

1961

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A COMPARISON OF CRITERIA FAVORED FOR PROMOTION
BY EMPLOYERS WITH CRITERIA FAVORED FOR
PROMOTION BY EMPLOYEES IN THE PRINTING
INDUSTRY OF BATON ROUGE, LA.

BY
MITCHELL ALBERT

A thesis submitted
in partial fulfillment of the requirements for the
degree Master of Science, Department of
Printing and Journalism, South Dakota
State College of Agriculture and
Mechanic Arts

June, 1961

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This thesis is approved as a creditable, independent investigation by a candidate for the degree, Master of Science, and 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.

Thesis Advisor

Head of the Major Department

ACKNOWLEDGEMENTS

The investigator expresses appreciation to Mr. George H. Phillips, head of the Department of Printing and Journalism, and Mr. J. K. Hvistendahl, Associate Professor in this department, for assistance given by each of them.

Special recognition is given to Mr. Paul H. Jess, Assistant Professor of the department, for valuable guidance and assistance in conducting this study.

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CHAPTER I

INTRODUCTION

Reasons for Undertaking the Study.

This study was undertaken because the investigator, being an instructor in the graphic arts, was very much concerned with the opportunities for young people aspiring to enter the printing industry. The investigator had often been confronted with questions concerning reward in printing for ambitious and promising young men who entered the field. Answers given were not always completely satisfactory to students or the investigator, and attempts to become familiar with the subject proved to be unsuccessful. Preliminary research showed that industrial promotions in general had received some attention, but no literature was found that dealt with the printing industry and its policies on promotion. The investigator was specifically interested in the criteria that employers and employees thought important in considering an employee for promotion. (In this study, the term "employee" was construed to mean a wage or salary earner employed on a full-time basis. The individual could be a supervisor, but could not be an officer of the enterprise.)

The investigator's experience with promotional systems in industry was another reason for undertaking this

study. This experience had led to the conclusion that actual promotional systems were often different from those desired by employees. Several years in the industry indicated that each shop had its own system of promotion. It was also common to find that the employer's attitude on the subject was one of indifference to employee opinions. This attitude was exemplified in two ways: employer's lack of consideration for employee opinions in terms of who should have been promoted; or, promotional systems which were not publicized and criteria used which were never revealed. In such cases, interested employees who inquired about criteria for promotion were given unsatisfactory answers. Many employers seriously believed their way was the only way to make promotions and that the employee was not really concerned about criteria used. The investigator's experience contradicted this attitude. His experience prompted two questions that had never been satisfactorily answered. They were: 1) what qualities an employer felt the employee should demonstrate before promotion, and 2) what qualities an employee felt his co-worker should demonstrate before promotion.

Employers who made any attempt to justify a promotion, when favoritism was not obvious, often summed their system up in one word--seniority. This was another reason the study was undertaken. Experience had shown, and Dale Yoder

substantiated, "...the principle of seniority as a basis for promotion greatly over-values experience...there is a mistaken impression among some [employers] to make unrestricted seniority the sole basis for promotion..." (18-464). It had already been established that many industries (15) and unions (1) were on record as favoring seniority as a basis for promotion. No data were available regarding opinions of members of the printing industry, so no conclusion could be reached as to what was the most desirable criterion.

How important was the role of seniority insofar as promotion was concerned? Personnel relations authorities disagree on this question. Some thought seniority was insignificant and overused, while others thought an employee's human rights were violated when seniority was not applied. One source cited a court ruling that favored the employee; the courtroom ruled that the longer a man worked on a job, the more priority he should have on the job (3). In some instances there was a marked tendency to give more weight to seniority in making promotions because it was felt that the worker with longer service could do the job better (12). In some unions, a member's seniority in the craft was the basis for demanding priority in the trade (1). Many employers felt that if seniority was the basis for promotion, other arbitrary decisions would be

avoided...even if the best man were not promoted (4). This reasoning probably was based upon the belief that workers would not be able to accuse employers of discrimination.

In many instances, the same sources pointed out widespread disapproval of the system. This was evidenced in statements such as: "No supervisor can get effective results through people if he is limited in his opportunity to make the best of each person's capacities" (1-145). Another view showing the effect of the system on recruits was reflected in the opinion of Yoder and his colleagues when they indicated that close adherence to seniority as a basis for promotion may cause ambitious young workers to seek employment elsewhere, rather than make slow progress by the stages which seniority makes necessary (20). Some sources favored merit rating because they felt it formed the fairest and best basis for decisions in considering promotions (6) (10). Altogether different was the system favored by John Patton and C. L. Littlefield. They favored having a merit system, but not as the sole determinant. It was suggested that psychological tests, proficiency, schooling, and stability be used in conjunction with merit rating (11).

The investigator encountered nearly as many connotations of the meaning of promotion as he did views on the most practical system of promotion. In many instances

the term transfer would have been more appropriate. It was found that promotion was implied where increased responsibility and prestige were involved (20). Upgrading was a term that was used to denote a "minor promotion." This term was a carryover developed out of industrial relations of World War II (15). A personnel change was considered a promotion where it offered more opportunity for advancement, even though no immediate increase was evidenced (18).

Because it was found that there were so many definitions that differed from that of the investigator, it was deemed necessary to clarify the meaning of the term promotion. Transfer was treated as promotion in a number of instances where management sought only to place employees in positions that it thought would contribute more to the organization without increase in responsibility and authority. Treatment of adjustment in work force of this nature was not intended.

Instead, promotion was intended to refer to placing an employee in a position requiring greater responsibility or skill accompanied by higher remunerations which may have been made in the following forms:

1. Increased wage or salary.
2. Increased responsibility, authority, position or title.
3. Decreased working time, such as hours per day,

days per week, or increased vacation without negative adjustment in salary.

4. Improved living and conditions granted by employer - given on an individual basis.

5. Increased opportunities for greater training and experience; better outlook for the future.

6. Increased security and benefits offered.

7. Extended length of service because of outstanding work (17-253).

Promotion was considered to be of two types: horizontal and vertical. A horizontal promotion was considered one in which no basic change in classification of the employee took place, i.e., straight matter operator promoted to ad linotype operator. A vertical promotion was considered one in which the worker was shifted to a different and higher classification, i.e., composition superintendent promoted to production control assistant.

At the time this study was undertaken, it was not believed that the investigator's curiosity could be completely satisfied. There was sincere optimism, however, that the study might help yield factual information to be used by the investigator and others interested in printing.

The universe used in this study was selected because it was thought that Baton Rouge, Louisiana, afforded enough potential respondents to conduct a complete and thorough

study. At the time this study was conducted, the investigator did not consider it feasible to sample the entire printing industry because of the vast number employed and geographic scope of the industry. Approximately 350 persons were employed in the Baton Rouge Printing Industry; this number was considered to be indicative of the industry's attitude concerning important criteria for promotion.

Objectives of the Study

Management was considered to be responsible for planning and supervising activities of the enterprise in such a way that maximum use was made of facilities that existed. In so doing, production personnel had to be considered so that skills were utilized to advantages of the enterprise and the worker. Management was, therefore, required to know the potentials of each worker. These workers were thought to have various talents that were not always recognized, and management was obligated to help the worker realize his capacity. The worker might not have been aware of his potentials himself, but suggested possibilities often induced needed incentive to direct his attention toward improvement; these suggestions could ultimately result in promotion. It was believed that the enterprise would benefit in two ways: increased productivity and better relationships. The investigator believed

that harmonious relationships were often the result of established promotional plans that were systematized and publicized. With these type plans, employees knew what qualities they needed to evidence before promotion.

In many plants, workers were promoted by foremen and other supervisors who were often influenced by personal friendship and politics rather than employee performance and other personal qualities. Promotions of this type could not be justified (13-334). Many industries followed recommendations of their personnel department to make adjustments because the status of an employee could be quickly and reliably determined by referring to individual files (18). Formal systems of this nature were subjected to repeated tests before data yielded could be relied upon. However, they were generally favored as being the best device for adjusting the work force, after they had been proved (11) (16) (18).

Formal promotional systems were not known to be used in the printing industry, and investigation of books and more than 125 trade journals indicated that the industry had not seriously considered promotional systems.

This study was designed to solicit opinions from a segment of the printing industry in an attempt to determine the possibilities of formal promotional systems in the industry. If formal systems were considered feasible,

the investigator attempted to determine if seniority was considered an important criteria, or did members of the industry prefer promotional systems that offered every worker the same opportunity for advancement.

The primary objective of this thesis was to compare criteria favored for promotion by employees with criteria favored by employers in the printing industry. The investigator believed that criteria compatible with both groups could be established, but these would not be accepted until a study had been conducted to determine what members of the industry considered important criteria. It was not, however, the purpose of this study to establish a promotional system, but rather to investigate the possibilities of a formal promotional system in the printing industry.

Methodology of the Study

This thesis is an investigation into the personnel policies of specialized enterprises. It attempts to evaluate attitudes toward important criteria for promotion in a segment of the printing industry. The study was based on opinions of the two major groups in the industry who comprise the personnel section of printing--production workers and employers. A segment of the industry was used because the investigator intended a thorough and complete

study. The number of workers employed nationally and the geographic distribution of plants were deemed liabilities to the intensive study desired, therefore the universe was limited to the Baton Rouge, Louisiana industry. In the 1960 census, the population of Baton Rouge was 152,419 and supported more than 15 commercial print shops that ranged from two to seventy-five employees, and two daily newspapers that employed a combined total of more than 150 employees.

Each plant was visited by the investigator for three reasons: 1) to solicit cooperation in the study, 2) to determine the number of workers employed, and 3) to discuss the nature of the schedules which were to follow at a later date. At the time shops were visited, the schedules were not distributed because they had not been pretested to the investigator's satisfaction. Instead, representatives were selected and two sets of schedules were mailed. Representatives were instructed to distribute one set of schedules to employees and the other to employers. The different sets could be identified by color of paper and identification lines at the top of each page. Respondents were requested to complete the schedules and return them in self-addressed envelopes that were part of the kit mailed. Check-list questions were used in an attempt to simplify the schedules and keep completion time

to a minimum.

The schedules were designed to encompass all variables that might have a bearing on respondents' selection of important criteria. The investigator believed that the number of years each respondent had been in the industry, along with the size of shop and professional group affiliation (union), might have an effect on the answers provided. In addition, the area assigned to work and training for the industry were also thought to have some effect, e.g., it was conceivable that an employee who had worked only in composition for more than 16 years and who was also a member of the union might well be union oriented, thereby reflecting the union's views of seniority as a sole basis for promotion. On the other hand, an employee in the same area with five years of experience and the same union status might be likely to consider seniority a handicap.

So that these relationships could be observed, the schedules included six questions that requested professional and individual data related to the study. For example, employees were requested to check the statement closest to the number of years they had been employed in the industry. Respondents had a choice of years ranging from "1 to 5" years to "over 20 years." Shop sizes, determined by number of production workers, were asked in the second question of the schedules. Three sizes were listed:

1) small shop (fewer than 16 employees), 2) medium shop (16-30 employees), and 3) large shop (31 employees or more).

The third question requested data on the union status of respondents. Employees and employers were to indicate if they were not and never had been union members; were not, but at one time had been union members; or, were current union members. The second and third statements included space to fill in the name of the union.

Area assigned to work and how first training was received were questions four and five, respectively. These two questions required different data on each set of schedules. On the employees' schedule, number four consisted of seven areas of the shop where respondents might be assigned; whereas employers were asked if they had ever been employed in the skilled areas. And, if so, in which areas. Choices for this question were composition, stone-room, pressroom and other related areas. Question five requested employee respondents to indicate how they received early training. Possible answers included prevalent methods such as apprenticeship, trade school, and college training. Employers were given different choices because of training differences. This question for employers included choices such as special training, training in related field, or working up through the ranks. (Samples of schedules reproduced in Appendix.)

Part One of Chapter Two explains each criterion and gives possible reasons why respondents would consider each important. Also in this chapter is a subchapter entitled "Effects of Promotions on Employees" which was based on the opinions of authorities in personnel relations. Research material on this subject was general in nature and no one of the authors discussed promotional practices as they specifically apply to the printing industry. Criteria used in this study were compiled by the investigator from systems that had been used reliably to evaluate employees in other industries as listed by personnel authorities. (Names of authors and their works appear in the Literature Cited.)

Attitudes of respondents were evaluated in Part Two of Chapter Two as these attitudes were indicated on the schedules. Recommendations in Chapter Three are primarily based on results of the evaluation, the investigator's experience in industry, and opinions of authorities in personnel relations. This latter group furnished specific background information which formed the nucleus of this thesis.

CHAPTER II

THE PROBLEM AND FINDINGS

Effect of Promotions on Employees

One of the inherent problems of every enterprise is making personnel adjustments to meet changing conditions. These changing conditions are of two types: 1) those arising out of the normal shifts of employees, and 2) those arising additionally from expansion of the size of the enterprise (20). Promotions are used to make such adjustments. The way in which employees of a firm are promoted is very significant to the success of the enterprise. There must be promotions at some time, and if the system is poorly administered or done in such a way that employees are made to feel insecure, it may do damage that overshadows all other personnel procedures. Helen Baker indicated that the idea of promotion is closely related in the minds of employees with fear of insecurity, and that the increasing demand for security has become more apparent in recent years. She also noted that the abuse of power placed in and exercised by employers in the past was responsible for making it necessary for the problem of promotion to be dealt with more justly (2).

The basic problem stems from the fundamental belief of Americans in a democratic society. In our society there

is a compromise which might be called the democratic doctrine. This doctrine is based upon the assumption that no man is infallible, therefore decisions reached, often after sincere and earnest deliberation, are not always to the best advantage of those concerned. This is one reason why employees have argued their opinions should be considered when there is an adjustment to be made in the work force.

Employers have indicated they do not feel employee opinions on this subject are either necessary or important since promotion is a managerial function (13). Contract negotiations often present the problem of promotions as one of the basic issues. Employees, particularly those with union affiliation, feel that since this is a democratic society they should have some voice in decisions affecting their welfare. On the other hand, employers have argued that certain functions are strictly managerial--such as promotions, discharge and discipline--and these decisions should remain their sole discretion without interference from employees or their representatives.

"Promotion is a highly important feature of managerial policy and a feature of multiple purpose designed to have various effects on the employee" (6-453). Promotions may be used as rewards, or at the same time a means of placing employees where they are more valuable to the

enterprise. Sometimes they are used as a means to hold employees of great potential ability. Generally speaking, employers recognize well-selected promotions as being beneficial to both parties since they tend to maintain and improve morale of employees as a whole. This fact demonstrates to employees that the employer intends to provide for advancement. Gestures such as these forestall unrest and turnover (6).

Whether promotion is an absolute managerial function or not, there is still a necessity that employee opinion be considered in order to maintain harmony within the enterprise (4). It is not suggested that the employer call a meeting of the employees and find out their opinions each time there is need for a promotion. The opinions of the group, however, should have some bearing on the final decision. Employers are expected to show respect for dignity, integrity and consideration for the general welfare of the worker. It is understood that employers have to make decisions that are not always accepted. But, so long as they are made on the basis of facts and not out of prejudice or discrimination, there is usually support for their action. Inevitably, some decisions will be against group opinion and very often it may become necessary for the employer to re-examine his position very carefully.

There is reason to believe that management's

position might be strengthened by establishing some degree of formalization. There are two distinct advantages found here that are not offered in informal promotional systems: equity and efficiency. Through equity, formalization implies some set of ground rules, which in turn implies consistency. Efficiency enhances the program through the use of a definite schedule. In addition, economy of effort is made possible--the employer cannot "easily deal solely with each employee as an individual" (20-9:2-3).

Formalization has significant effects on employees as a group. It allows each employee to plan in advance and prepare for any position thought to be available in the future. It also indicates that management is concerned about individual capabilities and encourages professional improvement; not only for the benefit of the enterprise, but the individual as well.

Opinions on formalization in other industries have been somewhat hard to measure. Some employees have viewed it as being highly advantageous while employers have objected to its use because they feel there is a possibility that favoritism and petty politics are more inherent. Nevertheless, both agree that formalization has some qualities that affect the ambitious and energetic employee. Some of the recognized qualities of formalization are: 1) an increase in employee interest and individual incentive;

- 2) an increase in the enterprise's production and earnings;
- 3) an upswing in loyalty and confidence in the enterprise;
- 4) employees are made to feel that the employer has a real interest in them and outsiders will not be given priority on better jobs ahead of them;
- 5) employees develop through realization of the need for training that will qualify them for advancement;
- 6) a decrease in labor turnover; and,
- 7) criteria required for promotion are publicized (17).

Of the many individual plans utilized by various industries, there are two main plans that have been devised for formalization; these are the Three-Position Plan and the Multiple-Chain Plan (17). The Three-Position Plan was designed by Frank and Lillian Gilbreth and basically considers each man as occupying three positions in the enterprise. These three positions represent an uphill climb for the employee. The three positions are: first and lowest, the position the employee has last occupied in the enterprise; second, the position the employee presently occupies; and third, the position the employee will next occupy.

The Multiple-Chain Promotion Plan considers each position as a link in a multiple chain. Under this plan, one position may lead to several positions, allowing the employee more freedom to select positions he aspires to reach, and to condition himself accordingly. This plan

allows a position to be reached by more than one path. For example, Figure 1 illustrates how a printer's devil (printing aspirant desirous of entering the profession but with no printing experience) may advance to production supervisor by selecting any one of three paths or a combination of these. He could choose to concentrate on press-work or achieve his goal by first entering the composition department. Another way, one that is less practical, would be to receive formal training and combine this with practical experience which would lessen the time necessary to remain in one department before promotion.

This plan necessitates a broader training program and gives each employee a choice of additional goals for which to be trained. It is especially good in a growing organization where the positions are created rapidly and allow employees to be eligible for positions that develop. There is more freedom because there is no one connection between positions.

These two plans are examples of formalization that afford everyone in the enterprise equal opportunity for advancement. These plans serve to create a greater sense of security among employees because they receive one of the basic considerations due them under the democratic process--the right to know what is going on around them and how it affects their welfare (16). The employee who feels

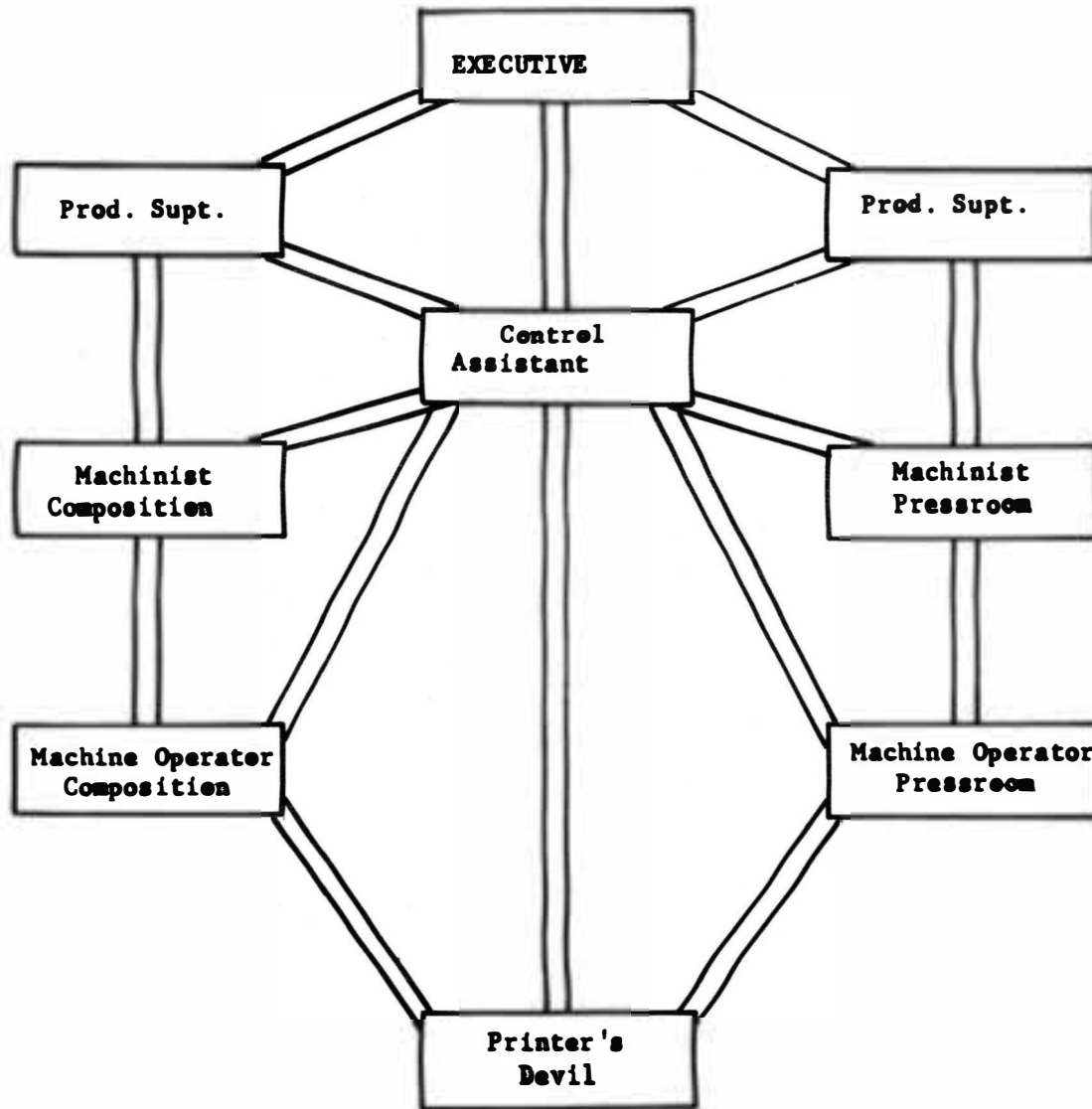


Figure 1--Suggested application of the Multiple-Chain Promotional System to The Printing Industry

his integrity is respected is usually a productive employee. This often results in employers having a low turnover rate which can have immediate effect on production capacity, earnings and profits, and the enterprise as a whole.

The average employer does not realize the cost of labor turnover, but it represents a real loss to the enterprise in most cases. The actual losses resulting from labor turnover are difficult to measure. J. E. Walters presents an estimate derived by figuring production losses and indirect expense involved in turnovers (17). These losses are somewhat universal and are grouped under the following headings: 1) cost of hiring replacement; 2) cost of training replacement; 3) extra labor cost incurred during orientation; 4) extra operating costs; 5) extra investment costs; and, 6) loss of business.

The financial loss for any industry would vary because of the difference in methods of production, wage schedules, geographic location and other factors peculiar to the various industries. In view of these facts, actual cost cannot be formulated for the printing industry in general without undergoing revision that would apply to individual firms. Cost estimates were produced showing the effect of labor turnover for the hourly rate of employees of a boiler manufacturing firm in 1945 (17-251).

1.	Loss in production--between time of decision to resign and actual leaving	\$10.00
2.	Loss of production--during period of time between leaving of former employee and engaging of new employee	48.00
3.	Employment office salary cost--of handling leaving transactions	1.87
4.	Employment office salary cost--of handling hiring transactions	3.75
5.	Medical division cost--of physical examination for new employee	1.10
6.	Payroll and accountant department salary cost--for leavers and replacements	5.00
7.	Shop office salary cost--for leavers and replacements	2.00
8.	Supplies cost--for stationery, photographs of new employees, etc.50
9.	Loss in production--during time of training new employee	10.00
10.	Loss in material--spoilage by new employee	5.00
11.	Extra supervision required, floor space, use of equipment--during period of time required to bring new employee to the point of standard production	7.00
12.	Rent, light, heat--office of employment department	1.00
13.	Medical division cost--frequency of accidents among new employees above normal	<u>.25</u>
	Total	\$95.47

These estimates represent the approximate cost incurred each time a turnover occurred in the boilermaker industry in 1945. This cost is equivalent to 184% of employee average weekly earnings which were \$51.79 for 46.3 average weekly hours, or average hourly earnings of \$1.12. Based on these figures, boilermaker employers were spending a sum which was approximately the equivalent of a skilled employee's earnings for 1.84 weeks.

These cost estimates applied to 1960 newspaper average rates are indicative that each turnover would fall in the range of \$197.70 which is the approximate average earnings of skilled employees for 1.64 weeks. Skilled newspaper employees' weekly earnings averaged \$107.45 for 1960 based on 38.7 average weekly hours, or average hourly earnings of \$3.07*.

An effort has been made to emphasize the effects of harmonious production created by employer realization that satisfied employees may be kept that way through consideration of their welfare in general. It has been stated that employers need not relinquish their right to manage; they enhance this right by soliciting and considering

*Average earnings data for both industries are based on material from Labor Weekly Review magazines, December 1945 and June 1960.

employee opinions on matters that have direct bearing on employees. Almost every employee is interested in advancement and works for promotion. This makes the subject very important. An employee who thinks he should have been promoted has to be told in intelligent and nondiscriminating terms why he wasn't. His attitude affects other employees and the enterprise as a whole.

Proficiency - Criterion No. 1

One of the primary qualities employers are usually on the lookout for when interviewing a prospective employee is proficiency. It is of major importance throughout employment. Because the degree of proficiency varies with each individual, management has become concerned. Management realizes that several printers performing the same job, under the same conditions, will seldom have the same output. Some operators consistently produce more than others. This superiority may be partly due to better methods of work, yet there is still a difference when all men are presumably following the same method. It is a fact that differences among individuals are as common in production as they are with individuals in other activities. The difference may be due to physical capacity, training or practice, aptitude for a given operation, or any number of other factors.

That this difference does exist is recognized readily by wage-earning employees competing for salaries, and by those who pay these salaries--employers. In recognition of this difference, and as a means of encouraging it to become more pronounced, employers have established certain incentives for superior quality work produced below normal time standards (9). In this way, persons who are capable of superior performance may receive additional pay. Although incentive compensation is used by many firms, it is not standard procedure. In many industries, payment by time, or hourly rate, is still the most widespread and popular method. Some employers, however, believe that this system, based on time alone, fails to achieve the best overall results (17). They feel the system does not adequately show the difference in caliber of employees when everyone is paid the same wage. They therefore, prefer financial inducement to encourage proficiency.

The fundamental features of all incentive wage systems are twofold: first, standards of performance are established, either by rule-of-thumb methods or by systematic job study techniques; secondly, savings resulting from production over standard norms are distributed between management and workers (17). Employers seem to feel that it is sound management practice to pay employees for above-standard production. In advancing this principle,

various plans have been devised to induce workers to produce more proficiently in return for larger paychecks. It is believed that the more money workers take home, the more contented and less likely to seek other employment they will be.

One of the best known incentive plans is the piece-work system (20). Under this plan, a man's earnings are in direct proportion to the amount of work produced. In printing, this plan would be applicable to areas such as composition, imposition, and engraving. The number of ems set on the linotype, or the number of ads imposed, or the number of engravings produced would be the pieces produced. This system can also be applied to groups. For example, it could be used in newspaper pressrooms where a number of people cooperate in operating one machine. The finished product depends on each person, not as an individual, but as a single unit of the operation. Group incentive compensation is based on the proficiency of each member of the group.

Another incentive plan designed to encourage proficiency is the standard-time plan (20). Under this plan, measurement is made in time units which is believed to be an improvement over piece-work incentive. Piece-work is not constant and tends to fluctuate out of proportion after several year's use. In contrast, standard

time per piece is much more stable. The latter plan's time is set by time studies of a qualified operator at a normal pace under normal conditions. From this data, actual production is compared with standard production to determine the degree of proficiency.

Wage incentive plans have tended to drive employees at a furious pace. This has resulted mainly because there are no principles that can be stated for determining levels of proficiency and because they have been frequently instituted without careful study. Consequently, ill-feeling and unrest have been created among employees. Industrial consultants have sided with employees and severely criticized incentive plans. These consultants have gone so far as to declare that there is no place in industry for incentive plans. They also feel that these plans are bound to disappear as employers become increasingly aware of incentive limitations (18).

The printing industry is considered to be one of the chief industries not appropriate for implementing incentive plans. One reason for this is that production is intermittent and delays are frequent and often beyond the control of employees. Quality is also an important factor, therefore it is necessary to make detailed inspections during production to guarantee quality throughout the job. Each employee knows that when a customer

places an order, he expects delivery, not excuses. The customer also expects high quality. With incentive plans, members of the production crew are not able to concentrate on fundamentals that are necessary to fine printing.

Another unfavorable aspect that deserves consideration is the attitudes of those affected by the plan. Many employees constantly fear adjustments that are commonly associated with incentive plans. These adjustments often mean they are forced to increase output to maintain their earnings, and their fear seriously impairs morale throughout the enterprise. Union leaders in the printing industry feel that these plans affect the earnings of their members to the extent that it causes dissatisfaction. They also feel these plans prevent standardization of earnings--a factor long regarded by unions as an essential feature of collective bargaining (18). Printing employees favor incentive compensation, provided it can be demonstrated that hourly rates will also go up, and that such plans have been approved by the union. Very few plans have met these stipulations.

Quite often union members share union views on incentive plans, but are also interested in becoming more proficient in their trade. Cooperative employers might also be interested in helping employees to improve themselves, and might be interested in implementing methods

that would help employees. Improved proficiency can be realized without getting involved in issues as highly controversial as incentive plans. There are several ways to achieve this objective, one way is through the use of "motion economy" (14).

The printing industry has equipment that necessitates the method of production be determined by mechanical design of the machine, and that the pace be set by its running speed. Production is therefore dependent on three factors: 1) method employed, 2) training of the worker, and 3) the worker's willingness to work. This last factor is one of the most significant, so far as quantity produced is concerned.

As discussed previously, individual differences are inherent. While there is correspondingly greater variability between different individuals, there is even greater opportunity for fruitful application for industrial engineering. This technique is possible through the study of fundamental movements called therbligs* (14).

The therblig principle "refers to that part of the cycle during which the eyes and hands are groping or feeling for the object," and "requires that a change in

*The therblig principle is coined to spell in reverse the last name of its inventors, Frank and Lillian Gilbreth.

the location of an object be made" (14). From the therblig concept have evolved the principles of motion economy which are useful in improving operations performed by hand. These principles offer opportunity for individuals to analyze various operations performed in their area and to make adjustments leading to more proficient working habits. Some of the principles listed by Robert Roy are applicable to printing:

1. The two hands should begin as well as complete their therbligs at the same instant.
2. The two hands should never be idle at the same time, except during rest periods.
3. Motions of the arms should be in opposite and symmetrical directions, and should be made simultaneously.
4. Continuous curved motions are preferable to straight line motion where sudden and sharp changes in direction are involved.
5. Rhythm is essential to smooth performance of an operation and the work should be so arranged to allow natural rhythm whenever possible.
6. Where each finger performs some specific movement, such as linotype operation, the load should be distributed so that inherent capacities of the fingers are realized (14-254).

Application of this study in the bindery department

illustrates how unnecessary movements can be eliminated after analyzation of all the movements involved in the operation (14). Two operators, using their natural methods of operation, were selected to run separate machines. Neither of the operators used guides on his machine, which meant position was obtained by visual means. During the operation, it was observed that idleness occurred while changing the focus of the eyes from the pile of unstitched books to the stitching-head of the machine. The operation required each operator to pick up the correct number of signatures and place stitches in approximately the right position for covering and trimming, which were subsequent operations.

Improvement was made by placing two guides on the stitching table so that the books were positioned to the left and right by placing them against the respective guides. This allowed the operators to obtain position without focusing on the stitching-head, consequently the eyes could remain upon the pile of unstitched books. This modification was very simple but yielded an increase in productivity of more than 20 per cent (14).

This study on flat-wire stitching was relatively simple to conduct because body movements were slow enough to record. When operations are continuous and performed by numerous workers, a much more thorough technique such as

that available with micro-motion analysis may be warranted. This type of study is necessary when operations involve movements that are very quick. In order to perceive what is going on, motion picture equipment is utilized to photograph the operation so that detailed observation of the employee's movements is possible. Upon completion, the film is projected continuously which allows observers to become thoroughly familiar with the cycle. It is also possible to project one frame at a time, therefore the operator's movement can be stopped at any point during the operation.

Such studies as these are relatively inexpensive. It is not necessary to interrupt an entire department to conduct the study, nor is it necessary to invest in ultra-expensive equipment. Each employee can solicit cooperation from another and analyze that other's working habits. Of course the analysis is not expected to be as thorough as one made by an experienced individual, but there is a great deal of improvement to be made this way. Where motion picture facilities are available, it is possible to film individuals which would allow them to view their working habits as often as they like.

In using time standards, employers in the printing industry should remember that proficiency is desirable for any operation. The need for proficiency becomes greater

when time standards are significant in determining a person's wages. In view of this fact, accuracy is absolutely essential to the morale of employees when the program is being administered. It is common knowledge that any policies which are liberal will be received without opposition. Conversely, any policies considered to be too rigid will be protested and will require more thorough administration. Implementation of policies, such as discussed here which have a significant effect on the work force as a whole, deserve careful consideration. An incentive plan, or any other plan, unjustly administered, accomplishes the opposite of what was intended, and employers are sure to realize how much more advantageous it is not to have the plan.

Versatility - Criterion No. 2

Many printing plants are divided according to processes, i.e., letterpress and offset. In many instances, these plants are subdivided into departments according to operations, i.e., press, composition, imposition, and so on. Separation, in these cases, is not made because each operation is independent of the other, but because related skills are enhanced when grouped. This is one reason why an employee might be supervisor of several departments, or areas. The supervisor is expected to coordinate activities and insure that all operations are being performed in a

way that does not delay subsequent operations. The supervising employee is often expected to be versatile, so far as skills are concerned. He usually has demonstrated the ability to turn with ease from one area of the shop to another or he has many interests which have led him into more fields of knowledge and different kinds of skills (7).

Many shops have versatile employees, but employers must decide if real strength has been demonstrated in at least two areas. There is a tendency for "jack-of-all-trades" employees to have below average performance in one or all of their familiar areas. It is essential that evaluations be made only when they are followed by qualifying comments on areas of special competence (7).

Personality and Leadership - Criterion No. 3

"Man is a riddle in the world, and it may be, the greatest riddle. Man is a riddle not because he is an animal, not because he is a social being, not as a part of nature and society. It is as a person he is a riddle-- just that precisely; it is because he possesses personality. . . . If man were not a person, albeit a personality, which has not yet emerged into full view, or which has been crushed, albeit one struck down by disease, albeit a personality which exists only as a potential or possible, then he would be like other things in the world and there would be nothing unusual about him. . . ."

Nicolas Berdyaev
"The Riddle of Personality"

In any organization where there is group activity, there are always a few persons who distinguish themselves

and are set apart from the group. It may be that their quietness and strength of character, or loud and demanding voice, or physique combined with calculated words of wisdom make them stand out from their associates. In every printing plant there is usually one person, at least, who has attained this individuality.

Two employees express similar views on some issue, but the group responds to one and ignores the other. Employees might offer identical suggestions for improving production, but they are accepted differently; one employee receives praise and the other is ignored. Campaign speeches made before an election for union officers might be somewhat different: one candidate offers to give immediate attention to an issue considered most important by members of the organization; the other candidate generalizes and promises nothing in particular. The generalizing candidate gets the position and the unsuccessful wonders why he failed. A vacancy is announced in the production office and management wishes to fill it with someone already employed by the organization. The finalists are two employees who are about equal in terms of stated requirements. Both feel they are capable of manning the job--a promotion. After employees have voted and the results have been announced, the unsuccessful candidate ponders the question "what did he have that I didn't have?" He

reviewed their qualifications and training, and concludes the other person must have been chosen on "favoritism."

One criterion might have been the difference in the above situations. It could very well have been that in each instance the outcome was based on the degree of personality and leadership ability evidenced, that is, how capable the individuals were of influencing their fellow employees.

An individual's ability to influence depends on a number of factors. There are no specific rules that would apply to every situation. However, these three points are usually exemplified by those who are recognized as influential individuals in any organization: 1) important status in the group, 2) basic urge, and 3) desirable attitude (3).

An individual acquires status when he is recognized as a somebody in the group. It is a rating given a person by each member of his group and may vary from very low in one group to extremely high in another (3). A pressman might be elected steward for his shop, but have no standing in his lodge. It is very common to find that a person's status will shift up or down in each group of which he is a member, depending on his performance and how the standards of the group may change. One will work hard to maintain or to increase his status in the group he is interested in and become responsive to group stimuli (3-20).

The second point, or basic urge, is an inherited tendency of a person to act in line with the deep-seated need of personality growth (3). It is no longer advocated that a person inherits ready-made patterns of behavior for meeting the needs of life. Birds inherit a nest-building instinct, but each human being has to learn how to build a house or seek help from others to achieve this goal. There are seven basic urges that are responsible for individual personality. These are classified as driving aspects, or desires, that are stimulated in and through group activity. They are:

1. The urge for new experience--craving for adventure.
2. The urge for security--craving to be safe and to conserve.
3. The urge for response--craving to be with others and to be noticed by them.
4. The urge for recognition--the desire to be somebody and attain status.
5. The urge to aid--the desire to give assistance to individuals in need.
6. The urge for fair treatment--this appears to be universal and unlearned.
7. The urge for freedom--the drive for room in which to move one's body, to express one's ideas, and to

be independent (3-25).

The third point exemplified by influential people is attitude--that aspect of personality that develops under group stimuli. It is an act acquired, and an established tendency to act with reference to some person or environment, object or method (3). It is not inherited but acquired, usually in an informal learning process. The degree which each employee's attitude is established determines his stability, personality and reliability, and usually has a significant effect on his character. He does not likely know what his attitude on an aspect in the shop is until he acts. Then it is not necessarily revealed by any single act, but more definitely by a repetition of some act over a period of time. An employee can fake an attitude a few times, but not many times without being changed by the faking process and detected by his fellow employees and employer (3).

An employee has a favorable attitude usually toward that which he believes to be helpful to him--help that he expects through the group or directly to himself. Conversely, he has an unfavorable attitude toward that which he believes to be harmful. Through regular contact, employees categorize each other by attitudes that have necessitated action, directly or indirectly toward issues concerning the group. Acceptance, rejection, or an

intermediate reaction is derived from this interpretation. If enough employees base their reaction, or attitude, around those of any one person, this person becomes a "center individual" or one influencing the group, and, consciously or unconsciously, they look to him for leadership.

Leadership is a function of group activities, it is the group expressing its recognized needs. It is the process of solving recognized group needs, and directing the activities of the group in group-approved directions. Some of the ways a person may assume these responsibilities are: 1) to be an opportunist, 2) to be a conventional defender, or 3) to be a challenger of established order (3).

By good fortune, an employee might have become a group leader when he accidentally walked across the stage into the spotlight. It could have been that he was attending a company meeting where the discussion was devoted to a highly controversial issue. During the discussion, he may have expressed his convictions, which coincided with the thinking of his fellow employees. By this single action he might possibly catapult out of his former average self into superiority.

Another way an employee may exemplify leadership is by defending conventional group control. He may courageously defend his union and uphold the customs that

are under attack. His reward for defending the institution may be in the form of group action resulting in his being elected to a union position or being recommended for promotion in his department. The employee's action may be in reverse so far as issues are concerned. He may challenge or organize against the established order of institutions or ideas. His action might cause others to label him rebel or heretic, but his future rating will depend upon whether his venture was sound, timely, well executed, and successful (3).

These types of leadership are typical of what employees might expect from their colleague who has been promoted. Every employee admires a person who exemplifies a likeable personality and sound leadership qualities. Envy might accompany promotions, but where these qualities are pronounced, there is a good possibility that friction will not result. The reactions might likely be harmonious owing to employees focusing on an outstanding character.

In-plant and In-trade Seniority - Criteria No. 4 and 5

The term seniority is generally interpreted to mean the number of years an individual has worked in a particular industry. It is often necessary to qualify statements made in reference to seniority and state whether in-plant or in-trade is implied. In-plant seniority has reference to the length of time an employee has been continuously

employed by one company, while in-trade seniority refers to the length of time an individual has been employed in the industry. It is not important if the employee has been employed by one firm or many when the term in-trade seniority is used. In this study, seniority will be discussed in terms of in-plant seniority, because this is the connotation most commonly used in arbitration. Most industries try to simplify matters where seniority is concerned, therefore they focus attention on issues directly related to employees who have accomplished seniority with one company (1).

The most important policy question in promotion is the relative significance of seniority and ability (12). There has been an increased tendency, in highly unionized industries, to give more weight to seniority in making promotions because union officials contend that length of service is very important to their members.

Employers, for the most part, have aligned against employee representatives on this issue. They have maintained that the final decision on promotion is theirs, and their selections are based on seniority only when all other qualities are equal (12-208). They have sought to keep discussion on promotions to a minimum by including seniority clauses in contracts to allow them more freedom when adjustments in the work force are necessary. To illustrate

management's strategy, a seniority clause taken from a contract of one of the larger industries reads: "promotions . . . shall be based upon length of service and ability to do the job. Whenever between two or more men ability is fairly equal, length of service shall be the determining factor" (1-247).

Inclusion of the "ability being equal" phrase has caused considerable controversy. In the opinion of the employee, and his union, the mere fact that he has performed a certain type of work over a period of years is proof of his ability (1). This thinking usually raises two basic questions: 1) Is the employee with the longest service necessarily the best worker? 2) If workers automatically qualify for better jobs by seniority, will there be enough incentive for new employees to improve their performance?

The first question was treated in a study conducted by Dan Water (8). In this study, it was found that up to a point, employees of higher seniority are more efficient than those of lower seniority, and that above this point, employees of higher ages are less efficient than employees of lower ages (8). The study showed that the area of above-average efficiency, as measured by age alone, extends from 29 to 46, inclusive. It was shown that seniority affects efficiency. For example, in the 35-39 year age group, the most efficient employees are those who have 11

years of seniority. The most frequent combinations of age and seniority which are held by employees who are average or higher in efficiency, as determined by the study, are those which total between 33-60, inclusive (8-190). For example, a 38-year-old linotype operator with 10 years seniority--the total of which is 48--will fall in the area of above average efficiency. On the other hand, a 68-year-old employee with 30 years experience will fall outside the area and typically will be less than average in efficiency.

The second question (will there be any incentive for new employees if seniority is used?) is generally answered in the negative (1). This aspect of seniority causes a split in employees which might be called the haves and have-nots. The haves, older employees, are naturally in favor of seniority because it means security for them. They feel that seniority offers more security than any other promotional system, and their fear of not being able to secure other jobs makes them leading advocates of the system.

The have-nots, younger employees, are usually regarded as trainees for higher positions but this does not mean that they obtain promotions without the normal waiting period associated with seniority. Promotions do not come fast to young employees where seniority systems

are used. They usually have to wait until enough time has been accumulated before they are considered. Seniority often results in young employees thinking they are not rewarded for superior service, and leads to an attitude of indifference (8).

Initial employment always brings enthusiasm, but this interest is not nurtured by young employees where seniority is practiced. Instead of enthusiasm and efficiency, these employees are encouraged toward mediocre performances (20). Because of this situation, younger men usually favor seniority agreements which give more weight to aptitude as measured by merit rating (17).

Technological changes require employees and employers to give serious consideration to the best qualified man if the business seeks to make a profit. The pace set often means that an employee must be able to learn quickly and thoroughly in order to make effective use of new methods and facilities. It is not uncommon to find young printers who feel that their mechanical aptitude is enough to compensate for another's seniority and that they should be assigned to a better position. The young employee feels he is not promoted because he does not have seniority; not because of lack of qualifications.

A group of young people especially obstructed by this system are graduates of trade schools, specialty

schools, and colleges. These printers are often capable of making valuable contributions, but are prevented from doing so where seniority prevails. Most employers agree that there is a shortage of trained printers to meet the demands of industry. Most of them also agree that schools are helping to lessen this shortage. There is no doubt that there is a place in printing for these people, but they are usually superior to the status given them under the seniority system. Seniority and ability have been discussed for some time, and it is likely that the discussion will continue.

Reliability - Criterion No. 6

An employee who performs well without close supervision and does not have to be reminded that a job has to be done, is considered a valuable employee. Employers usually give this type of employee serious consideration when adjustments in the work force necessitate Promotions (7). These employees are reliable, and in intermittent production, like printing, it is important that employers know who these employees are so maximum use can be made of their skills. A reliable employee can be depended upon to be punctual because he is conscious of delivery dates.

A reliable employee is also one that is not indignant toward group action when it is contrary to his expressed opinion (7). Some employees believe that decisions based

on the will of the majority should not be applicable to the minority. In an attempt to get revenge on those who were "against" him, this type employee will likely find excuses for not cooperating with the organization. Employers often find that indignant employees are not reliable, consequently they are not promotable.

Probably the most valid way of determining reliability is to observe employees. Over a period of time, consistent behavioral patterns indicate the degree of reliability an employee possesses. This pattern is distinct, and is altogether different from occasional, perhaps brilliant and spasmodic demonstrations of initiative (7).

A reliable employee is one sought out by employers and entrusted with responsibility and authority.

Marital Status - Criterion No. 7

As was mentioned earlier, labor turnover has a definite effect on production. Each permanent employee is considered an integral part of the enterprise, and his performance affects production schedules because of expenses incurred. In order to keep this expense to a minimum, employers consider the stability of an employee before assigning him more responsibility. Additional training of some sort is often necessary when promotions are made, and stable employees offer greater assurance that the position will be filled for a reasonable length of time. This

training is somewhat justifiable when amortized.

The stability of an employee depends, to a great extent, on the marital status and economic need of employees. Young employees, in particular, are considered unstable because they are usually economically independent, and they are often unmarried. Their instability is evidenced by the high rate of turnover of employees under 25 years of age (8). Generally, a married employee is more conscious of his obligation because his actions not only affect him, but members of his immediate family as well. Unless there is income other than that of the employee's salary, he is apt to consider job changes more thoroughly.

Rating Chart - Criterion No. 8

The business enterprise concerned with operation losses, including those incurred via the personnel method, will periodically analyze all procedures and systems used by the firm to see that up-to-date methods are used. This firm is likely to have a formal system for appraising personnel inventory which would be one of the systems reviewed in the plant-wide check-up. To determine their value, employees would have to be appraised in terms of past, present, and potential performances. Measuring devices used for this type of appraisal are known as service rating, employee rating, and merit rating--as

Name		Position	Location	Rating as of	
Encircle rating figure for each quality: 5 Excellent, 4 Good, 3 Average, 2 Fair, 1 Poor					
QUALIFICATION	RATING	RATER	-COMMENTS-	REVIEWER	
I S	Ambition	5 4 3 2 1			
	Character	5 4 3 2 1			
	Education	5 4 3 2 1			
	Health	5 4 3 2 1			
	Loyalty	5 4 3 2 1			
	Outside Interests	5 4 3 2 1			
	Personality	5 4 3 2 1			
	K N O W S	Present Activity			5 4 3 2 1
		Other Activities			5 4 3 2 1
		Procedure and Policy			5 4 3 2 1
	D O E S	Accepts Responsibility			5 4 3 2 1
Application		5 4 3 2 1			
Attendance		5 4 3 2 1			
Care and Exactness		5 4 3 2 1			
Cooperation		5 4 3 2 1			
Expression		5 4 3 2 1			
Follows Instructions		5 4 3 2 1			
Housekeeping		5 4 3 2 1			
Initiative		5 4 3 2 1			
Intelligence		5 4 3 2 1			
Judgment		5 4 3 2 1			
Rate of Work		5 4 3 2 1			
Sense of Economy		5 4 3 2 1			

Figure 2 - An example of rating chart developed by the Civil Aeronautics Authority. By permission from Handbook Of Personnel Management, by Dale Yoder, H. G. Heneman, J. G. Turnbull, and S. H. Stone, McGraw-Hill Book Company, 1958.

**EFFICIENCY RATING
PERFORMANCE REPORT**

Responsibilities and Projects (Primary Job Functions) (A)	Rel. Imp. % (B)	Perform. Achieved (C)	Standards (of 100% Performance)
Types manuals, schedules and rosters; regulations; narrative reports; stencils.	25	97	1. Accuracy of accomplishment: (A) Non-Supervisors— Performs each step correctly according to established procedures (B) Supervisors— Correctly analyzes, plans, carries out, and evaluates results on each responsibility or project. 2. Rate of progress: Meets all deadlines. 3. Getting along with others: Gets along well with both fellow-workers and supervisors.
Prepares correspondence from dictation or rough draft by Chief, or own initiative.	40	90	
Serves as receptionist, answers telephone; places outgoing calls; maintains complete supplies for office.	10	90	
Maintains office files and equipment.	10	85	
Handles all incoming and outgoing mail in office of Chief.	5	95	
$.25 \times .97 = .243$ $.50 \times .90 = .450$ $.10 \times .90 = .090$ $.10 \times .85 = .085$ $.05 \times .95 = .048$ ----- .916 VG = 91.6%			Ways to Improve (D) More care in spelling and punctuation. Maintain more careful check on regular supplies. More careful study of content before filing.
	100%		

INSTRUCTIONS FOR REPORTING ACHIEVEMENT:

- (A)—Briefly list each major responsibility or project (what employee was hired to accomplish).
- (B) Enter percentage to show relative importance of each responsibility or project.
- (C)—Enter adjective or % merited for each responsibility.
- (D)—Specify particular habits or ways in which employee needs to or can most improve.
- (E)—For efficiency ratings, enter adjective or % for performance as a whole considering relative importance of each responsibility.

Approved by Central Efficiency Rating Committee

Rating: _____ Date: _____


**CODE FOR REPORTING HOW NEAR
EMPLOYEE ACHIEVES 100% STANDARDS**

E —94-100%	(Av. = 97)	Outstanding
VG—87-93%	(Av. = 90)	Above average
G —80-86%	(Av. = 83)	Average
F —70-79%	(Av. = 76)	Below average
U —below 70%		Unacceptable

Supervisor	Employee	Date Reviewed
CD	MS	6/30/49

Figure 3 - Numerical Rating Scale in which space is provided for comments by the rater. By permission from Personnel Management And Industrial Relations, by Dale Yoder, Prentice-Hall, Inc., New York, 1948.

Check Columns			
1	2	3	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Active and strong
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Active but not strong
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Usually careless of personal appearance
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Usually neat personal appearance
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Has a pleasing voice and manner
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Very tactful in dealing with the public
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Poor technical training for the work
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Good technical training for the work
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Poor head work in sudden emergencies
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Good head work in sudden emergencies
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Often assigned to other important positions**
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Often assigned to fill a higher position**
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sometimes goes on a "tear"
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Drink is one of principal failings
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Willing worker, but is not a leader
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Does not plan or lay out work effectively
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Plans work well but lacks snap in getting it done
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Unusual ability in planning and laying out work; good organizer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Makes quick and accurate decisions
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Too lenient in maintaining discipline
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Maintains good discipline
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Lacks decision
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Exceptionally skilful in handling difficult situations



These items are for supervisory or administrative positions only.

Figure 4 - Rating Chart designed to reduce interpretation by the rater. By permission from Personnel Management And Industrial Relations, by Dale Yoder, Prentice-Hall, Inc., New York, 1948.

applied to personnel management, these terms are synonymous (5). The term merit rating* is used most frequently and will appear throughout this study.

The primary purpose of merit rating is to measure and evaluate each person's qualities as objectively as possible, as related to his eligibility for salary increase or promotion (5). It should be noted that this device is frequently applied to "traits" for which there are no objective units. (The term trait is used here to describe the employee and the way he does his job.) Experienced personnel in rating are likely to recognize that there are no units for character, poise, capacity for executive development, and other such characteristics. Merit rating, in spite of this difficulty, seeks to provide a measurement of the degree to which such features are present in the personalities of individual employees, in addition to being applied to those traits which can be measured objectively. A few years ago, a rating study listed some 57 traits which have been included in various rating forms (18). Many of these, such as number of dependents, quality of work, length of service, speed, and safety records, may frequently be determined from reliable records.

*The term merit rating as used here should not be confused with the term used in connection with unemployment compensation and other such laws.

An appraisal of characteristics that cannot be measured by personnel records in reference to production is essential data and should be available. This information is important because the basic or starting point for many other parts of the whole program of personnel management originates from it. Because merit rating is used to determine what an employee's strong and weak points are, and how he compares with others, personnel management can assist in improving the employee. Continuous observation of each phase of an employee's work efficiency and attitude, helps the supervisor to keep constantly alert to those things that need to be corrected in the employee's work, when this information is made available. Frequently the supervisor will be able to make specific suggestions by referring to the rating chart and noting the employee's areas of retrogress (5).

Merit rating is also a useful device to be used as a basis for training employees. From ratings an employer can determine if an employee has technical training for the work, ability in planning and organizing work, and if the employee is tactful in dealing with people, which are important factors when contemplating training programs. If personnel management has established a satisfactory degree of reliability in rating, this information can be very useful to management in making selections. Careful

review of the ratings of all employees minimizes the possibility of any employee with above average qualifications being overlooked. This program seeks out employees who never push themselves forward, but are potentially valuable to the enterprise.

A more inclusive and important use of merit rating is that of maintaining a continuous inventory of personnel (9). Every business enterprise has recognized the need for keeping accurate records of its assets under the headings of buildings, machinery, stock, and other materials familiar to those skilled in the organization. Now the human resources are also being recognized. If good ratings by units are checked against spoilage, costs, safety, and other records, shrewd employers can accumulate data for making a useful classified inventory of personnel. Some of the reasons for maintaining such an inventory might be expressed in the following terms:

1. Employers are able to group those who could be promoted.
2. Employers are able to group those who cannot progress beyond their present grade.
3. Employers are able to group those whose potentialities for advancement are apparently very high.
4. Employers are able to group those whose performance might improve if they were transferred to another

Job (9).

The information that can be abstracted from merit rating is unlimited and can be made the basis for planning in connection with promotion and other business functions. Supplementary information, however, must often be used to obtain reliable results. Unless the rating plan yields accurate data, employees are likely to question its effectiveness.

Every business organization already has employee merit rating of some type. In small companies, the rating may never be recorded but simply "carried in the heads" of those responsible for the success of business. In cases of this nature employers "judge," rather than rate, employees. Man has been judging man ever since the first two met. Men have formed opinions by comparing one with another. Personnel decisions, however, are much more important for they seriously affect the lives of employees. Carelessly and unfairly made, these decisions can tear down morale, cause attitude to become antagonistic and embittered, undermine confidence, and lay the foundation for personnel failure (9). Conversely, thoughtful and sympathetic decisions can point the way to successful accomplishment. A good test for any system is to check the degree to which it does what it is supposed to do.

Accuracy of results is also a criterion which

determines the superiority of one rating system over another. Thus, if a plan could be found which would always yield the correct answers within close limits, i.e. plus or minus one per cent, other features making it difficult to administer or explain are likely to be rationalized. There is little doubt that some error will be present in application of a rating factor, but if the error is minor, (normally assumed as within plus or minus five per cent) the plan is deemed satisfactory (9).

Where merit rating plans are concerned, a number of characteristics contribute to the overall accuracy and make one plan more acceptable than another. Perhaps the most significant feature that a system may possess, to be acceptable, is the attainment of consistent results. Consistency, as used here, has reference to employee evaluation that reflects the true characteristics of each individual.

Equally important to the success of a good merit rating plan is the rater. This aspect of merit rating is where the strongest objection is commonly found. The rater's job is a complicated one. Even when behavior is observable, it is not always easily evaluated (9). The rater is human and in rating an employee his interpretations are not always representative of the real trait. If the trait is to be expressed in a general way to allow latitude

of definition, the rater may err in his inferences. This may be partly due to the rater having difficulty in finding specific instances of concrete job behavior concerning the general trait. Evaluations in these cases are likely to do more harm than good.

Another related, but somewhat different reason why the rater deserves primary consideration is the possible psychological effects an employee may have on the rater. It often happens that the rated employee reminds the rater of someone he knew favorably or unfavorably. This physical resemblance or other characteristic impels the rater to rate the two men in similar terms even though the reason for the association is not explained at the time of the rating (5).

Merit rating, like all other criteria used in the study, deserves important consideration when contemplating a formal promotional system. Everyone in a democracy is presumed to have equal opportunity to learn what his abilities are and how he is judged by others. He usually wishes to learn to use these abilities to his own as well as to his country's advantage. The employer's instinct to discover hidden talents in an individual is not always reliable, therefore other devices are needed to achieve this.

There are many such devices in use now, but to what

extent they are being used is not certain. It is certain, however, that when all individuals in a democracy, or business enterprise, are not using their abilities to the greatest extent, maximum strength always remains a few steps away.

Psychological Tests - Criterion No. 2

In the printing industry, employers are likely to be more conscious of mental capabilities of employees than employers of many other industries. This is probably true because printing employers are interested in acquiring employees who are emotionally stable and mentally alert. Printing production requires its skill workers to be more stable than a number of other industries inasmuch as technical operations involved are not classified among the simplest to learn and perform. There are a number of devices used to make appraisals of this nature. Some employers consider psychological tests the most reliable device to categorize employees according to emotional stability before employing them, and as a means of making adjustments in the work force (16). There are also some employers who feel psychological tests are not worth the expenses necessary to administer them because they feel the tests are not reliable. Differences of opinion are to be expected in any system, and these tests are no exception.

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Psychological Tests - Criterion No. 9

In the printing industry, employers are likely to be more conscious of mental capabilities of employees than employers of many other industries. This is probably true because printing employers are interested in acquiring employees who are emotionally stable and mentally alert. Printing production requires its skill workers to be more stable than a number of other industries inasmuch as technical operations involved are not classified among the simplest to learn and perform. There are a number of devices used to make appraisals of this nature. Some employers consider psychological tests the most reliable device to categorize employees according to emotional stability before employing them, and as a means of making adjustments in the work force (16). There are also some employers who feel psychological tests are not worth the expenses necessary to administer them because they feel the tests are not reliable. Differences of opinion are to be expected in any system, and these tests are no exception.

It has been found, however, that psychological tests do have a place in promotion, but it is more limited than often realized (16).

There are a number of difficulties involved in psychological tests that employers fail to consider. One difficulty is that employers feel scores on the tests must be related to success (or failure) on the job (16-153). For example, if a test is to be useful, it is assumed that employees who make a high score on the test should necessarily be promotable, and persons who make low scores are considered to not be promotable. The difficulty is in proving that these opinions are well founded; it is not safe to assume it. Some of the problems connected with proving that test scores do correlate with success are often overlooked by many employers and their representatives in charge of administering the tests. Unless test scores are interpreted properly, the employee is unjustly categorized.

Another difficulty is that of getting a dependable measure of job success (16). Production records are useful when available, but some kind of rating or ranking method is usually helpful too. Results of the test are useful where production workers are producing piece goods which can be measured. There are employees, however, who do not fit this category because the number of pieces cannot be measured by individual, but depends on group

performance. Psychological tests used in these cases would not likely yield valid data, unless adjustments are made.

The evaluation procedure is another difficulty found in psychological tests. This operation requires expert attention from experienced personnel. Before an evaluator is employed, the employer should be satisfied that this person not only knows tests and statistics, but that he is well versed in fundamentals of testing and the use of tests in the industry (6-154). With the use of data obtained from psychological tests, it is easy to label an employee with a test score that is not representative of him. This is especially true with I.Q. Tests. If there is an indication that an employee has a high (or low) I.Q., this individual may be labelled for the remainder of his employment with the company. It is also possible that this score will be passed on to subsequent employers. This is unfair to the employee because this classification was determined solely on the basis of a test which disregarded other things that should have been taken into account when the evaluation was made (16).

One other difficulty comes from the fact that test results may be suggestive to employers to see in their employees what the test indicates is there. For example, if a test says that a pressman is subject to unpredictable violent outbreaks, and if the employer believes in the test,

it becomes very easy to visualize these characteristics in the person. When promotions are being considered it is not very likely that employees placed in this category will be considered. The test could be wrong and the employer might never have thought of the individual in that respect until it was suggested by the test. This example illustrates the harmful effect that can be realized when psychological tests are improperly used. This test should be used only after careful and unbiased study of the particular employment situation. While these tests do have a place in promotion, it should be remembered that they only supplement--not replace--other criteria necessary when adjustments are to be made in the work force (16).

The Results

Attitudes toward criteria were compared by grouping employees into one group and employers into another group, and computing mean scores of the two groups. Respondents' attitudes were indicated by numbers ranging from one through nine with the smallest number "1" indicating criteria most preferred. Each successive number indicated the next order, or rank, respondents felt criteria should be placed. Criteria with the lowest mean score in each group were ranked first, and criteria with the highest mean score were ranked last.

The relationships were determined by testing for the significance of the difference between the mean scores of the two groups. For this purpose, the familiar "Z Test of Significant Difference" was used. The Z score indicates the probability of the difference occurring by chance. In this study, differences are not considered significant unless the Z score exceeds 1.8, which places the difference beyond the 5% level of probability.

Criteria for both groups, listed in order of preference, show there is a close relationship between group attitudes. This is also evidenced in the correlation table (Table I). In this table, mean scores were listed in ascending order according to groups. Criteria were compared and deviation scores used to compute the correlation coefficient. The table shows the groups differed on two criteria which were ranked seventh and eighth by employees, and were ranked in reverse order by employers. Criteria two and three have deviation scores of .5 because employee mean scores are identical; each received a mean score of 3.35. Therefore they were rated equally in the table. Zero scores in the "difference-in-rank" column indicate there were no deviations, and the two groups ranked these criteria in the same order. To compute the correlation coefficient (r), the deviation scores were squared (D^2) and the product used to correlate the two groups. A perfect

TABLE I. RANK-ORDER CORRELATION BETWEEN
EMPLOYERS AND EMPLOYEES

Criteria	A	B	A Rank	B Rank	Diff. Rank	D ²
Proficiency	2.45	1.90	1	1	0	0
Personality	3.35	2.50	2.5	2	.5	.25
Versatility	3.35	2.64	2.5	3	.5	.25
Reliability	3.86	3.77	4	4	0	0
In-plant Seniority	5.88	6.36	5	5	0	0
In-trade Seniority	6.07	5.77	6	6	0	0
Rating Chart	6.13	6.82	7	8	1	1
Psychological tests	6.54	7.18	8	7	1	1
Marital Status	6.95	7.73	9	9	0	0

$$\text{Formula: } r = 1 - \frac{6 (D^2)}{N(N^2-1)}$$

$$D^2 = 2.50$$

$$r = .97$$

A = Employees

B = Employers

relationship would be a correlation of 1.0.

Tables II and III show grouped data of respondents' attitudes toward criteria according to scores and the rank given each criterion. Similar comparisons were made in Tables IV and V, but instead of raw scores, respondents' attitudes were converted to percentages. The "total" columns of each table show the number of respondents included in each group. It should be noted that while employee "totals" are the same in each column, the "total" columns for employees vary. The number of schedules for each criterion was the same. However, some schedules were not completed according to instructions. The total number of respondents included in the study is 209--189 employees and 22 employers. Sixty-eight per cent of the schedules were returned.

Data on these tables show that attitudes of the groups differed on each criteria, therefore, individual analyses are made of criteria. Separate tables are reproduced to compare group attitudes on each criteria and these are shown in Tables VI through XIV.

TABLE II. EMPLOYEES CRITERIA RATING AND MEAN SCORES

	1	2	3	4	5	6	7	8	9	Total	Avg
A.	64	56	31	16	4	9	4	3	0	187	2.45
	64	112	93	64	20	54	28	24	0		
B.	40	23	48	32	13	17	6	1	5	185	3.35
	40	46	144	128	65	102	42	8	45		
C.	31	46	30	37	19	6	10	7	1	187	3.35
	31	92	90	148	95	36	70	56	9		
D.	24	26	34	37	30	13	12	4	5	185	3.86
	24	52	102	148	150	78	84	32	45		
E.	3	12	11	19	28	31	35	24	19	182	5.88
	3	24	33	76	140	186	245	192	171		
F.	3	9	11	18	31	29	27	28	27	183	6.07
	3	18	33	72	155	174	189	224	243		
G.	8	6	5	11	21	35	23	54	18	181	6.31
	8	12	15	44	105	210	161	432	172		
H.	13	7	9	5	17	17	33	30	51	182	6.54
	13	14	27	20	85	102	231	240	459		
I.	2	2	7	10	21	27	29	29	55	182	6.95
	2	4	21	40	105	162	203	232	495		

A = Proficiency

B = Personality

C = Versatility

D = Reliability

E = Plant Seniority

F = In-trade Seniority

G = Rating Chart

H = Psychological Tests

I = Marital Status

TABLE III. EMPLOYERS CRITERIA RATING AND MEAN SCORES

	1	2	3	4	5	6	7	8	9	Total	Avg
A.	13	1	5	3	0	0	0	0	0	22	1.90
	13	2	15	12	0	0	0	0	0	42	
B.	4	8	5	5	0	0	0	0	0	22	2.50
	4	16	15	20	0	0	0	0	0	55	
C.	4	10	2	2	4	0	0	0	0	22	2.64
	4	20	6	8	20	0	0	0	0	58	
D.	0	2	8	8	1	3	0	0	0	22	3.77
	0	4	24	34	5	18	0	0	0	83	
E.	1	0	0	2	3	4	6	4	2	22	5.77
	1	0	0	8	15	24	42	32	18	140	
F.	0	0	1	2	8	4	4	3	0	22	6.36
	0	0	3	8	40	24	28	24	0	127	
G.	0	2	0	0	2	5	3	5	5	22	6.82
	0	2	0	0	2	5	3	5	5	150	
H.	0	0	1	0	2	3	5	7	4	22	7.18
	0	0	3	0	10	18	35	56	36	167	
I.	0	0	0	0	2	3	4	3	10	22	7.73
	0	0	0	0	10	18	28	24	90	170	

A = Proficiency
 B = Personality
 C = Versatility
 D = Reliability
 E = Plant Seniority
 F = Trade Seniority
 G = Psychological Tests
 H = Rating Chart
 I = Marital Status

TABLE IV. PERCENTAGE RATING OF CRITERIA FOR EMPLOYEES

	1	2	3	4	5	6	7	8	9
	Percentage Rating								
A.	34	30	17	9	2	5	2	1.7	0
B.	22	13	25	17	7	9	3	1	3
C.	17	25	16	20	10	3	6	4	1
D.	13	14	18	20	16	7	6	2	3
E.	1.7	7	6.7	11	15	17	19	13	10
F.	2	5	6	9	16	15	14	15	15
G.	4	3	2.7	6	12	19	13	30	9
H.	7	4	5	3	9	9	18	16	28
I.	1	1	4	5	11	14	16	16	30

A = Proficiency

B = Personality

C = Versatility

D = Reliability

E = In-plant Seniority

F = In-trade Seniority

G = Rating Chart

H = Psychological Tests

I = Marital Status

TABLE V. PERCENTAGE RATING OF CRITERIA FOR EMPLOYERS

	1	2	3	4	5	6	7	8	9
Percentage Rating									
A.	59	0	22	14	0	0	0	0	0
B.	18	36	23	23	0	0	0	0	0
C.	18	45	9	9	18	0	0	0	0
D.	0	9	36	36	5	14	0	0	0
E.	0	0	4	9	36	18	18	14	9
F.	5	0	0	10	14	18	27	18	9
G.	0	9	0	0	9	23	14	23	23
H.	0	0	5	0	9	14	23	31	18
I.	0	0	0	0	9	14	18	14	45

A = Proficiency

B = Personality

C = Versatility

D = Reliability

E = In-plant Seniority

F = In-trade Seniority

G = Psychological Tests

H = Rating Charts

I = Marital Status

Proficiency

The Z score of 1.5 indicates that the data obtained for proficiency can occur by chance seven times in a hundred. The difference is slightly above the 5% level; therefore it is not considered significant.

TABLE VI. COMPARISON OF EMPLOYEES AND EMPLOYERS
IN RANKING PROFICIENCY

	Mean Score	S.D.	Rank	1	2	3	4	5	6	7	8	9
A.	2.45	1.65	No.	64	56	31	16	4	9	4	3	0
			%	34	30	17	9	2	5	2	1	0
(Total = 187)												
B.	1.90	1.64	No.	13	1	5	3	0	0	0	0	0
			%	59	5	22	14	0	0	0	0	0
(Total = 22)												
Z = 1.5												

A = Employees

B = Employers

Table VI shows respondent attitudes by groups along with number of scores for each rank. In addition, the mean score and standard deviations are shown for employers and employees.

Proficiency was preferred by 32% of the 187 employees and indicates that the group felt this was the most

important criterion that should be considered in promotion. In comparison, 59% of the 22 employers felt this criterion should be most important. There is no significant difference of mean scores as indicated by the Z score; however, the percentages of respondents within the two groups differed. Proficiency has 64 scores (34%) for first preference by employees and almost an equal score (56 or 30%) for second preference. This contrasts with 5% of employers who indicated proficiency as their second preference. Only four percentage points separate the first and second preferences of employees, while 45% separate the same preferences of employers. This indicates that employers as a group place more emphasis on proficiency than employees do.

Seventeen per cent of employee respondents preferred proficiency as third important criteria for promotion, while 22% of employers felt this criterion should be third in importance. There is a difference of 4% between attitudes for this position. This indicates that employees placed proficiency as either first or second choice as compared to employers who placed proficiency as either first or third choice. In fact, employers show they prefer proficiency as a fourth choice rather than in second position. There were 22% who ranked proficiency fourth, whereas only 5% (or one respondent) indicated proficiency

should be ranked number two in importance.

In Table VI, data show that no one of the employers scored proficiency below the fourth position, but 8% of employees said proficiency should be considered less important and ranked it in one of the last four positions. Of those who prefer proficiency in the second division of all criteria, 5% indicated sixth position as their preference. Two per cent placed proficiency in seventh position, while 1% preferred proficiency in eighth position.

The standard deviation scores (1.65 and 1.64) of employees and employers respectively, attest to the homogeneity of the two groups. However, the mean scores are separated by .55 point and reflect the difference of the two groups in ranking proficiency.

Personality

There is a difference in the attitudes of both groups toward personality, and from the Z score obtained, the difference is significant well below the 5% level. Probability of this data occurring by chance is less than fourteen times in a thousand.

Employers and employees have no common area of agreement on personality as a criterion for promotion. Both groups ranked this criterion high as their first preference, but the similarity ends there. Employees who

favored personality as most important criterion were 22%, while employers who preferred it as criterion number one were 18%. The data show that employers consider personality more important than do employees. (See Table VII)

TABLE VII. COMPARISON OF EMPLOYEES AND EMPLOYERS
IN RANKING PERSONALITY

	Mean Score	S.D.	Rank	1	2	3	4	5	6	7	8	9
A.	3.35	1.94	No.	40	23	48	32	13	17	6	1	5
			%	22	13	25	17	7	9	3	1	3
(Total = 185)												
B.	2.50	1.03	No.	4	8	5	5	0	0	0	0	0
			%	18	36	23	23	0	0	0	0	0
(Total = 22)												
$Z = 3.4$												

Compared to all criteria, personality was ranked second by both groups. Thirteen per cent of employees felt personality should be in this position compared to 36% of employers who ranked it as the number two criterion. The number of employers who favored personality more than doubled the percentage of employees who felt the same. The percentage of employers who ranked personality as their second preference was larger than any single score indicated

by employees for this criterion.

Analyzing percentages of the groups, it can be seen that employee respondents did not heavily favor personality in any particular position. The highest score of employees for personality is third which was preferred by only 25% of the group. This score is compared with the actual rank of personality (number 2) which only 13% of employees preferred. There were 23% of the employers who preferred personality as their third choice and no one of the employers ranked it below fourth position, while 24% of the employees indicated this criterion should be in fifth position or lower. Seven per cent of employees felt personality should be considered fifth, while a relatively large group, 9%, considered it sixth in importance. The percentage of employees ranking personality last were 4%, which exceeded the percentage of respondents that ranked personality in eighth position.

The distribution of employee scores was relatively wide, and this was evidenced by the 1.94 standard deviation score that was somewhat larger than the 1.30 standard deviation score of employers. While employers' scores were grouped in four positions (1 through 4), employee scores were spread over nine positions, which indicates the latter group was somewhat undecided on personality as an important criterion for promotion. The largest number of employee

score was for third position--48 respondents listed personality as their third preference. Employees have identical mean scores for criteria two and three, personality and versatility; both have mean scores of 3.35.

Versatility

The Z score of 2.2 for versatility indicates that there is a difference that is significant beyond the 2% level.

As a criterion for promotion, versatility was highly favorable to employees. This criterion was ranked third, but 17% of employees felt it should be ranked as the most important criterion while 25% felt it should be ranked second. (See Table VIII.) Comparing these attitudes with employers, 18% considered versatility the most important criterion, but 45% of the employers ranked it second. Employers who ranked versatility second were almost one-half of the total. In comparison, the largest percentage of employees that agreed on a specific rank for versatility was 25%.

The two groups differed on the third position for versatility. Nine per cent of employees ranked it third as compared to 16% of employers who ranked this criterion in the same position. Fifty-eight per cent of employee respondents felt that versatility should be considered

one of the three most important criteria for promotion, while 72% of employers considered it to be one of the top three criteria. Of the two groups combined, 38% ranked versatility fourth in importance: 20% of these were employees and 18% were employers.

TABLE VIII. COMPARISON OF EMPLOYEES AND EMPLOYERS
IN RANKING VERSATILITY

	Mean Score	S.D.	Rank	1	2	3	4	5	6	7	8	9
A.	3.35	1.92	No.	31	46	30	37	19	6	10	7	1
			%	17	25	16	30	10	3	6	4	.9
(Total = 187)												
B.	2.64	1.37	No.	4	10	2	2	4	0	0	0	0
			%	18	45	9	9	18	0	0	0	0
(Total = 22)												
$Z = 2.2$												

A = Employees

B = Employers

No one of the employers ranked versatility lower than fifth position, but 23.9% of employees preferred it in each of these: 10% selected it as their fifth choice, 3% selected it sixth, and the last two positions were favored by 4.9% of employees.

In general, employee percentages indicate that this group had similar attitudes toward versatility. For the most part, employers agreed on the general importance of this criterion, but employee scores were distributed among three positions, and no one of the three had less than 15% of employees' scores. Table VIII indicates that employees felt that versatility should be considered important in either of four positions. The table also indicates that no one of the first five positions was favored by less than ten per cent of employees; however, versatility was not favored by a large majority in any one position.

Reliability

The Z score of .36 for reliability indicates that the difference is not significant at the 5% level. The probability of chance for this score is fifty-five times in a hundred.

Reliability was ranked fourth by both groups, but Table IX reveals that the two groups differed on the importance of this criterion. While employers considered it important, they did not feel it should be ranked first, but 13% of the employees considered it important enough to be ranked first. Nine per cent of employers favored reliability as their second choice compared with 14% of employees who ranked it second.

TABLE IX. COMPARISON OF EMPLOYEES AND EMPLOYERS
IN RANKING RELIABILITY

	Mean Score	S.D.	Rank	1	2	3	4	5	6	7	8	9
A.	3.86	1.96	No.	24	26	34	37	30	13	12	4	5
			%	13	14	18	20	16	7	6	2	3
(Total = 185)												
B.	3.77	1.12	No.	0	2	8	8	1	3	0	0	0
			%	0	9	36	36	5	14	0	0	0
(Total = 22)												
$Z = .36$												

A = Employees

B = Employers

Both groups indicated that they felt this criterion should be given consideration in either third or fourth position. Employees had 18% favoring reliability in third place while 20% favored it in fourth place. However, employers were equally divided on reliability for these positions: 36% ranked it third and the same per cent ranked it fourth.

More than three-fourths of employers ranked reliability in the first four positions as compared with 65% of employees who considered it one of the four most important criteria for promotion. The remaining 35% of employees

ranked reliability in each of the last five places. Sixteen per cent felt it should be ranked fifth, and 7% felt it should be ranked sixth. The smallest percentage, 5%, of employers ranked reliability fifth while the second largest, 14%, ranked it sixth. No employers felt reliability should be ranked lower than sixth. Employees who felt reliability should be ranked seventh were 6%, and 5% of employees ranked this criterion in the last two positions--2% ranked it eighth and 3% ranked it ninth.

Table IX shows that employees felt reliability should be highly considered in either of five positions. The highest point spread between the first five choices was five points. In comparison, the highest point spread for employers was 12 points--which more than doubled the spread of employees. Employers indicated reliability was considered important in three positions: third, fourth, and sixth. However, it was ranked highest in third and fourth positions by slim margins.

In-plant Seniority

The Z score of .19 for in-plant seniority indicates that the difference is not significant beyond the 5% level. The probability of chance for this score is sixty-nine times in a hundred.

TABLE X. COMPARISON OF EMPLOYEES AND EMPLOYERS
IN RANKING IN-PLANT SENIORITY

	Mean Score	S.D.	Rank	1	2	3	4	5	6	7	8	9
A.	5.83	2.02	No.	3	12	11	19	28	31	35	24	19
			%	1.7	7	6.7	11	15	17	19	13	5
(Total = 182)												
B.	5.71	1.36	No.	0	0	1	2	8	4	4	3	0
			%	0	0	4	9	36	18	18	14	0
(Total = 22)												
$Z = .19$												

A = Employees

B = Employers

In-plant seniority was ranked fifth by employers and employees. Table X reveals that 15.4% of employees considered in-plant seniority important enough to be placed in each of the first three positions. Employers indicated they considered it less important and only 4% ranked it as high as third position. No one of the employers selected this criterion as his first or second selection. In comparison, 1.7 employees indicated in-plant seniority was their choice for the most important criterion for promotion. Seven per cent of employees ranked in-plant seniority in second place, and 6.7% felt it should be ranked third.

Both groups rated in-plant seniority relatively high in fourth and fifth positions, but employers indicated this criterion was their choice for fifth most important criterion. While 11% of employers preferred it for fifth place, 36% of employers ranked it in this position. As a fourth criterion for promotion, in-plant seniority was preferred by 11% of employees and by 9% of employers.

Table X shows that 50% of employees preferred in-plant seniority in the last four positions as compared with 55% of employers who ranked it in the last four positions. Employers considered it equally important in sixth and seventh places. Thirty-six per cent of employers had 18% of respondents equally divided on these two positions.

Employees had similar attitudes to employers on this criterion. They also had 36% of respondents divided between sixth and seventh places. However, 19% indicated seventh place was their choice as compared to 17% who preferred sixth place. For eighth position, 13% of employers selected in-plant seniority while 14% of employers selected in-plant seniority for this position. No indication was given by employers that they considered in-plant seniority ninth in importance, but employees had 5% ranking it in this position.

It is evidenced in the table that employers considered in-plant seniority more important than did employees. Of

employers, 36% placed it fifth, whereas only 19% of the employees felt this way. Both groups indicated they preferred this criterion in three positions: fifth, sixth, and seventh. The two groups, however, differed on the exact position in-plant seniority should be ranked.

In-trade Seniority

The Z score of 1.3 for in-trade seniority indicates that the difference is not significant beyond the 5% level. The probability of chance for this score is fifteen times in a hundred.

In-trade seniority was ranked sixth in comparison with all criteria used in the study, but Table XI shows that employees and employers ranked it fifth and seventh respectively by percentages. Of the employer group, 27% preferred in-trade seniority as sixth criterion while 16% of employees preferred it in the same position. Both groups had few respondents who felt this criterion should be the most important of all criteria. Two per cent of employees, and 5% of employers ranked it first. Employees had 11% who preferred in-trade seniority as their second and third choices. Five per cent of the group said this criterion should be second and 6% said it should be third in importance when considering an employee for promotion. No one of the employers ranked in-trade seniority in second

or third positions.

TABLE XI. COMPARISON OF EMPLOYEES AND EMPLOYERS
IN RANKING IN-TRADE SENIORITY

	Mean Score	S.D.	Rank	1	2	3	4	5	6	7	8	9
A.	6.07	1.36	No.	3	9	11	18	31	29	27	28	27
			%	2	5	6	9	16	15	14	15	14
(Total = 183)												
B.	6.36	1.84	No.	1	0	0	2	3	4	6	4	2
			%	5	0	0	10	14	18	27	18	9
(Total = 22)												
Z = 1.7												

A = Employees

B = Employers

In comparison, the two groups had similar attitudes toward the importance of in-trade seniority in positions four, five, and six. Nine per cent of employees ranked it fourth as compared with 10% of employers who ranked it in the same position. The employer group had 14%, and the employee group had 16% who prefer in-trade seniority as their fifth choice, and 15% and 14% of employees and employers, respectively, said in-trade seniority should be sixth most important criterion.

Twenty-seven per cent of employers, compared with 14% of employees, preferred this criterion in seventh position. Employees had a larger percentage who preferred in-plant seniority in ninth position than did employers. Only 9% of employers indicated it was their last choice while 14% of employees indicated it should be ranked last.

Employees had no fewer than three respondents who felt that the length of service in a plant should be ranked in every position on the rating scale. Employers' percentages indicate that this group ranked in-trade seniority high, but in sixth, seventh, and eighth positions. Only 15% of employers preferred it as one of the four most important criteria while 22% of employees preferred it in these positions. The table indicates that employees differed on the importance of the criterion more than employers did.

Psychological Tests

The Z score of 1.3 for psychological tests indicates that the difference is not significant beyond the 5% level. The probability of chance of this score is fifteen times out of a hundred.

The criterion psychological tests was ranked seventh by employers and eighth by employees. Table XII gives some indication as to why the mean score for employers was higher than the score for employees, thus causing the

criterion to be ranked differently by the two groups. In the table, 69% of employers ranked psychological tests in positions six, seven, and eight, and the other 31% were divided between three positions: two, five and seven. The largest percentages were divided among three positions which were 23% for sixth, 23% for eighth, and 23% for ninth positions. Employers did not rank positions one, three and four for psychological tests and 9% indicated they preferred psychological tests to be ranked in both second and fifth positions, while 14% felt it should be in seventh position. The three largest percentages of employers indicated that as a group they were undecided on any particular position for psychological tests.

In the employee group, 52% felt that psychological tests should be ranked in the last three positions: 18% preferred it as seventh choice; 16% preferred it as eighth choice; and 28% preferred it as last choice. The remaining 4% of employees were divided between the first six positions. Seven per cent indicated psychological tests should be considered the most important criterion, and 4% preferred it as their second choice. Five per cent of employers selected this criterion as their third choice while 13% ranked it fourth. The smallest number, 3%, ranked psychological tests fourth among important criteria to be considered when promoting an employee.

TABLE XII. COMPARISON OF EMPLOYEES AND EMPLOYERS
IN RANKING PSYCHOLOGICAL TESTS

	Mean Score	S.D.	Rank	1	2	3	4	5	6	7	8	9
A.	6.54	2.48	No.	13	7	9	5	17	17	33	30	51
			%	7	4	5	3	9	9	18	16	28
(Total = 182)												
B.	6.82	2.01	No.	0	2	0	0	2	5	3	5	5
			%	0	9	0	0	9	23	14	23	23
(Total = 22)												
Z = 1.3												

Rating Chart

The Z score of 2.16 for rating chart indicates there is a difference that is significant well beyond the 5% level. The probability of chance for this score is nine times in a thousand.

The two groups had different attitudes on the importance of rating chart when it is used as a method of promoting employees: employers' mean score ranked it eighth and employees' mean score ranked it seventh. While employers considered it their eighth choice, Table XIII indicates that 95% of the group ranked it in fifth place or

lower, and the remaining 5% considered rating charts as one of the first four criteria to be used in promoting employees.

TABLE XIII. COMPARISON OF EMPLOYEES AND EMPLOYERS
IN RANKING RATING CHART

	Mean Score	S.D.	Rank	1	2	3	4	5	6	7	8	9
A.	6.31	2.10	No.	8	6	5	11	21	35	23	54	18
			%	4	3	2.7	6	12	19	13	30	10
(Total = 181)												
B.	7.18	1.50	No.	0	0	1	0	2	3	5	7	4
			%	0	0	5	0	9	14	23	31	18
(Total = 22)												
$Z = 2.16$												

A = Employees

B = Employers

The table shows that a larger percentage of employees considered this criterion more important in promotion than did employers. Four per cent ranked it as the most important criterion and 3% ranked it as their second choice. Those employees who indicated rating chart should be ranked third were 2.7%. Six per cent of employees listed this criterion as their fourth choice while 12% and 19% felt it should be ranked fifth and sixth respectively. Employees

had 59% as compared with employers who had 72%, who felt rating chart should be ranked in the last three positions. Of these employees, 13% ranked it seventh, 30% ranked it eighth, and 10% ranked it ninth in importance.

Table XIII shows that there was a great difference in the attitudes of respondents toward this criterion. Employees' percentages indicate that they felt rating chart has some merit as an exclusive promotional tool, while employers' percentages indicate they felt rating charts should be used only as a supplement to other criteria, or not at all.

Marital Status

The Z score of 2.4 for marital status indicates there is a difference that is significant well beyond the 1% level.

Marital status was ranked ninth by both groups and it was considered the least important of all criteria used in the study. Both groups have large percentages indicating it should be ranked in last place: 45% of employers and 30% of employees. (See Table XIV.) Employers did not feel marital status should be considered as one of the four most important criteria, but 11% of employees indicated that they considered it important. One per cent of employers felt this criterion should be first, and another 1% felt it should be second most important. Four per cent preferred marital status

as their third choice and 5% of employees ranked this criterion in fourth place.

TABLE XIV. COMPARISON OF EMPLOYEES AND EMPLOYERS
IN RANKING MARITAL STATUS

	Mean Score	S.D.	Rank	1	2	3	4	5	6	7	8	9
A.	6.94	1.84	No.	2	2	7	10	21	27	29	29	55
			%	1	1	4	5	11	14	16	16	30
(Total = 182)												
B.	7.72	1.00	No.	0	0	0	0	2	3	4	3	10
			%	0	0	0	0	9	14	18	14	45
(Total = 22)												
Z = 2.4												

A = Employees

B = Employers

Employers who felt that marital status should be ranked fifth were 9% as compared to 11% of employees who felt it should be placed in the same position. The third highest percentage of both groups, employers 14% and employees 14%, ranked this criterion sixth. Sixteen per cent of employees preferred marital status in seventh place and another 16% preferred it in eighth place. In comparison,

18% and 14% of employers ranked this criterion seventh and eighth respectively.

CHAPTER III

SUMMARY AND CONCLUSIONS

Increasing the productivity of the enterprise is management's primary concern. One of the inexpensive ways of accomplishing this objective is through maximum utilization of the work force. This can only be done when personnel are inventoried and data made available that keeps management informed of employees and their importance to the organization.

To inventory personnel does not necessarily imply that standard forms must be adopted to rate, or evaluate, employees but rather, it means any systematic way of knowing employees as individuals and production workers. Every plant has a production crew that has developed individuality to some degree. They have peculiarities uncommon to other plants, and management should know what they are. Geographic location, printing background, areas of work, and other factors cause printers to be different, but in many respects they are homogeneous. This is not only true of employees, but it is also true of others; management also demonstrates this characteristic. Printers are interested in contributing to the enterprise and the printing industry. Therefore, they are concerned about the welfare of other printers as well as their own.

This study investigated two groups who are major constituents of the printing industry. Although individual attitudes were solicited, it was only natural to expect that each person would be influenced by factors other than personal convictions. In this instance, the subject automatically provoked each respondent to align with his group. The results indicate that two groups replied; not individuals.

Employers who promote employees on the sole basis of seniority are apparently interested in maintaining latitude of freedom which allows them to be flexible when adjusting the work force. Young employees are faced with impossible situations where seniority is practiced. It is obvious that a young person cannot have seniority if he has just started working, therefore these workers are not content to wait for years before advancing in the organization; especially if their performance warrants promotion. Employees indicated they prefer promotional criteria that permit advancement on the basis of individual merit. They also indicated that the common practice of using seniority as a basis for promotion was not highly favored as a criterion.

Older employees apparently recognize the injustice of seniority also. Those who indicated they had been in the industry for more than 10 years did not give any impressive indication that seniority was their choice for an

important criterion; only 15 of 182 employees ranked seniority in the first and second places.

In general, there were no indications that the segments of a group had any particular preference. Areas assigned to work, educational background, and length of service were not determining factors, but those employees who indicated they had worked in more than one area tended to rank versatility high. This is an indication that these workers advocate that an employee should have a working knowledge of several areas before he is promoted.

The study revealed that both groups agree on promotional criteria in general, but employers had an impressive number of respondents that favored versatility and performance.

Although there are areas of general agreement between the two groups, it should not be assumed that employers and employees value criteria for promotion the same. The areas of agreement are very general, and only in a few positions did the two groups indicate they weighed criteria the same.

The study supported opinions of personnel authorities that formal promotional systems are feasible if criteria are carefully selected and the work force is considered when programs of this nature are planned. Employers should not be reluctant to evaluate opinions of

employees when making decisions that affect employees. Another section of this study illustrated the financial and emotional effects that accompany unjustified promotions. There is reason to believe that well-selected criteria that are publicized would be an invaluable asset to employer-employee relations.

Finally, management is reassured that it is his prerogative to manage and make final decisions that affect the enterprise, but in so doing, his authority will increase if policies of the plant are established and made available as general information to employees. On this regard, criteria such as proficiency, versatility, personality and leadership, and reliability have merit worthy of consideration in initiating, or revamping, systematic promotional systems in the printing industry.

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APPENDICES

APPENDIX A

Example of Form Letter Mailed to Employers

Dear Sir:

As explained in the cover letter attached to each of the questionnaires, the Baton Rouge area was selected because of proximity. Because of the number of managers and shops utilized in this study, it is important that every effort be made to secure the opinion of each individual in your plant who is a skilled printer. In this regard I am soliciting your cooperation in the following ways:

1. Separate the questionnaires so as to have two groups--one designated Management and the other Employees.
2. It is desirable that each manager (all persons employed in managerial capacities) fill out the questionnaires designated for management.
3. Select an employee representative and request him to distribute the questionnaires to each employee.
4. It would be appreciated if a few moments could be allowed at your earliest convenience for distribution, completion, and collection of the questionnaires.
5. Please see that the questionnaires are placed in the stamped, self-addressed envelope and mailed to me.

Sincerely,

Mitchell Albert, Jr.

APPENDIX B

Example of Form Letter Attached to Schedule Along
With Instructions for Question Six

Dear Respondent:

The attached questionnaire is designed to gather data for a study comparing the promotional systems favored by management to that favored by employees in the printing industry of Baton Rouge, Louisiana. This survey has been approved by the local leaders of the various unions as well as independent leaders and many of the managers of Baton Rouge printing firms.

Because I am a native of Louisiana and employed in Baton Rouge, this particular city has been selected. Therefore, each shop, and particularly, each individual's opinion is needed to make this study complete. It is not the intent of this study to compare or criticize any individual system, but to collect and compile data to represent the Baton Rouge area as a whole. Since the data are to be used in this regard, neither the names of shops nor individuals are needed.

This study is being made to fulfill part of the requirements for the Master of Science degree in Printing Management at South Dakota State College.

Your cooperation and prompt reply will be appreciated.

Sincerely,

Mitchell Albert, Jr.

APPENDIX C

Example of Instructions Included for Question Six

Complete question number six (6) on the attached questionnaire to reflect YOUR opinion. If you feel that Versatility is the most important criterion, when considering a possible promotion, it should be scored "1", if you feel that Proficiency is second in importance, it should be scored "2" and so on until each criterion has been rated. The space provided to the right of "others" should be utilized when there are other qualities not listed, that you feel are worth considering.

- 8 Ability to produce high quality work in minimum time.
(Proficiency)
 - 7 Capable of producing in more than one area in the shop.
(Versatility)
 - 2 Ability to influence and get along with others.
(Personality and leadership)
 - 4 In-plant Seniority. (Years with firm)
 - 3 In-trade Seniority. (Total professional experience)
 - 5 Reliability. (Punctuality)
 - 6 Marital status and/or number of dependents.
(Stability & economic need)
 - 9 Rating chart. (Employee performance record based on a point scale kept over a specified period of time)
 - 1 Psychological tests. (Emotional stability)
- Others. (Explain briefly) Any other qualities that YOU feel should be considered that are not included in the above criteria.

APPENDIX D

Example of Schedule of Questions Completed by Employees

EMPLOYEES' QUESTIONNAIRE

1. HOW MANY TOTAL YEARS HAVE YOU BEEN EMPLOYED IN THE PRINTING INDUSTRY?
- (a.) 1-5 years _____ (c.) 11-15 years _____
 (b.) 6-10 years _____ (d.) 16-20 years _____
 (e.) Over 20 years _____
2. WHICH OF THE FOLLOWING CATEGORIES IS APPROPRIATE FOR THE SHOP IN WHICH YOU ARE NOW EMPLOYED?
- (a.) Small shop (15 employees or less) _____
 (b.) Medium shop (16-30 employees) _____
 (c.) Large shop (31 employees or more) _____
3. WHAT IS YOUR STATUS REGARDING MEMBERSHIP IN PRINTING UNIONS?
- (a.) I am not now, and never have been affiliated with any printing union _____
 (b.) I am not now, but at one time was a member of the _____ union.
 (c.) I am now a member of the _____ union.
4. WHAT AREA ARE YOU NOW ASSIGNED TO WORK?
- (a.) Composition _____ (d.) Pressroom _____
 (b.) Stoneroom _____ (Letterpress) _____
 (c.) Pressroom _____ (e.) Bindery _____
 (offset) _____ (f.) Engraving _____
 (g.) Stereotype _____
5. HOW DID YOU RECEIVE YOUR TRAINING FOR THE PRINTING INDUSTRY?
- (a.) Union apprenticeship _____
 (b.) Other on-the-job training _____
 (c.) Two-year trade school _____
 (d.) Four-year college program _____

5. (Continued)

- (e.) Combination on-the-job and trade school _____
 (f.) Armed Forces education program _____
 (g.) Vocational High School _____

6. HOW IMPORTANT DO YOU FEEL THE FOLLOWING CRITERIA ARE WHEN CONSIDERING A PERSON FOR PROMOTION IN THE INDUSTRY? UTILIZING A RATING SCALE, INDICATE THE ORDER IN WHICH YOU THINK EACH SHOULD BE CONSIDERED, STARTING WITH "1" FOR MOST IMPORTANT.

- _____ Ability to produce high quality work in minimum time.
 (Proficiency)
 _____ Capable of producing in more than one area in the shop.
 (Versatility)
 _____ Ability to influence and get along with others.
 (Personality and leadership)
 _____ In-plant seniority. (Years with firm)
 _____ In-trade seniority. (Total professional experience)
 _____ Reliability. (Punctuality)
 _____ Marital status and/or number of dependents. (Stability and economic need)
 _____ Rating chart. (Employee performance record based on a point scale kept over a specified period of time)
 _____ Psychological tests. (Emotional stability)
 Others. (Explain briefly) _____

APPENDIX E

Example of Schedule of Questions Completed by Employer

MANAGEMENT'S QUESTIONNAIRE

1. HOW MANY TOTAL YEARS HAVE YOU BEEN EMPLOYED IN THE PRINTING INDUSTRY?
- (a.) 1-5 years _____ (c.) 11-15 years _____
 (b.) 6-10 years _____ (d.) 16-20 years _____
 (e.) Over 20 years _____
2. WHICH OF THE FOLLOWING CATEGORIES IS APPROPRIATE FOR THE SHOP IN WHICH YOU ARE NOW EMPLOYED: Production Workers Only
- (a.) Small shop (15 employees or less) _____
 (b.) Medium shop (16-30 employees) _____
 (c.) Large shop (31 employees or more) _____
3. WHAT IS YOUR STATUS REGARDING MEMBERSHIP IN PRINTING UNIONS?
- (a.) I am not now, and never have been affiliated with any printing union _____
 (b.) I am not now, but at one time was a member of the _____ union.
 (c.) I am now a member of the _____ union.
4. WERE YOU AT ANY TIME EMPLOYED AS A SKILLED WORKER IN THE PRINTING INDUSTRY BEFORE ASSUMING MANAGERIAL DUTIES? IF SO, WHAT WAS YOUR MAJOR AREA?
- (a.) Composition _____ (d.) Pressroom _____
 (b.) Stonerroom _____ (Letterpress) _____
 (c.) Pressroom _____ (e.) Bindery _____
 (offset) _____ (f.) Engraving _____
 (g.) Stereotype _____
5. IN WHAT WAY DID YOU RECEIVE TRAINING FOR YOUR PRESENT POSITION?
- (a.) worked up through the ranks _____

5. (Continued)

- (b.) On-the-job training _____
(No college training in printing)
- (c.) Special training _____
(Example: Commerce school)
- (d.) Four-year College training _____
(Degree received in printing)
- (e.) College degree in related field _____
(Earned degree in curriculum other than printing)
- (f.) Others. Explain _____

6. HOW IMPORTANT DO YOU FEEL THE FOLLOWING CRITERIA ARE WHEN CONSIDERING A PERSON FOR PROMOTION IN THE INDUSTRY? UTILIZING A RATING SCALE, INDICATE THE ORDER IN WHICH YOU THINK EACH SHOULD BE CONSIDERED, STARTING WITH "1" FOR MOST IMPORTANT.

- _____ Ability to produce high quality work in minimum time.
(Proficiency)
 - _____ Capable of producing in more than one area in the shop.
(Versatility)
 - _____ Ability to influence and get along with others.
(Personality and leadership)
 - _____ In-plant seniority (Years with firm)
 - _____ In-trade seniority (Total professional experience)
 - _____ Reliability. (Punctuality)
 - _____ Marital status and/or number of dependents. (Stability and economic need)
 - _____ Rating Chart. (Employee performance record based on a point scale kept over a specified period of time)
 - _____ Psychological tests. (Emotional stability)
 - _____ Others. (Explain briefly) _____
-