. Because the difference between the age believed best and the average age of commercial printing company employees was not statistically significant, however, perhaps management only perceives a difference. In both respondent groups, the difference between the believed best age and actual age of employees may be a factor which restricts the degree of participation permitted in decision making. This may occur even though the believed best age and actual average age indicated by commercial printing company and advertising agency respondents are reversed.

It should be noted, however, that regardless of bias, commercial printing companies do not permit employee participation in decision making to as great an extent as advertising agencies. This fact, when compared to the significant difference at the .001 level in advertising agencies and the non-significant difference in commercial printing companies, regarding the believed best decision age and the actual age of employees, would indicate that age is not a factor of

primary concern when considering the possibility of implementing "participative decision making."

Nearly three-fourths of the advertising agency and commercial printing company respondents agreed that the amount of formal education a decision maker possessed was important. They disagreed, however, on the number of years which they believed was best. Advertising agency respondents unanimously agreed that 13 or more years of education was best. Fifty-six per cent of this group believed that education beyond a college degree made the best decision makers. Seventy-one per cent of the commercial printing company respondents indicated that "13-16" years of formal education was best.

Respondents were asked to indicate the average educational level of employees. Foremen and subordinates in commercial printing companies and non-management employees in advertising agencies were identified as the groups of interest. Seventy-six per cent of the advertising agency non-management employees were found to have "13-16" years of formal education. Ninety-six per cent of the commercial printing company foremen and subordinates had "9-12" years of formal education. Thus, both respondent groups indicated that about four years of education above that which employees actually had was best for a decision maker to possess. The number of years of formal education believed best and the actual education level of each employee group was found to be significant at the .001 level of confidence. This would indicate that there is an important difference in each group between employee education level and education level considered best for decision making.

Perhaps management respondents would desire employees to have more education than they possess regardless of the groups surveyed. The difference in actual education between the two samples may indicate that advertising agencies have been aware of the value of education for a longer time than have commercial printing companies.

Although there was a significant difference between the believed best education level of decision makers and the education level of employees in each group, advertising agencies were significantly more participative in decision making than commercial printing companies. This may be a result of commercial printing companies being more concerned than advertising agencies about the difference in employee education level and believed best educational level of decision makers. Or, it may indicate that the incongruency between the believed best level and the actual employee education level is of little importance to either group. Because the employee education level is higher in advertising agencies than in commercial printing companies, perhaps advertising agency respondents do not perceive the difference as being large, whereas, it is perceived as a large difference by the commercial printing company respondents. Perhaps the restriction on "participative decision making" in commercial printing companies was a result of the greater importance these respondents placed on formal education.

More than 90 per cent of the advertising agency and commercial printing company respondents believed that it was important for a decision maker to have a general knowledge of all facets of the organization in which he was employed. Seventy-five per cent of the respondents

from each group believed that employees should be given access to information which concerns the entire firm "usually" or "sometimes." Only about 14 per cent of the respondents believed they should "always" have access to company information. This difference in the amount of general information which respondents thought a decision maker should have and the amount they thought employees should have probably reduces the possibility of participation. Perhaps management does not feel that employees are capable of understanding company information which does not directly affect the employees. Or, management may be unwilling to permit employees to demonstrate their potential regarding ability to contribute to the more important areas of company activity and thus withhold company information so employees do not have the information necessary for worthwhile contributions. If management does not believe company decisions are in the realm of employee activity, perhaps management thinks it is a waste of employee time to have them review information which does not directly affect their jobs. In any case, it would appear that if management does not make company information available, employees would be severely restricted in their ability to make useful contributions to decisions which affect the entire organization.

Nearly 100 per cent of the respondents from both groups indicated that when making decisions, a person should seek information, help and assistance from subordinates. However, only 12 per cent of the advertising agency respondents and 18 per cent of the commercial printing company respondents said that non-management employees should

"always" assist management with decisions concerning inventory, work-flow and similar decision areas. This would indicate that although management recognizes that employees possess information which is valuable if good decisions are to be made, those same managers appear to be unwilling to permit employees to contribute.

About 100 per cent of the respondents in both samples viewed risk as necessary and good when making decisions. When the respondents were asked to indicate how groups affect the risk factor in decision making, 50 per cent of each respondent group said that group action usually decreases the risk involved. These respondents would be expected to be receptive to "participative decision making." If groups decrease the risk of making a poor decision, it appears logical to assume that management would become interested in participative techniques if for no other reason than to make better decisions.

It was thought that sex prejudice may be a factor which could cause management to retard the amount of participation in decision making. The respondents did indicate that there was a higher ratio of women to men in advertising agencies than in commercial printing companies. Thirteen per cent more advertising agency respondents than commercial printing company respondents indicated that men and women are equal in their ability to make adequate decisions. This may be a result of women who have demonstrated their ability. No respondents thought women were superior, whereas many felt men were--prejudice is apparent. There was found to be one and one-half women per man in the advertising agencies surveyed. Perhaps because a large amount of the

work-load is carried by women in this industry, management has become more aware of their ability.

It was found that at the .001 level of confidence, advertising agencies permitted participation more than did commercial printing firms on the five most important decisions listed on the attitude scale. Even those advertising agency respondents who were below the group average in the number of decision statements to which they agreed, were more participative than their counterpart commercial printing company respondents. This was probably the result of greater confidence which management placed in the suggestions and opinions of higher-educated employees.

Recommendations For Further Study

The author realizes that the findings of this study are not conclusive and apply to only a small segment of the printing and advertising industries. The following suggestions for further study may provide later investigators with ideas and helpful suggestions which were problem areas in this study.

An attitude scale such as that used in this study is always subject to criticism until it has been tested and retested to insure its validity. Much work is yet to be done before a great degree of confidence can be placed in the results obtained from its use. It would be exceptionally helpful if the scale statements were tested with large groups of commercial printing company and advertising agency respondents. Because no scale was apparently available

which would serve the needs of this study, perfection of this scale should be completed.

It would also be necessary to conduct the study again because the low response rate raises some doubt about the validity of the results. No generalizations about the groups of interest in this study can be made until a larger per cent have responded.

It may also be revealing to conduct the study again and code the responses. This would provide data concerning each respondent's beliefs and facts relevant to that respondent's company. Thus, it would be apparent if the same respondents had answered both mailings. This would probably provide more precise information regarding the respondent groups.

Perhaps a similar study which compares some segment of the printing industry with a group other than advertising agencies may reveal some interesting facts. This would probably enhance the findings of this study as well as subsequent investigations and make generalizations more dependable.

Finally, in order to accept or reject the findings of this study, it will be necessary to conduct the study again because there has been no research done concerning the relation between education level and the degree to which "participative decision making" is implemented.

Summary

The purpose of this study was to determine if there was a positive correlation between the level of employee education and the

degree to which "participative decision making" was implemented. There was found to be such a relationship. It appears that advertising agency respondents who are below average in their acceptance of participative techniques are nevertheless more participative than are commercial printing company respondents who are below average in their group. The education level of advertising agency employees is approximately four years greater than that found among foremen and subordinates in responding commercial printing companies. Therefore, it appears that the more highly educated employee is accepted to a greater degree and is given more opportunity to participate in decision making.

APPENDIX A

Following is a copy of the first questionnaire sent to commercial printing companies.

QUESTIONNAIRE

NOTE: WHEN "DECISION MAKING" IS MENTIONED IN THE FOLLOWING QUESTIONS, IT WILL REFER TO DECISIONS SUCH AS: EQUIPMENT PURCHASE, METHODS OF PRODUCTION AND ANY OTHER SIMILAR DECISIONS YOU BELIEVE ARE OF EQUAL IMPORTANCE.

1. Do you think the age of persons making decisions is important?

   Yes_____

   No _____

   (If you answered No to question 1, omit question 2)

2. If you answered Yes to question 1, what do you believe is the prime age of a person making decisions?

   Under 20_____ 50 - 59 _____

   20 - 29 _____ 60 - 69 _____

   30 - 39 _____ 70 - 79 _____

   40 - 49 _____ Over 79 _____

3. Which of the following are able to make the best decisions? (Please check one)

   Men _____

   Women _____

   Men and Women Equal _____

4. Do you believe the amount of formal education a decision maker possesses is important?

   Yes_____ No _____

   (If you answered No to question 4, omit questions 5, 6 and 7)

5. If you answered Yes to question 4, how many years of formal education do you believe is best?

   1 - 8 _____ 13 - 16 _____

   9 - 12 _____ More _____

6. Do you feel the time in which (eg. 1800-1820) a decision maker received his formal education is important?

   Yes _____ No _____

   (If you answered No to question 6, omit question 7)

7. If you answered Yes to question 6, which of the following do you feel is the best period of years to have been formally educated?

   1901-1920 _____ 1941-1960 _____

   1921-1940 _____ 1961-Present _____

8. Do you believe it is important for a decision maker to have a general knowledge of all facets of the particular organization in which he is employed?

   Yes _____ No _____

9. Should a person seek information, assistance and help from subordinates when making decisions?

   Yes _____ No _____

   _____

   _____

   _____

10. Do you feel one's willingness to take risks when confronted with a decision is:

    Good _____ Bad _____

    Other _____ (please explain) _____

    _____

    _____

11. What do you believe are the most advantageous characteristics for persons involved in decision making to possess:

Please List:

12. Do you believe production workers (foreman and below) should assist management in making decisions in such areas as equipment purchase, methods of production, level of inventory stocked and similar matters of equal importance to a firm?

Always_____ Usually_____ Sometimes_____ Never_____

(Please explain) _____

_____

_____

13. Do you believe information which concerns the entire firm should be made available to foremen and their subordinates? Example: Sales increases, per cent of profit increase over previous years, etc.

Always_____ Usually_____ Sometimes_____ Never_____

(Please explain) _____

_____

_____

APPENDIX B

Following is a copy of the first questionnaire sent to advertising agencies.

QUESTIONNAIRE

NOTE: WHEN "DECISION MAKING" IS MENTIONED IN THE FOLLOWING QUESTIONS IT WILL REFER TO DECISIONS SUCH AS: SELECTION OF SUPPLIERS, DETERMINATION OF WORK FLOW, DETERMINATION OF DEADLINES AND ANY OTHER DECISIONS YOU BELIEVE ARE OF EQUAL IMPORTANCE.

1. Do you think the age of persons making decisions is important?

   Yes_____

   No _____

   (If you answered No to question 1, omit question 2)

2. If you answered Yes to question 1, what do you believe is the prime age of a person making decisions?

   Under 20_____ 50 - 59 _____

   20 - 29 _____ 60 - 69 _____

   30 - 39 _____ 70 - 79 _____

   40 - 49 _____ Over 79 _____

3. Which of the following are able to make the best decisions? (Please check one)

   Men _____

   Women _____

   Men and Women Equal _____

4. Do you believe the amount of formal education a decision maker possesses is important?

   Yes_____ No _____

   (If you answered No to question 4, omit questions 5, 6 and 7)

5. If you answered Yes to question 4, how many years of formal education do you believe is best?

   1 - 8 _____ 13 - 16 _____

   9 - 12 _____ More _____

6. Do you feel the time in which (eg. 1800-1820) a decision maker received his formal education is important?

   Yes_____ No _____

   (If you answered No to question 6, omit question 7)

7. If you answered Yes to question 6, which of the following do you feel is the best period of years to have been formally educated?

   1901-1920 _____ 1941-1960 _____

   1921-1940 _____ 1961-Present _____

8. Do you believe it is important for a decision maker to have a general knowledge of all facets of the particular organization in which he is employed?

   Yes _____ No _____

9. Should a person seek information, assistance and help from subordinates when making decisions?

   Yes _____ No _____

   _____

   _____

   _____

10. Do you feel one's willingness to take risks when confronted with a decision is:

    Good _____ Bad _____

    Other _____ (please explain) _____

    _____

    _____

11. What do you believe are the most advantageous characteristics for persons involved in decision making to possess:

Please List:

12. Do you believe non-management employees should assist management in making decisions in such areas as selection of suppliers, determination of work flow, determination of deadlines and similar matters of equal importance to a firm?

Always_____ Usually_____ Sometimes_____ Never_____

(Please explain) _____

_____

_____

13. Do you believe information which concerns the entire firm should be made available to non-management employees? Example: Sales increases, per cent of profit increase over previous years, etc.

Always_____ Usually_____ Sometimes_____ Never_____

(Please explain) _____

_____

_____

APPENDIX C

Following is a copy of the cover letter which accompanied the first mailing.

March 27, 1968

Dear Sir:

As a graduate student in Printing Management at South Dakota State University, I have chosen decision making techniques as a thesis topic. Before extensive research can be performed it is necessary to elicit information from those involved in the process of decision making.

Enclosed is a questionnaire which will give the necessary information needed to proceed with the study. I would appreciate your returning the completed questionnaire in the accompanying self-addressed, stamped envelope at your earliest convenience. The questionnaire is anonymous and no company's name will be used in any way in this study.

If you would rather have another person in your organization handle this matter, please forward the questionnaire to that individual, or inform me of his name and address, so that I may contact him.

It is my belief that a study of this type can have much value to those involved with decision making. I would appreciate your time and consideration in completing the enclosed questionnaire.

Yours truly,

Richard J. Huff

APPENDIX D

Following is a copy of the cover letter which accompanied the second mailing.

May 14, 1968

Dear Sir:

As a graduate student in Printing Management at South Dakota State University, I am currently involved in writing a thesis on decision making techniques.

You received a questionnaire in the latter part of March regarding this topic. I was very pleased with the high response. Once again, I need your assistance. I would appreciate your time and consideration in completing the list of statements and the brief questionnaire which is enclosed.

The enclosure which contains 15 statements should be marked, to the best of your knowledge, either agree or disagree. I would like to emphasize that these statements should be marked according to what is currently done in the industry.

The questionnaire which is enclosed is concerned with information regarding your firm. Your company's name is not needed for this questionnaire and need not be included on any of the enclosures. I would appreciate your returning the completed questionnaire and list of statements in the accompanying self-addressed stamped envelope as soon as possible.

If you would rather have another person in your firm complete the enclosed questionnaire and list of statements, please forward them to that individual.

Sincerely yours,

Richard J. Huff

APPENDIX E

Following is a copy of the attitude scale sent to commercial printing companies. The response frequencies are presented for each statement so that scalogram analysis can be performed by later investigators if they so desire.

INSTRUCTIONS

Please indicate your answers to the following statements by placing a check (✓) on one of the two lines preceding each statement. It is important that all statements be answered and be sure to make only one checkmark for each statement.

For example, if you agree with the first statement, make a check (✓) on the line which is adjacent to statement one and directly below the heading AGREE. If you do not agree with the first statement, mark the line which is adjacent to statement one and directly below the heading DISAGREE.

CONSIDER EACH OF THE FOLLOWING STATEMENTS IN THE CONTEXT OF WHAT YOU BELIEVE IS USUALLY DONE IN COMMERCIAL PRINTING COMPANIES AT THE PRESENT TIME.

STATEMENTS

AGREE	DISAGREE	
15	11	1. Foremen and production workers consult with management to determine when coffee breaks and lunch breaks will be taken.
17	9	2. When problems such as excessive absence and turnover arise in a firm, foremen, production workers and management people work together in order to reduce or alleviate the problem.
9	17	3. When new production methods are deemed necessary to meet market demands (Example: adding lithography to a letterpress firm) the new method is introduced as a result of discussion between production workers, foremen and management.
12	14	4. Foremen and production workers consult with management to determine down time schedules for machine repair and maintenance.

AGREE	DISAGREE	
22	4	5. Foremen, production workers and management confer with one another in order to reduce excessive scrap loss and waste.
15	11	6. In non-union plants when overtime becomes necessary, production workers and foremen discuss the matter to determine which individuals will receive the overtime work.
21	5	7. Foremen and production workers consult with management when planning vacation schedules.
6	20	8. Foremen and production workers determine the machine speed for each job.
17	9	9. When problems with regard to work-flow are spotted and identified (eg. bottle-necks, etc.), production workers, foremen and management work together to solve the work-flow problems.
2	24	10. Foremen, production workers and management together determine what is the best level of inventory to maintain in the firm's storeroom.
6	20	11. Foremen, production workers and management discuss major equipment purchases before such a purchase is made.
17	9	12. Foremen and production workers decide when to make routine equipment adjustments.
25	1	13. When the accident rate in a firm is believed to be excessive, foremen, production workers and management discuss safety policy and rules in order to improve the safety program and thus reduce the accident rate.
3	23	14. Foremen, production workers and management together decide which suppliers can most adequately meet the firm's needs.
19	7	15. When new production efficiency goals have been established, production workers, foremen and management discuss the methods which will make it possible to attain these new goals.

APPENDIX F

Following is a copy of the attitude scale sent to advertising agencies. The response frequencies are presented for each statement so that scalogram analysis can be performed by later investigators if they so desire.

INSTRUCTIONS

Please indicate your answers to the following statements by placing a check (✓) on one of the two lines preceding each statement. It is important that all statements be answered and be sure to make only one checkmark for each statement.

For example, if you agree with the first statement, make a check (✓) on the line which is adjacent to statement one and directly below the heading AGREE. If you do not agree with the first statement, mark the line which is adjacent to statement one and directly below the heading DISAGREE.

CONSIDER EACH OF THE FOLLOWING STATEMENTS IN THE CONTEXT OF WHAT YOU BELIEVE IS USUALLY DONE IN ADVERTISING AGENCIES AT THE PRESENT TIME.

STATEMENTS

AGREE	DISAGREE	
11	16	1. Non-management employees consult with management to determine when coffee breaks and lunch breaks will be taken.
19	8	2. When problems of excessive absence and turnover arise in a firm, non-management employees and management people work together in order to reduce or alleviate the problem.
19	8	3. When new work techniques or production methods are deemed necessary to meet market demands, the new method or technique is the result of discussion between management and non-management employees.
7	20	4. Non-management employees determine when "housekeeping" or maintenance is necessary in individual departments.

AGREE	DISAGREE	
15	12	5. Non-management employees and management confer with each other in order to reduce excessive scrap loss and waste.
9	18	6. When overtime becomes necessary, non-management employees discuss the matter with management to determine which individual will receive the overtime work.
21	6	7. Non-management employees consult with management when planning vacation schedules.
13	14	8. Non-management employees set their own work pace when determining how fast they can produce the quality desired.
21	6	9. When problems with regard to work-flow are spotted and identified (eg. bottle-necks develop, etc.), management and non-management employees work together to solve the work-flow problems.
11	16	10. Management and non-management work together in order to determine what is the best level of inventory to maintain in the firm's storeroom.
12	15	11. Management and non-management employees discuss major purchases before the purchase is made.
22	5	12. Non-management employees decide when routine equipment adjustments are needed on office machines, production machines, etc.
20	7	13. When the accident rate in a firm is believed to be excessive, management and non-management employees discuss safety policy and rules in order to improve the safety program and thus reduce the accident rate.
11	16	14. Management and non-management employees decide together which suppliers can most adequately meet the firm's needs.
20	7	15. When new production efficiency goals have been established, management and non-management employees discuss the methods which will make it possible to attain these new goals.

APPENDIX G

Following is a copy of the second questionnaire sent to commercial printing companies.

QUESTIONNAIRE

1. Approximately how many people (Foremen and below) does your firm employ?

   _____Male

   _____Female

2. Approximately what is the average age of persons (Foremen and below) employed by your firm?

   _____20-29 _____50-59

   _____30-39 _____60-69

   _____40-49 _____70-79

3. Approximately what is the average education level of the people (Foremen and below) employed by your firm? (Number of years of formal education)

   _____1-8

   _____9-12

   _____13-16

   _____More than 16

4. When a group (3 or more people) makes a decision, rather than a single person, do you believe the risk of making an inadequate decision:

   _____Increases

   _____Decreases

   _____Stays the same

   _____Risk is not a factor of primary concern

APPENDIX H

Following is a copy of the second questionnaire sent to advertising agencies.

QUESTIONNAIRE

1. Approximately how many non-management people does your firm employ?

   Male _____

   Female _____

2. Approximately what is the average age of non-management persons employed by your firm?

   _____ 20-29 _____ 50-59

   _____ 30-39 _____ 60-69

   _____ 40-49 _____ 70-79

3. Approximately what is the average education level of the non-management people employed by your firm?

   _____ 1-8

   _____ 9-12

   _____ 13-16

   _____ More than 16

4. When a group (3 or more people) makes a decision, rather than a single person, do you believe the risk of making an inadequate decision:

   _____Increases

   _____Decreases

   _____Stays the same

   _____Risk is not a factor of primary concern

APPENDIX I

Following is a copy of the letter which the author received from George A. Mattson, Managing Director of Printing Industries of America.

April 25, 1968

Mr. Richard J. Huff
Journalism Department
South Dakota State University
Brookings, South Dakota 57006

Dear Mr. Huff:

This is a follow-up of your letter to Mr. William A. Hammill dated April 1, 1968 and his reply to you dated April 16, 1968.

First, I am in complete agreement with the statements made in the second paragraph of Mr. Hammill's letter to you. This is to say, the overwhelming number of foremen and production supervising personnel in the printing industry are high school graduates. In addition, hundreds of these supervisory personnel have participated in a specialized LTF-PIA Foreman's Management Training Program over the past fifteen years. See enclosures relating to this program.

With respect to participative decision making, it is significant that of the 38,000 printing plants, 81 percent have 20 or less employees. These plants function as either a sole proprietorship or partnership basis. This is to say that generally, the sole owner or partners "wear all the hats" and generally make all the decisions. There are exceptions in that in these small plants, foremen are consulted in making decisions with respect to purchase of equipment, material and supplies.

With respect to the medium (50 to 200 employees) and large plants (200 and up), supervisory personnel generally have responsibilities for and control of safety, quality and production in that order. Since they have these responsibilities, it necessarily follows that they exercise a high degree of decision making in these three areas.

Also, supervisory personnel in the medium and large plants have much to say with respect to hiring, training and upgrading of production employees, subject to certain provisions of union contracts.

In our attempt to be of further assistance, we are sending you under separate cover, the following:

1. "The Foreman's Role in Getting the Job Done"

2. "Survey of the Foreman's Job in the Lithographic Industry" with comments related thereto in a speech the title of which is "Supervision in the Lithographic Industry"

3. The three part LTF-PIA Foreman-Management Training Program

Finally, during my twenty-three years' experience in dealing with foremen and superintendents in the printing industry, I have, for the most part, learned to have a high regard for their managerial and technical abilities.

Sincerely yours,

George A. Mattson
Managing Director

GAM:lsm
Encs.

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