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INDUSTRIAL BUYERS: A STUDY OF JOB MOBILITY, JOB SATISFACTION, AND JOB PERCEPTIONS

by

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CHAPTER I

INTRODUCTION

"When management is wise enough to invest as much or more in the persons committing net profits as they are in persons to develop the gross we will have sound purchasing operations." (Paul Dean, Purchasing Agent, Chicago Tribune)

Perhaps Mr. Dean's statement above refers to the investigations and the efforts made by companies to better enable themselves to keep or to increase their levels of gross incomes. Effort and dollars are often poured into sales training, sales research, product research and development, and sales advertising. Similarly, many firms have already accepted as standard procedure many cost controls within their operations. Quantity and quality control programs are common. Permanent cost-saving departments such as internal audit and industrial engineering are other examples of the efforts made by many firms to control costs.

These cost controls also are found in some aspects of the purchasing operation. The growing use of computers, the use of short order forms, the standardization of bidding operations, et cetera, all reflect this cost consciousness.

The similarity appears to end, however, when a comparison is made of the differences in programs geared toward the individuals in the purchasing department and

the sales force. Little do we know about the buyer as an individual working in one of the more complicated positions within the firm. It is known that turnover is high among buyers of some firms, though there appears to be little known about industrial buyer turnover patterns in general.

We can determine from several studies the profile of the average buyer, how many children he has, the amount of education he received, and his age. We do not, however, know how satisfied he is about his job, or how many purchasing jobs he has had, or if he feels he is best utilizing his time at the office.

Perhaps this lack of information about the buyer within his job is part of what Mr. Dean was referring to. Only if we can determine that a problem does in fact exist and, if so, the direction of this problem can we begin to make those investments.

Statement of the Problem

Because of the complexity of the purchasing job and the individual effort required by each buyer, turnover among industrial buyers is costly for industrial companies. The turnover rate of buyers in some firms is known to be high although it is not known whether this turnover is caused by promotions or transfers within an organization or whether the buyers leave the organization.

Also, it is not known whether buyers are generally satisfied with their jobs or if they agree with the manner in which their jobs are structured. Perhaps there is a relationship between turnover, job satisfaction, and job perception.

Perhaps, too, demographic variables and past purchasing experience should be more carefully considered in the hiring decision of industrial buyers. If so, then perhaps companies should try to change the profile of their average buyer by changing their hiring criteria.

Background of the Problem

Three areas should be considered in approaching the problem of industrial buyer turnover, if in fact such a problem does exist. These three are (a) the industrial purchasing job itself, (b) the individual who is buying, and (c) the possible application of information which has resulted in studies concerned with job satisfaction and perceptions.

The Job of Industrial Buying

Purchasing departments in manufacturing firms spend approximately 52 per cent of the gross income of those firms. (Lee and Dobler, 1965) Although policies and procedures are established which to some degree limit the range of the individual buyer's activities and decisions, purchasing

is still conducted in a very individualistic manner. Seldom is purchasing activity the result of group action.

Buyers are usually responsible for vendor selection, order placement, order follow-up, determination of the right price, and correction of incorrect orders. The job necessitates the buyer being of assistance to other non-purchasing personnel within his firm in matters of item selection, quantity selection, order timing, and investigation of new products. Consequently, the job involves a wide spectrum of required mental activity and decision making.

The working environment of the job is a complex one. The purchasing office is usually separated physically from the actual operations of the particular organization. The work groups within the purchasing department usually consists of perhaps several levels of supervision, different levels of buyers (such as Purchasing Agent, Assistant P.A., Buyer, and Assistant Buyer), as well as different numbers and levels of assistants (such as typists, clerks, and expeditors).

The job requires that the buyers generally work with many persons throughout their own firm who are not connected with the purchasing department. For example, the buyer may be expected to be able to work with personnel in accounts payable, receiving, inspection, engineering, product design, research, testing, accounting, data

processing, inventory and stores, as well as a myriad of persons from some of or all of the using production departments. The buyers' association with persons in their own firm may range from clerks to foremen to department heads to vice presidents.

Compounding the complexity of the buyer's environment is the fact that he is required, also, to work with persons outside his company. A buyer in a large manufacturing firm may deal with perhaps 600 vendors actively, purchase literally thousands of different products, and spend several millions of dollars each year. He may have to know several persons from the companies with which he does business. He should know, for example, the salesman, the secretary or inside person assigned to his account, and perhaps one or more technical advisors from those firms. Again, he may deal with a wide range of positions. He may have to deal with clerks over the telephone as well as perhaps the president of the vendor firm if his account is a large one.

This complexity of required relationships outside the buyer's own firm is reflected by Katz and Kahn (1966) and Thompson (1967). Katz and Kahn refer to this complexity resulting from the purchasing function being located on the boundary of a given organization. Thompson is somewhat more specific by referring to the purchasing department spanning the boundaries of the organization and part of

the external environment of that organization. Altogether, then, the buyer must be expected to maintain working relations with those within his own work group, with many persons within his own organization but outside the purchasing department, as well as with many persons external to his own organization.

Other aspects of the purchasing position which complicates the purchasing position are the questions of organization loyalty and personal integrity. Although many of the persons with whom the buyer works with in his own organization feel their firm is always right and that any difficulty in obtaining the correct merchandise is the responsibility of the vendor, experience shows this is not always the case. Many times the buyer must protect his vendor when he knows that the vendor was not at fault. If the buyer's firm is a large one (one which spends a large amount with a given vendor), this type of problem is magnified. Rather than chance the loss of an important account, some vendors will replace or exchange material at a loss or at least an inconvenience to themselves. Some personnel within the buyer's firm grow to expect this kind of service when in fact the material may have been incorrectly ordered. Many industrial buyers learn that the customer is not always right. His job becomes even more complex if such internal conflicts develop, and nearly always they do.

The final aspect of the purchasing job to be considered is that of personal integrity. The purchasing job requires that the buyer be knowledgeable of legal constraints that apply to his activities. An example of this type of constraint is the Robinson-Patman Act. The buyer may not solicit nor knowingly accept unfair prices or discounts. Some vendors attempting to secure or to keep a large account do in fact make such offers. Likewise, the buyer usually is personally restrained by company policy from accepting anything more than nominal gifts or entertainment from vendors. Again, some vendors do occasionally make such offers to buyers. In fact, experience shows that some vendors offer what constitutes monetary kickbacks to buyers.

In summary, then, the purchasing job is one requiring a wide range of knowledge and decision making ability, one which forces interrelationships between the buyer and many persons from many job levels from within the work group, from within the total organization, and from many sources external to the organization. Finally, the degree of complexness is made most obvious when it is realized that each buyer, individually, is responsible for all these possible activities and interrelationships. Very rarely is purchasing execution the result of group action.

The Buyer as an Individual

Generally, less is known about the individual who makes purchasing his career. Studies have been made which report certain demographic variables about buyers. However, no studies were found which investigated the personality traits of the individual. By the same token, no studies were found which were concerned with the buyer's attitude toward his job.

A recent study of 2,000 buyers was made by Purchasing Week Magazine (1969). The profile of the typical buyer found him to be forty-two years of age, that he attended but did not graduate from college, that he studied business administration while in college, and that he has worked in purchasing for his present employer for 8.9 years. Previous experience before assuming his present job was in production and/or purchasing.

Perhaps as important as the average buyer are the following: 25 per cent of the buyers are under 35 years of age, 43 per cent graduated from college, 13 per cent attended graduate school, and 5 per cent received Master's degrees. Further, 9 per cent have worked for their present employer less than two years and 37 per cent from two but less than six years.

A similar study made of purchasing executives in the Chicago area made by Bonge (1968) makes an interesting comparison. The chief purchasing officer of thirty-eight

companies had spent an average of 7.9 years in his present job, 17.7 years in purchasing and 24.4 years in business, or 6.7 years when he was not working in purchasing.

A final look at the Purchasing Week survey shows that although 75 per cent of the buyers responding were thirty-five years or older (28 per cent were between fifty and sixty-four years old), only 17 per cent had worked in purchasing for their present employer for fifteen to twenty-five years and only 5 per cent for more than twenty-five years.

One of two conclusions seems likely. Either many of these particular buyers had been transferred (or promoted) into the purchasing department or they had worked in purchasing jobs for other employers. Forty-five per cent indicated that at some time prior to their present job they had worked in production jobs. However, the same percentage, 45 per cent, indicated that at some time they had worked in another purchasing job.

It seems likely, then, that turnover among buyers is quite high. On the surface such an indication of high turnover would suggest that buyers were dissatisfied with some aspect of their previous purchasing job. This conclusion, as will be discussed later, is difficult to substantiate. No studies have been found which investigated buyer satisfaction per se, and assuming this type of

relationship to exist between an attitude and a behavior is, according to the literature, somewhat difficult to make.

In summary, little information is known about the men who buy. We know how old he is, but we do not know if he is satisfied with his job. We know how much education he has had, but we do not know if he feels he is best utilizing his abilities on the job. We know he has not worked many years in his present position, but we do not know where he came from.

Theoretical Implications

Although it is generally held that there should be a negative relationship between the attitude of job satisfaction and the behavior of high turnover, only a few studies have found such a direct link. In the broadest sense, however, it appears reasonable to assume that even if a person considers himself to be highly satisfied in a particular position, this high level of satisfaction may in fact be lower than the anticipated satisfaction thought to be offered from a new job or position. In other words, every thing being equal, a person would not turn over or change jobs (a behavior) unless he anticipated higher satisfaction (an attitude) from the new position. An example would be the executive in a high paying, high benefits, exciting work position who leaves the company to open his own business complete with low initial pay,

high risk, and longer hours. He might do this if he anticipated greater satisfaction from being his own boss, et cetera.

In this sense, the literature seems to be divided between that which speculates that yes there should be a definable link between attitudes and behavior, and that literature which tries to explain why none was found. In summary, it seems appropriate to conclude that perhaps there is a direct link between attitudes and behavior, but this link is often not definable because in the real world it is usually impossible to hold all other things equal.

Another facet of the individual who purchases for a career that is not apparent in the literature concerns the concept of power. The job of the buyer is a powerful one, the degree of that power depending upon the (a) amount spent with any given supplier and (b) the impact this volume has upon that particular vendor. For example, a volume of $10,000 per year with a small vendor may be more significant to that vendor than a volume of $100,000 to a very large supplier. Consequently, the position of buyer is one that does in fact enable the buyer to wield a degree of power. Often this degree of power is quite significant.

Experience indicates that it is not unusual for many buyers to misinterpret the power of the position of the buyer as that power which is their own. In other words, many buyers probably feel that the power they wield is an

inherent part of their person rather than that which belongs to a position. The degree to which a buyer internalizes the power of his position might reveal significant information regarding the personality types who (a) accept a position as industrial buyer and (b) those who continue in that type of position as a career. An investigation into buyer turnover would certainly be more complete if this information was investigated.

A search of the literature does not reveal that this topic has been studied in industrial buyers. As it has yet been established that there is indeed excessive amounts of turnover among buyers, this study will not investigate the subject either. The possibility is suggested, however, in case turnover is found to be significant and, if so, an analysis is made relating the degree of turnover to demographic and organizational variables, job satisfaction, and job perceptions. The rationale for this limitation is that a possible behavior (turnover) may be identified as resulting from an attitude (job satisfaction). If such a relationship is not found, perhaps the answer would then lie in the personality traits of the individual buyer, perhaps specifically as related to his interface with the power of the position of industrial buyer.

Objectives and Justification

The objectives of this study were two-fold. First, the study was exploratory in nature in that it tried to establish the following:

1. What, if any, are the mobility patterns of industrial buyers?

2. What level of job satisfaction is reflected by industrial buyers? How does this level of job satisfaction, in general, relate to the satisfaction expressed by others not employed in the purchasing function?

3. How do buyers view their job? Specifically, what do buyers view as the most important functions in the total purchasing job? How do they view themselves spending their time in relationship to the degree of importance they attach to the various functions?

4. Are there any significant relationships among and between these three factors mentioned above?

The second major objective of this study was to make available information about those engaged in a major function of an industrial organization (purchasing) which might add to that body of knowledge concerning job satisfaction and its bases and correlates.

Although there is a plethora of information about the subject of job satisfaction, there does appear to be reasonable doubts as to the conclusions which might be drawn concerning levels of satisfaction and some of its

causes and/or effects. As but one example, there is some disagreement in the literature as to the type of relationship which should be expected between job satisfaction and the variable age. By the use of standard analytical methods, the result of this study should be useful in accepting or in questioning the results from previous studies in this particular area as being general conclusions or principles.

The justification for the first objective of the study was equally optimistic; it concerned profits. Many industrial firms, in an attempt to control costs, set an objective or target for the purchasing department(s) of the firm to reduce the costs of the previous year's purchases by 1 or 2 per cent. If such a savings could be or is made, the results to the organization are significant. For example, if a firm grossing $100,000,000 spends 50 per cent of its gross income through its purchasing operation, operates on a 10 per cent profit ratio, and does reduce the cost of expenditures by 2 per cent, the equivalent increase in gross sales must be 10 per cent in order to achieve the same additional profit.

The attempts made to help lower costs of purchasing and to purchase the same amount and kinds of goods at lower prices, as mentioned previously, include the application of electronic data processing to the purchasing operation as well as the introduction of improved purchasing procedures. If, however, a firm which does effect these and other cost

controlling devices suffers from high turnover among its buyers, the complexity of the job, resulting in long periods of familiarization and training, will offset and perhaps even negate these cost controls.

The result of this study, then, might provide management with information which might lead to more effective selection of buyers and the impetus to develop and implement programs designed to retain its buyers. It is hoped that this study might provide management the rationale to invest more in those committing net profits.

Hypotheses

This study tested and attempted to draw conclusions from the following six hypotheses:

1. Industrial buyers demonstrating high job mobility do not reflect similar demographic backgrounds.

2. Industrial buyers demonstrating similar demographic backgrounds will not reflect similar degrees of job satisfaction.

3. Industrial buyers demonstrating similar demographic backgrounds will not reflect similar job perceptions.

4. Industrial buyers demonstrating high job mobility are not less satisfied with their present jobs than those demonstrating low job mobility.

5. Industrial buyers demonstrating high job mobility reflect no difference between what they view as

important about their job and how they see themselves spending their time than those demonstrating low job mobility.

6. Among industrial buyers, those who view as nearly parallel the time spent at various segments of their job and the importance of those segments of their job (job perceptions) do not reflect high job satisfaction. Conversely, those who view as divergent the time spent at various segments of their job and the importance of those segments of their job do not reflect low job satisfaction.

Scope and Limitations

This study was generally concerned with the mobility patterns and job satisfactions of industrial buyers. It should be pointed out that retail buyers, i.e., those who purchase for department stores, et cetera, are not included in this industrial classification. Specifically, this study investigated the industrial buyers in manufacturing firms employing more than 500 persons and that are located in the Chicago Metropolitan Area. Six Standard Industrial Classifications (numbers 23, 25, 27, 30, 33, and 37) meeting the above criteria were surveyed 100 per cent. A total of 186 firms were included in the initial survey.

The study was limited in that mailed questionnaires were administered rather than individual interviews.

Follow-ups consisted of letters and telephone calls. Further, the data were biased in that the only information received from the survey was from those companies and the buyers of those companies that volunteered to take part in the study. Too, the study was limited in that it only investigated job related variables rather than personality related variables of the buyers.

Plan of the Study

The plan of this study consisted of three major parts: a review of the literature, the survey, and the analysis of the data. The review of the literature, as indicated previously, revealed a large number of studies related to job satisfaction, its bases and correlates. Although general conclusions have been made in many of these areas, there did appear to be evidence that these conclusions were not unanimous. Further investigation seemed to be warranted in this area.

This review of the literature also indicated that industrial buyers have not been the subjects of studies investigating job satisfaction. As has been pointed out, the purchasing function is basic and is somewhat more complicated than many other functions. The literature, too, did not yield information concerning the mobility rates or patterns of industrial buyers. Excessive turnover in this function would be expensive to industrial organizations.

An exploratory study investigating these areas also seemed warranted.

The survey was conducted by mail, with follow-ups being made by mail and/or telephone. Manufacturing firms employing more than 500 persons from six Standard Industrial Classifications were identified. A 100 per cent survey of these firms was made. Permission to administer the questionnaires to the buyers of those firms was sought from the chief purchasing executive of the respective companies. A letter introducing the study, a sample questionnaire, as well as an introductory letter from the former president of the Purchasing Management Association of Chicago was sent to those chief purchasing officers.

Questionnaires to be distributed to the individual buyers were sent to those companies responding favorably. Postage paid envelopes were provided so that each buyer might return his questionnaire unanimously.

Follow-ups were made from those companies that (a) did not initially respond and (b) those that did agree to participate but did not. Sixty-eight companies and 213 buyers took part in the study.

The data gathered from the survey were analyzed by standard statistical methods. Specifically, the data were analyzed by the Statistical Package for the Social Science (SPSS) computer program, 12/13/69 version on an IBM computer model 360/67.

CHAPTER II

JOB SATISFACTION: A REVIEW OF THE LITERATURE

Perhaps as much or more has been written about job satisfaction than any other facet of employees and the organization. The findings reported are at the same time complementary, confusing, usually dogmatic, and ever ubiquitous. In fact, the studies in the area of job satisfaction are so proliferous that reviews of the literature occupy a prominent part of the literature.

This chapter is concerned with a general review of the literature in the areas of definitions, historical perspective, as well as those studies dealing with specific variables and with the current emphasis. A detailed review of the literature is beyond the scope of this study, and the reader seeking such a review is urged to consider any or several of the excellent works already published in this area.

Reviews of the literature which have become rather well known include: Brayfield and Crockett (1955); Herzberg, Mausner, Peterson, and Capwell (1957); Yuzuk (1961); Vroom (1964); and Cummings and El Salmi (1968). A more recent review was made by Ronan (1970). Yearly reviews of the literature were started by Hoppock and various associates in 1935. Recent reviews in this series have been continued

by Robinson (1957, 1958, 1959); Robinson and Conners (1960, 1961, 1962, 1963); Robinson, Conners, and Robinson (1964); and Robinson, Conners, and Whitacre (1966). Further, it should be pointed out that many of the articles dealing some aspect of job satisfaction often contain a review of the literature. The Smith, Kendall, and Hulin (1969) study is such an example.

Definition of Job Satisfaction

Unlike many terms which have tended to be capsulized in an apparent attempt to give credence to one or several groups vying for a degree of exclusiveness and legitimization as an area of study, job satisfaction is, if at all, a term which is loosely defined. Little effort has apparently been made to specialize or to claim the term by intensifying and debating a singular definition.

After their extensive review of the literature, Herzberg, Mausner, Peterson, and Capwell (1957) reported that there was no standard definition of the term job satisfaction. Specifically they reported:

> The very term "job satisfaction" lacks adequate definition. Most attempts at analysis agree that there are many facets to this term, and that job satisfaction is not a unidimensional attitude. A simple breakdown would show that there can be satisfaction with the specific activities of the job, often referred to as "intrinsic job satisfaction;" with the place and working conditions under which the job is performed; or with specific factors such as economic rewards, security, or social prestige. (page 1)

Hueber (1965) also reported that job satisfaction was difficult to define as well as difficult to isolate. Most studies, however, do not even attempt to define or limit the term. Those which do, though, usually refer to job satisfaction in the broad sense.

For example, Morse (1953), Metzner and Mann (1953), as well as Vroom (1959) use the term job satisfaction interchangeably with the term attitude. Yuzuk (1961, p. 1) mentions the lack of standardization of the term and then states, "A glance beyond the semantic vagaries associated with this term will reveal that morale, be it employee attitude, job satisfaction, or progress toward a common goal, does exist." [Italics mine.] Smith, Kendall, and Hulin (1969) do offer a non-restrictive working definition of job satisfaction when they state that, "Job satisfactions are feelings or affective responses to facets of the situation." (p. 6)

Although a standardized definition of the term job satisfaction does not appear to exist, the literature does seem to reflect three general assumptions usually made in regards to the term.

First, there appears to be a consensus that job satisfaction must be expressed. The literature makes little reference that the actual perception of job satisfaction may vary from the expressed perception of job satisfaction. However, this possible distinction should be made. The

many instruments used to measure job satisfaction do measure something, but is this something really the degree of job satisfaction felt by an individual? At best they measure the expressed perception of job satisfaction. In any case, whether there actually is or is not a difference between actual and expressed perception of job satisfaction, the term has become synonomous with expressed job satisfaction.

Secondly, the term refers exclusively to the individual and his work, work place, and place of work. This connotation of job satisfaction appears at first glance to be rather limiting. Closer examination, however, reveals that it includes all the roles assumed by the individual in his involvement (or disinvolvement) with the complexities of the various, perhaps nearly infinite interrelationships possible with and within the organization of his place of work. As multitudinous as these roles might be, they are only a fraction, usually, of the many roles in which the individual is engaged. Excluded from job satisfaction, for example, is an individual's involvement at home, in political theaters, and outside interest. It is agreed, however, that the individual at work is the result of his entire involvements, and that his perceptions of his involvement at work perhaps are determined to a great extent according to his responses to his non-work environment.

A third assumption inherent in defining job satisfaction is the concept of need and need fulfillment. It

is generally accepted that an individual perceives a need, attaches a weight or importance to that need, and then perceives the degree to which that need has or has not been fulfilled. This degree of need fulfillment is really the root of job satisfaction.

In fact, it was this concept of need and need fulfillment which stimulated many of the studies in the area of job satisfaction since 1959. Much of the literature has divided roughly into two camps since this time. One group, headed by Porter, maintained that individual needs and need fulfillment was based upon the concept promulgated by Maslow in his hierarchy of human needs. The second group challenged this traditional theory of needs with Herzberg, Mausner, and Snyderman (1959) as the standard bearers.

Traditional Theory

The traditional or Maslow approach to needs suggested that an individual has five basic needs: physiological, safety, social, ego, and self-actualization. The individual attempts to satisfy these needs progressively, i.e., a minimum acceptable level of satisfaction must be reached in the physiological needs before the individual seeks to satisfy the next level or safety needs, et cetera. It should be noted that usually an individual is attempting, according to the theory, to satisfy two or more levels of needs simultaneously.

Herzberg Dual Factor Theory

The Herzberg dual factor theory, or motivator-hygiene theory as it became known, suggests, however, that man is motivated by only two sets of needs. These are the individual's need to avoid pain and his need to grow psychologically. The individual's attempt to satisfy these two sets of needs at work causes him to divide the inter-relationships of work into two factors, those dealing with the content of the work and those dealing with the context of the work.

The individual's attempt to satisfy his need to grow psychologically is fulfilled only by the content portion of his work. According to Herzberg (1968), these content factors (called motivators) are achievement, recognition for achievement, the work itself, responsibility, and growth. On the other hand, the avoidance of pain needs are involved with the context part of work. Herzberg calls these factors the hygiene factors and include company policy and administration, supervision, interpersonal relationships, working conditions, salary, status, and security.

The major impact, however, of Herzberg's theory was not the classification of needs into only two categories. Rather, it was his contention that only the motivator factors can cause satisfaction and that only the lack of hygiene factors can cause dissatisfaction, In other words, the opposite of satisfaction is not dissatisfaction but rather

is no satisfaction. By the same token, the opposite of dissatisfaction is not satisfaction but is no dissatisfaction. The two, satisfaction and dissatisfaction, are not on the same continuum.

One point should be made regarding the work of Herzberg. It is that his work is offered in the terms of motivation and motivating, not job satisfaction, per se. This could be confusing except for the implication that job satisfaction or rather the satisfaction of needs at the work place is a goal which the individual seeks. This seeking of need fulfillment or job satisfaction is, in effect, a motivation.

The classification of needs and the resulting decision to support either the traditional or the Herzberg theory has led to considerable debate in the literature. This controversy will be reviewed in the next section of Historical Perspective.

In summary, it might be said that there is not a specialized definition of job satisfaction. The term is one which might be classified as a working definition. Generally, however, three assumptions seem to be made regarding job satisfaction. These are that (1) job satisfaction is expressed job satisfaction, (2) it concerns only the worker and his work, and (3) underlying the general area of job satisfaction is the concept of needs and need fulfillment (regardless of the two major classifications

of needs used--either the traditional or the Herzberg dual factor theory).

Historical Perspective

The literature concerning job satisfaction is difficult to place into a historical perspective. Few major findings have been made which would act as bench marks in the evolution of the body of knowledge. In fact, none of the major reviews of the literature, cited above, have attempted to chronologize the literature. Rather, the reviews have tended to classify the literature according to one of three approaches.

The first of these approaches was by one topic. Specifically, the Brayfield and Crockett (1955) review searched the literature in an attempt to determine whether or not job satisfaction and performance were really positively related. What might be called a second approach, the analysis of the literature according to all or at least many topics, has apparently been the most popular approach to classifying the literature. This method was utilized by Herzberg, Mausner, Peterson, and Capwell (1957); Vroom (1964); Cummings and El Salmi (1968); as well as Smith, Kendall, and Hulin (1969). For example, the Herzberg, et al., review classified the literature according to the broad headings of characteristics of dissatisfied workers, effects of job attitudes, social aspects of the job, et cetera.

The third approach in classifying the literature was used by Yuzuk (1961) and by Ronan (1970). Their approach was to classify the literature according to the type of analysis made or the methodology employed in the many studies they reviewed. Again, none of these reviews really traced the evolution of the work done in the area of job satisfaction.

There does seem to be an inherent difficulty in the study of job satisfaction which prevents a precise chronological classification of the material. This difficulty is the lack of standardization in the field. As was pointed out previously, there is a lack of standardization in the definition of job satisfaction. This lack of standardization is not, however, limited just to definition. There has been a lack of agreement as to the approach which should be used in studying job satisfaction. Specifically, as mentioned by Block, Yuker, Campbell, and Melvin (1964), job satisfaction has been investigated as being a dependent variable in many studies and as an independent variable in others. Other studies, such as the Block, et al., study, treated job satisfaction as neither a dependent nor an independent variable.

There even appears to be a lack of standardization of the terms dependent and independent variable. For example, job satisfaction, as a dependent variable, is often related to such variables as age, sex, and other demographic

or organizational variables. The inference is that job satisfaction is independent of performance. On the other hand, when job satisfaction is considered to be an independent variable, the inference is made that it is independent of the set of variables mentioned above. Rather, it is dependent upon job performance.

Consequently, as a result of this lack of standardization, the studies investigating job satisfaction have not followed what might be termed a definable evolution. For example, some studies made in the late 1960's were very similar in subject as well as approach to studies made in the late 1950's. In fact, because of this lack of general continuity, there appears to be a sort of rediscover-the-wheel-syndrome operation in many of the job satisfaction studies. It should be pointed out, however, that the later duplications or near duplications of earlier studies generally did use more sophisticated analytical techniques. Too, different results were sometimes obtained because of the type of occupations studied. In the broader sense, though, there has been a general lack of continuity. An example of this is pointed out by Ronan (1970) in mentioning that Heron in 1952 was probably the first to suggest that satisfaction "is contingent upon satisfactory performance rather than vice versa." (p. 3) Vroom (1964) and later Porter and Lawler (1968) made the same basic finding.

Although the lack of standardization and the lack of apparent continuity in the area of job satisfaction makes it difficult to chronologize the developments in a progressive manner, broad divisions are possible because of three major studies. These studies were of considerable influence upon subsequent studies even though the general lack of continuity was not eliminated.

The first of these major findings was the Brayfield and Crockett (1955) report. This study, after a careful review of the literature, concluded that there was no basis to support the popular contention that job satisfaction and performance were directly and positively related. Prior to their report, many of the studies concerning job satisfaction dealt with the general theory that satisfaction was positively related to production and negatively related to turnover and absenteeism. Both Brayfield and Crockett (1955) and Ronan (1970) mention the 1930 study of Kornhauser and Sharp as being the first study of the type which related satisfaction to performance.

After the Brayfield and Crockett report, less emphasis seemed to be placed on trying to find direct relationships between job satisfaction and performance, turnover, and absenteeism. It appears that a general attitude toward job satisfaction was that it was perhaps more complex than originally thought, and many studies were made which investigated the causes of satisfaction.

The second major study which greatly influenced subsequent research was done by Herzberg, Mausner, and Snyderman (1959). Their study created the major debate found in the literature concerning job satisfaction. (The basic findings of this study were reported above under the sub-heading of Definition.) Although the findings reported by Herzberg, et al., represented a significant deviation from the generally accepted ideas about satisfaction, the major criticism against Herzberg has been directed toward his methodology.

Basically, the Herzberg approach was to interview workers, asking them to recall and relate instances that caused them to be either particularly happy or unhappy at work. Further questions were then asked to investigate in greater depth why these instances had led to pleasant or unpleasant experiences. The researchers then classified the responses according to whether the responses were related to job content or job context variables.

Because of this type of methodology, later studies duplicating the same approach have tended to support the Herzberg dual factor theory. On the other hand, studies using questionnaires, different analysis of the data, and/or scaling techniques have refuted the theory according to Lindsay, Marks, and Gorlow (1967).

The extent of the controversy created by Herzberg, et al., is probably best illustrated by the number of

reviews of the literature devoted solely to this topic. Although the Cummings and El Salmi (1968) and the Ronan (1970) reports included a good review of the arguments, the following reviews dealt exclusively with the controversy: House and Wigdor (1967); Whitsett and Winslow (1967); Lindsay, Marks, and Gorlow (1967); Hinrichs and Mischkind (1967) and Soliman (1970).

Although the Herzberg dual factor theory is generally held to be questionable, the impact of this study has created a great deal of interest and investigation in the area of job satisfaction. In doing so, there seems to be little doubt that considerable contributions were made to the body of knowledge about job satisfaction.

Another contribution of the Herzberg, et al., study according to Cummings and El Salmi (1968) was its redirecting the studies about job satisfaction towards the area of managerial satisfaction. Previous to 1959, little was reported which dealt primarily with managers and their job satisfaction. After 1959, however, many studies were made in this area.

Perhaps it is yet too early to tell, but it appears that the third major study influencing the area of job satisfaction was done by Smith, Kendall, and Hulin (1969). Their study, The Measurement of Satisfaction in Work and Retirement, is the culmination of ten years of study conducted by various members of what has been referred to as

the Cornell Group. Basically, their work is an attempt to correct the major shortcomings in the area of satisfaction, i.e., to encourage standardization of concepts, approaches, and methodology.

Foremost among this group's contribution was the development of the Job Descriptive Index, an instrument for measuring job satisfaction, and its accompanying national norms. Vroom (1964) stated that the JDI is "without doubt the most carefully constructed measure of job satisfaction in existence today." (p. 100) It is interesting to note that a later study, Ronan (1970), did not use the JDI instrument, although he did rationalize why he did not and did compare some of his findings to the JDI norms.

Further, the Cornell Group has stressed the complexity of job satisfaction and its interrelationships with individual, organizational, and situational variables. It is probable that future studies about job satisfaction will reflect the contribution of this 1969 study.

In summary, then, because of a lack of standardization of approaches, definitions, and methodology the evolution of knowledge about job satisfaction has not followed a consistent path. Major reviews of the literature reflect this fact. The reviews, rather than tracing the chronological developments in the study of job satisfaction, classify works in this area according to topics or by

approaches. The major works most influencing the direction of study in job satisfaction appear to have been made by Brayfield and Crockett (1955); Herzberg, Mausner, and Snyderman (1959); and Smith Kendall, and Rulin (1969).

Job Satisfaction as Related to Specific Variables

This section reports findings in the literature which relate job satisfaction and specific selected demographic and organizational variables that are investigated in this study. The variables considered are: age, job tenure, marital status, education, size of company, size of the work group, and job level.

As pointed out by Fournet, Di Stefano, and Pryer (1966), caution should be used in comparing some studies. Because of the various methods used by different researchers, it is possible that some agreements and disagreements in findings are the result of the methodology used.

Age

Studies relating age and job satisfaction are generally one of two types. The first type of study investigates the satisfaction of a group of workers. Analysis is then made according to age groups. The second type of study is a self-appraisal investigation. Workers are asked to recall their own levels of job satisfaction for previous years.

General conclusions regarding the relationship between age and job satisfaction are difficult to formulate, in some instances, from the first category of studies, i.e., analysis by age groups. The findings reported appear to be in conflict.

Friedlander (1963) and Meltzer (1963) report no difference in job satisfaction among age groups. On the other hand, Wyatt and Marriott (1956) and Taft and Mullins (1946) found that the level of satisfaction increases with age. Neither of these studies, however, indicated the type of relationship which existed, i.e., whether the relationship was linear or curvilinear.

This question of the type of relationship between age and job satisfaction, if in fact one does exist, is the subject of debate and lends to the confusion in drawing general conclusions. An early study reported a U-shaped relationship to exist between age and job satisfaction. Benge (1944) found the lowest level of satisfaction to occur when workers were in their mid-twenties, though satisfaction increased yearly thereafter.

Later studies have been even less conclusive. The major studies appear to have been made by Herzberg, Mausner, Peterson, and Capwell (1957) and Hulin and Smith (1965). The Herzberg, et al., review of the pre-1956 literature reported a definite U-shaped relationship between both age and satisfaction as well as tenure and satisfaction.

Satisfaction is reported to increase beginning when a worker is in his late twenties or early thirties. Previous to that time, satisfaction, after starting at a relatively high level, decreased each year.

Hulin and Smith (1965) disagreed with these conclusions and questioned the methodology used in the Herzberg, et al., report. "Herzberg, et al., seem to have been willing to conclude the existence of a complex function of the form $y = a + b(x_i - \bar{x})^2$ on the basis of inspecting a collection of graphs." (pp. 209-10) Hulin and Smith disagree with the Herzberg, et al., findings on three other accounts: (1) even if such a relationship exist, the strength of the relationship was not indicated, (2) that it is probably fallacious to relate age alone to job satisfaction when age and tenure are so closely related, and (3) that the general conclusions drawn did not allow for differences which might result from situational or sex differences.

The findings reported by Hulin and Smith in their study, with regards to age, are that job satisfaction and age appear to have a positive monotonic relationship.

The evidence, then, suggests that probably some relationship does exist between age and job satisfaction when analyzing job satisfaction by age groups. Further, it is suggested that care should be used in drawing conclusions concerning the type of relationship.

The findings reported in studies of the second category, recall or levels of job satisfaction by older workers, by their consistency are in contrast to the findings reported in the first category. Both Hoppock (1960) and Saleh and Otis (1964) reported that older workers indicated that their own job satisfaction increased as they became older. The only exceptions reported were by Hoppock that the most satisfied workers were those who had changed jobs, and by Saleh and Otis that the five-year period before retirement was a period of lower satisfaction.

It appears, regardless of the analysis category used, and whether the relationship between age and job satisfaction is linear or curvilinear, that older workers are relatively more satisfied than younger workers. An explanation is offered by Hulin and Smith (1965). As a worker remains on the job for a period of years he learns what to expect. Consequently, it is possible that the worker adjusts his expectations about the job and the entire situation.

Tenure

Several studies have been reported which relate tenure, either company or job tenure, to job satisfaction. One of these, Hulin and Smith (1965) caution the use of analysis of tenure alone, i.e., separate from the variable age, in relation to job satisfaction. Their contention is

that age and tenure are too closely related and "are working simultaneously on satisfaction level." (p. 210)

However, several studies have indeed made such an analysis and do report a different relationship existing between age and job satisfaction and tenure and job satisfaction. One of the earliest of these, Benge (1944), is illustrated in Figure 1.

It is apparent that the relationship found to exist by Benge is curvilinear (for tenure as well as age) with the exception of age and satisfaction in small companies. Yuzuk (1961), in his review of the literature, mentions several studies having a similar curvilinear relationship. Hull and Kolstad; Kolstad, Mann, and Bergen; and Dean all found such a relationship.

The Herzberg, Mausner, Petersen, and Capwell (1957) review of the literature likewise reported a U-shaped relationship. This particular study, as mentioned previously, was the subject of the Hulin and Smith study. These authors found a positive monotonic relationship between company tenure and job satisfaction, but they also found that job tenure tended to have a negative weight. Similar linear relationships were reported by Yuzuk (1961) in his own study as well as in his review. He contributed this type of relationship to have been reported in three studies made by Harris, Cain, and by Nielson. Svetlik, Prien, and

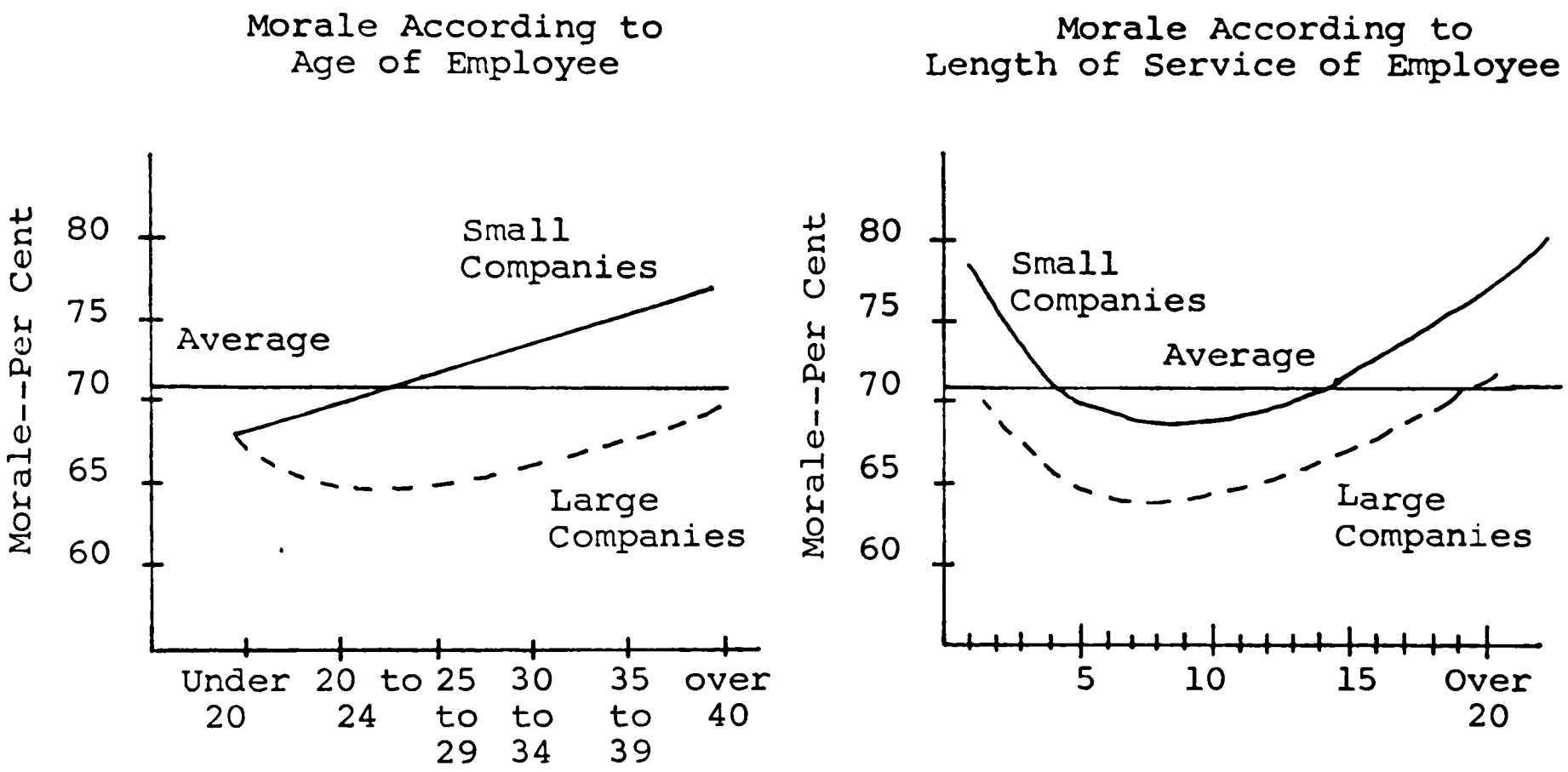

Fig. 1.--Age and Job Satisfaction; Tenure and Job Satisfaction

Barrett (1964) likewise reported a significant correlation between general morale and job and company tenure.

Wyatt and Marriott (1956), however, report that although there tends to be a positive relationship between job satisfaction and age, there does not appear to be such a relationship between tenure and satisfaction.

In general, though, it does appear that workers who have spent more time on the job appear to be generally more satisfied than those with less time. There also appears to be some question as to the exact relationship which exists during the first several years on the job.

A possible explanation is offered by Wyatt and Marriott (1956) for this disagreement. During the first few years of employment, the least satisfied workers leave the company. If it can be assumed that these workers were relatively less satisfied with their situation than those who did not leave, then it seems appropriate to favor the argument that indeed a curvilinear relationship best describes tenure and job satisfaction.

Another possible explanation of why satisfaction generally increases with tenure is offered by Hulin and Smith and by Svetlik, Prien and Barrett. As a worker (a) becomes older and (b) remains with a particular company, he adjusts his expectations to what in fact his particular work situation has become. In other words, his aspirations

and needs are somewhat tempered by the realities of his own work and life environment.

Sheppard (1967) offers support for such an explanation. In a study of terminating employees, he reports that even though the employees were leaving the company, those with more time on the job were more satisfied than the terminating employees with less time.

Education

Fewer studies concerning education and job satisfaction appear in the literature relative to the variables previously mentioned. There does seem to be agreement, however, among those which do appear. Generally, it has been found that higher education relates negatively with general levels of job satisfaction. Vollmer and Kinney (1955), for example, support this conclusion, particularly when education and age are correlated together with job satisfaction.

Andrews and Henry (1963) and later Klein and Maher (1966) found that higher education usually related negatively with satisfaction with pay. Lawler and Porter (1966), however, found that with higher educated managers this was not the case. Another exception to the general thought that the higher the education the lower the satisfaction was reported by Sinha and Sarma (1962). They reported that in their sample there was no relationship between the

amount of education and the level of job satisfaction. On the other hand, Klein and Maher (1968) found that beginning first-level managers with college degrees were dissatisfied with their pay.

Fournet, Di Stefano, and Pryer (1966) suggest a difficulty in attempting to relate education, alone, with satisfaction much in the same way Hulin and Smith did for age or tenure; that is, education, too, is not a pure factor. It is quite probably contaminated with age. Fournet, et al., suggest the need for further research involving education, age, and intelligence.

Marital Status

Even less information is provided in the literature concerning the factor of marital status as related to job satisfaction. Perhaps this is due to the general opinion that married employees are more dependable, work harder, are more settled, and have more responsibilities than do single employees. Perhaps another explanation is that this variable does not appear to be of great importance to researchers.

In any case, Harris (1949); Sheppard (1967); and Herzberg, Mausner, Peterson, and Capwell (1957) report that married employees were found to be more satisfied with their jobs than were single employees. The Sheppard study, as previously mentioned, dealt with terminating employees.

He also concluded that divorced workers were more satisfied than were single employees. No distinction was made about the level of satisfaction reported between married and divorced persons.

Company Size

The literature reflects a general agreement that job satisfaction and company size are in some manner negatively related. This agreement is reported by actual studies and by implication or inference from others.

One of the earlier empirical studies reporting such a negative relationship was by Benge (1944). (See Figure 1 above under the heading of "Tenure.") Benge further relates that this negative relationship holds irrespective of age, tenure, or wage or salary level.

Talacchi (1960) reports that his review of the literature, too, reflected that size affected satisfaction negatively. His contention was that this relationship was caused by increased division of labor and status differentiation. Rather emphatically his findings stated that such a negative relationship did exist. "The larger the organization the lower the level of employee satisfaction." (p. 409) Further, Talacchi pointed out that his findings were the first to show this relationship regardless of the size of the community in which the organization was located

or regardless of the type of economic activity engaged in by that organization.

Other studies supporting this contention that a negative relationship exists are Meltzer and Salter (1962) and Indik and Seashore (1964). Meltzer and Salter found a curvilinear relationship with the highest degree of satisfaction among his subjects (physiologists) to be in medium-size organizations. On the other hand, Indik and Seashore reported that morale was higher in smaller operations than larger ones within the same organization. The relationship was not mentioned to be curvilinear

The studies most often reported in reviews of the literature concerning job satisfaction and the variable size, however, are the works of Porter. For example, Cummings and El Salmi (1968), Robinson, Connors and Robinson (1964), and Robinson, Connors, and Whitacre (1966) refer to Porter and his associates' work.

Some of Porter's work suggest that satisfaction is generally lower in larger organizations. One study in particular, however, did report such a finding specifically among managers. Porter (1963d) reported that lower level managers in smaller companies were more satisfied than their counterparts in larger organizations. At higher levels of management, though, this relationship was reversed.

One additional significant finding was reported in this study. Regardless of the size of the organization,

there was little difference between managers as to the perception of the importance of various needs. Consequently, the finding that satisfaction did differ can be attributed to need satisfaction differences and not to differences in needs.

Other work by Porter and others suggest an inference that larger organizations lend to lower satisfaction than do smaller organizations. For example, Porter (1963c) reported that line managers were generally more satisfied than were staff managers. Harrison (1960) also reported managerial differences in satisfaction. Harrison found that lower satisfaction is demonstrated by lower and middle managers in organizations which tend toward increased centralization of decision making and increased rigidity of procedures.

The inference is made that if larger organizations tend toward more staff positions than do smaller organizations, satisfaction among managers would be less due to the larger number of staff positions. Likewise, if larger organizations can be assumed to have a greater tendency toward centralization of decision making and an increased rigidity of procedures (an assumption which may or may not be valid) then, too, satisfaction would appear to be less among employees of larger organizations.

Indik (1963) hypothesizes that lower satisfaction results in larger organizations due to (a) "increased

bureaucratization and impersonalization of control" (p. 378), (b) increased size of the organization decreases the average amount of communication among workers leading to decreased participation, and (c) increased size of the organization leads toward increased specialization of roles.

Size of Work Group

Fewer studies have been reported which treat the size of the work unit than report findings concerning the size of the organization. However, the studies concerned with the size of the work group generally reflect the same type of relationship which exists with the size of the overall organization, i.e., that the level of satisfaction tends to decrease as the size of the work group increases.

Kerr, Koppelmeier, and Sullivan (1951) and Talacchi (1960) specifically report finding such a negative relationship in their respective studies. Indik (1963) and Indik and Seashore (1964) seem to infer such a relationship in their studies.

A possible explanation for this negative relationship is suggested by Zaleznik, Christensen, and Roethlisberger (1958) as they report findings which show that satisfaction levels within groups to be related to the types of status ranks, the degree of group development, and degree of compatibility between internal cohesion and external strain on the group. Perhaps the conclusion

could be drawn from these findings that as the group increases in size it becomes more difficult for the groups to achieve high levels of effectiveness in these three areas. The individual members of the group perhaps sensing this are in turn relatively less satisfied due to the inability of the larger group to provide individual need fulfillment.

Job Level

Generally, the studies reporting findings concerning the level of job satisfaction and job levels agree that job satisfaction does increase as the level or difficulty of the job increases.

In their reviews of the literature, both Cummings and El Salmi (1968) and Robinson, Connors, and Robinson (1964) credit Porter and his various associates for much of the work done in this area. Specifically, Porter has investigated the relationship between job satisfaction and the following: job level, organization structure, and line versus staff. Also, he has investigated the relationship between job level and the importance of needs.

Cummings and El Salmi (1968) suggest caution should be used when interpreting Porter's findings. They criticize Porter for being too conservative in his analysis of the data. Further, Cummings and El Salmi suggest that the

relationships reported by Porter are in fact stronger than he suggests.

Primarily, Porter found that higher level managers tended to be more satisfied than were lower level managers. Further, higher level managers placed more importance on the higher level needs, autonomy and self-actualization, than did lower level managers, and that the higher level managers reported greater satisfaction in these two areas. All levels of managers reported about the same level of importance to the other three areas of needs, security, social, and esteem. However, lower level managers tended to reflect higher levels of satisfaction in the security and social need areas than did higher level managers. On the whole, though, the higher level managers did report generally higher levels of overall satisfaction.

Other studies which tend to confirm the findings of Porter include the study of Blauner as reported by Costello and Zalkind (1963), Rosen (1961), Svetlik, Prien, and Barrett (1964), and Rhinehart, Barrell, DeWolfe, Griffin and Spaner (1969).

Summary

The general conclusions which tend to be made from reviewing the findings of previous studies concerning job satisfaction and the variables of age, job tenure, marital

status, education, size of company, size of the work group, and job level are as follows:

1. Age--A U-shaped relationship exists between age and job satisfaction levels. It has been suggested that perhaps this relationship is inaccurate and that it would better be represented as being a positive monotonic relationship.

2. Job Tenure--Similar to the relationship which exists between age and job satisfaction. Again the same argument is raised.

3. Marital Status--Married or divorced persons tend to reflect higher levels of job satisfaction than do single persons.

4. Education--Although a negative relationship is suggested, the findings seem to be inconclusive regarding the relationship between education and level of job satisfaction. It has been suggested that part of the difficulty in making a definite conclusion is that education alone is not a pure variable but rather is contaminated with age and/or tenure.

5. Size of Company--Generally as the size of the organization increases, the level of reported job satisfaction decreases.

6. Size of the Work Group--Similar conclusions to those made concerning the size of the company were found.

7. Job Level--Levels of job satisfaction tend to increase as the job level is improved.

Current Emphasis

The current emphasis in the literature in the area of job satisfaction appears to indicate (a) an awareness of the difficulties resulting from a lack of standardization in the field, and (b) that the investigation of job satisfaction must have the capacity to deal with a very complex phenomenon.

As was pointed out in the previous section, there is still disagreement concerning the relationship between job satisfaction and certain variables. However, current emphasis appears to consider job satisfaction as neither a dependent or an independent variable as related to demographic and/or organizational variables.

Rather, as mentioned by Porter and Lawler (1968) and Smith, Kendall, and Hulin (1969), there seems to be an acceptance of Heron's earlier theory that in some way job satisfaction results from the level of performance. The analysis of demographic and organizational variables facilitates an understanding of an individual's perceived needs, the importance placed upon those needs, as well as the degree to which these needs are perceived to be fulfilled.

Also, there seems to be an emphasis upon the investigation of job satisfaction by the study of the individual

rather than of the group. Investigations of the individual, it is felt, will help to explain the variances in job satisfaction as related to demographic and organizational variables. (Most of the studies reported in the literature have been of the group type.) In other words, the situational differences are due largely to individual differences and the differences in perceptions.

Another aspect of current emphasis is the investigation of job satisfaction and employee behavior. Many earlier studies have analyzed job satisfaction as related to performance, turnover, and absenteeisms. More recent studies, according to Ronan (1970) in both his review of the literature as well as his massive study, are also including such behavior as infirmary calls, medical claims, and grievances filed. There is evidence to suggest that job satisfaction is negatively related to these behaviors.

In summary, the current emphasis toward job satisfaction tends to encourage standardization of approaches and measurements, treats job satisfaction as being complex, suggests that more research should be made to investigate the individual and job satisfaction rather than the group, and acknowledges that much is still to be learned in this area.

CHAPTER III

PERCEPTION: A REVIEW OF THE LITERATURE

One of the major points investigated in this study was the difference between how industrial buyers spend their time and the amount of time they think they should be spending on the different elements of their job. Actually, this difference is a perceptual difference. How a buyer thinks he spends his time could be restated to read how a buyer perceives he is spending his time. By the same token, how a buyer thinks he should spend his time is the equivalent of how a buyer perceives he should be spending his time.

This chapter presents a review of the literature concerning perception. Like job satisfaction, perception is a topic about which much has been written. A major difference in the study of the two topics, however, is that job satisfaction has been a popular topic only for the past twenty or thirty years. Kalish (1970) points out the fact that perception has been studied for over ninety years. Consequently, it is generally held that the concept of perception is one of the roots of the broader area of psychology. Bruner (1951), for example, mentions that each theory of personality must have a "complementary theory of perception" and vice-versa. (p. 121)

Because perception is a part of the study of psychology, it is sometimes difficult to isolate the concept

of perception, per se, in the literature as well as in theory. This review of the literature is limited to the area of perception and the perceptual process. To make such a delimitation, however, is difficult because of the difficulty in separating perception and the perceptual processes from attitudes, learning, and some behaviors such as involuntary reflex actions and socially determined behaviors. Examples of such difficulties have been mentioned by Lewis (1963) and by Newcomb, Turner, and Converse (1965). Lewis found difficulty in determining whether a reported perception was in fact a perception or if the response was instead a socially dictated response. Newcomb, Turner, and Converse, referring to other mental processes, cite the difficulty in distinguishing between the perceptual process and cognitive processes.

This chapter reports the findings in the literature concerning the definitions of perception, the perceptual process, the factors affecting perceptual differences, and the general categories of reactions to perceptual differences.

Definition of Perception

Partly because perception is not a new term and partly because of its broad application, the term perception, much like the term job satisfaction, is often undefined. When the term is defined, very often these definitions, although specifically stated, are very general in nature.

Examples of acceptance of the term perception without definition have been made by many authors including Hardin (1965) and Eran (1966). These authors seemed to assume perception. Bartley (1958) went even further in writing about non-definition. He stated that there was no need to define the term as everyone knew what perception means. Further, he pointed out that "when definitions are offered, they need only be fragmentary, general, and need not place perception in relation to the other processes that go to make up the individual's overall behavior." (p. 12)

To dismiss either the lack of definition or the generality of definition of perception as being the result of extensive usage may prove to be shortsighted. As mentioned previously, part of the reason for the lack of a specific definition may lie in the broad application of the term. For example, Bruner (1958) refers to the early studies of perception as being involved in showing the nature of distortion in perception as a result of the influence of clinical psychiatry. More recent studies about perception, according to Bruner (1951), have fallen into one of two broad categories: those which were personality centered and those which were perception centered.

Such changes in the emphasis of the area of study may, then, be more responsible for the lack of specific definitions than is the longevity of the usage of the term.

It should not be interpreted that nothing specific can be said about the term perception; quite the contrary is true. The difficulty arises only when one attempts to define perception as the term might apply to a specific area or application, thereby creating a confusion if broader use of the definition was desired.

Lewis (1963) illustrated this possible difficulty.

> Most psychologists working in the area of perception prefer to treat the term "perception" as an intervening variable which refers to sensory and central nervous system processes occasioned by stimulation. But because a wide variety of stimuli and responses have been used in perceptual studies it is difficult to tie the intervening variable to a consistent and distinctive set of independent and dependent variables. As a result, it is almost impossible to give a characterization of perception that will hold for all the studies that have been reported under this rubic and . . . some of the perceptual studies are inseparable in any important way from some studies concerned with discrimination learning and others with social conformity . . . (p. 257)

Having been cautioned, then, against expecting specifically applicable definitions of the term perception, it would perhaps be of value to review some of the definitions reported in the literature.

One of the most general definitions is offered by Newcomb, Turner, and Converse (1965). " . . . perception refers, literally, to the individual's organization of sensory input--that is, to what he does, psychologically, with the stimuli currently impinging upon his sense organs." (p. 34) Bartley (1958) made basically the same observation. He mentioned that "perceiving has been taken by all

psychologists to be a process by which the organism relates itself to its surroundings." (p. 4) Kaluger and Unkovic (1969) are in agreement although they emphasized the mental process involved. "Perception is the process of becoming aware of objects, relations, or qualities by means of sensory processes and under the influence of cognitive or mental content as set and prior experiences." (p. 135)

Kalish (1970) further broadened the definition of perception. He stated that, "Perception, then, suggests an emotional component. Perception refers not only to the organizing and interpreting of sensory stimuli, but also to social and emotional responses." (p. 50) A more scientific description of perception is offered by Blake, Ramsey, and Moran (1951).

> Perception refers to those interactions between an organism and its (necessary) environment in which the form of response is governed by the signal or sign significance as contrasted with the energy strength or quality or pattern of the stimulus configuration itself. In these cases the signal or sign significance of the stimulus comes to exist (either spontaneously or effortfully) as an emergent from certain specific previous organism-environment interactions of the individual. (p. 5)

It becomes apparent that perception is a mental process, related in some manner to an individual's past, wherein stimuli from the individual's present total environment, including his physical, social, and emotional environments, are processed in such a way that the individual is capable of some type of response to those stimuli.

The fact that an individual's past experience is a basic part of the definition of perception is made more clear when the distinction is made between perception and sensation. Kalish (1970) refers to sensation as being the "term applied to what occurs each time a receptor organ is stimulated. Perception is the process through which the various sensations are interpreted and organized into meaningful patterns." (p. 46) Bartley (1958), in the same vein, is even more specific about the distinction between sensation and perception. "Perceptions . . . have reference to past experiences, previous attitudes, and even the activities which the individual was engaging in at the time." (p. 5) The point was made that sensations did not.

Even as this concept of past experiences, attitudes, et cetera, is apparently important in understanding the concept of perception, the literature seems to reflect the importance of several other characteristics of perception which were not pointed out specifically in the definitions reviewed above.

Lewis (1963), for example, mentions that perception is selective and that this selective process is learned. A typical example of the selective process is an individual reading a book. He does not, generally, perceive the touch of his clothing. Rather, he is selective in his perception and responds specifically to his book.

Another characteristic of perception was made by Cantril (1957). Cantril refers to the total environment mentioned above as being the "reality world." It seems important to show the extent of this environment or reality world. It includes, according to Cantril, "our own fears and hopes, frustrations and aspirations, our own anxiety and our own faith. For the psychological characteristics of life . . . are just as real for us in determining our behavior as are chairs, stones, or mountains or automobiles." (p. 122)

A final characteristic which should be pointed out was referred to by Hastrof, Schneider, and Polefka (1970). This characteristic refers to the importance of perceptions. "Our perceptions do have meaning, they do make sense; and meaning and sense derive from both our past experiences and our present purposes. Without the presence of meaning and sense as active, organizing agents, perception, as we know it, would not exist." (p. 9)

The Perceptual Process

Generally, it is held that perception is a mental process whereby an individual responds to external stimuli. The way in which this process occurs, the perceptual process, might be described in terms of the physiological process involved enabling such a response to occur. Such a physiological description, however, would provide only a

physical basis for explaining the differences in perception between individuals or by the same individual over a period of time. Consequently, the perceptual process, as it is discussed in this chapter, refers to the mental processes involved in perceiving.

The literature seems to reflect three steps involved in the overall perceptual process. There appears to be little disagreement beyond semantic differences as to the precise nature of these steps. Bruner (1951), for example, suggests that the process consists of the following three steps. First, the individual forms a hypothesis of what is expected of a stimuli; secondly, the information is received through the sensory mechanism; and thirdly, this information is compared against the original hypothesis in a confirmation step.

Others, such as Bartley (1958) and more recently Kaluger and Unkovic (1969), offer a slightly different analysis of the perceptual process. They suggest that the first step is one of reception or detection of the stimuli. This step is then followed by an integrating or a transforming step in which the stimuli are grouped or categorized. Finally, the composite impression is referred by means of a code or a system to a "set" or to "constancies"--i.e., expectancies previously developed, thereby enabling a comprehension of the stimuli. Both of these approaches to the perceptual process, then, stress the fact that the

process is largely dependent upon (1) the physical apparatus necessary for reception and transmission of the stimuli from the sensory receptors to the central nervous system, (2) previously established criteria for deciphering the impinging stimuli, and (3) a capacity for interfacing the transmitted stimuli and the previously established criteria.

As mentioned previously, the physical elements of the perceptual process will not be discussed. One point should be made, however, regarding this physical apparatus. Some of the perceptual differences which occur between individuals is contributable to physical differences. By the same token, the interface between the transmitted stimuli and the criteria for interpreting the stimuli is also a basis for perceptual differences. For this reason, the third element of the perceptual process, the interfacing, will be discussed in the next section "Factors Affecting Perceptual Differences." The balance of this section investigates the findings in the literature concerned with the second element in the perceptual process listed above, the establishing of criteria used in deciphering the impinging stimuli.

The literature seems to indicate three separate areas necessary to describe the complete process of establishing criteria for the perceptual process. Examples of the findings will be related in the following three areas: (1) the definition of "set" or "constancies," (2) readiness

of accessibility of constancies, and (2) how "set" or "constancies" are developed.

Definition of "Set" or "Constancies"

There are two goals of perception according to Hilgard (1951). These are to maintain the world of space as a stable one and " . . . to achieve immediate clarity and definiteness in our apprehension of objects, even though the ones furnished are ambiguous." (p. 118) Bruner (1958) appears to reflect this idea in mentioning that the individual strives to minimize surprise. In order to maintain this level of stability or lack of surprise, as well as clarity, the individual develops an anticipation or expectancy about the familiar things in his environment. These anticipations or expectancies are referred to as "sets" (of expectancies) or "constancies."

The applicability of constancies, as pointed out by Cantril (1957), are not limited to things. Rather, an individual develops constancies for people and for social situations as well. In other words, the individual establishes, as it were, a home base which "tends to ease his interpretations and make his actions more effective" in dealing with his environment. (Cantril, 1957, p. 125)

An example of constancies is given by Hastorf, Schneider, and Polefka (1970). "In perceiving attributes of another person, we focus not on his behavior, which is

ever-changing, but on more invariant characteristics, namely, his intents and purposes." (p. 13) An individual is thereby able to distinguish a person because of having a home base, rather than having to identify the ever-changing behavior to which he might be exposed.

Readiness of Accessibility of Constancies

As the individual becomes older and gains in experience, the number of constancies he develops becomes quite large. Consequently, the advantage of developing constancies at all, i.e., to facilitate a stable and clear world, could perhaps be lost altogether if the correct constancy could not be "called up" or located quickly. Imagine the delay which would ensue between sensory reception of a stimuli and the ability to respond if the perceptual process necessitated a complete scanning of all constancies.

Bruner (1958), a major contributor in the area of accessibility, maintains that such a scanning process is not required in that the "call-up" or accessibility "time" for any given constance varies. In other words, at a given moment, some constancies are more easily accessible than are others or than were the same constancies in earlier (or later) moments. Bruner (1958) further suggests two reasons for the variation in accessibility rates: (1) the

individual's current needs and/or interests, and (2) the current "predictive requirement of perception and the need to avoid disruptive mistakes."

An example of differences in accessibility rates would be the quick recognition of restaurant signs when one is hungry. At other times, when one is not hungry, such signs may go completely unnoticed.

The Development of Constancies

An individual develops constancies, as expressed by Cantril (1957), so that he does not have to make a fresh guess as to the significance or meaning of each set of stimuli. Generally, it is agreed that these constancies are primarily the result of our past experience and are learned. Some authors, on the other hand, although seeming to agree with the importance of past experience and learning process, feel that additional factors should be considered as being involved in the formulation of constancies.

Most prominent of these additional factors seems to be the consideration which is given to the present motivational state or present needs of the individual. Some of the most recent literature reflect this point; for example, Hastorf, Schneider, and Polefka (1970) and Kaluger and Unkovic (1969).

Hastorf, Schneider, and Polefka also indicated that the development of constancies is largely influenced by

language. The implications seem to be that constancies might be different between those having different languages. The difficulties experienced in translating exact meanings of one language to another appear to support this line of thinking.

The factors mentioned above--past experience, present motivational state, and language--describe the composition of constancies. How constancies are formed or learned, on the other hand, had been outlined by Bruner (1951). Because of our past experience--i.e., the responding to stimuli--the individual by a series of mental rewards and punishments learns that certain stimuli systems are meaningfully related.

A better understanding of the development of these meaningfully related systems, or constancies, is possible when it is realized that not all constancies are developed or learned to the same strength or level. Part of the difference in accessibility rates of constancies, mentioned in the previous section, is explained, also, by the difference in strength or level to which constancies are developed. Bruner's (1951) outline mentions five factors which influence the strength to which constancies are developed:

1. The frequency of past confirmation of stimuli--The more frequently an individual experiences a particular set of stimuli, the easier it becomes to recognize that particular set, consequently, the stronger the constancy.

2. The degree of monopoly associated with a constancy--In other words, the fewer alternative choices an individual could make from a constancy, the stronger that constancy becomes.

3. The cognitive consequences presented by a constancy--If a particular constancy is in agreement with other constancies or is supported by others, the stronger will be that constancy. If, however, there is little agreement or conflict with other constancies, the cognitive processes will reflect this conflict and the constancy will be weaker.

4. The motivational consequences of the constancy--This means that if a constancy is recognized as being important in carrying out a goal, the stronger will be that constancy.

5. The social consequences of the constancy--If the individual recognizes support from other persons for a constancy, the stronger will be the constancy.

Although the strength of a particular constancy can change because the learning process is a continuous one, it has generally been found that earlier experiences exert more influence on constancies than do more recent experiences. The first impressions formed of others, for example, have been shown to influence an individual's perception of that person for a considerable length of time. (Costello and Zalkind, 1963)

In analyzing the perceptual process, particularly in discussing the formulation of constancies, caution should be used so as to not confuse the perceptual process with other cognitive processes. Particularly is this caution applicable to the process of attitudes. The perceptual process is concerned with recognizing of physical objects, persons, and social situations. Attitudes, on the other hand, are concerned with a feeling towards the objects, persons, and situations. Obviously, recognition must be made before a feeling can develop.

Newcomb, Turner, and Converse (1965) have made a rather clear distinction between perceptions and attitudes. Along with his perceptions an individual organizes his thoughts, feelings, and motor behavior towards a goal. This organization, according to these authors, is termed motivation and is usually thought to be a rather short ranged phenomena. If this organization or motivation is longer ranged, it then falls into the category of being an attitude.

Factors Affecting Perceptual Differences

The term perceptual difference is another which is often undefined. It is a term which is certainly applicable to the difference between the perceptions different individuals might make of a given object, person, or situation. However, as this study is concerned with the personal satisfactions and perceptions of individuals, a slightly different meaning

will be applied to the term. For this investigation the term perceptual difference refers to the differences which occur within the individual at the point of interface between the transmitted stimuli and the previously established constancies used in the perceptual process.

Perceptual differences, like the development of constancies discussed in the previous section, are caused mainly by conflicts occurring within the mental processes of the individual. However, it should be pointed out that, according to Newcomb, Turner, and Converse (1965), there is one limiting physical factor which should be considered. This factor is the limited attention span found in most individuals. Newcomb, Turner, and Converse specifically mention that "even with all our senses intact, the fact remains that close attention to one aspect of a complex object or situation normally precludes close attention to all possible aspects." (p. 34)

Such a limited attention span, in itself, may not be the actual cause for perceptual differences. The inference is that if close attention is paid to a particular object or situation, the level or strength of the interface between other stimuli and their constancies may be insufficient to permit the usual perceptual process associated with these interfaces.

The other factors affecting perceptual differences are generally considered to be those which influence the

mental processes of the individual, i.e., those which influence the interface between the stimuli and the constancies of the individual. For convenience, these factors can be categorized into two areas: those which result from cultural and social influences and those which are generated from within the individual.

Cultural Influences

To suggest that there is a clear distinction between cultural and personal factors influencing perceptual differences is somewhat misleading. For example, the goals or needs of an individual are classified as personal factors. However, the suggestion should not be made that one's goals and/or needs are not at least partially resultant from the broader cultural environment of the individual. Such a distinction is made here only for purpose of convenience.

The exact influence of cultural factors upon the perceptual process is a topic generally not pursued in the literature. Rather, it is generally accepted that the cultural influence is so great that it is usually assumed. For example, Dennis (1951) mentions that there is no doubt that one's perceptions of objects and of people are determined by culture. There seems to be little left to argue.

Perhaps the most widely cited study illustrating the impact of cultural norms upon the perceptual process was conducted among the Trobriand Islanders. (See Lewis,

1963, for one of the many reviews of this study.) Their culture specifically precluded a child from resembling its mother. The child might be recognized as looking like any other member of the family except the mother. (Lewis does mention that this study does show the difficulty in distinguishing between culturally influenced perceptions and culturally imposed behavior.) If, indeed, the islanders actually perceived no physical resemblence between child and mother, then the impact of culture upon the perceptual process is clearly shown.

Of a more specific nature, Tajfel (1968) mentions five areas within the perceptual process which the cultural influences may affect. (It should be pointed out that although Tajfel does list five steps in the perceptual process, there does not seem to be a serious disagreement with the three steps outlined in this chapter, i.e., transmission of stimuli, development of constancies, and interface between stimuli and constancies.) Tajfel lists the following five areas within the perceptual process as being directly affected by cultural norms: discrimination, identification, detection, recognition, and judgement. (p. 321) Again the point seems to be made that cultural influences upon the perceptual process is omnipresent.

Within the broader area of cultural influence upon the perceptual process is a sub-group which should be pointed out; this is the influence exerted by the group or

groups within which an individual functions. Operating within the broader boundaries established by cultural norms, the group often has considerable latitude for establishing its own norms and rules. Generally, the literature dealing with perception only refers to this influence from the group in a broad sense. Even so, the point should be made when discussing the factors affecting perceptual differences, the influence of the group upon the formation of constancies is, or at least could be, significant.

Personal Influences

The other major category of factors affecting perceptual differences is that which includes those factors that are personal in nature. Again, it should be pointed out that even these personal factors are formed only within the cultural restrictions imposed, even subconsciously, upon the individual. The literature reflects three major areas of personal factors which could be causes of perceptual differences by causing conflict at the point of interface between stimuli and constancies. (It should be recalled that perceptual differences take place at this interface because of variations in constancies, increased alternatives, and/or weak or unrealistic constancies.) The three major areas influencing personally generated perceptual differences according to Costello and Zalkind (1963) and Kalish (1970)

are the differences found between individuals as to personality characteristics, motivational states, and past experiences.

The personality characteristics influencing perceptual differences might be liken, in some respects, to physical differences found between individuals. Rather than being physical characteristics, however, the personality differences reflect differences in mental processes. It could perhaps be argued that mental or cognitive processes are physical processes. The distinction is being made, as mentioned previously, between the physiological processes and the mental processes involved in the perception. The physiological processes refer to such processes as the reception and the transmission of stimuli by the sensory and nervous components of the body. Still, if the argument is made that cognition is largely dependent upon physical abilities, the point should be made that cognition likewise is dependent upon such non-physical characteristics as flexibility and training.

The literature makes specific reference to these personality characteristics influencing the perceptual process although common terms are not applied. Bruner (1951), for example, refers to personality structures while Bartley (1958) mentions personality features. Somewhat more explicit are the reference by Costello and Zalkind (1963) to cognitive styles and Kalish (1970) to personal

rigidity. A possible explanation of the cause of the differences in personality styles might be the different mental rewards and punishments experienced by individuals as they engaged in different sets of social interchanges.

The second major classification of influences affecting personal perceptual differences are those concerning the motivational state of the individual. Generally, as illustrated by Costello and Zalkind (1963), the motivational state refers to those influences which largely determine the behavior of an individual in his efforts to achieve goals to satisfy his particular needs. In this sense, needs and goals must, too, be considered in defining the influences acting upon the motivational state of the individual. Bruner (1958), however, offers a suggestion which permits less emphasis to be placed upon the individual's needs. He points out that the important point is not the amount of a need which determines motivational state, but rather it is the way in which the need is handled which does.

Generally, the components of the motivational state of an individual are the level of aspirations and the expectancies felt by the individual. These levels of aspiration and expectancy might be regarded as the bridges found between the needs and the goals of an individual. According to Costello and Zalkind (1963), the distinction between an individual's level of aspiration and his

expectations can be made as to what he hopes to do as opposed to what he hopes to receive. Stated in another manner, it might be said that levels of aspiration, although influenced by past experience, are largely influenced by an individual's perception of his present role. On the other hand, expectancy is influenced by the individual's past experience of rewards and punishments.

Particularly when the influences of aspiration levels and expectancy act together, it is possible to understand that the interface between stimuli and constancies would be different from those interfaces which occur when the two do not act together or when they do not act at all. Quite probably, the difference is explained by the fact that the accessibility rates of constancies would be affected by the strength and the direction of these influences. Likewise, because of the different levels of aspirations and expectations found among individuals, perceptual differences between individuals are partially explained.

The third major area of influence upon personal perceptual differences is the past experiences of the individual. Even as it might be said that a person is the product of his culture, so might it be said that he is a product of his past experience. It has already been mentioned that personality or cognitive styles as well as motivational states are influenced by past experiences. This third classification, then, is mentioned so that two

additional influences made by experiences upon the interface of the perceptual process might be stressed.

The first of these two influences is pointed out by Kaluger and Unkovic (1969). These authors, writing about perceptual learning, mention that past experience sharpens the perceptual process through a learning process. Not quite so subtly the same point is made by Kreck and Crutchfield (1958) when they mention that perceptions are subject to change through experience. Because of perceptual learning, then, the internal perceptual conflict might be expected at the point of interface as either accessibility rates change and/or conflicting constancies are formed.

The second additional influence made by past experience upon the perceptual interface is mentioned by Cantril (1957). He points out that the assumptions brought into a particular situation determine, to a large degree, the perceptions that will be made about that situation. In other words, it appears that an individual's past experiences tend to key certain constancies so that their accessibility rate becomes much quicker than other constancies. Conflict would tend to occur if the stimuli received do not exactly correspond to that which was anticipated. This conflict would probably be of less significance to those individuals who possessed less rigid cognitive styles.

Reactions to Perceptual Differences

Perception, as mentioned in an earlier section, is that process whereby the individual is able to make comprehensions about his environment. Stimuli are received, transmitted to the central nervous system, grouped into meaningful systems, compared to pre-established expectancies or constancies, and finally identified. After identification has been made of the stimuli, the individual is then capable of responding to those stimuli by means of some type of behavior. The perceptual process, however, is completed when the identification has taken place.

It was further pointed out that for several reasons the identification of stimuli, which takes place at the interface between the stimuli and the constancies, might result in confusion for the individual. This confusion has been termed perceptual difference. When perceptual differences do occur, feedback is made to update the constancies so that future differences might be minimized. This updating or learning process is not necessarily a quick process in that the stronger the constancy the slower the change. Likewise, when perceptual differences occur, the basis for the resultant behavior is in a sense weakened thereby causing behavior which might be inconsistent with the actual stimuli. It is not suggested that a specific type of behavior directly results from a particular type of perception. However, it is suggested that perception

is the first step in the overall behavior process and that perceptual differences may start this process in such a way that the remaining steps tend to develop specific, identifiable patterns. This section reviews those behavior patterns which have been so identified.

It should be mentioned that the term behavior is used to refer to the complete spectrum of human responses. It is generally held that behavior is not always a physical response but rather in its broadest sense includes cognitive responses as well. A distinction between the physical and the cognitive might well be made by referring to overt and covert responses.

The covert or cognitive responses, according to the literature, tend to separate into two general classifications. The first of these classifications consists of those responses which influence further perceptions in such a way that behavior and perceptions become more compatible. In essence, these responses tend to legitimize the individual's perceptual differences so that conflict between behavior and perceptions is reduced. Costello and Zalkind (1963) refer to these responses as errors in perceptions.

Sterotyping, halo effect, projection, and perceptual defenses such as denial, encapsulation and distortion, and recognition of incongruity are the major errors in perception falling into this classification. At first glance these errors might be regarded as being merely reinforcements

of constancies in the usual perceptual learning process. The distinction is being made between these errors and perceptual learning, however, in that there appears to be additional cognitive processes involved in the development and perpetuation of each of these errors. In other words, it appears that through cognitive responses the individual is able to restrict the search of perceptual constancies by influencing the rate of accessibility of favorable constancies. In so doing he is better able to justify a particular behavioral style.

The second classification of covert type responses made by the individual refers to those responses which occur when a choice must be made between alternative behavioral styles which do not appear to be quite so favorable. The work of Festinger (1958 and 1960) in cognitive dissonance perhaps best illustrates this type of response. Because of conflicting cognitions, the individual attains a motivational state which directs his behavior in a manner so as to reduce or to eliminate the dissonance. Usually this cognitive dissonance is associated with separate cognitions, resulting from two or more different perceptions. It is also possible to regard the response to a perceptual difference having only unattractive alternatives as being a type of cognitive dissonance.

Consequently, because of either of these two types of cognitive responses, perceptual errors or cognitive

dissonance, the behavioral process is affected. Typically, the individual may experience an increase in anxiety, a growing frustration, or a change in attitude. Anxiety, as described by May (1950), is "the apprehension cued off by a threat to some value which the individual holds essential to his existence as a personality." (p. 191) Frustration, on the other hand, is apprehension caused by the actual existence of a threat. (Costello and Zalkind, 1963) Attitudes, according to Berscheid and Walster (1969), are generally held to be a readiness or a predisposition to respond to an occurence in a certain manner.

It might be possible to regard the changes in anxieties, frustrations, and/or attitudes in either a positive or a negative manner as being the end result or the manifestation of cognitive responses. As these changes occur, the motivational state of the individual changes. If the changes in anxiety, frustration, or attitudes are of a significant magnitude, it is quite likely that an overt type behavior will result.

Overt behavior, the second classification of behavioral responses to perceptual differences, is primarily those behaviors which are identifiable because of the physical activity performed by the individual. Although the literature reflects differences in terminology, there does seem to be a basic agreement as to the major types of behaviors which are regarded to be in this classification.

For example, McNeil (1959), after an extensive review of the literature, concluded there to be fourteen such major behaviors resulting from frustration, conflict, and anxiety. In more general terms, Litterer (1965) refers to four types of responses stemming from incongruency of formal-task role prescriptions and self-concepts.

As related specifically to job satisfaction and turnover, the last two responses listed by McNeil are of particular interest. These two behaviors are resignation, apathy, boredom, and flight or withdrawal. In the same vein, Litterer's four classifications seem to be applicable. These are (1) leaving or withdrawal from the situation, (2) changing the formal-task role, (3) agreeing to disagree, and (4) changing self-concepts. (pp. 453-54) Of course the actual behavior which might fall into any of these classifications might differ from one individual to another or from time to time for a single individual. The point remains that various ranges of behavior can be so classified.

At first glance it might appear that each of these types of behavior responses are of a negative nature. Perhaps this might generally be true but is not necessarily the rule. For example, Costello and Zalkind (1963) mention that certain levels of frustration and anxiety lead to behavior, such as increased production which tries to decrease the perceived frustration or anxiety. It is likely that such an increased production often leads to feelings of accomplishment and

satisfaction. In such cases a negative response is turned into a positive response. (These authors do mention, however, that as the level of frustration and anxiety increases, the behavior does become more negative in nature.)

Summary and Conclusions

This chapter has outlined, generally, the literature concerning perception, perceptual differences, and responses because of perceptual differences. Although perception has been the subject of investigation for over ninety years and is a multi-dimensional concept, it is generally held that perception is the process whereby the individual is able to make identification of his environment. Specifically, perception is thought to be the reception and transmission of stimuli which are then coded into systems for comparison against previously developed expectancies or constancies.

Because of cultural and personal differences, the comparison of coded stimuli systems against constancies, or the interface between these two, may result in difficulty in making the proper identification of the stimuli. This difficulty has been termed perceptual differences. At this point the perceptual process is complete. The output of this process, whether correct or incorrect, becomes the input for behavioral responses to the received stimuli.

Although the review of literature on behavior is beyond the scope of this investigation, major classifications

of behavior usually associated with perceptual differences were reviewed. Two classifications of such behavior seemed appropriate for mention. Because behavior, in its broadest sense, includes non-physical type responses, these two classifications are cognitive or covert behaviors and physically identifiable or overt behaviors.

The conclusions which might be drawn from the literature on perception which might be applicable to this present investigation appear to be significant. They are as follows:

1. Although perceptions are learned, they are somewhat slow to change.

2. Perception is a selective process and evidence shows that a perceptual concentration in one area tends to preclude concentration in other areas. This conclusion seems to suggest that indications of high perceptual difference by an industrial buyer might relate to a low score on any one of the job satisfaction sub-scales, rather than to the total job satisfaction score.

3. Perceptions are based largely upon the development and the accessibility rates of constancies or expectations. These, in turn, are developed to a great extent by the individual's past experiences. Consequently, the individual's past experiences influence the manner in which he perceives his present position.

It is suggested that the literature tends to support the hypotheses that buyers of similar demographic and mobility backgrounds will tend to evidence similar degrees of job perceptual differences.

4. If perceptual differences exist, it is expected that either cognitive or physical behavioral responses too will exist in an attempt to either legitimize the difference or to eliminate the difference. Consequently, it is suggested that buyers experiencing high levels of perceptual difference express attitudes of low job satisfaction and quite possibly are likely to be more mobile in the profession.

CHAPTER IV

METHODOLOGY AND PROCEDURES

This chapter reviews the methods and procedures employed to gather and analyze the data for this study. Specifically, this chapter reports the general design of the study, the hypotheses and their analysis, the method of selecting the subjects, the procedures for securing the data, the methodology used to treat the data, and a justification of the instruments used in the study.

Design of the Study

This study investigated the mobility patterns, the levels of job satisfaction, and job perceptual differences of industrial buyers. The design of the study was such that specific questions regarding industrial buyers could be answered and that some type of general conclusions might be made from the information provided by the buyers.

The specific questions to be answered in this study stemmed from the exploratory nature of part of the study. In other words, the establishing of buyer profiles in areas of demographic backgrounds, mobility patterns, job satisfaction levels, and job perception differences were all considered to be specific questions to be answered. On the other hand, conclusions about other information must be

drawn relying upon other data secured from the literature. Interpretations must be made regarding the relationships which might exist between such variables as satisfaction and perception, mobility and satisfaction, et cetera. Consequently, the study design must accommodate the gathering and the analysis of both the specific and the more general questions investigated.

Hypotheses and Analyses

This section reviews the hypotheses tested in this study. Rationale is given for the selection of each of these hypotheses. Because of the exploratory nature of part of the study, several of the hypotheses can not be readily justified by the literature. In these cases, the author's value judgments are given.

The hypotheses and their analyses were as follows:

1. Industrial buyers demonstrating high job mobility did not reflect similar demographic backgrounds; this was an exploratory type hypothesis and had little support from the literature. It was tested, however, to determine if background variables might appear to have a similar significance among those buyers who have demonstrated similar mobility patterns.

If significant patterns were established, it could be interpreted that similar past experiences have influenced the individual buyer's perception constancies in similar

manners thereby providing similar bases for viewing the present job. If such significant patterns could not be established, it was then assumed that other factors, such as personality traits, are responsible for the differences in mobility patterns.

2. Industrial buyers demonstrating similar demographic backgrounds did not reflect similar degrees of job satisfaction. As reviewed in Chapter II, several demographic and organizational variables were tested against levels of job satisfaction. The findings in the literature suggested that there was some type of positive relationship between age, tenure, marital status, education, and job satisfaction. As was previously pointed out, the exact nature of these relationships, with the exception of marital status, were subjects of some disagreement in the literature.

Consequently, this hypothesis was tested in order to add information to the existing body of knowledge in this area of job satisfaction. It was expected that similar positive relationships would be found and that the exact nature of these relationships could be identified.

3. Industrial buyers demonstrating similar demographic backgrounds did not reflect similar job perceptions. This hypothesis was supported by the findings in the literature which was concerned with perceptions. As shown in Chapter III, perceptual differences were developed, in part, by an individual's past experiences. It follows, then, that

those buyers reflecting similar past experiences might be expected to have developed similar constancies and, hence, similar perceptions about their present positions.

Certainly other past experiences not measured by this study could be expected to influence these constancies and perceptions. However, this hypothesis was tested to determine, if possible, if significant relationships might be reflected as the result of similar demographic and organizational backgrounds.

4. Industrial buyers demonstrating high job mobility were not less satisfied with their present jobs than those demonstrating low job mobility. Like the first hypothesis, this hypothesis was tested, not because of evidence in the literature, but rather because of the lack of such support. As mentioned in Chapter II, turnover has been a popular subject in the area of job satisfaction. However, the literature did not reveal studies which dealt with turnover as a current variable. Rather, the studies tended to test the predictive ability of findings of low levels of job satisfaction. This study treated past mobility, in similar jobs, as an independent variable to determine if past mobility influences significantly an individual's feeling about his present position.

It seems appropriate to assume that one reason an individual left a former position for a new one was that he anticipated greater satisfaction, for whatever reason,

from the new position. In other words, the former position provided a relatively lower level of job satisfaction than was anticipated to be derived from the new position. Consequently, the individual who has worked in previous purchasing positions brings a different set of anticipations or constancies into the new job than do those individuals who have not worked in similar positions previously. This hypothesis was tested to determine if such an assumption was valid.

5. Industrial buyers demonstrating high job mobility would not reflect similar patterns of job perceptions. This hypothesis, similar to hypothesis two, was based upon the findings that past experiences help determine an individual's set of perceptual constancies. Hypothesis two, as mentioned previously, tested the relationship which might exist between similar demographic variables and perceptual differences. This hypothesis tested, on the other hand, the relationship which might exist between another variable of past experience, job mobility, and current perceptions. It was expected that the test of this hypothesis would support previous findings in that similar backgrounds of job mobility would be reflected in similar perception of the present position.

6. Industrial buyers demonstrating similar degrees of job perceptual differences would not reflect similar levels of job satisfaction. Although this hypothesis

appeared to be logically consistent with the general discussion in Chapter II concerning job satisfaction and needs, it was in fact exploratory in nature as the literature did not reflect previous studies which have dealt specifically with these two variables.

The work of Porter, as reviewed in Chapter II in the area of needs and need fulfillment, tended to support this hypothesis however. Specifically, the degree of job perceptual difference should be significantly related with the satisfaction level of self actualization needs. It seemed reasonable to conclude that if an individual was not spending his time on the job as he felt he should be, his level of satisfaction of self actualization would be relatively low. Consequently, it was expected that a significant relationship would be found to exist between the variables of job perceptual difference and job satisfaction.

The Subjects

The Metropolitan Area of Chicago, Illinois, was selected as the geographical area to be investigated by this study. This Metropolitan Area included the six Illinois counties included in the Standard Metropolitan Statistical Area of Chicago plus two counties in northwestern Indiana, as defined by the Chicago Association of Commerce and Industry.

This area was chosen because of the amount and diversification of industry found here. For example, among the "firsts" in the country claimed for this Metropolitan Area by the Chicago Association of Commerce and Industry (1968-1969) are the following: in exports, in metal products manufacturing, in commercial printing, in steel production, in tool and die making, in general industry machinery, in railroad equipment manufacturing, and in fabricated metals. Because of this concentration of so many different kinds of industry in this area, it seemed that ready access could be made to a wide range of buyers in different sizes and kinds of industries.

Six Standard Industrial Classifications were chosen for 100 per cent investigation of all firms employing 500 or more persons. The six chosen and the number of firms employing more than 500 in each classification were as follows:

Standard Industrial Classification	Number of Firms
23 - Apparel & Finished Textile Products	11
25 - Furniture & Fixtures	20
27 - Printing, Publishing & Allied Industries	39
30 - Rubber & misc. Plastic Products	31
33 - Primary Metal Industries	55
37 - Transportation Equipment	24
	180

These six industries were chosen because of the number of firms in each classification and the diversification of products purchased. Three industries (SIC #22, #24, and #31) were not chosen due to the small number of

firms in each classification employing more than 500 persons. (These industries each contained seven or less such companies.)

Other industries (SIC #20, #28, #34, #35, and #36) were not selected because of too many firms, each having in excess of sixty-six companies. The remaining six SIC groups were not chosen because they appeared to be less diversified than the six chosen. In other words, it was anticipated that the types of materials purchased were more limited than in the industries chosen.

The subjects themselves were those persons employed by the firms selected who spent the majority of their time in the purchasing function for those companies. Those persons not spending a majority of their time in purchasing, due either to the small size of the firm, the nature of their purchases, or because purchases were made primarily by another plant or home office, were excluded from the survey.

Thirty firms had to be excluded from the sample as they had either moved from the area, gone out of business, or did no local purchasing. In all, useable responses were received from 213 of the 340 buyers in sixty-eight firms, a return of 62.6 per cent of all questionnaires sent out.

The Procedures

The procedures for gathering the data used in the study consisted of two separate major steps. The first step involved the design and pretesting of the questionnaire while the second step was to actually secure the information from the buyers in the companies selected.

Design and Pretest of Questionnaire

To determine how buyers spend their time on their job, as well as how they think they should be spending their time, the purchasing function was divided into its major components. These major components were identified according to Lee and Dobler (1965), Willets (1969), and from the author's own experience as an industrial buyer.

A difficulty arose in attempting to consolidate these major functions so that the functions would not be too specific--i.e., that they would still be major functions, but at the same time, would not be so broad as to preclude the collection of specific information. Nine major functions were so identified. To allow for the possibility of uniqueness in a specific buyer's job, a tenth factor--"Other, please specify"--was also included.

The buyers were asked to specify what per cent of their time, of 100 per cent total, they spent on each function as well as the per cent they felt they should spend on each.

Consequently, the two parts of the original questionnaire dealing with job functions asked the buyer to evaluate as many as ten items in such a way that the resulting totals for each of these parts of the questionnaire would equal 100 per cent. Not only was this a rather difficult task to ask, but the questionnaire appeared to be unwieldy. A less formidable and neater questionnaire resulted when four of the functions were consolidated into one question--"All dealings with vendors." Further, by so consolidating these particular four questions, the two parts of the questionnaire dealing with job factors now each contained only seven major functions. This was in line with the findings reported by Miller (1956) that seven is the usual maximum number of items within an individual's capacity for processing information as to judgments, attention span, and memory capability.

A disadvantage, however, was encountered by making such a consolidation; that is, the general function--"All dealings with vendors" was so broad that specific differences in buyer responses could not be identified. Consequently, a second section containing only the four items previously consolidated was added to each of the two parts of the questionnaire dealing with job functions. These second sections alone also totaled to 100 per cent.

A pretest was designed and administered to fifteen members of the College of Business faculty at Northern

Illinois University to determine respondents' reactions to the types of questionnaires outlined above. These pre-test questionnaires consisted of two parts; the first listed ten major functions representing the total job of a college professor. The second part consisted of two separate lists, one containing seven functions including "All association with students" and another consisting of four functions, i.e., four specific areas of association with students.

The introduction and the format of these pretest questionnaires were identical to those designed for use with the industrial buyers. The faculty members were asked to indicate which of the two formats was easier to fill out, the list of ten or the divided list.

Eight of the ten questionnaires returned indicated a preference for the divided list format. Six of these eight also indicated no difficulty in having their responses total 100 per cent.

Consequently, the divided format was chosen for use in the final questionnaire. It was also decided that in order to minimize duplication of responses between the questions dealing with how a buyer spent his time and how he felt he should spend his time that these two sections should be separated physically as much as possible in the questionnaire. For this reason, the questions dealing with the how the buyer spent his time was placed on page one

(as Part I) and the how the buyer felt he should spend his time on page four (as Part IV).

Part II of the questionnaire was designed to obtain information about demographic and organizational data concerning each individual buyer. Nineteen items were included in the original questionnaire. A combination of fixed-alternative, open-end, and scale questions were utilized (Kerlinger, 1964) to facilitate the ease of completing the questionnaire as well as to aid categorization of information received. (After the industrial pretest of the questionnaire, discussed below, the number of items on Part II was increased to twenty-one items.)

Part III or page three of the questionnaire contained the Job Descriptive Index (JDI). This was an instrument to measure job satisfaction and consisted of five separate subscales, one each to measure levels of satisfaction with: the work itself, the supervision, the pay, the promotion possibilities, and the co-workers. Permission was obtained to use the JDI from Professor Patricia Cain Smith, senior author of The Measurement of Satisfaction in Work and Retirement; A Strategy for the Measurement of Attitudes.

Part IV of the questionnaire, as mentioned earlier, was identical to Part I with the exception that Part IV dealt with how a buyer felt he should spend his time on the job rather than how he actually spent his time. The format for Part IV was the same as the one utilized in Part I.

In order to test the original design of the questionnaire and cover letter, as well as to become familiar with possible difficulties in administering the questionnaire, a pretest was conducted. Ten companies, similar to those companies previously selected to be included in the survey, were chosen for the pretest.

An introdcutory cover letter, a smaple questionnaire, and a self-addressed postcard were sent to the director of purchasing in all ten companies. The name of the directors and the address of the firms were obtained from the Metropolitan Chicago Major Employers handbook published by the Chicago Association of Commerce and Industry. Telephone calls were made to those companies not returning the postcards within ten days. Three postcards were received before the follow-up calls were made. Of these, two companies agreed to participate. After the telephone follow-up was made to the remaining seven companies, two companies were excluded from the sample, one because no local purchasing was performed and the other because of plant closing for vacation during this period. Five of the remaining eight companies did take part in the pretest. Fifteen questionnaires were mailed, of which nine were returned.

As a result of the pretest, several changes were made in both the introductory letter and the questionnaire. Likewise, additional plans were made to utilize more telephone follow-up work than had previously been made. Changes

made in the questionnaire were a redesign of the format, the addition of two new questions--"Did someone precede you at your present position?" and "If so, what happened to this person?"--and a change in the format of the question--"Types of materials you purchase"--from an open-end to a fixed-alternative style. (See Appendix A for a copy of the cover letters and questionnaire and Appendix B for follow-up letters.)

In an attempt to increase the initial responses (by returned postcards), an introductory letter from the former president of the Purchasing Management Association of Chicago, Harry N. Wada, was secured. This introductory letter, on PMAC letterhead, was included in the mailing of the actual survey.

Administration of Questionnaires

The same procedures used in the pretest were used in administering the questionnaires in the actual study. The introductory letter from Mr. Wada, the cover letter describing the study and asking for permission to include the company in the study, a sample questionnaire, and a postcard for reply were sent to the director of purchasing of the 180 companies previously selected to be included in the study. The purpose of this package was to persuade the purchasing officer to allow his buyers to be subjects in the study. If the purchasing director did so agree,

he was asked to return the postcard indicating the number of buyers employed at his company. A cover letter to the buyer, a coded questionanire, and a self-addressed, stamped envelope for each buyer so indicated was then sent to the director of purchasing for distribution to his employees.

Postcards were received from fifty-six of the 180 companies in the survey. Of these, forty-seven replied yes and nine replied no. Both letter and telephone follow-ups were made to the reamining 124 companies. The final results of the survey were as follows:

Total number of companies in survey	180
Companies having no local purchasing	24
Companies moved or out of business	15
Response of YES	75
Response of NO	34
No response	32
Total number of questionnaires mailed	340
Number of questionnaires returned	213

Treatment of the Data

Standard statistical analyses were used to treat the data. Frequency counts and related statistics were found for those data relating to buyer profiles in the areas of demographic and organizational variables, job mobility patterns, job satisfaction, and job perceptions.

Correlation and step-wise multiple regression analyses were then made to determine if relationships existed between these sets of variables. The analyses were made utilizing the Statistical Package for the Social Sciences computer program.

Justification of Instruments

Parts I, II, and IV of the questionnaire reflected the exploratory aspect of this study. Parts I and IV, the buyers' perception of their job and of how they felt they should spend their time, were designed to include the total job of the buyer. By using per cents totaling 100 per cent, a basis for comparison between Parts I and IV was established. Other formats, certainly, could have provided the same type of information. However, the format chosen did not seem to present any disadvantages and did provide a rather easy means for the buyers to provide the desired information.

Part II, background data, was designed primarily to make as convenient as possible for the buyers to provide information about a number of topics and to facilitate the processing of these data. Again, this particular format was only one of several which might have been employed.

The Job Descriptive Index was chosen as the instrument by which job satisfaction levels would be measured. The JDI was chosen over other measures of job satisfaction

because of the extensive validation which this instrument has received, the ease with which it could be administered and scored, and because of the national normative scores which have been established.

The deciding factor to use the JDI, however, stemmed from Chapter II, the review of the literature concerning job satisfaction. As was revealed in this chapter, one of the difficulties in the total area of job satisfaction was the lack of continuity between the various studies and the lack of standardization of terms, norms, and instruments. The JDI, then, was not chosen because it was necessarily a superior instrument in measuring job satisfaction; but, rather, it was chosen because it appeared to be at the worst a sufficient instrument and because the findings of this study could be added to that body of information previously gathered with the JDI in other studies.

It was difficult to determine whether a particular instrument used in the area of measuring attitudes was superior to any other instrument. Certainly such a determination was beyond the scope of this study. Many instruments have been used in previous studies investigating job satisfaction. For example, two of the best known instruments are the Science Research Associates Employee Inventory and the Minnesota Industrial Relations Center's Triple Audit. Many other studies, however, have not used standardized

instruments but have used instruments developed specifically for a particular study.

Although other instruments might have been chosen to be used in this study, the literature did offer support for chosing the JDI. For example, Ewen (1967) used the JDI because of "the extensive validation involved in its construction." (p. 70) Vroom (1964) mentioned that the JDI "without doubt (is) the most carefully constructed measure of job satisfaction in existence today." (p. 100) Ronan (1970) did not use the JDI in his study but did rationalize why he did not. He used his own instrument apparently not because the JDI was not a sufficient measure but, rather, because of the broader scope of his investigation.

CHAPTER V

FINDINGS AND INTERPRETATIONS

This chapter reviews the analyses of the data obtained in the study. Where possible the data were divided into four major groups of variables: demographic and organizational variables, job mobility variables, job satisfaction variables, and job perception variables. The findings are reported below according to the analyses made of the data. Specifically, this chapter reviews the findings according to frequency studies, correlation studies, multiple-regression studies, and combinations.

It should be pointed out that although 213 useable questionnaires were returned, not all of the questionnaires were complete. Rather than exclude the questionnaires which were in some way incomplete, the data which were reported were included where possible. Missing data were excluded of course. Consequently, the number in the sample varies from one analysis to another. The n for each analysis has been indicated.

Frequency Studies

In order to determine buyer profiles in the areas investigated, frequency counts, ranges, means, and standard deviations were determined for all variables.

Demographic Variables

Tables 1 and 2 present these statistics for the answers given to questions regarding demographic variables. A review of these tables revealed that the "average" buyer was 41.4 years of age, had 2.4 dependents, had a high school diploma plus some college, was married, and had worked for the company he is now employed with for 12.6 years. However, it was found that this average buyer had worked in purchasing for his present employer only an average of 9 years, indicating that many buyers do not begin their careers with a company as buyers. Rather, it was indicated that individuals were either transferred or promoted into the purchasing department.

Constructing a buyer profile only from means, however, could reflect a biased picture of the industrial buying profession as a whole. Table 1, for example, provides further insight into the overall profession. Although the average buyer was approximately 41 years old, it was found that there were many younger buyers. Forty-six, or nearly 22 per cent, were found to be in their twenties with the youngest buyer being 22 years old. On the other end of the distribution, there was found to be 15 buyers, or approximately 7 per cent, who were 60 or more years of age. The oldest buyer was 72.

TABLE 1

FREQUENCY AND PER CENTS FOR DEMOGRAPHIC VARIABLES

Variable	Frequency	Per Cent
1. Age: (n=212)		
a. 20-29	46	21.7
b. 30-39	49	23.1
c. 40-49	60	28.3
d. 50-59	42	19.8
e. 60 and over	15	7.1
		100.0%
2. Number of dependents: (n=213)		
a. zero	37	17.4
b. one	44	20.7
c. two	37	17.4
d. three	37	17.4
e. four	29	13.6
f. five or more	29	13.6
		100.1%*

TABLE 1--Continued

Variable	Frequency	Per Cent
3. Years of education: (n=213)		
a. 12 or less	45	21.1
b. 13 through 15	83	39.0
c. 16	48	22.5
d. 17 or more	37	17.4
		100.0%
4. Years tenure with company in any position: (n=213)		
a. one year	19	8.0
b. two through three	33	15.5
c. four through five	23	10.8
d. six through nine	33	15.5
e. ten through fifteen	41	19.3
f. sixteen through twenty-five	31	14.5
g. twenty-six or more	33	15.5
		100.0%

TABLE 1--Continued

Variable	Frequency	Per Cent
5. Years tenure with company in purchasing: (n=213)		
a. one year or less	28	13.1
b. two through three	46	21.6
c. four through six	37	17.3
d. seven through nine	23	10.9
e. ten through nineteen	50	23.5
f. twenty or more	29	15.6
		100.0%
6. Marital status: (n=212)		
a. Married	189	88.8
b. Single	18	8.6
c. Other	5	2.4
		99.8*

TABLE 1--Continued

Variable	Frequency	Per Cent
7. Highest degree earned: (n=212)		
a. Less than high school	4	1.9
b. High school diploma	128	60.2
c. Bachelor's degree	67	31.6
d. Master's degree	9	4.2
e. Other	4	1.9
		99.8*

*Due to rounding

TABLE 2

MEAN RESULTS OF DEMOGRAPHIC VARIABLES

Variable	Mean	Minimum	Maximum	Standard Deviation
1. Age: (n=212)	41.4	22	73	11.5
2. Number of dependents: (n=213)	2.4	0	9	1.9
3. Years of education: (n=213)	14.7	10	20	2.0
4. Tenure in years with company, any position: (n=213)	12.6	1	50	11.0
5. Tenure in years with company, in purchasing: (n=213)	9.0	1	35	8.0
6. Marital status (code: 1=married, 2=single, 3=other): (n=212)	1.1	1	3	.4
7. Highest degree earned (code: 1=less than high school, 2=high school diploma, 3=bachelor's degree 4=master's degree, 5=other	2.5	1	5	.7

Also, it was found that although the average buyer had received a high school diploma as his highest academic degree, 80 buyers, or approximately 38 per cent, have at least a Bachelor's degree. A further review of the data indicated that many buyers continue their education. Specifically, it was found that 38, or 17.4 per cent, of the buyers have 17 or more years of education. This was in contrast to the findings that only 13, or 6.1 per cent, of the buyers have received formal degrees beyond the Bachelor's degree.

Concerning tenure with the company in any position and tenure in purchasing, it was found that there were major differences in the frequency distributions. Only 52 buyers, or 24.4 per cent, have been with their respective companies in any capacity for three or less years. On the other hand, 74 buyers, or 34.7 per cent, have been in purchasing for three or less years. This difference was further pointed out by the fact that nearly 50 per cent of the buyers have been with their company for ten or more years, but only 39.1 per cent have been in purchasing for ten or more years. This, too, would indicate that many buyers do not start with their company in the position of buyer.

Table 3 presents a comparison of the demographic profiles established by Purchasing Week (1969) and by the current study. The comparison of three demographic variables revealed little marked differences. For example, Purchasing

TABLE 3

DEMOGRAPHIC PROFILE COMPARISON

Variable	Purchasing Week findings in per cent	Current findings in per cent
1. Age:		
a. median	42 years	41.8 years
b. under 25	2	3.8
c. 25 through 34	23	32.0
d. 35 through 49	46	37.3
e. 50 through 64	28	25.5
f. over 65	1	.9
2. Education:		
a. less than high school diploma	2	1.9
b. high school diploma	54	60.2
c. Bachelor's degree	38	31.6
d. Graduate degree	5	6.1
3. Tenure with present company in purchasing:		
a. less than two years	9	23.0
b. 3 through 6 years	37	28.1
c. 7 through 15 years	32	27.7
d. 16 through 25 years	17	15.5
e. more than 25 years	5	4.7

Week reported a median age of 42. This study found its subjects to have a median age of 41.8 years. The major differences that did result from this comparison were (1) that the current study contained approximately 9 per cent more of its subjects in the 25 through 34 years of age grouping than did the earlier study, and (2) 14 per cent of the buyers in the current study had been in purchasing positions less than two years as compared to 9 per cent of the buyers in the previous one.

Organizational Variables

Tables 4 and 5 review the findings of the frequency counts, ranges, means, and standard deviations found for the organizational variables. A review of these tables revealed the following information about the buyers' companies and their jobs.

Although it had been decided to exclude from the survey those companies employing less than 500 persons, 27 buyers from such companies responded. As the Metropolitan Chicago Major Employers handbook did indicate the size of the companies listed, all companies included in the survey were thought to be larger than 500 employees. A possible explanation for some of the smaller companies participating in the study was that some of the companies listed were divisions or subsidiaries of larger parent companies. Another possible explanation was that the company decreased

TABLE 4

FREQUENCY AND PER CENTS FOR ORGANIZATIONAL VARIABLES

Variable	Frequency	Per Cent
1. Size of the company: (n=213)		
a. less than 500 employees	27	12.7
b. 500 to 1,000	35	16.4
c. 1,001 to 2,000	49	23.0
d. 2,001 to 5,000	29	13.6
e. 5,001 to 7,000	12	5.6
f. 7,001 or more	61	28.6
		99.9*
2. Did someone precede you at the present job: (n=213)		
a. yes	187	87.8
b. no	26	12.2
		100.0

TABLE 4--Continued

Variable	Frequency	Per Cent
3. If someone preceded you, what happened to that person: (n=213)		
a. received a transfer or promotion	66	31.0
b. retired	32	15.0
c. left the company for other reasons	89	41.8
d. no one preceded	26	12.2
		100.0
4. Number of persons authorized to purchase (n=213)		
a. 3 or less	43	20.2
b. 4 through 6	66	31.0
c. 7 through 12	38	17.8
d. 13 through 30	33	16.9
e. 31 or more	30	14.1
		100.0

TABLE 4--Continued

Variable	Frequency	Per Cent
5. Number of purchasing departments within the firm: (n=213)		
a. one	119	55.9
b. two	27	12.7
c. three or more	67	31.5
		100.1*
6. Single or multi-plant operation: (n=213)		
a. single-plant	70	32.9
b. multi-plant	143	67.1
		100.0
7. Do you supervise anyone: (n=213)		
a. yes	128	60.1
b. no	85	39.9
		100.0

TABLE 4--Continued

Variable	Frequency	Per Cent
8. If you supervise anyone, their title(s): (n=213)		
a. clerks or other non-buyers	55	25.8
b. buyers only	19	8.9
c. combination of buyers and non-buyers	54	25.4
d. supervise no one	85	39.9
		100.0
9. The number of persons you supervise: (n=213)		
a. one	35	16.4
b. two or three	42	19.7
c. four or more	51	24.0
d. supervise no one	85	39.9
		100.0

TABLE 4--Continued

Variable	Frequency	Per Cent
10. Your title: (n=213)		
a. assistant buyer	15	7.0
b. buyer	97	45.5
c. senior buyer or ass't. purchasing agent	27	12.7
d. purchasing agent	28	13.1
e. supervisor or director of purchasing	27	12.7
f. other	19	8.9
		99.9*

TABLE 4--Continued

Variable	Frequency	Per Cent
11. Types of materials purchased: (n=213)		
a. production materials only	59	27.7
b. MRO supplies only	6	2.8
c. services only	2	0.9
d. capital equipment only	6	2.8
e. other	7	3.3
f. any two categories	34	16.0
g. any three categories	46	21.6
h. four or more categories	53	24.9
		100.0

*Due to rounding

TABLE 5

MEAN RESULTS OF ORGANIZATIONAL VARIABLES

Variable	Mean	Minimum	Maximum	Standard Deviation
1. Size of the company (code: 1=less than 500, 2=500 to 1,000, 3=1,001 to 2,000, 4=2,001 to 5,000, 5=5,001 to 7,000, 6=7,001 and above); (n=213)	3.70	1	6	.12
2. Did someone precede you at the present job? (code: 1=yes, 2=no); (n=213)	1.12	1	2	.02
3. If someone preceded you, what happened to that person? (code: 1=transferred or promoted, 2=retired, 3=left the company for other reasons, 4=no one preceded): (n=213)	2.53	1	4	1.31
4. Number of persons authorized to purchase: (n=213)	14.59	1	99	19.15
5. Number of purchasing departments within the firm (code: 1=one, 2=two, 3=more than two): (n=213)	1.76	1	3	.90

TABLE 5--Continued

Variable	Mean	Minimum	Maximum	Standard Deviation
6. Single or multi-plant operation (code: 1=single, 2=multi-plant): (n=213)	1.67	1	2	.47
7. Do you supervise anyone? (code: 1=yes, 2=no): (n=213)	1.40	1	2	.03
8. If so, their title(s) (code: 1=non-buyers only, 2=buyer only, 3=combination of 1 and 2): (n=213)	1.99	1	3	.93
9. The number of persons you supervise: (n=128)	4.33	1	43	4.99
10. Your title (code: 1=assistant buyer, 2=buyer, 3=sr. buyer or ass't. p.a., 4=purchasing agent, 5=supervisor or director, 6=other): (n=213)	3.06	1	6	1.48
11. Types of materials purchased (code: 1=production materials only, 2=MRO supplies only, 3=services, 4=capital equip. only, 5=other, 6=any two, 7=any three, 8=four or more): (n=213)	5.10	1	8	2.84

in size between the time the handbook was compiled and the study.

The data also revealed that 111 or 52.1 per cent of the buyers responding were employed in firms smaller than 2,000 employees. On the other hand, 73 buyers, or 34.2 per cent, were employed in firms employing over 5,000.

As was mentioned previously, two questions were added to the questionnaire after the pretest. These questions--"Did someone precede you at your present job?" and "If so, what happened to that person?"--were added to obtain additional information about the working environment of the buyers as well as to add to the total picture of buyer mobility. A total of 187 buyers did indicate that someone preceded them at their present job. In other words, 26 buyers were hired to fill a newly created position.

Perhaps one of the most revealing findings of this study was that of the 187 buyers reporting that someone had preceded them at the present job, 89 reported that the predecessor had left the company. This meant that nearly 50 per cent of all predecessor buyers left not only their buying position but also left their company either for their own reasons or were dismissed. Of the 213 buyers in the sample, this 89 represents 41.8 per cent of all responses.

On the other hand, only 66, or 31 per cent, of the buyers indicated that they had a predecessor who had been either transferred or promoted. Thirty-two, or 15 per cent,

reported that they had had a predecessor who had retired from the company while being a buyer. Twenty-six, or 12.2 per cent, indicated that they had no predecessor.

The average purchasing department was found to consist of 14.59 buyers. A look at the frequency counts, however, revealed that 43 buyers, or 20.2 per cent, worked in departments having 3 or fewer buyers. Sixty-six buyers, or 31 per cent, worked in departments having between 4 and 6 buyers employed. It was also found that very large purchasing departments exist in the larger companies. For example, 63 buyers, or 31 per cent, were employed in departments having 13 or more buyers. It appeared more than coincidental that a similar number of buyers, 67 or 31.5 per cent, were employed by firms having three or more purchasing departments.

There was an indication that many multi-plant firms used centralized purchasing policies. For example, 143 buyers, or 67.1 per cent, worked in multi-plant firms. This was in contrast to the figures cited above that 119 firms, or 55.9 per cent, have only one purchasing department. Only 70 buyers, or 32.9 per cent, reported that their firm was a single-plant operation.

Although 85 buyers, or approximately 40 per cent, indicated they supervised no one, the "average" buyer supervised 4.3 persons. Of the supervisors, however, only 19, or 8.9 per cent, indicated that they supervised

buyers only. Fifty-five, or 25.8 per cent, supervised clerks and/or other non-buyers, while 54, or 25.4 per cent, supervised a combination of buyers and non-buyers. From the author's purchasing experience, there was little surprise that the average number of persons supervised was as high as 4.3. Usually the purchasing department contained at least one non-buyer for every buyer in the department. These non-buyers were secretaries, receptionists, clerk-typists, or expeditors. Too, the average number supervised was partially explained by the fact that 27 respondents, or 12.7 per cent, indicated that their title was either supervisor or director of purchasing.

On the other hand, only 15, or 7 per cent, of the buyers indicated their title to be assistant buyer while 97, or 45.5 per cent, were buyers. Another 27, or 12.7 per cent, were classified as either senior buyer or assistant purchasing agent. Twenty-eight, or 13.1 per cent, indicated their title to be purchasing agent, and 19, or 8.0 per cent, listed a title other than those mentioned above.

Typically, the items bought through the purchasing department were classified into one of four categories: production materials, MRO supplies (Maintenance, Repair, and Operating), services, or capital equipment. Fifty-nine buyers indicated that they purchased production materials only. These buyers represented 27.7 per cent of the respondents. Only 21 other buyers, or approximately 8 per

cent, indicated that they purchased a single category of items. On the other hand, 34 buyers, or 16 per cent, indicated they purchased two categories of items; 46 buyers, or 21.6 per cent, reported that they bought three categories; and 53, or 24.9 per cent, purchased at least four different categories of materials. In other words, a total of 133 buyers, or 62.5 per cent of the respondents, bought more than one category of items.

Mobility Variables

Tables 6 and 7 present the findings as to the frequency counts and related statistics concerning the past mobility patterns of the industrial buyers in the study. It may be somewhat surprising to members of the purchasing profession to learn that the "average" buyer in this particular study have worked in purchasing for 1.56 companies. Stated in more meaningful terms, Table 6 reveals that 30 buyers, or 14.1 per cent, have worked for three or more companies in purchasing. Further, Table 6 indicates that 46 buyers, or 21.6 per cent, have worked for two companies in purchasing. In other words, 35.7 per cent of the subjects, or 76 of 213 buyers, have "turned-over" or have worked for at least two companies in purchasing positions.

Tables 6 and 7 also show a comparison between the length of time the buyers have worked in purchasing for their present employer and the total number of years worked

TABLE 6

FREQUENCY AND PER CENT RESULTS FOR MOBILITY VARIABLES

Variable	Frequency	Per Cent
1. Number of companies for which you have worked in purchasing: (n=213)		
a. one	137	64.3
b. two	46	21.6
c. three	18	8.5
d. four or more	12	5.6
		100.0

	Frequency(A)	%(A)	Frequency(B)	%(B)
2. Number of years in purchasing (A) with present company and (B) with all companies: (n=213)				
a. less than two	49	23.0	30	14.1
b. two through four	37	17.3	30	14.1
c. five through six	25	11.7	26	12.2
d. seven through ten	30	14.1	31	14.7
e. eleven through fifteen	29	13.6	28	13.0
f. sixteen to twenty	24	11.3	30	14.1
g. twenty-one or more	19	9.9	38	17.8
		99.9*		100.0

*Due to rounding

TABLE 7

MEAN RESULTS OF MOBILITY VARIABLES

Variable	Mean	Minimum	Maximum	Standard Deviation
1. Number of companies for which you have worked in purchasing: (n=213)	1.56	1	5	.902
2. Number of years in purchasing with present employer: (n=213)	8.98	1	35	7.960
3. Number of years in purchasing with all employers: (n=213)	11.57	1	35	8.796

in purchasing for all employers. It was found that the mean years of employment with the present company was approximately nine, while the mean number of years worked anywhere in purchasing was approximately 11.5 years.

It could be concluded that buyers, as a group, were fairly mobile and that many buyers in changing jobs remained in the purchasing profession. This conclusion that buyers appear to be fairly mobile was particularly made when the information concerning past mobility patterns was compared with the previously reported findings concerning the questions--"Did someone precede you at your present position?" and "If so, what became of this person?" As reported previously, 89 buyers reported that their predecessor had left the company; this represented nearly 50 per cent of all predecessors and approximately 42 per cent of all responses.

Satisfaction Variables

Tables 8 and 9 report the findings from the analysis of job satisfaction variables as to frequency counts, per cents, and mean results. Levels of satisfaction were determined by use of the Job Descriptive Index. The JDI consists of five parts or subscales. These subscales measure the satisfaction level in five specific areas of the work environment: the work itself, the supervision, the pay, the promotion possibilities, and the co-workers.

TABLE 8

FREQUENCY AND PER CENTS FOR SATISFACTION VARIABLES

Variable	Frequency	Per Cent
1. Satisfaction: Total JDI: n=187		
a. lowest through 80	3	1.6
b. 81-130	18	9.6
c. 131-180	52	27.8
d. 181-230	94	50.3
e. 231 and over	20	10.7
		100.0
2. Satisfaction: JDI subscale, Work Itself: n=195		
a. lowest through 20	9	4.6
b. 21 through 30	17	8.7
c. 31 through 40	45	23.1
d. 41 through 50	104	53.3
e. 51 and over	20	10.3
		100.0

TABLE 8--Continued

Variable	Frequency	Per Cent
3. Satisfaction: JDI subscale, Supervision: (n=190)		
a. lowest through 20	8	4.2
b. 21 through 30	11	5.8
c. 31 through 40	31	16.3
d. 41 through 50	65	44.2
e. 51 and over	75	39.5
		100.0
4. Satisfaction: JDI subscale, Pay: (n=193)		
a. lowest through 20	31	16.1
b. 21 through 30	61	31.6
c. 31 through 40	55	28.5
d. 41 through 50	41	21.2
e. 51 and over	5	2.6
		100.0

TABLE 8--Continued

Variable	Frequency	Per Cent
5. Satisfaction: JDI subscale, Promotion: (n=193)		
a. lowest through 20	81	42.0
b. 21 through 30	37	19.1
c. 31 through 40	23	12.0
d. 41 through 50	33	16.0
e. 51 and over	21	10.9
		100.0
6. Satisfaction: JDI subscale, Co-workers: (n=193)		
a. lowest through 20	6	3.1
b. 21 through 30	18	9.3
c. 31 through 40	36	18.7
d. 41 through 50	78	40.4
e. 51 and over	55	28.5
		100.0

TABLE 9

MEAN RESULTS OF SATISFACTION VARIABLES

Variable	Mean	Minimum	Maximum	Standard Deviation	Median
1. Total JDI (n=187)	185.87	34	267	42.38	193.25
2. Work Itself (n=195)	40.94	3	54	9.63	43.35
3. Supervision (n=190)	44.69	12	54	10.12	48.12
4. Pay (n=193)	30.89	0	54	12.20	32.35
5. Promotion (n=193)	26.09	0	54	17.12	24.42
6. Co-workers (n=193)	43.06	0	54	10.48	45.25

Each subscale was graded with a maximum score possible of 54. Total satisfaction was derived by summing the five subscales. The highest possible total satisfaction score was 270.

Tables 8 and 9 reveal that the buyers in the study were most satisfied with their supervision, co-workers, and the work itself. Of a maximum score of 54, these three subscales have means of 44.69, 43.06, and 40.94 respectively. These high means were even more informative when coupled with their respective median. The medians, in order, were 48.12, 45.25, and 43.35. This indicated that more than half of the buyers scored higher even than the mean scores. In other words, the means would have been even higher except for a few very low scores.

On the other hand, the means and medians for the subscales pay and promotion were quite a bit lower. The means were 30.89 and 26.09 and the medians 32.35 and 24.42 respectively.

A review of Table 8, in particular, emphasizes the differences between the first three subscales--the work itself, the supervision, and the co-workers--and the remaining two--pay and promotion. For example, the lowest division of scores, 0 through 20, was fairly consistent in the first group. The frequencies were 9, 8, and 6, or 4.6 per cent, 4.2 per cent, and 3.1 per cent. The results

for pay and promotion, on the other hand, were 31 and 81 or 16.1 per cent and 42.0 per cent.

At the high satisfaction end of the scale, similar results were found. Seventy-five buyers, or 39.5 per cent, indicated a very high level of satisfaction with supervision, scoring between 51 and the maximum 54. Only five buyers, or 2.6 per cent, scored as high on the subscale pay. It was interesting to note that although the promotion subscale yielded the greatest number of buyers in the lowest level of satisfaction group, this category was third highest in the number of buyers scoring in the 51 to 54 range. In fact, 21 buyers, or 10.9 per cent, indicated such a high score. This was in contrast to the highest scores reported for supervision, 75 buyers or 39.5 per cent; co-workers, 55 buyers or 28.5 per cent; work itself, 20 buyers or 10.3 per cent; and pay, 5 buyers or only 2.6 per cent. In other words, the results indicated a polarization effect concerning promotion possibilities, clustering in either the very low satisfaction levels or at the very high levels.

Another indication of the difference in level of satisfaction between the two groups was the number of buyers scoring 41 or more on the different subscales. For example, 140 buyers, or 83.7 per cent, scored this high on the subscale supervision. Satisfaction with co-workers was second highest in this category recording 133 buyers, or 68.9 per

cent, and third highest was level of satisfaction as to the work itself with 124 buyers or 63.6 per cent. The number of buyers scoring above 40 in the areas of promotion and pay was substantially lower. Respectively, these results were 54 buyers, or 26.9 per cent, for promotion and only 46, or 23.8 per cent, for pay.

When compared with the national norms established for the JDI, it was interesting to note that industrial buyers as a group scored higher levels of satisfaction in four of the five subscales. The normative medians were as follows: supervision, 44; co-workers, 46; work itself, 38; pay, 30; and promotion, 18. The subscales ranked high to low on the normative median was the same order of ranking resulting from the current study. As may be recalled, the medians reported in Table 9 were: supervision, 48.12; co-workers, 45.25; work itself, 43.35; pay, 32.35; and promotions, 24.42.

Subtracting the normative median from the median resulting in this study the following results were found: supervision, +4.12; co-workers, -.75; work, +5.35; pay, +2.34; and promotion, +6.42. Expressed as percents, it was found that buyers as a group indicated a 7.63 per cent higher level of satisfaction with supervision than did the national sample used to establish the norms. By the same token, buyers were found to evidence 10 per cent higher

satisfaction with the work itself and 11.89 per cent with promotions.

On the surface, it appeared that as a group industrial buyers were more satisfied, in general, than the "average" worker. However, the differences found for buyers between the subscale scores for the group consisting of supervision, co-workers, and the work itself and the group consisting of pay and promotions suggest caution before making the conclusion that buyers have higher satisfaction.

The conclusion which was suggested, then, was that buyers as a group tend to evidence relatively high levels of satisfaction in the areas of supervision, co-workers, and the work itself. However, as a group, the general level of satisfaction in the areas of pay and promotion were substantially lower.

Other comparisons were made between the findings of the current study and the norms previously established for the JDI. Tables 10 through 20 report the differences in medians discussed above, as well as a comparison between the findings and the norms as to subscales stratified by the variables education and job tenure. These comparisons were somewhat difficult to make in as much that only percentile figures were given for the normative scores. However, because of the relatively large sample, n=2,000, used in deriving the norms there was no indication that the distribution was not a relatively normal one.

TABLE 10

JDI, NON-STRATIFIED, PERCENTILE COMPARISON RESULTS

	JDI Subscales				
Percentile	Work	Supervision	Pay	Promotion	Co-Workers
1. 25th					
A.	30	35	18	08	38
B.	36	40	23	11	37
2. 50th					
A.	38	44	30	18	46
B.	43	49	32	23	45
3. 75th					
A.	44	48	41	34	50
B.	48	51	39	41	51
4. 99th					
A.	52	54	54	54	54
B.	54	54	54	54	54

A: Norms
B: Current Findings

TABLE 11

PERCENTILE COMPARISON RESULTS FOR JDI SUBSCALE WORK, STRATIFIED BY EDUCATION

	Years of Education		
Percentile	12 or less	13-14	15 or more
1. 25th			
A.	30	32	38
B.	41	38	35
2. 50th			
A.	38	42	45
B.	45	44	42
3. 75th			
A.	45	47	48
B.	47	48	47
4. 99th			
A.	52	54	54
B.	52	54	54

A: Norms
B: Current Findings

TABLE 12

PERCENTILE COMPARISON RESULTS FOR JDI SUBSCALE SUPERVISION, STRATIFIED BY EDUCATION

	Years of Education		
Percentile	12 or less	13-14	15 or more
1. 25th			
A.	34	34	38
B.	47	38	39
2. 50th			
A.	43	44	45
B.	50	47	47
3. 75th			
A.	49	50	50
B.	52	50	51
4. 99th			
A.	54	54	54
B.	54	54	54

A: Norms
B: Current Findings

TABLE 13

PERCENTILE COMPARISON RESULTS FOR JDI SUBSCALE PAY, STRATIFIED BY EDUCATION

Percentile	Years of Education		
	12 or less	13-14	15 or more
1. 25th			
A.	18	20	30
B.	25	23	23
2. 50th			
A.	30	32	38
B.	33	32	31
3. 75th			
A.	40	42	46
B.	41	39	38
4. 99th			
A.	54	54	54
B.	54	52	52

A: Norms
B: Current Findings

TABLE 14

PERCENTILE COMPARISON RESULTS FOR JDI SUBSCALE PROMOTIONS, STRATIFIED BY EDUCATION

Percentile	Years of Education		
	12 or less	13-14	15 or more
1. 25th			
A.	06	08	12
B.	15	06	11
2. 50th			
A.	16	18	22
B.	25	24	23
3. 75th			
A.	32	40	40
B.	41	39	40
4. 99th			
A.	54	54	54
B.	54	54	54

A: Norms
B: Current Findings

TABLE 15

PERCENTILE COMPARISON RESULTS FOR JDI SUBSCALE CO-WORKERS, STRATIFIED BY EDUCATION

	Years of Education		
Percentile	12 or less	13-14	15 or more
1. 25th			
A.	37	37	41
B.	40	34	37
2. 50th			
A.	45	46	48
B.	48	44	45
3. 75th			
A.	51	51	51
B.	52	51	50
4. 99th			
A.	54	54	54
B.	54	54	54

A: Norms
B: Current Findings

TABLE 16

PERCENTILE COMPARISON RESULTS FOR JDI SUBSCALE WORK, STRATIFIED BY JOB TENURE

	Years on the Job				
Percentile	0-3	4-6	7-9	10-15	16 or more
1. 25th					
A.	28	30	30	29	30
B.	34	38	39	39	40
2. 50th					
A.	39	39	37	38	37
B.	42	47	46	43	45
3. 75th					
A.	45	44	44	44	44
B.	47	50	53	46	49
4. 99th					
A.	54	52	54	54	52
B.	53	54	54	53	54

A: Norms
B: Current Findings

TABLE 17

PERCENTILE COMPARISON RESULTS FOR JDI SUBSCALE SUPERVISION, STRATIFIED BY JOB TENURE

	Years on the Job				
Percentile	0-3	4-6	7-9	10-15	16 or more
1. 25th					
A.	36	35	36	34	35
B.	41	38	39	30	41
2. 50th					
A.	44	44	44	43	43
B.	48	48	46	47	48
3. 75th					
A.	50	48	48	48	48
B.	51	50	53	50	52
4. 99th					
A.	54	54	54	54	54
B.	53	53	54	52	54

A: Norms
B: Current Findings

TABLE 18

PERCENTILE COMPARISON RESULTS FOR JDI SUBSCALE PAY, STRATIFIED BY JOB TENURE

	Years on the Job				
Percentile	0-3	4-6	7-9	10-15	16 or more
1. 25th					
A.	16	18	18	18	18
B.	23	20	18	23	28
2. 50th					
A.	28	30	30	32	30
B.	33	30	29	29	34
3. 75th					
A.	40	40	42	40	42
B.	38	36	38	40	40
4. 99th					
A.	54	54	54	54	54
B.	52	47	54	49	53

A: Norms
B: Current Findings

TABLE 19

PERCENTILE COMPARISON RESULTS FOR JDI SUBSCALE PROMOTIONS, STRATIFIED BY JOB TENURE

	Years on the Job				
Percentile	0-3	4-6	7-9	10-15	16 or more
1. 25th					
A.	12	10	08	06	06
B.	15	13	06	10	05
2. 50th					
A.	24	18	18	16	16
B.	25	25	22	23	17
3. 75th					
A.	40	30	34	30	30
B.	45	35	36	40	41
4. 99th					
A.	54	54	54	54	54
B.	54	53	54	54	54

A: Norms
B: Current Findings

TABLE 20

PERCENTILE COMPARISON RESULTS FOR JDI SUBSCALE CO-WORKERS, STRATIFIED BY JOB TENURE

	Years on the Job				
Percentile	0-3	4-6	7-9	10-15	16 or more
1. 25th					
A.	38	37	39	38	39
B.	37	36	36	38	37
2. 50th					
A.	47	45	45	46	46
B.	45	45	45	44	45
3. 75th					
A.	51	51	50	50	50
B.	50	50	51	51	51
4. 99th					
A.	54	54	54	54	54
B.	54	54	54	54	54

A: Norms
B: Current Findings

The comparison of differences between the normative JDI scores for the five subscales and the findings in the current study at the 25th, 50th, 75th, and 99th percentiles were similar to the results reported above found for medians (actually the 50th percentile). For all subscales and at every reported percentile, with the exception of the 99th, the current findings were higher scores than were the non-stratified norms.

As mentioned above, it could be concluded that generally speaking, buyers as a group appeared to be more satisfied in all five subscale areas than was the "average" worker. However, when comparisons were made between the current findings and the normative scores when stratifications were made as to years of education and years of job tenure completely different and revealing results were found.

Specifically, it should be noted in Tables 11 through 15 that the normative scores for each of the 25th, 50th, 75th, and 99th percentiles <u>increased</u> with increased years of education. The current findings indicated a higher initial score in all but the 99th percentile, which in all cases was equal to the normative score, for 12 or less years of education. As the number of years of education increased in the current findings, the level of satisfaction <u>decreased</u> at all percentiles but the 99th which remained equal. Further, even though the current scores started at a

higher level, in four areas (work, pay, promotions, and co-workers) the scores decreased to a level below the normative scores at the 15 or more years of education category in every instance except at the 50th percentile of promotions which was 2 points higher, and the 75th percentile of promotions which was equal to the normative score.

In the subscale area of supervision, the current findings also decreased from their beginning level at every percentile, except the 99th which remained equal as education increased. However, unlike the other four subscale areas, the level of satisfaction for the category of 15 or more years remained greater than the normative level.

These findings, regarding job satisfaction level and education, tend to support the findings reported in Chapter II made by Vollmer and Kinney (1955) that in general education is negatively related with job satisfaction. Also, the findings of Andrews and Henry (1963) and Klein and Maher (1966) that education and satisfaction with pay were negatively related was confirmed. However, the degree of negativeness, as reported in Table 13, was less than that found for satisfaction and the work itself and satisfaction and co-workers when satisfaction was stratified by education.

When the levels of job satisfaction was stratified by job tenure, as reported in Tables 16 through 20, the current findings usually were found to be in contrast to the findings reported when satisfaction was stratified by education. Specifically, for the four subscale areas of work, supervision, pay, and co-workers the level of satisfaction at the 25th, 50th, 75th, and the 99th percentiles in all cases either increased with job tenure or remained equal. Also, in contrast to the findings, when satisfaction was stratified by education, these same four areas in all cases, with two exceptions, reported higher levels of satisfaction than those reported in the normative scores. These two exceptions were the 25th and the 50th percentile of co-workers which recorded 2 points and 1 point lower than normative scores respectively.

At all but the 99th percentile, which was equal to the normative score, the current findings in the subscale area of promotion when satisfaction was stratified by job tenure decreased as tenure increased. It was interesting to note, however, that the normative scores also decreased and that the current findings were consistently higher than were the normative scores. The only exception was found in the 25th percentile of 16 or more years of job tenure. The current findings in this one case were found to be 1 point below the reported norm for the same category.

In relating these findings to those reported in the review of the literature of satisfaction reported in Chapter II, the caution urged by Hulin and Smith (1965) in interpreting tenure and satisfaction results without inclusion of the variable age was reiterated. As may be recalled from the findings in the literature reported in Chapter II, there appeared to be a general agreement that satisfaction and tenure were in some manner positively related. The question which the literature reflected was not whether this relationship was positive or negative, but rather whether the positive relationship was either linear or curvilinear.

The normative JDI scores, when satisfaction is stratified by tenure, appeared to be generally linearly related to tenure in a positive manner with the exception of promotions which was negatively related. The current findings, similarly, appeared to be so related. Caution should be exercised, however, due to the relatively small n for each of the subscale divisions.

Comparison of the current findings with the findings reported in Chapter II, the review of the literature on job satisfaction, are made as the other analyses of the data are reported in the balance of this chapter.

Perception Variables

Further results adding to the industrial profile are reported in Tables 21 and 22. The tables report the findings of the current study as to frequency counts, per cents, and means. It is perhaps somewhat misleading at this point to label the variables documented in these two tables as being the perception variables. Actually, Tables 21 and 22 report the findings of how the buyers in the study spend their time on the job as well as how they feel they should be spending it. The "perception" variables result when the latter is subtracted from the former.

Before reviewing how buyers either spend their time or how they think they should spend it, the following discussion is offered to explain the job elements defined in the study.

1. Product research not associated with any specific purchase requisition, including industrial shows, plant visitations, and review of catalogs and periodicals--
Every buyer must be a source of information in order to be effective. Usually the buyer is involved, at least to some extent, in consulting with company personnel as to product specification and selection. In order to do so, the buyer must be knowledgeable about the products he currently purchases as well as their substitutes, and also should attempt

TABLE 21

FREQUENCY AND PER CENT RESULTS FOR PERCEPTION VARIABLES

Variable	How time is actually spent		How time should be spent	
	Frequency	Per Cent	Frequency	Per Cent
	n=211		n=204	
1. Per cent of time spent on product research:				
a. zero	12	5.7	10	4.9
b. 1 through 5	105	49.8	30	14.7
c. 6 through 10	55	26.0	52	25.5
d. 11 through 20	27	12.8	68	33.3
e. 21 and over	12	5.7	44	21.6
		100.0		100.0
2. Per cent of time spent on preparing and issuing purchase orders:				
a. zero	0	0	6	2.9
b. 1 through 5	28	13.3	35	17.2
c. 6 through 10	31	14.7	55	17.0
d. 11 through 20	46	21.3	43	21.0
e. 21 through 30	43	20.4	21	15.2
f. 21 and over	64	30.3	34	16.7
		100.0		100.0

TABLE 21--Continued

Variable	How time is actually spent		How time should be spent	
	Frequency	Per Cent	Frequency	Per Cent
	n=211		n=204	
3. Per cent of time actually spent on departmental duties:				
a. zero	22	10.4	19	9.3
b. 1 through 5	58	27.5	48	23.5
c. 6 through 10	48	22.8	60	29.5
d. 11 through 20	40	18.9	39	19.1
e. 21 and over	43	20.4	48	18.6
		100.0		100.0
4. Per cent of time actually spent on all dealings with vendors:				
a. zero	5	2.4	4	2.0
b. 1 through 5	4	1.9	4	2.0
c. 6 through 10	25	11.8	19	9.2
d. 11 through 20	71	33.7	63	30.9
e. 21 through 30	61	28.9	61	29.9
f. 31 and over	45	21.3	53	26.0
		100.0		100.0

TABLE 21--Continued

Variable	How time is actually spent		How time should be spent	
	Frequency	Per Cent	Frequency	Per Cent
	n=211		n=204	
5. Per cent of time actually spent on filing:				
a. zero	23	10.9	28	13.7
b. 1 through 5	101	47.9	104	51.0
c. 6 through 10	53	25.1	45	22.1
d. 11 through 20	24	11.4	20	11.2
e. 21 and over	10	4.7	4	2.0
		100.0		100.0
6. Per cent of time actually spent with other, non-buyer, company personnel:				
a. zero	5	2.4	4	2.0
b. 1 through 5	38	18.0	29	14.2
c. 6 through 10	57	27.0	57	27.9
d. 11 through 20	66	31.3	64	31.4
e. 21 and over	45	21.3	50	24.5
		100.0		100.0

TABLE 21--Continued

Variable*	How time is actually spent		How time should be spent	
	Frequency	Per Cent	Frequency	Per Cent
	n=211		n=204	
7. Per cent of time actually spent on other work (not specified):				
a. zero	151	71.6	171	82.5
b. 1 through 10	36	17.0	19	9.4
c. 11 and over	24	11.4	14	8.1
		100.0		100.0
8. Per cent of all dealings with vendors spent contacting and interviewing salesmen:				
a. 0 through 20	43	20.4	24	11.8
b. 21 through 30	45	21.3	48	23.7
c. 31 through 40	40	19.0	39	19.2
d. 41 through 50	41	19.4	63	31.0
e. 51 and over	42	19.9	29	14.3
		100.0		100.0

*Variable #8 through #11 constitute a new 100% base. These four variables are actually subdivisions of Variable #4 above. All Dealings with Vendors.

TABLE 21--Continued

Variable	How time is actually spent		How time should be spent	
	Frequency	Per Cent	Frequency	Per Cent
	n=211		n=204	
9. Per cent of all dealings with vendors spent on post-order vendor contact:				
a. 0 through 5	38	18.0	59	29.1
b. 6 through 10	63	29.9	65	32.0
c. 11 through 20	61	28.9	45	22.2
d. 21 through 30	31	14.7	28	13.7
e. 31 and over	18	8.5	6	3.0
		100.0		100.0
10. Per cent of all dealings with vendors spent selecting vendor:				
a. 0 through 5	17	8.1	2	1.0
b. 6 through 10	26	12.3	14	6.9
c. 11 through 20	72	34.1	41	20.2
d. 21 through 30	49	23.2	71	35.0
e. 31 through 40	30	14.2	39	19.2
f. 41 and over	17	8.1	36	17.7
		100.0		100.0

TABLE 21--Continued

Variable	How time is actually spent		How time should be spent	
	Frequency	Per Cent	Frequency	Per Cent
	n=211		n=204	
11. Per cent of all dealings spent expediting and order follow-up:				
a. 0 through 5	22	10.4	34	16.7
b. 6 through 10	46	21.8	63	31.1
c. 11 through 20	73	34.6	62	30.5
d. 21 through 30	42	19.9	32	15.8
e. 31 and over	28	13.3	12	5.9
		100.0		100.0

TABLE 22

MEAN RESULTS OF PERCEPTION VARIABLES

Variable		Mean	Minimum	Maximum	Standard Deviation
1.	Per cent of time on product research:	A. 8.56 B. 15.76	0 0	60 55	7.95 11.18
2.	Per cent of time on preparing & issuing P.O.'s:	A. 26.04 B. 19.16	2 0	85 90	18.20 15.86
3.	Per cent of time on departmental duties:	A. 14.01 B. 13.41	0 0	70 60	13.64 11.57
4.	Per cent of time on all dealings with vendors:	A. 24.33 B. 26.66	0 0	80 75	13.53 14.28
5.	Per cent of time on files:	A. 8.05 B. 7.05	0 0	85 80	9.25 77.85
6.	Per cent of time with other, non-buyers, company personnel:	A. 15.16 B. 15.77	0 0	60 48	10.00 9.30
7.	Per cent of time on other, not specified, work:	A. 3.92 B. 2.21	0 0	62 50	8.82 6.83

TABLE 22--Continued

Variable*	Mean	Minimum	Maximum	Standard Deviation
8. Per cent of all dealings with vendors contacting and interviewing salesmen:	38.72	0	88	18.26
9. Per cent of all dealings with vendors spent on post-order vendor contact:	16.59	0	75	11.76
10. Per cent of all dealings with vendors spent selecting vendors:	23.57	0	65	13.14
11. Per cent of all dealings with vendors spent expediting:	20.65	0	80	14.07

*These four variables are variables #8 through #11 in Table 11.
A: How time is actually spent; n=211.
A: How time should be spent; n=204.

to constantly update his information about new, possibly substitutive products. Even if the buyer does not consult with other company personnel as to product selection, he can be more effective if he is familiar with the product lines, rather than single products alone, sold by his respective vendors. He can be more effective, for example, in that in this case he might be able to (a) consolidate orders issued by more fully utilizing a particular vendor and (b) possibly receive additional quantity discounts by such consolidation. In either case, the buyer's effort to become more knowledgeable is a major element in the purchasing function.

2. Preparing and issuing purchase orders--The degree to which a buyer is involved in the preparing and issuing of purchase orders is probably a function of the size of his purchasing department and the volume of orders usually processed. For example, in larger, high volume departments, many orders are processed by the use of electronic data processing methods. In such cases the buyer might only initiate the ordering process (in some cases even this step might be eliminated) and would actually be involved in preparing and issuing those "non-standard," non-repeat type orders. On the other hand, smaller departments may require complete order preparation by the buyer.

Typically, the purchase order is typed from a requisition submitted by the using department to the buyer.

One of the buyer's responsibilities is generally regarded to be the inspection and approval of the requisition. Very often additional information must be added to the requisition and sometimes corrections must be made. Specifically, the buyer is usually responsible for vendor selection; indication of cash terms, delivery date and method; approval of standard units of packaging and terms; specific pricing and tax rate information; insuring that proper approval has been obtained for the order, and that correct accounting approvals have been made. Once this phase of order preparation has been completed the buyer assigns a purchase order number, has the purchase order typed and proof read, and finally signs the purchase order thereby initiating a formal contract to the vendor.

3. Other duties not directly related to specific purchase orders, including committee work, inventory control, and administrative duties--This element of the purchasing job is listed in the following tables as "departmental duties." The description above used on the questionnaire is rather self-explanatory.

4. All dealings with vendors--This particular element of the purchasing job, as explained in Chapter IV, was a consolidation of four separate elements. The consolidation was made to facilitate the format chosen for the questionnaire. Variables 8 through 11 describe the entirety of this element.

5. Maintaining files, including those for vendors, materials, catalogs, and prices--To assist the buyer in providing requested information, the buyer usually maintains rather elaborate files of information. Because during the process of doing business changes do occur with respect to vendor performance and vendor selection, prices, substitute products, et cetera, may vary. Only if the buyer's files are current are they useful to him. Consequently, one of the necessary, and often less agreeable, tasks performed by the buyer is the maintenance of his files.

6. All dealings with company personnel as to product, vendor, and quantity selection--The information possessed by the buyer, as described for variable 1 above, is of little use unless the using departments within the firm have access to it. Consequently, a major part of most buyers' jobs consists of counseling with other non-buyer personnel within his firm. The extent of time which must be so devoted is usually determined by the experience of the requisitioner and the buyer and by the type of purchase being requested. Regardless of the size (dollar amount) of the purchase, there is usually an inverse relationship between the amount of time necessary to consult with the requisitioner and the extent to which the purchase is a repeat buy. (This is not to imply that large orders require a similar amount of time as do small orders. Rather, a

repeat large order requires less time than does a new-buy large order, et cetera.)

The extent to which an order is a repeat buy might be categorized as follows: new buy, never before has this item been purchased; infrequent repeat buy; and frequent rebuy. Coupled with the experience and degree of familiarity with purchasing procedures of the requisitioner, the amount of time necessary to spend with company personnel is quite variable. To illustrate, the author recalls three typical requests by requisitioners.

1. "This is the job I have to get done, and although I have no idea of what it takes to do it, can you order a dozen?"

2. "Hey, order me 200 dozens of that 'stuff' you got me last November."

3. "Please give me an exact reorder of purchase order J111039, issued to Acme Acme Company on May 6, 1971." Obviously the amount of time required to process these three types of requests vary considerably.

7. Others, please specify--This question was included in order to permit each respondent an opportunity to completely describe his particular job.

8. Contacting and negotiating with vendor, including vendor interviews--This variable was the first of four which, together, make up the variable listed above--All Dealings With Vendors. Direct vendor contact is an essential part

of most buyers' jobs. Typically, there are two basic types of vendor contact, those initiated by the vendor, usually the salesman, and those initiated by the buyer, usually to obtain information or to place an order.

Quite realistically, the vendor interview, even when initiated by the vendor, is an excellent opportunity for the buyer to learn new information about new products and potential suppliers. Some companies find it necessary to limit vendor initiated interviews to two afternoons a week.

9. Post-order vendor contact, including invoice adjustments and material adjustments (wrong material or quantity received)--This variable was included in an attempt to obtain information about non-expediting type of post-order contact. As the buyer usually has the only direct contact with the vendor and usually is the person most involved and aware of conditions surrounding any given purchase order he has issued, the buyer is often called upon to initiate activites to correct mistakes made on that order. Mistakes can range from incorrect material ordered by the buyer's firm, incorrect material shipped by the vendor, to incorrect invoicing or payment. This is another of the usually less agreeable tasks of the buyer.

10. Selecting vendor, including the issuing and evaluating of bids--The amount of time spent on this variable is usually dependent upon the size of the order,

the company policies, and the extent to which the order is a new buy. Often buyers are required to secure confirmed bids from more than one source when the size of the order exceeds a set dollar figure. The dollar limit and the number of bids required are usually determined by company policy. Also, company policy sometimes requires that multiple sources be used for critical items, or that a particular vendor be used whenever possible because of national contracts or reciprocity agreements, or that vendors be changed if vendor performance becomes unsatisfactory.

11. Purchase order follow-up, including expediting, and issuing of change orders--This variable was shown on the tables simply as "expediting." This particular job element consists of all vendor contact necessary between the time the order is let until the order is received. It should be pointed out that since a purchase order is a legal contract, any change agreed to by both the vendor and the buyer after the original purchase order is issued necessitates a written record of this change. Such written changes are often termed change orders as they reference the original purchase order number.

Referring to Tables 21 and 22, it is possible to establish profiles of how the industrial buyers in this study spend their time on the elements described above as well as how they feel they should be spending their time.

The same difficulty is encountered in establishing these profiles as for those profiles for the "average" buyer according to demographic and organizational variables; that is, the use of means alone could be somewhat misleading. Consequently, the means will be used along with frequency counts and per cents.

According to the means, the "average" buyer spends his time in the following manner. He spends more of his time, 26.04 per cent, preparing and issuing purchase orders. In decreasing order, the buyer next spends more time on all dealings with vendors, 24.33 per cent; with other, non-buyer personnel within his firm, 15.16 per cent; and next on departmental or administrative duties, 14.01 per cent. Of the remaining three major job elements, the buyer spends, on the average, 8.56 per cent on product research, 8.05 per cent on filing, and only 3.92 per cent on other, non-specified duties.

Of the four elements comprising the major element "all dealings with vendors," the buyers spend most of their time, 38.72 per cent, on contracting and interviewing salesmen. Next in order are vendor selection, 23.57 per cent; expediting, 20.65 per cent; and post-order contact, 16.59 per cent.

To review the major seven elements of the purchasing job, it was found that in order of decreasing time the "average" buyer spent his time on preparing and issuing

purchase orders, all dealings with vendors, all dealings with company personnel, departmental duties, product research, filing, and on other, non-specified duties.

By the same type of analysis, it was found that only three of the major elements above ranked in the same order when the "average" buyer results were determined for how the buyers felt they should be spending their time. In decreasing order as to how buyers felt they should be spending their time, the following ranking was determined: all dealings with vendors first, 26.66 per cent; followed by preparing and issuing purchase orders, 19.16 per cent; all dealings with company personnel and product research, 15.77 and 15.76 per cent respectively; departmental duties, 13.41 per cent; filing, 7.05 per cent; and again last, other, non-specified duties, 2.21 per cent.

It was interesting to note that although only three items remained ranked in the same order--all dealings with company personnel, filing, and other--there were no major shifts in the ranking between how time was actually spent and how it should be spent.

As was previously cautioned, the use of means might give misleading information. The results, indicated in Table 21, in fact reveal that the "average" buyer might not really exist for these two sets of variables.

A review of Table 21 indicates a rather wide range of responses as to how buyers reported spending their time

and how they felt they should be spending it. Taken in order of listing on the questionnaire, the following frequencies and per cents were found. As to the amount of time spent on product research, nearly half or 105 buyers reported spending only 1 through 5 per cent of their time on this element. Another 55 buyers, or 26 per cent, indicated they spent 6 through 10 per cent of their time, while only 39, or 18.5 per cent, spent more than 10 per cent. Somewhat surprisingly, 12 buyers, or 5.7 per cent, reported spending no time on product research.

Quite probably the range of responses on this element, and the remaining ones as well, was explained by the various jobs held by the respondents. In other words, the director of purchasing of a firm would probably not spend any time on product research but would report a high percentage of time spent on administrative duties.

The distribution of responses for the second element--preparing and issuing purchase orders--was even more broad than for the previous element. No buyers reported spending no time on this part of the job. However, 59 buyers, or 28 per cent, reported spending 10 per cent or less time; another 46, or 21.3 per cent, between 11 and 20 per cent; and 43 buyers, or 20.4 per cent, between 21 and 30 per cent of their time. The largest number of buyers, however, 64 or 30.3 per cent, spent more than 31 per cent of their time preparing and issuing purchase orders.

Concerning the amount of time spent on element 3--departmental duties--22 buyers, or 10.4 per cent, reported they spent no time on this element, 58 or 27.5 per cent spent between 1 and 5 per cent of their time; and 48 or 22.8 per cent spent between 6 and 10 per cent of their time performing departmental duties. For the two remaining categories, 11 through 20 per cent and 21 or more per cent, the results were 40, or 18.9 per cent, and 43, or 20.4 per cent respectively.

The findings for variable 4--all dealings with vendors--were not as evenly distributed as those for variable 3 above. Rather, the majority of buyers reported spending between 11 and 30 per cent of their time on this element. Specifically, the results indicated that only 9 buyers, or 4.3 per cent, spent 5 per cent or less of their time in this manner, while 25 or 11.8 per cent indicated they spent between 6 and 10 per cent of theirs. Seventy-one buyers, or 33.7 per cent, spent 11 to 20 per cent; 61 buyers, or 28.9 per cent, spent between 21 and 30 per cent; and 45, or 21.3 per cent, reported they spent more than 30 per cent of their time dealing with vendors.

A large majority of buyers indicated that they spent no more than 10 per cent of their time on element 5--filing. Twenty-three, or 10.9 per cent, indicated they spent no time filing and 101, or 47.9 per cent, spent between 1 and 5 per cent of theirs. Twenty-five per cent,

or 53 buyers, reported they spent between 6 and 10 per cent of their time in this manner and only 34 buyers, or 16.1 per cent, spent more than 10 per cent of their time filing.

The frequency counts for variable 6--per cent of time spent with other, non-buyer company personnel--resembled the results found for variable 3 above--i.e., a rather wide range of responses. The buyers reported spending their time in the following manner: only 5 buyers, or 2.4 per cent, spent no time on variable 6; 38 buyers, or 18 per cent, spent less than 5 per cent; while 57 buyers, or 27 per cent, spent 6 through 10 per cent of their time in this manner. At the other end of the distribution, it was found that 66 buyers, or 31.3 per cent, spent between 11 and 20 per cent of their time counseling company personnel, while 45, or 21.3 per cent, spent more than 21 per cent of theirs in such a manner.

Variable 7--other, please specify--resulted in the smaller range of responses than any other variable. A total of 151 buyers, or 71.6 per cent, reported spending no time on unlisted variables. Thirty-six and 24 buyers, or 17 per cent and 11.4 per cent, reported spending 1 through 10 per cent of their time and 11 per cent or more, respectively, on work not specified by the major elements listed in the questionnaire.

Variables 8 through 11 are those elements which made up the question--"all dealings with vendors." Rather than interpret these results as being a per cent of actual time spent on each, these results were the per cent of the total time spent on all dealings with vendors.

Variable 8, which resulted a mean of 38.72 per cent, had the most even, broad distribution of any responses. Consequently, the mean was somewhat more misleading than the mean for other variables. Specifically, the largest number of responses in any category was 45 buyers, or 21.3 per cent, and the smallest, 40 buyers, or 19 per cent. The categories, however, were different than the categories used for any of the variables discussed above. The responses for variable 8 were grouped in the following manner: 0 through 20 per cent; 21 through 30 per cent; 31 through 40 per cent; 41 through 50 per cent; and 51 per cent or more. Each grouping resulted in 19.0 per cent to 21.3 per cent of the buyers.

Variable 9--per cent of all dealings with vendors spent on post-order vendor contact--reflected results somewhat lower than variable 8. Specifically, 101 buyers, or 47.9 per cent, indicated 0 through 10 per cent; 61 buyers, or 28.9 per cent, between 11 and 20 per cent; and only 48 buyers, or 23.2 per cent, more than 20 per cent.

The results for variable 10--per cent of all dealings with vendors spent selecting vendor--were as follows.

A total of 17 buyers, or 8.1 per cent, spent 0 through 5 per cent; 26 buyers, or 12.3 per cent, between 6 and 10 per cent; 72 buyers, or 34.1 per cent, between 11 and 20 per cent; 49 buyers, or 23.2 per cent, between 21 and 30 per cent; and 47 buyers, or 22.3 per cent, more than 30 per cent of all dealing with vendors in this manner.

The last variable, 11--per cent of all dealings with vendors spent expediting and order follow-up--resulted in a distribution of responses more closely resembling a normal distribution than any other set of responses. The categories used to group the responses were 0 through 5 per cent, 6 through 10 per cent, 11 through 20 per cent, 21 through 30 per cent, and 31 or more per cent. The number of buyers responding in each respective grouping was as follows: 42, or 19.9 per cent; and 28, or 13.3 per cent.

Table 21 revealed similar results of distribution for how buyers reported they felt they should be spending their time as the distributions for how they actually spent their time--i.e., caution should be used in interpreting the mean results for the "average" buyer. Utilizing the same set of variables as was used for how time was spent indicated the following results from Table 21.

Variable 1--time spent on product research--found that 40 buyers, or 19.6 per cent, felt they should spend less than 5 per cent of their time in this manner. Fifty-two buyers, or 25.5 per cent, indicated 6 through 10 per cent

of their time would be adequate; but 112 buyers, or 54.9 per cent, indicated that more than 10 per cent should be so spent.

A total of 96 buyers, or 47.1 per cent, reported they felt that less than 10 per cent of their time should be spent on variable 2--preparing and issuing purchase orders. Of these, only 6 buyers, or 2.9 per cent, thought that no time should be so spent. Forty-three buyers, or 21 per cent, evidenced that 11 through 20 per cent was necessary; and 55 buyers, or 31.9 per cent, indicated that more than 20 per cent of their time should be used preparing and issuing the purchase orders.

The results for variable 3--departmental duties--indicated that 67 buyers, or 32.8 per cent, felt less than 5 per cent of their time was so required. Other results were 60 buyers, or nearly 30 per cent, between 6 and 10 per cent; 39 buyers, or 19 per cent, between 11 and 20 per cent; and 48 buyers, or 18.6 per cent of the respondents, indicated they should spend more than 20 per cent of their time on the variable.

More buyers indicated they felt they should be spending more time on variable 4--all dealings with vendors. In fact, only 27 buyers, or 13.2 per cent, felt that 10 per cent of their time or less was so required. On the other hand, 63, or 30.9 per cent, of the buyers indicated between 11 and 20 per cent of their time was so required;

and 114 buyers, or 55.9 per cent, indicated more than 20 per cent was required.

The results found for variable 5--filing--for how buyers felt they should spend their time were almost identical to the results found for how buyers actually spent their time. In fact, no more than 3 per cent separated the findings for any category of responses. Similarly, the only difference in responses for variable 6--dealings with company personnel--was a shift of 3.8 per cent from the 1 through 5 per cent grouping to the more than 20 per cent category. Otherwise, the findings were within 0.9 per cent of those for how buyers actually spent their time.

Table 21 also revealed that 171 buyers, or 82.5 per cent, reported that no time should be on any duties not mentioned in the six major job elements listed above. This was in contrast to the 151 buyers who previously reported they actually spent no time on this activity. Nineteen, or 9.4 per cent, of the buyers, however, felt as much as 10 per cent of their time should be so spent; and 14, or 8.1 per cent, of the buyers felt that more than 11 per cent of their time was so required.

Perceptual Differences

Tables 23 and 24 present the results of the perceptual differences reported by the buyers in this study. Perceptual difference refers to the variable--how buyers spend their

TABLE 23

FREQUENCY AND PER CENT RESULTS FOR DIFFERENCES BETWEEN PERCEPTION VARIABLES

Per cent time spent minus per cent importance for variables:		Difference: -50 to -26	-25 to -11	-10 to -1	0	1 to 10	11 to 25	26+
n=203								
1. Product research:	A.	7	39	94	33	29	1	0
	B.	3.4%	19.3%	46.3%	16.0%	14.5%	0.5%	0
2. Preparing and issuing purchase orders:	A.	1	10	33	37	66	46	10
	B.	0.5%	4.9%	16.3%	18.2%	32.5%	22.7%	4.9%
3. Departmental duties:	A.	2	11	52	66	49	19	4
	B.	1.0%	5.4%	25.6%	32.5%	24.2%	9.3%	1.5%
4. All dealings with vendors:	A.	7	28	52	42	57	15	2
	B.	3.4%	13.8%	25.7%	20.6%	28.1%	7.4%	1.0%
5. Filing work:	A.	0	6	46	80	60	9	2
	B.	0	3.0%	22.6%	39.4%	29.6%	4.4%	1.0%
6. Dealings with company personnel:	A.	5	18	55	61	48	13	3
	B.	2.5%	8.8%	27.1%	30.1%	23.6%	6.4%	1.5%
7. Other, non-specified:	A.	0	2	13	150	28	7	3
	B.	0.0%	1.0%	6.4%	73.9%	13.8%	3.4%	1.5%

TABLE 23--Continued

Per cent time spent minus per cent importance for variables:		Difference: -50 to -26	-25 to -11	-10 to -1	0	1 to 10	11 to 25	26+
n=203								
8. Contacting and interviewing salesmen:	A.	13	27	40	53	44	15	11
	B.	6.4%	13.3%	19.7%	25.1%	21.7%	7.4%	5.4%
9. Post-order vendor contact:	A.	2	7	38	61	67	25	3
	B.	1.0%	3.4%	18.8%	30.0%	33.0%	12.3%	1.5%
10. Selecting vendors:	A.	17	32	74	40	25	15	0
	B.	8.4%	15.7%	36.5%	19.7%	12.3%	7.4%	0.0%
11. Expediting:	A.	2	8	32	61	67	27	6
	B.	1.0%	3.9%	15.8%	30.0%	33.0%	13.3%	3.0%

A: Frequency counts
B: Per cents

TABLE 24

MEAN RESULTS OF PERCEPTION VARIABLE DIFFERENCES

Per cent time spent minus per cent importance for variable	Mean	Minimum	Maximum	Standard Deviation
1. Product research:	-6.86	-45.0	15.0	9.47
2. Preparing and issuing P.O's:	6.21	-30.0	55.0	12.40
3. Departmental duties:	.85	-35.0	39.0	10.27
4. All dealings with vendors:	-1.84	-50.0	40.0	12.30
5. Filing work:	1.08	-20.0	40.0	7.04
6. Dealings with company personnel:	-0.91	-33.0	40.0	9.87
7. Other, non-specified:	1.50	-15.0	35.0	5.86

TABLE 24--Continued

Per cent time spent minus per cent importance for variable:	Mean	Minimum	Maximum	Standard Deviation
8. Contacting and interviewing salesmen:	-1.29	-40.0	50.0	17.26
9. Post-order vendor contact:	2.58	-30.0	60.0	12.30
10. Selecting vendors:	-6.80	-50.0	25.0	14.53
11. Expediting:	3.58	-22.0	60.0	12.90

time--minus the variable--how they feel they should spend their time. Consequently, a "+" answer means that the buyers were spending more time on a particular job element than he felt he should. Conversely, a "-" answer indicated that the buyer felt that additional time should be so spent.

It was evident from reviewing the results presented in these two tables that, as a group, there was a rather wide range of perceptual differences. Perhaps the profile so established would be more meaningful if the study were limited to only a particular set, or classification, of buyers. However, the results should still be beneficial if considered for individual buyers rather than concentrating on the results or averages for the group. In other words, because a particular buyer reported perceptual differences, regardless of the group average, this buyer did have perceptual differences. With this caution in mind, the following "average" buyer profile was found, as well as frequency counts and per cents for the distribution of responses.

An average of less than + or -2 per cent difference was found for 6 of all 11 variables investigated. These included departmental duties, +0.85 per cent; all dealings with vendors, -1.84 per cent; filing work, +1.08 per cent; dealings with company personnel, -0.91 per cent; other duties, +1.50 per cent; and contacting and interviewing salesmen, -1.29 per cent. Mean differences greater than + or -2

per cent, in decreasing order, were found for product research, -6.86 per cent; selecting vendors, -6.80 per cent; preparing and issuing purchase orders, -6.21 per cent; expediting, -3.58 per cent; and post-order vendor contact, +2.58 per cent.

Taken as a group, these mean results reflected really only minor differences between what buyers thought they should be doing as opposed to what they were actually doing. Table 23, however, revealed that a wide range of responses resulted from the study and that the extent of perceptual differences was greater than that indicated by the means. The extremes of the distribution are indicated below.

Variable 1--product research--A total of 94 buyers, or 46.3 per cent, indicated as much as a -10 per cent difference; while 46 buyers, or 22.7 per cent, responded that more than 10 per cent more time should be so spent. Only 30 buyers, or 15 per cent, on the other hand, indicated that they spent more time than was necessary on this job element. Most of these, 29 buyers or 14.5 per cent, however, indicated only up to 10 per cent too much time was so spent.

The results for variable 2--preparing and issuing purchase orders--revealed that only 11 buyers, or 5.4 per cent, felt that more than 10 per cent not enough time was spent on this element. On the other hand, 56 buyers, or

27.6 per cent, felt that at least 10 per cent too much time was so required.

Most of the responses for variable 3--departmental duties--were found to be within + or -10 per cent. Only 13 buyers, or 6.4 per cent, felt that as much as 10 per cent too much time was required; and only 23 buyers, or 10.8 per cent, felt that more than an additional 10 per cent should be required.

Perhaps somewhat surprisingly, 17 buyers, or 8.4 per cent, responded they spent more than 10 per cent too much time on variable 4--all dealings with vendors. On the other hand, 52 buyers, or 25.7 per cent, indicated that as much as 10 per cent too little time was so spent; and 35 buyers, or another 17.2 per cent, felt that more than 10 per cent additional time was required.

The results for variable 5--filing work--were similar to those found for variable 3 indicated above. Only 17 buyers, or 8.4 per cent, felt that either + or -10 per cent difference existed between the time they spent filing and the amount of time they should be filing.

The results for the dealings with company personnel, variable 6, were more normally distributed from the minus range through zero difference to the extreme plus range than any other variable. Each grouping of responses contained a nearly equal number as its corresponding opposite. For example, 5 buyers, or 2.5 per cent, replied that more

than an additional 25 per cent more time was required; while 3 buyers, or 1.5 per cent, indicated that more than 25 per cent too much time was required. Similarly, the results found for the + or -11 to 25 per cent revealed 18 in the minus category and 13 in the plus grouping. For the + or -1 to 10 per cent grouping, the responses were 55 buyers, or 27.1 per cent minus, and 48 buyers, or 23.6 per cent minus.

Only 15 buyers, or 7.4 per cent, indicated not enough time was spent on other, non-specified duties and 38, or 18.7 per cent, of the buyers thought too much time was required. A total of 150 buyers, or 73.9 per cent, indicated no difference.

The extent of the importance of the perceptual differences discussed above is more apparent when converted to time differences. For example, if an eight-hour work day is assumed, a perceptual difference of only 12.5 per cent, either plus or minus, represents a one-hour difference. Obviously, to continue the conversion, a perceptual difference of only 7 per cent is equivalent to 30 minutes per day. In other words, a relatively small perceptual difference for each of the major job elements would add up to a major restructuring of the average work day for any given buyer.

It is interesting to note from Table 24 that the total negative perceptual difference for the "average"

buyer was -10.61 per cent of his time, while the total positive difference was only +9.64 per cent. Two conclusions can be derived from these totals: (1) that the "average" buyer felt that approximately 48 minutes of every eight-hour work day was mis-spent, and (2) that because the negative total was greater than the positive total, approximately 1 per cent overtime was necessary to complete the job as it was seen by this "average" buyer.

Additional findings regarding the different sets of variables discussed above are reported in the following sections of this chapter as additional analyses are reported.

Correlation Studies

This section reports the findings from simple correlation analysis. As was done with the frequency studies in the previous section, the data were compared by groups. These groups were by demographic and organizational, mobility, satisfaction, and perception variables. In the correlation analysis, each set of data was compared to every other set.

In order for a coefficient of correlation to be considered significant for an n = 213, it was determined that at the .05 level the coefficient must be at least equal to .141. In order to be significant at the .01 level, the coefficient must be equal to or greater than .186. The range of the coefficient of correlation is between

+1 and -1. As the coefficient approaches either extreme the amount of correlation increases in either a direct or an inverse manner. However, even if the coefficient of correlation is significant, there is not necessarily a causal relationship between the variables. Rather, a significant coefficient of correlation means that (a) such a coefficient should occur by chance alone only one or five times in a hundred (depending on whether the .01 or the .05 level was being utilized), and (b) that a causal relationship may exist.

Because of the number of variables being compared, the variables are identified in the following tables according to an arbitrarily assigned variable number. Table 25, however, describes the variable assigned to each variable number.

The following discussion mentions only those variables found to be significant at the .01 level. Tables 26 through 43, however, do reference those variables significant at both the .01 and the .05 levels.

Table 26 reports the results of the correlation analysis between the demographic variables and the organizational variables. Five significant coefficients were found. These variables were found to be years of education, positively correlated with job title (this was the highest coefficient found at +.30), and age with whether the buyer supervised anyone. Caution should be used in interpreting

TABLE 25

VARIABLE IDENTIFICATION CODES

Variable Number	Variable Description
Demographic variables	
15	Age.
16	Marital status.
17	Number of dependents.
18	Highest degree earned.
19	Years of education.
20	Years of tenure with present company, any position.
21	Years of tenure with present company, in purchasing.
Organizational variables	
24	Size of company.
25	Did someone precede you at your present position?
26	If so, what happened to this person?
27	Size of purchasing department.
28	Number of purchasing departments within the firm.
29	Single or multi-plant operation.
30	Your title.
31	Do you supervise anyone?
32	If so, how many do you supervise?
33	The title(s) of those you supervise.
34	Types of materials you purchase.

TABLE 25--Continued

Variable Number	Variable Description
Mobility variables	
21	Years of tenure with present company, in purchasing.
22	Number of companies for which you have worked in purchasing.
23	Total number of years worked in purchasing.
Satisfaction variables	
35	JDI subscale, Work.
36	JDI subscale, Supervision.
37	JDI subscale, Pay.
38	JDI subscale, Promotion.
39	JDI subscale, Co-workers.
101	Variables 35 through 39 summed.
Perception Variable	
A.	How much time is actually spent for:
52	Product research.
53	Preparing and issuing purchase orders.
54	Departmental duties.
55	All dealings with vendors.
56	Filing.
57	All dealings with non-buyer, company personnel.
58	Other, non-specified, duties.

TABLE 25--Continued

Variable Number	Variable Description
B.	How much time should be spent for:
72	Product research.
73	Preparing and issuing purchase orders.
74	Departmental duties.
75	All dealings with vendors.
76	Filing.
77	All dealings with non-buyer, company personnel.
78	Other, non-specified, duties.
C.	Job perceptual difference for:
201	Variable 52 minus variable 72.
202	Variable 53 minus variable 73.
203	Variable 54 minus variable 74.
204	Variable 55 minus variable 75.
205	Variable 56 minus variable 76.
206	Variable 57 minus variable 77.
207	Variable 58 minus variable 78.

TABLE 26

CORRELATION BETWEEN DEMOGRAPHIC AND ORGANIZATIONAL VARIABLES

Demographic Variable	Organizational Variable 24	25	26	27	28	29	30	31	32	33	34
15	.01	.03	.05	.07	-.14b	.04	.16b	-.26a	.13	.17b	.08
16	.11	-.13	-.05	.14b	.03	.07	-.05	-.07	.03	.02	.10
17	.07	-.01	-.02	.01	.10	.04	.03	-.19a	.01	.08	.05
18	.15b	.04	.03	.06	.15b	.01	.18	-.11	.06	.09	.03
19	.15b	-.02	-.05	.13	.12	.05	.30a	-.15b	.18	.11	.14b
20	.15b	.08	.02	.07	-.05	.07	.05	-.22a	.09	.05	.02
21	.16b	.16b	.10	.06	-.05	.03	.10	-.19a	.08	.14b	.01

a: significant at .01 level
b: significant at .05 level

TABLE 27

CORRELATION BETWEEN DEMOGRAPHIC AND MOBILITY VARIABLES

Mobility Variable	Demographic Variable 15	16	17	18	19	20	21
21	.70a	.03	-.10	-.18a	-.15b	.83a	1.00
22	.10	.02	.12	.07	.12	-.28a	- .17b
23	.75a	.02	-.06	-.19a	-.13b	.62a	.82a

a: significant at .01 level
b: significant at .05 level

TABLE 28

CORRELATION BETWEEN DEMOGRAPHIC AND SATISFACTION VARIABLES

Satisfaction Variable	Demographic Variable 15	16	17	18	19	20	21
35	.20a	.10	.05	-.17b	-.16b	.15b	.08
36	.06	.06	-.07	-.03	-.13	.03	-.04
37	.14b	.04	-.06	-.08	-.09	.12	.12
38	-.11	.15b	.15b	-.04	-.08	-.10	-.15b
39	.06	.13	.05	-.03	-.00	.02	-.04

a: significant at .01 level
b: significant at .05 level

TABLE 29

CORRELATION BETWEEN DEMOGRAPHIC AND PERCEPTION (A) VARIABLES

Perception (A) Variable	Demographic Variable 15	16	17	18	19	20	21
52	-.03	.03	.07	.07	.08	-.08	-.09
53	-.02	-.08	-.03	-.19a	-.23a	.02	-.01
54	.09	.04	.00	.14b	.23a	.03	.06
55	.03	.00	.07	.08	.03	.07	.13b
56	-.05	.02	-.05	-.01	-.16b	-.02	-.07
57	-.03	.05	.02	.03	.14b	-.03	-.05
58	-.02	-.02	-.07	-.03	.05	-.06	-.08

a: significant at .01 level
b: significant at .05 level

TABLE 30

CORRELATION BETWEEN DEMOGRAPHIC AND PERCEPTION (B) VARIABLES

Perception (B) Variable	Demographic Variable 15	16	17	18	19	20	21
72	-.19a	-.07	.10	.19a	.19a	-.26a	-.20a
73	.08	-.01	-.08	-.22a	-.22a	.08	.06
74	.02	.07	-.02	.14b	.25a	.02	.06
75	.13	-.11	.03	-.01	-.09	.22a	.18a
76	-.01	.07	-.03	-.08	-.16b	-.03	-.11
77	-.16b	.07	.06	-.01	.04	-.13	-.08
78	.04	.05	-.07	.10	.09	-.05	-.05

a: significant at .01 level
b: significant at .05 level

TABLE 31

CORRELATION BETWEEN DEMOGRAPHIC AND PERCEPTION (C) VARIABLES

Perception (C) Variable	Demographic Variable 15	16	17	18	19	20	21
201	.19a	-.09	-.06	-.14b	.15b	.21a	.15b
202	-.11	.08	.08	.02	-.03	-.07	-.07
203	.09	.03	.03	.04	.02	.01	-.01
204	-.14b	-.11	.01	.05	.08	-.19a	-.07
205	.07	.04	-.04	.06	-.06	.01	.03
206	.10	.01	-.04	.01	.07	.09	.01
207	-.01	.09	-.02	-.10	.06	.02	-.01

a: significant at .01 level
b: significant at .05 level

TABLE 32

CORRELATION BETWEEN ORGANIZATIONAL AND MOBILITY VARIABLES

Mobility Variable	Organizational Variable										
	24	25	26	27	28	29	30	31	32	33	34
21	.16b	.16b	.09	.06	-.05	.03	.10	-.19a	.08	.14b	-.01
22	-.21a	-.01	.07	-.19a	-.10	-.05	.21a	-.08	.01	.18a	.14b
23	.04	.16b	.16b	-.04	-.09	-.02	.15b	-.22a	.12	.25a	.08

a: significant at .01 level
b: significant at .05 level

TABLE 33

CORRELATION BETWEEN ORGANIZATIONAL AND SATISFACTION VARIABLES

Satisfaction Variable	Organizational Variable 24	25	26	27	28	29	30	31	32	33	34
35	-.08	.13	.15b	-.16b	-.06	-.08	-.04	-.05	-.02	-.01	.16b
36	.07	.05	.03	-.03	-.05	-.16b	.00	-.03	.06	.02	.03
37	.00	.05	.09	-.01	.03	-.02	.05	-.15b	.01	.05	.00
38	-.01	.08	.01	-.06	.03	-.07	.04	-.03	-.01	.05	.16b
39	.13	-.05	-.13	.00	.02	-.06	-.01	.02	.03	.05	.01

a: significant at .01 level
b: significant at .05 level

TABLE 34

CORRELATION BETWEEN ORGANIZATIONAL AND PERCEPTION (A) VARIABLE

Perception (A) Variable	Organizational Variable 24	25	26	27	28	29	30	31	32	33	34
52	.02	-.02	-.01	.17b	.14b	.01	.23a	-.07	.16b	.11	-.05
53	.12	.04	.05	.03	.02	.12	-.33a	.27a	-.16	-.20a	.09
54	-.21a	-.01	-.01	-.14b	-.01	-.10	.41a	-.34a	.36a	.29a	.09
55	-.03	-.05	.03	-.01	-.03	-.08	.01	-.08	-.17b	.02	-.08
56	-.03	.08	.02	-.10	-.06	.06	-.17b	.20a	-.18a	-.18a	-.17b
57	.14b	-.07	-.17b	.09	.05	-.06	.03	-.11	-.07	-.07	.04
58	-.01	.01	.03	.01	-.11	.02	-.02	.07	-.03	.09	-.02

a: significant at .01 level
b: significant at .05 level

TABLE 35

CORRELATION BETWEEN ORGANIZATIONAL AND PERCEPTION (B) VARIABLES

Perception (B) Variable	Organizational Variable 24	25	26	27	28	29	30	31	32	33	34
72	.03	-.03	-.04	.06	.01	-.08	.17b	-.03	.02	.05	-.06
73	.01	.09	.08	-.02	.04	.16b	-.25a	.20a	-.07	-.23a	.10
74	-.13	.03	.04	-.09	.03	-.12	.30a	-.23a	.34a	.28a	.18a
75	-.04	-.03	.01	.00	-.05	-.06	-.01	-.09	-.19a	.07	-.17b
76	.04	-.03	-.07	.00	.12	.13	-.13	.13	-.03	-.17b	-.16b
77	.19a	-.14b	-.16b	.09	-.10	-.01	-.09	-.01	-.06	-.08	.03
78	-.06	.08	.09	-.03	-.07	-.05	.09	.01	-.03	-.05	.07

a: significant at .01 level
b: significant at .05 level

TABLE 36

CORRELATION BETWEEN ORGANIZATIONAL AND PERCEPTION (C) VARIABLES

Perception (C) Variable	Organizational Variable 24	25	26	27	28	29	30	31	32	33	34
201	-.03	.00	.02	.08	.09	.08	.02	-.03	.17b	.06	.03
202	.18	-.03	-.02	.10	.01	.02	-.16b	.13	-.15b	.02	-.09
203	-.11	-.05	-.07	-.08	-.04	.01	.25a	-.18a	.09	.06	-.01
204	-.03	-.04	.02	-.01	.03	-.01	-.03	.06	.00	-.09	.08
205	-.03	.13	.10	-.13	-.20a	-.05	-.09	.12	-.17a	-.04	.01
206	-.03	.07	.01	-.04	.10	-.07	.06	-.11	-.02	.01	.05
207	.01	-.07	-.06	.06	-.07	.02	-.09	.02	.02	-.06	-.10

a: significant at .01 level
b: significant at .05 level

TABLE 37

CORRELATION BETWEEN MOBILITY AND SATISFACTION VARIABLES

Mobility Variable	Satisfaction Variable 35	36	37	38	39
21	.08	-.04	.12	-.15b	-.04
22	-.01	-.06	-.08	.02	.01
23	.10	-.03	.11	-.14b	-.05

a: significant at .01 level
b: significant at .05 level

TABLE 39

CORRELATION BETWEEN MOBILITY AND PERCEPTION (B) VARIABLES

Mobility Variable	Perception (B) Variable 72	73	74	75	76	77	78
21	-.20a	.06	.06	.18a	-.11	-.08	-.05
22	.22a	-.07	.05	-.10	-.07	-.08	.10
23	-.09	.10	.05	.09	-.11	-.15b	-.01

a: significant at .01 level
b: significant at .05 level

TABLE 40

CORRELATION BETWEEN MOBILITY AND PERCEPTION (C) VARIABLES

Mobility Variable	Perception (C) Variable 201	202	203	204	205	206	207
21	.15b	-.07	-.00	-.08	.03	.01	-.01
22	-.17b	-.06	.15b	.03	.01	.08	-.05
23	.12	-.13	.07	-.04	-.02	.06	-.05

a: significant at .01 level
b: significant at .05 level

TABLE 41

CORRELATION BETWEEN SATISFACTION AND PERCEPTION (A) VARIABLES

Satisfaction Variable	Perception (A) Variable 52	53	54	55	56	57	58
35	.07	-.10	.06	.10	-.09	-.08	.06
36	-.08	-.11	.02	.08	-.01	.12	.01
37	.03	-.11	.07	.00	-.09	.08	.08
38	.06	-.10	.02	.07	-.02	-.03	.07
39	-.04	-.11	.01	.06	-.11	.14b	.10

a: significant at .01 level
b: significant at .05 level

TABLE 42

CORRELATION BETWEEN SATISFACTION AND PERCEPTION (B) VARIABLES

Satisfaction Variable	Perception (B) Variable 72	73	74	75	76	77	78
35	-.03	-.16b	.07	.12	-.03	.01	.05
36	-.08	-.15b	.07	.07	.06	.07	.07
37	-.07	-.09	.04	.03	.13	.02	.08
38	.10	-.15b	.02	.02	.01	.02	.08
39	-.02	-.22a	.02	.06	.11	.17b	.07

a: significant at .01 level
b: significant at .05 level

TABLE 43

CORRELATION BETWEEN SATISFACTION AND PERCEPTION (C) VARIABLES

Satisfaction Variable	Perception (C) Variable 201	202	203	204	205	206	207
35	.07	-.00	-.00	-.01	-.08	.00	.00
36	.03	.00	-.04	.04	-.04	.05	-.07
37	.10	-.06	.04	-.01	-.17b	.07	.04
38	-.08	-.00	.03	.09	-.04	-.01	-.03
39	.03	.09	.01	.01	-.18	-.05	.05

a: significant at .01 level
b: significant at .05 level

this coefficient. The initial coding used for the variable--"do you supervise anyone"--was 1 = yes, 2 = no. Consequently, a negative coefficient, such as resulted with these two variables, was actually a positive relationship. This coefficient was found to be +.26.

Three other coefficients were found to be significant which also involved variable 31--"do you supervise anyone." The number of dependents claimed by the buyer related at +.19 with this supervision variable while years tenure with the present company in any position related positively at +.22. Likewise, years of tenure with the present company in purchasing was positively related with a coefficient of +.19. (Note that the coefficients for variable 31 mentioned above are listed in Table 26 as negatives.)

Table 27, the results of the analysis of the demographic variables and the mobility variables, indicates several significant relationships. It should be pointed out that variable 21--years of tenure with the present company in purchasing--was included as both a demographic variable and as a mobility variable. Consequently, Table 27 reflects one coefficient of +1.

Most of the significant coefficients found in this analysis are obvious. For example, high positive relationships (+.62 and higher) were found between number of years in purchasing with the present employer and years of tenure

with present employer in any position; total years in purchasing and years with present employer in purchasing; total years in purchasing and age; company tenure in purchasing and age; and total years in purchasing and tenure with present company in any position.

Another result, mobility compared with years' tenure with present employer in any position, was much lower, although significant at the .01 level, than might have been anticipated. This coefficient was -.28.

Two additional results were significant at the .01 level. These were company tenure in purchasing with highest degree earned and total years in purchasing with the same variable. Somewhat surprisingly, these coefficients were -.18 and -.19 respectively. These findings probably reflect the more recent emphasis on education.

When the comparison was made between the demographic variables and job satisfaction variables, as reported in Table 28, only one coefficient was found to be significant. The correlation between age and levels of satisfaction with the work itself was significant at the .01 level and resulted in a coefficient of +.20.

Three significant coefficients were found between demographic and perception (a) variables. (Perception (a) variables are those denoting how buyers actually spend their time.) These findings, reported in Table 29, indicated two significant relationships involving the variable

preparing and issuing purchase orders and two with the variable years of education. Specifically, a coefficient of +.19 was found between the amount of time spent preparing and issuing purchase orders and highest degree earned. A coefficient of +.23 was found between preparing and issuing purchase order time and highest degree earned. The third significant relationship found between these two sets of variables was between amount of time spent on departmental duties and highest degree earned.

A possible explanation for the existence of these significant relationships between education and the time spent preparing and issuing purchase orders might be the fact that purchase orders are legal contracts. Persons with relatively more education might be more familiar with this fact and the ramifications of legal contracts than less educated persons. Consequently, additional care might be taken in issuing these contracts.

Table 30 reports the findings of the correlations between the demographic set of variables and the perception (b) variables--how buyers feel they should be spending their time. Ten significant coefficients were found. Five of these involved the variable importance of product research. Specifically, this variable was found to be related with the following demographic variables: years of tenure with present company in any position, -.26; years of tenure with

present company in purchasing, -.20; age, -.19; highest degree earned, +.19; and years of education, +.19.

Each of these relationships could be classified as being rather obvious. The probable explanation for the first three would be that as a person becomes more familiar with his job, as demonstrated by increased tenure, he would probably require less time for obtaining information about products. In other words, his research would more likely be concerned with keeping current than would the less familiar buyer who must research all products purchased through his desk.

The two positive coefficients involving education might be explained by either the finding that buyers with higher education tend to have fewer years of tenure or that those buyers with more education might appreciate more fully the responsibility of the buyer being a resource person.

Two of the remaining five significant coefficients found between these two sets of variables involved the variable importance of all dealings with vendors. With the variables years of tenure in any position and in purchasing, the coefficients were found to be +.22 and +.18 respectively. Two other significant coefficients were found for the variable importance of preparing and issuing purchase orders. As with the (a) set of perception variables, actual amount

of time spent, these two coefficients were found to be with highest degree earned, -.22, and years of education, -.22.

The results of correlation analysis for the demographic and perception (c) variables, perceptual differences, are reported in Table 31. Only three coefficients were found which were significant. The difference in actual time spent and importance of product research variable was found to have two significant coefficients of correlation. These two coefficients, with age and years of tenure with present employer in any position, were both +.19.

The third significant correlation found between these two sets of data was between the difference in all dealings with vendors and years of tenure with the present company in any position. This correlation was found to be +.19 significant at the .01 level.

It is of some interest to note that only three significant correlations were found for the perception difference set of variables (perception (c) variables). As reported previously, a total of 13 correlations were significant when demographic variables were compared to the perception (a) and the perception (b) sets of variables. Evidently in those cases where possible relationships existed in the a and b sets, the difference between a and b was of insufficient magnitude to suggest possible causal relationships with the balance of the demographic variables.

Table 32 reports the findings of the correlation analysis between organizational and mobility variables. Four significant correlations were found to exist for the variable number of companies worked for in purchasing. These four were in relation to the variables size of the company, -.21; size of the purchasing department, -.19; the buyer's title, +.21; and the title of those supervised, +.18. If these significant correlations did reflect significant relationships, it is interesting to note that those buyers most mobile in the past are currently employed by smaller companies and/or in smaller purchasing departments. This could suggest that smaller companies tend to hire more buyers with previous experience than do the larger companies. Also, it is suggested that these buyers with previous experience join these smaller companies in a higher position usually in some type of supervisory capacity.

Because of the coding used in the analysis, two apparently negative correlations found between these two sets of data are actually positive in nature. For the variable "do you supervise anyone" a coding of 1 = yes and 2 = no was utilized. Consequently, as mentioned previously, a negative correlation actually means a positive correlation with the fact that supervising is performed. The two significant relationships found involving this variable were with the variables years of tenure with present company in purchasing and with total number of

years worked in purchasing. These correlations were found to be .19 and .22 respectively. It is quite likely to suspect that the longer a person remains in a position the more likely he is to be promoted to supervisory status.

The remaining significant correlation found between these two sets of variables was between total number of years worked in purchasing and title of those supervised. This coefficient was +.25 and was also significant at the .01 level. It is suggested that the longer one has been in purchasing the more likely this person supervises buyers or combinations of buyers and non-buyer personnel.

Table 33 reports the findings of correlation analysis made between organizational variables and satisfaction variables. No correlations were found to be significant at the .01 level. Because of the findings in the literature, reported in Chapter II, the fact that no significant correlations were found was contrary to the results expected between these two sets of variables. Additional interpretations concerning the relationship between organizational and satisfaction variables are made as other analyses are reported later in this chapter.

The results of the correlation studies between organizational and perception (a) variables, how buyers spend their time, are reported in Table 34. Although more significant correlations were found between these two sets of variables than between any other two sets, with one

exception, the only organizational variables found to be significant were variables 30 through 33. These four variables are concerned only with the title of the buyer and information concerning the personnel he might supervise.

The one exception was the correlation between departmental duties and the size of the organization. This coefficient was found to be -.21. This finding suggests that buyers in larger organizations are generally more specialized in that relatively more of their time is spent on those elements more related to purchasing than with administration.

For the other four variables, it was found that the variable of title was significantly correlated with how a buyer spends his time on the variables of product research, +.23; preparing and issuing purchase orders, -.33; and departmental duties, +.41. The relationships suggested by these significant correlations are not unexpected. For example, the coding used for the variable title increased as the job title was improved from assistant buyer through purchasing agent, director or supervisor of purchasing, and other. Consequently, it is likely that purchasing agents spend more time on product research than would the "lowest" title assistant buyer. Likewise, those buyers of most junior status might be expected to perform the more routine duty of preparing and issuing purchase orders than buyers of more senior standing. The strong positive

correlation found for departmental duties, too, could be explained by the fact that buyers in the highest job titles would be more likely to be supervisors and be involved in interdepartmental activities.

Three variables involving how buyers spend their time, preparing and issuing purchase orders, departmental duties, and filing were found to be significantly correlated with two organizational variables, whether the buyer supervises anyone and the title of those supervised. (It should be remembered that a negative correlation for the variable--"do you supervise anyone"--because of the coding used is actually a positive finding.) The correlations found for the variables mentioned above were respectively +.27, -.34, +.20 for the variable do you supervise anyone and +.20, +.29, and -.18 for the variable the title of those supervised. These findings, too, are not really unexpected. They suggest that the manner in which a buyer spends his time depends, to some extent, on whether or not he is responsible for supervising other employees. A buyer who does not supervise others would be expected to concentrate his activities on those functions necessary to buying, per se.

Two of these same variables concerning how time is spent on the job, departmental duties and filing, were also found to be significantly correlated with the number of

personnel supervised. These correlations were found to be +.36 and -.18 respectively.

Table 35 presents the coefficients found for the correlations made between the organizational and the perception (b), how time should be spent, variables. With only two exceptions the results between these two sets of variables were similar to the findings reported in Table 34 for organizational and perception (a) variables. The two exceptions were found to be the correlations between the importance of the variables all dealings with non-buyer, company personnel and the size of the company and all dealings with vendors and the number of persons supervised by the buyer. The coefficient of the former pair of variables was found to be +.19, and the coefficient of the latter pair, -.19. These two findings, also, are not unexpected. The relationships suggested are that buyers in larger companies spend more time with company personnel regarding the selection of products and vendors than do those in smaller companies. It would be expected that larger companies would have more specialization of tasks--i.e., the role of the buyer--as well as more non-buyer personnel than would smaller firms. By the same token, as the number of persons supervised by a buyer increases, it would be expected that he would need to spend more time on his administrative duties than with vendors.

The set of organizational variables was analyzed with one other set of variables, perception differences. Three significant coefficients were found and are reported in Table 36. It is interesting to note that the same number of significant coefficients were found when perception difference variables were compared with demographic variables. However, no perception difference variable was common to both analyses. One variable, difference in time spent and importance of departmental duties, was significantly correlated with two organizational variables. These two, title and do you supervise anyone, were +.25, and -.18, respectively. (Again, because of the coding used with the latter variable, this negative coefficient is actually positive.) The relationships suggested by these findings are that as the buyer's title becomes higher and he finds himself supervising others, he reports a greater difference in the amount of time he spends and the importance he attaches to departmental duties.

The third significant coefficient found between these two sets of variables was between the importance and time spent filing and the number of purchasing departments within the firm. This coefficient was found to be -.20. It is interesting to note that this was the only significant coefficient found for the variable number of purchasing departments. A possible explanation of the relationship suggested is that those companies large enough to have more

than one purchasing department utilize some centralized filing system or that the volume of purchases is such that the ratio of buying personnel to non-buyers within the office (such as clerks, assistant buyers, et cetera) is lower than in single office organizations.

Table 37 reports the findings of the correlation analysis between mobility and satisfaction variables. No significant coefficient were indicated. Similarly, Table 38 reports no significant coefficients between mobility variables and perception (a) variables.

In fact, the only significant coefficient found between the mobility variables and any perception variables was with the "b" set or how buyers felt they should spend their time. These results are reported in Table 39. Two of the three significant coefficients found involved the variable importance of product research. Significant correlations were found with this variable and years of tenure with present company in purchasing, -.20, and with number of companies worked for in purchasing, +.22.

The first of these relationships which might be suggested by these significant coefficients could be explained by the fact that as a buyer remains at his job, the time required for product research lessens to the point where he requires only a relatively little time to keep current on new products. The interpretations of the second coefficient, on the other hand, is more interesting. It

is suggested that as a buyer changes companies, he feels that more time should be spent on product research. The possible reason for this type of feeling is that the buyer not only changes companies but may change the categories of items purchased. In other words, his past experience with specific suppliers and products may not be useful to him in his new job.

The other significant coefficient found between these two sets of variables was between years of tenure with present company in purchasing and how time should be spent in all dealings with vendors. This coefficient was earlier reported in Table 30.

Further correlation studies were made between the other sets of variables. Specifically, these included mobility and perception (b) variables, and satisfaction and perception (a), (b), and (c) variables. These findings are reported in Tables 40 through 43. Only one correlation was found to be significant at the .01 level in these analyses. This was between the satisfaction subscale co-workers and importance of filing and is reported in Table 44. The coefficient was -.22 suggesting that those employees most satisfied with their co-workers feel that less time is required for filing.

Regression Studies

Step-wise multiple regression analysis was made for each of the six hypotheses in the study. In effect, this analysis separated the data into the same sets as was used for the previous studies conducted with the data. However, in some cases analysis by hypothesis resulted in the combination of variables. For example, demographic and organizational variables were combined. In those instances where no significant relationships were found between major variables, tests for curvilinearity were made. Likewise, tests were performed changing the independent and dependent variables in order to determine if any relationships could be found between the variables.

The simple correlation studies, reported previously, reported the correlations between any two variables. Multiple regression analysis, on the other hand, reported the correlations between a single variable, called the dependent variable, and two or more independent variables. Often it was found that the relationships between the dependent variable and the several independent variables were greater than the relationship between the dependent variable and any one of the independent variables when considered individually.

When values are known for the independent variables, it is possible through the use of multiple regression

analysis to compute or estimate the value of the dependent variable. For this reason, according to Balsley (1970), the resulting multiple regression equation is often referred to as the "estimating equation." (p. 187)

Because the multiple regressions were made in the stepwise manner, it was possible to determine the order and the magnitude of relationships between the dependent and the various independent variables. In other words, the most significant variable was first entered into the equation. Holding this relationship constant, the next most significant variable was then entered. This process continued until either all independent variables had been so entered into the equation or until no significance was found between the dependent and the remaining independent variables.

The results of the regression analysis of the data are reported in the following tables. Three separate findings were reported. First, the entire regression was shown in the order in which the independent variables were entered into the equation. The multiple correlation coefficient and the partial coefficient for each independent variable (holding constant those variables previously entered in the equation) were given for the entire regression equation. As additional variables became included in the equation, the level of significance dropped below the .05 level. Consequently, the second finding reported was the

regression equation at the point where no further significance was found for variables not yet included in the equation. (Both the multiple correlation coefficient and the beta for variables are greater at this point than when all independent variables, significant or not, are so included.) The third finding reported indicates the approximate per cent of the variability of the dependent variable accounted for by the regression equation. Even though the multiple correlation coefficient of the independent variables in the regression equation are all significant at this cut-off point, indicating that only five times in a hundred might a coefficient of that size be expected to occur by chance alone, the strength or the dependability of the "estimating equation" usually differs. Specifically, the significant independent variables in the regression equation may be able to predict only a slight amount of the variability existing in the dependent variable. Unless this finding is reported, it is misleading to attempt to predict the value of the dependent variable by use of the resulting regression equations.

Table 44 reports the regression findings for testing hypothesis 1, mobility and demographic and organizational variables. The variable number of companies worked for in purchasing was made the dependent variable and the demographic and organizational variables the independent variables. The findings for these variables accounted for

TABLE 44

REGRESSION RESULTS OF DEPENDENT VARIABLE MOBILITY AND DEMOGRAPHIC AND ORGANIZATIONAL VARIABLES

Step Entered	Variable Entered	Partial R with dependent variable holding previously entered variables constant	Multiple R
1	#20--yrs. with present company any position	----	.279
2	#23--total no. of yrs. worked in purchasing	.58	.625
3	#21--yrs. with present co. in purchasing	-.53	.748
4	#30--your title	.20	.759
5	#32--if yes, how many do you supervise	.15	.766
6	#16--marital status	.10	.768
7	#19--years of education	.09	.771
8	#24--no. of employees in firm	-.10	.773
9	#17--no. of dependents	.06	.774
10	#26--if so, what happened to him	-.06	.775
11	#29--single or multi plant operation	.06	.776
12	#28--no. of purchasing depts. in firm	-.06	.777

TABLE 44--Continued

Step Entered	Variable Entered	Partial R with dependent variable holding previously entered variables constant	Multiple R
13	#18--highest degree earned	.06	.778
14	#31--do you supervise anyone	.06	.778
15	#15--age	.03	.779
16	#33--the title of those you supervise	.03	.779
17	#25--did someone precede you at present job	.02	.779
18	#34--types of materials you purchase	.02	.779
19	#27--no. of persons authorized to purchase	.01	.779

Var. 22 = .329 - .14 Var. 20 + 1.25 Var. 21 + .15 Var. 30 + .12 Var. 32 + .06 Var. 16

Approximately 57% of variability accounted for in the dependent variable.

more of the variability of the dependent variable than for any other set of variables. Specifically, approximately 57 per cent of the variability of the mobility variable was accounted for. The findings, too, reflected the rather obvious findings which resulted in the simple correlation studies--i.e., that the most significant independent variables were, in decreasing order of significance, years with present company in any position, total number of years worked in purchasing, and years with present company in purchasing.

Three other significant independent variables were found to be included in the multiple regression equation. Holding the preceding variables constant the order of entering the equation was the variables title, number of persons supervised, and marital status. This group of six variables accounted for the 57 per cent of variability mentioned previously. It was interesting to note that all but two of these variables were positively related with the dependent variable. The two negatively related were years with present company in any position and in purchasing.

Two other variables were nearly significant. These were years of education, having a partial coefficient of +.09, and number of employees in the firm, -.10. Least significant was the variables size of the purchasing department, types of materials purchased, and whether someone preceded this buyer at the job.

Tables 45 through 50 report the regression findings testing hypothesis 2 for the dependent variables concerning job satisfaction and demographic and organizational variables. Table 45 reports these findings with the total job satisfaction variable as the dependent variable. Total satisfaction was derived by summing the five JDI subscales--work, supervision, pay, promotions, and co-workers.

A combination of five variables was found to be significant. Although these five accounted for only 12 per cent of the variability of the dependent variable total satisfaction, the findings were felt to be of significance as these possible trends might provide useful information concerning industrial buyers. This is not to suggest that the balance of the variability should be minimized in the findings.

The significant variables in their order of entering the equation and their resulting beta coefficients were found to be the number of persons supervised, +.28; years of education, -.20; marital status, +.16; size of purchasing department, -.22; and size of the company, +.23.

All of these findings were in the direction suggested by the findings of other studies reported in the literature, as mentioned previously in Chapter II, review of the job satisfaction literature. Specifically, reviewing these five variables in order, it was suggested by Porter and by others that higher level managers tended to indicate

TABLE 45

REGRESSION RESULTS OF DEPENDENT VARIABLE TOTAL SATISFACTION AND DEMOGRAPHIC AND ORGANIZATIONAL VARIABLES

Step Entered	Variable Entered	Partial R with dependent variable holding previously entered variables constant	Multiple R
1	#32--if yes, how many do you supervise	----	.173
2	#19--years of education	-.16	.234
3	#16--marital status	.12	.262
4	#27--no. of persons authorized to purchase	-.11	.284
5	#24--no. of employees in firm	.16	.321
6	#29--single or multi plant operation	-.10	.335
7	#21--yrs. with present co. in purchasing	-.10	.349
8	#21--do you supervise anyone	.11	.365
9	#25--did someone precede you at present job	.10	.376
10	#15--age	.08	.384
11	#23--total no. of yrs. worked in purchasing	.09	.392
12	#28--no. of purchasing depts. in firm	.07	.396

TABLE 45--Continued

Step Entered	Variable Entered	Partial R with dependent variable holding previously entered variables constant	Multiple R
13	#18--highest degree earned	-.07	.402
14	#34--types of materials you purchase	.06	.406
15	#33--the title of those you supervise	.04	.407
16	#20--yrs. with present co., any position	-.02	.408

Var. 101 = 212.17 + .28 Var. 32 - .20 Var. 19 + .13 Var. 16 - .22 Var. 27 + .23 Var. 24

Approximately 12% of variability accounted for in the dependent variable.

TABLE 46

REGRESSION RESULTS OF DEPENDENT VARIABLE JDI-WORK
AND DEMOGRAPHIC AND ORGANIZATIONAL VARIABLES

Step Entered	Variable Entered	Partial R with dependent variable holding previously entered variables constant	Multiple R
1	#15--age	----	.202
2	#34--types of materials you purchase	.15	.251
3	#19--years of education	-.16	.292
4	#26--if so, what happened to him	.13	.316
5	#23--total no. of yrs. worked in purchasing	-.12	.336
6	#27--no. of persons authorized to purchase	-.09	.348
7	#16--marital status	.10	.360
8	$18--highest degree earned	-.09	.371
9	#24--no. of employees in firm	.07	.377
10	#29--single or multi plant operation	-.07	.382
11	#28--no. of purchasing depts. in firm	.06	.387
12	#25--did someone precede you at present job	.06	.391

TABLE 46--Continued

Step Entered	Variable Entered	Partial R with dependent variable holding previously entered variables constant	Multiple R
13	#17--no. of dependents	.05	.393
14	#30--your title	-.05	.396
15	#33--the title of those you supervise	.03	.397
16	#21--yrs. with present co. in purchasing	-.02	.397
17	#31--do you supervise anyone	-.02	.397

Var. 35 = 39.32 + .29 Var. 15 + .16 Var. 34 - .15 Var. 19 + .14 Var. 26 - .18 Var. 23

Approximately 11% of variability accounted for in the dependent variable.

TABLE 47

REGRESSION RESULTS OF DEPENDENT VARIABLE JDI-SUPERVISION AND DEMOGRAPHIC AND ORGANIZATIONAL VARIABLES

Step Entered	Variable Entered	Partial R with dependent variable holding previously entered variables constant	Multiple R
1	#29--single or multi plant operation	----	.162
2	#24--no. of employees in firm	.13	.209
3	#19--years of education	-.15	.253
4	#21--yrs. with present co. in purchasing	-.08	.266
5	#15--age	.14	.297
6	#32--if yes, how many do you supervise	.07	.305
7	#27--no. of persons authorized to purchase	-.08	.314
8	#16--marital status	.07	.322
9	#17--no. of dependents	-.10	.334
10	#25--did someone precede you at present job	.07	.341
11	#31--do you supervise anyone	-.07	.347
12	#23--total no. of yrs. worked in purchasing	-.06	.352

TABLE 47--Continued

Step Entered	Variable Entered	Partial R with dependent variable holding previously entered variables constant	Multiple R
13	#33--the title of those you supervise	.05	.355
14	#18--highest degree earned	.04	.357
15	#30--your title	.04	.359
16	#34--types of materials you purchase	.01	.359
17	#20--yrs. with present co., any position	.01	.359

Var. 36 = 56.85 - .22 Var. 29 + .20 Var. 24 - .15 Var. 19 - .22 Var. 21 + .19 Var. 15

Approximately 10% variability accounted for in the dependent variable.

TABLE 48

REGRESSION RESULTS OF DEPENDENT VARIABLE JDI-PAY
AND DEMOGRAPHIC AND ORGANIZATIONAL VARIABLES

Step Entered	Variable Entered	Partial R with dependent variable holding previously entered variables constant	Multiple R
1	#31--do you supervise anyone	-----	.146
2	#19--years of education	-.12	.190
3	#26--if so, what happened to him	.09	.210
4	#15--age	.08	.224
5	#17--no. of dependents	-.06	.232
6	#16--marital status	.06	.239
7	#28--no. of purchasing depts. in firm	.06	.245
8	#33--the title of those you supervise	.05	.250
9	#24--no. of employees in firm	.03	.252
10	#29--single or multi plant operation	-.03	.253
11	#18--highest degree earned	-.03	.255
12	#32--if yes, how many do you supervise	-.03	.256

TABLE 48--Continued

Step Entered	Variable Entered	Partial R with dependent variable holding previously entered variables constant	Multiple R
13	#23--total no. of yrs. worked in purchasing	-.03	.258
14	#21--yrs. with present co. in purchasing	.03	.259
15	#20--yrs. with present co., any position	-.03	.261
16	#25--did someone precede you at present job	-.01	.262

Var. 37 = 35.99 - .15 Var. 31

Approximately 2% of variability accounted for in the dependent variable.

TABLE 49

REGRESSION RESULTS OF DEPENDENT VARIABLE JDI-PROMOTIONS AND DEMOGRAPHIC AND ORGANIZATIONAL VARIABLES

Step Entered	Variable Entered	Partial R with dependent variable holding previously entered variables constant	Multiple R
1	#34--types of materials you purchase	----	.158
2	#23--total no. of yrs. worked in purchasing	-.15	.217
3	#17--no. of dependents	.14	.256
4	#19--years of education	-.15	.295
5	#16--marital status	.10	.309
6	#25--did someone precede you at present job	.10	.324
7	#33--the title of those you supervise	.10	.337
8	#30--your title	.08	.345
9	#26--if so, what happened to him	-.08	.354
10	#32--if yes, how many do you supervise	-.08	.361
11	#24--no. of employees in firm	-.07	.367
12	#21--yrs. with present co. in purchasing	-.08	.374

TABLE 49--Continued

Step Entered	Variable Entered	Partial R with dependent variable holding previously entered variables constant	Multiple R
13	#27--no. of persons authorized to purchase	-.07	.379
14	#18--highest degree earned	-.06	.382
15	#29--signel or multi plant operation	-.06	.386
16	#28--no. of purchasing depts. in firm	.06	.389
17	#31--do you supervise anyone	-.03	.390
18	#15--age	-.02	.391

Var. 38 = 42.37 + .18 Var. 34 - .16 Var. 23 + .16 Var. 17 - .15 Var. 19

Approximately 10% of variability accounted for in the dependent variable.

TABLE 50

REGRESSION RESULTS OF DEPENDENT VARIABLE JDI-CO-WORKERS AND DEMOGRAPHIC AND ORGANIZATIONAL VARIABLES

Step Entered	Variable Entered	Partial R with dependent variable holding previously entered variables constant	Multiple R
1	#26--if so, what happened to him	----	.133
2	#16--marital status	.13	.183
3	#24--no. of employees in firm	.09	.204
4	#29--single or multi plant operation	-.11	.232
5	#27--no. of persons authorized to purchase	-.08	.246
6	#33--the title of those you supervise	.07	.256
7	#23--total no. of yrs. worked in purchasing	-.07	.266
8	#15--age	.14	.298
9	#18--highest degree earned	-.08	.308
10	#25--did someone precede you at present job	.08	.317
11	#20--yrs. with present co., any position	-.07	.324
12	#28--no. of purchasing depts. in firm	.06	.329

TABLE 50--Continued

Step Entered	Variable Entered	Partial R with dependent variable holding previously entered variables constant	Multiple R
13	#31--do you supervise anyone	.04	.331
14	#30--your title	.03	.332
15	#32--if yes, how many do you supervise	.02	.333

Regression equation found to be not significant.

higher satisfaction than those of relatively lower positions. The findings above suggested that as a buyer reaches the level of supervisor, his level of satisfaction increases. The literature also suggested that increased education generally tended to be reflected in lower levels of job satisfaction. Similar results were found in the current study. Marital status was reported in relatively fewer studies in the literature. However, as it may be recalled, the general conclusions drawn were that non-single employees tended to be more satisfied than were single employees. It may be somewhat surprising, in lieu of the relatively light exposure given this topic in the literature, to find marital status ranking as the third most important variable in the current findings.

Likewise, the review of the literature revealed fewer studies relating to the size of the work group than for the size of the organization. It was interesting to note that for the industrial buyers in this study, size of the work group entered the regression equation before the variable size of the organization. However, it should be noted that the current findings tend to support the general findings for both of these variables--i.e., that satisfaction tends to be negatively related to both size of the work group and size of the overall organization.

It was somewhat surprising, according to the findings in the literature, that the current results did not indicate

significant relationships with job satisfaction and the variables age and tenure. Also, if the level of the job could be associated with the different types of materials purchased, the finding that this variable rated so low in the equation was unexpected. A possible explanation for this lack of significance might be that these variables would be related curvilinearly rather than linearly. Tests for curvilinearity for these variables are reported in a later section of this chapter.

Table 46 reports the findings for the dependent variable satisfaction with the work itself and the demographic and organizational variables as the independent variables. Several findings differing from the results of analysis of total satisfaction were found. In fact, the only variable found to be significant in the regression equation for each was years of education.

The variables age and types of materials purchased, both related positively, were the first two variables to enter the equation for the dependent variable work itself. The beta coefficient for each was found to be +.29 and +.16 respectively. The other significant variables found to be in the regression equation and their beta coefficients were years of education, -.15; what happened to your predecessor is somewhat more difficult to interpret.

This finding suggested that buyers were more satisfied with their work if either no one preceded them or if

the predecessor had not been transferred or promoted. (It should be pointed out that the latter occurred about twice as often as the former.) A possible explanation was that the buyer with little tenure on the job may find himself to be the replacement in what may have been an unpleasant situation for the supervisor of the purchasing department. In other words, the findings for this variable--what happened to your predecessor--might indicate that the department was in the position of not having a buyer for a particular position because the previous buyer may have left the company. Consequently, if this were the case, the department might be, at least initially, somewhat more receptive to the new replacement, thereby causing the buyer to respond as indicated in the findings.

Among those variables least significant when analyzed with this particular dependent variable were the variables title, title of those supervised, years with present employer in purchasing, and do you supervise any one.

Table 47 reports the findings for the dependent variable supervision and the independent variables demographic and organizational variables. Five variables were found to be of a significant level to be included in the regression equation. These variables and their beta coefficients were found to be single or multi-plant operation, -.22 (this indicates, because of coding, a negative relationship with single plant operations); size of the firm,

+.20; years of education, -.15; years with present company in purchasing, -.22; and age, +.19.

Only two of these variables--years of education and age--were found to be common to the regression equations of this dependent variable and the previously discussed dependent variable work itself. Too, only one variable was found to be common with satisfaction with supervision and total satisfaction. This variable was years of education.

The interpretation that is suggested from these particular findings is that apparently larger organizations, for whatever reason, tend to have "better" supervision. The term "better" is used to describe supervision, not necessarily as being more effective, but in the sense that employees seem to respond more favorably in terms of satisfaction levels. Perhaps one reason for this particular finding is that in larger organizations the duties and position of the supervisor are often more clearly defined than in smaller organizations. Another possible explanation might be that in larger organizations the buyer is less exposed to direct contact with his supervisor than in smaller organizations.

Those variables found to be least significant in the regression analysis were title of the buyer, types of materials purchased, and years with present company in any position.

Only one significant relationship was found to be in the regression equation when the dependent variable was pay. As reported in Table 48 this variable--do you supervise anyone--was found to have a negative beta coefficient of -.15 indicating a positive relationship with a response of "no." It should be pointed out, however, that the significant regression equation accounted for only about 2 per cent of the variability of the dependent variable pay. This suggests that the level of satisfaction with pay is not strongly associated with either demographic or organizational variables.

Table 49 reports the regression results for the dependent variable promotion and the independent demographic and organizational variables. Four independent variables were found to be of enough significance to be included in the regression equation. These variables and their respective beta coefficients were found to be types of materials purchased, +.18; total years worked in purchasing, -.16; number of dependents, +.16; and years of education, -.15. Only one of these variables--years of education--was common to the regression equation for total satisfaction.

These findings for the dependent variable promotion suggest several interpretations. It is likely that buyers purchasing several categories of items feel that they are in a higher level position than buyers who

purchase fewer categories of items. In other words, job enlargement tends to be related with this particular dependent variable. As it may be recalled, on the other hand, the variable types of items purchased was not significant for either of the dependent variables total satisfaction or supervision. It was, however, significant for the dependent variable work itself.

It is also suggested that both buyers who have worked longer in purchasing with any company and those with more years of education are generally less satisfied with their promotion possibilities than those having fewer years in purchasing and less education. The other significant variable in this regression equation suggests that as a buyer has more dependents he becomes perhaps less ambitious or less likely to strive openly for promotions--i.e., he becomes more satisfied with his particular situation. Another possible explanation for this significance might be that those buyers with more dependents become promoted more often than those buyers with fewer dependents. At first glance, this interpretation might seem to be somewhat ridiculous. However, closer analysis might reveal that usually older employees, hence those more likely to have more dependents, are more promotable. This interpretation is not, in fact, born out by the other findings of this particular regression study. The variable age was the least significant of all variables entered into the

regression equation. Consequently, the first interpretation appears to be the more likely explanation. The other least significant variables in this regression equation were found to be number of purchasing departments and whether the buyer supervised anyone.

Table 50 reports the regression analysis findings for the final satisfaction subscale, co-workers. No variables were found to be of enough significance to establish a regression equation for this dependent variable when compared to the demographic and organizational independent variables. In other words, there would be little reliability in trying to predict the level of satisfaction with co-workers from known demographic or organizational information.

The results of the regression analyses for hypothesis 3, the relationship between demographic and organizational variables and job perceptual differences, are reported in Tables 51 through 58. In this analysis, the perceptual differences were made the dependent variable and the demographic and organizational variables the independent. Variable 333, total perceptual difference, was derived by adding the absolute values for all eleven pairs of variables relating to how buyers spend their time and how they feel they should be spending it. These findings are reported in Table 51. With total perceptual differences as the dependent variable and demographic and organizational

TABLE 51

REGRESSION RESULTS OF DEPENDENT VARIABLE TOTAL PERCEPTUAL DIFFERENCE AND DEMOGRAPHIC AND ORGANIZATIONAL VARIABLES

Step Entered	Variable Entered	Partial R with dependent variable holding previously entered variables constant	Multiple R
1	#30--your title	----	.144
2	#33--the title of those you supervise	.09	.171
3	#20--yrs. with present co., any position	-.09	.191
4	#24--no. of employees in firm	.07	.202
5	#18--highest degree earned	-.08	.218
6	#16--marital status	.05	.225
7	#15--age	.05	.231
8	#23--total no. of yrs. worked in purchasing	-.08	.243
9	#21--yrs. with present co. in purchasing	.09	.260
10	#27--no. of persons authorized to purchase	-.04	.263
11	#17--no. of dependents	.04	.265
12	#31--do you supervise anyone	.04	.268

TABLE 51--Continued

Step Entered	Variable Entered	Partial R with dependent variable holding previously entered variables constant	Multiple R
13	#28--no. of purchasing depts. in firm	.03	.270
14	#32--if yes, how many do you supervise	.04	.273
15	#26--if so, what happened to him	-.04	.275
16	#25--did someone precede you at present job	.04	.278
17	#34--types of materials you purchase	-.03	.279
18	#29--single or multi plant operation	-.03	.280
19	#19--years of education	.02	.281

Regression equation found to be not significant.

TABLE 52

REGRESSION RESULTS OF DEPENDENT VARIABLE PERCEPTUAL DIFFERENCE IN PRODUCT RESEARCH AND DEMOGRAPHIC AND ORGANIZATIONAL VARIABLES

Step Entered	Variable Entered	Partial R with dependent variable holding previously entered variables constant	Multiple R
1	#20--yrs. with present co., any position	----	.212
2	#32--if yes, how many do you supervise	.15	.259
3	#19--years of education	-.14	.291
4	#16--marital status	-.11	.311
5	#28--no. of purchasing depts. in firm	.11	.328
6	#24--no. of employees in firm	-.07	.335
7	#29--single or multi plant operation	.07	.342
8	#25--did someone precede you at present job	-.04	.344
9	#15--age	.04	.346
10	#23--total no. of yrs. worked in purchasing	-.06	.350
11	#30--your title	-.04	.352
12	#34--types of materials you purchase	.02	.353

TABLE 52--Continued

Step Entered	Variable Entered	Partial R with dependent variable holding previously entered variables constant	Multiple R
13	#27--no. of persons authorized to purchase	.02	.354
14	#17--no. of dependents	.03	.354
15	#26--if so, what happened to him	.02	.355
16	#18--highest degree earned	-.02	.356
17	#31--do you supervise anyone	-.02	.356
18	#33--the title of those you supervise	-.01	.356
19	#21--yrs. with present co. in purchasing	.01	.356

Var. 201 = 5.23 + .18 Var. 20 + .17 Var. 32 - .14 Var. 19

Approximately 11% of variability accounted for in the dependent variable.

TABLE 53

REGRESSION RESULTS OF DEPENDENT VARIABLE PERCEPTUAL DIFFERENCE IN PURCHASE ORDERS AND DEMOGRAPHIC AND ORGANIZATIONAL VARIABLES

Step Entered	Variable Entered	partial R with dependent variable holding previously entered variables constant	Multiple R
1	#24--no. of employees in firm	----	.176
2	#32--if yes, how many do you supervise	-.15	.232
3	#23--total no. of yrs. worked in purchasing	-.12	.261
4	#33--the title of those you supervise	.15	.299
5	#30--your title	-.10	.312
6	#16--marital status	.07	.319
7	#31--do you supervise anyone	.07	.325
8	#28--no. of purchasing depts. in firm	-.06	.330
9	#27--no. of persons authorized to purchase	.06	.335
10	#26--if so, what happened to him	.06	.339
11	#17--no. of dependents	.05	.343
12	#29--single or multi plant operation	-.05	.346

TABLE 53--Continued

Step Entered	Variable Entered	Partial R with dependent variable holding previously entered variables constant	Multiple R
13	#21--yrs. with present co. in purchasing	.05	.348
14	#19--years of education	-.03	.350
15	#25--did someone precede you at present job	-.03	.351
16	#20--yrs. with present co., any position	-.02	.351
17	#34--types of materials you purchase	.02	.352
18	#15--age	.01	.352

Var. 202 = 5.39 + .17 Var. 24 - .19 Var. 32 - .15 Var. 23 + .19 Var. 33

Approximately 9% of variability accounted for in the dependent variable.

TABLE 54

REGRESSION RESULTS OF DEPENDENT VARIABLE PERCEPTUAL DIFFERENCE IN DEPARTMENTAL DUTIES AND DEMOGRAPHIC AND ORGANIZATIONAL VARIABLES

Step Entered	Variable Entered	Partial R with dependent variable holding previously entered variables constant	Multiple R
1	#30--your title	----	.245
2	#31--do you supervise anyone	-.11	.267
3	#26--if so, what happened to him	-.08	.279
4	#24--no. of employees in firm	-.09	.292
5	#34--types of materials you purchase	-.07	.300
6	#32--if yes, how many do you supervise	.05	.304
7	#27--no. of persons authorized to purchase	-.06	.310
8	#29--single or multi plant operation	.06	.314
9	#19--years of education	-.05	.318
10	#16--marital status	.05	.322
11	#20--yrs. with present co., any position	-.05	.326
12	#15--age	.07	.331

TABLE 54--Continued

Step Entered	Variable Entered	Partial R with dependent variable holding previously entered variables constant	Multiple R
13	#25--did someone precede you at present job	.05	.335
14	#18--highest degree earned	.04	.338
15	#33--the title of those you supervise	-.05	.341
16	#23--total no. of yrs. worked in purchasing	.04	.343
17	#31--yrs. with present co. in purchasing	-.08	.350
18	#28--no. of purchasing depts. in firm	-.03	.352
19	#17--no. of dependents	-.02	.352

Var. 203 = -.437 + .25 Var. 30

Approximately 6% of variability accounted for in the dependent variable.

TABLE 55

REGRESSION RESULTS OF DEPENDENT VARIABLE PERCEPTUAL DIFFERENCE IN ALL DEALINGS WITH VENDORS AND DEMOGRAPHIC AND ORGANIZATIONAL VARIABLES

Step Entered	Variable Entered	Partial R with dependent variable holding previously entered variables constant	Multiple R
1	#20--yrs. with present co., any position	----	.186
2	#21--yrs. with present co. in purchasing	.14	.233
3	#33--the title of those you supervise	-.11	.255
4	#34--types of materials you purchase	.10	.272
5	#16--marital status	-.09	.286
6	#25--did someone precede you at present job	-.06	.294
7	#32--if yes, how many do you supervise	.06	.301
8	#26--if so, what happened to him	.06	.307
9	#30--your title	-.05	.311
10	#28--no. of purchasing depts. in firm	.04	.313
11	#19--years of education	.04	.315
12	#31--do you supervise anyone	.03	.317

TABLE 55--Continued

Step Entered	Variable Entered	Partial R with dependent variable holding previously entered variables constant	Multiple R
13	#17--no. of dependents	.03	.319
14	#24--no. of employees in firm	-.03	.320
15	#27--no. of persons authorized to purchase	.01	.320
16	#23--total no. of yrs. worked in purchasing	.02	.320
17	#15--age	-.02	.321

Var. 204 = 1.73 - .42 Var. 20 + .29 Var. 21

Approximately 8% of variability accounted for in the dependent variable.

TABLE 56

REGRESSION RESULTS OF DEPENDENT VARIABLE PERCEPTUAL DIFFERENCE IN FILING AND DEMOGRAPHIC AND ORGANIZATIONAL VARIABLES

Step Entered	Variable Entered	partial R with dependent variable holding previously entered variables constant	Multiple R
1	#28--no. of purchasing depts. in firm	----	.204
2	#32--if yes, how many do you supervise	-.15	.253
3	#25--did someone precede you at present job	.15	.291
4	#31--do you supervise anyone	.12	.313
5	#18--highest degree earned	.11	.331
6	$16--marital status	.08	.340
7	#19--years of education	-.08	.348
8	#21--yrs. with present co. in purchasing	.06	.352
9	#15--age	-.11	.366
10	#20--yrs. with present co., any position	.06	.371
11	#33--the title of those you supervise	.06	.375
12	#17--no. of dependents	-.05	.378

TABLE 56--Continued

Step Entered	Variable Entered	Partial R with dependent variable holding previously entered variables constant	Multiple R
13	#34--types of materials you purchase	.04	.380
14	#29--single or multi plant operation	.03	.381
15	#24--no. of employees in firm	.02	.382
16	#27--no. of persons authorized to purchase	-.04	.384
17	#30--your title	.03	.385
18	#26--if so, what happened to him	.02	.385

Var. 205 = -4.62 - .20 Var. 28 - .16 Var. 32 + .13 Var. 25 - .14 Var. 31 + .17 Var. 18

Approximately 13% of variability accounted for in the dependent variable.

TABLE 57

REGRESSION RESULTS OF DEPENDENT VARIABLE PERCEPTUAL DIFFERENCE IN ALL DEALINGS WITH OTHER, NON-BUYER, CO. PERSONNEL AND DEMOGRAPHIC AND ORGANIZATIONAL VARIABLES

Step Entered	Variable Entered	Partial R with dependent variable holding previously entered variables constant	Multiple R
1	#31--do you supervise anyone	----	.111
2	#28--no. of purchasing depts. in firm	.10	.145
3	#29--single or multi plant operation	-.10	.178
4	#15--age	.10	.202
5	#21--yrs. with present co. in purchasing	-.09	.219
6	#20--yrs. with present co., any position	.09	.236
7	#23--total no. of yrs. worked in purchasing	.09	.253
8	#19--years of education	.09	.268
9	#32--if yes, how many do you supervise	-.09	.281
10	#25--did someone precede you at present job	.08	.290
11	$17--no. of dependents	-.06	.297
12	$26--if so, what happened to him	-.06	.301

TABLE 57--Continued

Step Entered	Variable Entered	Partial R with dependent variable holding previously entered variables constant	Multiple R
13	#27--no. of persons authorized to purchase	-.06	.307
14	#16--marital status	.03	.308
15	#24--no. of employees in firm	-.03	.309
16	#18--highest degree earned	-.02	.310
17	#33--the title of those you supervise	.03	.311
18	#30--your title	.01	.312

Regression equation found to be not significant.

TABLE 58

REGRESSION RESULTS OF DEPENDENT VARIABLE PERCEPTUAL DIFFERENCE IN OTHER, NON-SPECIFIED DUTIES AND DEMOGRAPHIC AND ORGANIZATIONAL VARIABLES

Step Entered	Variable Entered	Partial R with dependent variable holding previously entered variables constant	Multiple R
1	#18--highest degree earned	----	.104
2	#19--years of education	.16	.187
3	#34--types of materials you purchase	-.12	.222
4	#16--marital status	.11	.245
5	#30--your title	-.08	.257
6	#28--no. of purchasing depts. in firm	-.08	.267
7	#32--if yes, how many do you supervise	.06	.274
8	#33--the title of those you supervise	-.06	.280
9	#23--total no. of yrs. worked in purchasing	-.05	.284
10	#32--yrs. with present co. in purchasing	-.05	.288
11	#31--do you supervise anyone	-.03	.290
12	#17--no. of dependents	-.03	.291

TABLE 58--Continued

Step Entered	Variable Entered	Partial R with dependent variable holding previously entered variables constant	Multiple R
13	#24--no. of employees in firm	-.02	.292
14	#27--no. of persons authorized to purchase	.03	.294
15	#15--age	.02	.294
16	#20--yrs. with present co., any position	-.03	.296
17	#25--did someone precede you at present job	-.02	.296
18	#26--if so, what happened to him	.01	.297

Var. 207 = -5.96 - .23 Var. 18 + .24 Var. 19 - .14 Var. 34

Approximately 8% of variability accounted for in the dependent variable.

variables as the independent variables, no significant relationships were found. Consequently no regression equation was derived. It is quite possible that because the range of responses were summed, any individually significant relationships may have been balanced out and therefore did not appear to be significant. For this reason, analyses were made for the perceptual differences for each of the seven major job elements.

Significant regression equations resulted from the analyses of six of the major job elements when each was set as the dependent variable. Consequently, the "blancing out" mentioned above seems likely. Table 52 reports the findings for perceptual differences in the first major job element, product research. In this analysis the perceptual differences in product research were the dependent variable and the independent variables consisted of the demographic and organizational variables.

Three variables were found to be significant so that they entered the regression equation. These three and their respective beta coefficient were found to be years with present company in any position, +.18; number of persons supervised, +.17; and years of education, -.14. Least significant of the variables in this analysis were years with present company in purchasing and the number of persons supervised.

Table 53 reports the findings of the regression analysis with the dependent variable perceptual difference in purchase orders and the demographic and organizational variables as the independent variables. Four variables were entered into the regression equation at significant levels. These and their beta coefficients were found to be size of the company, +.17; number of persons supervised, -.19; total number of years worked in purchasing for any company, -.15; and the title of those supervised, +.19. The most insignificant variables were found to be age, types of materials purchased, and years with present company in purchasing.

One variable was found to be common to the regression equation of both the variable product research and the variable preparing and issuing purchase orders. In each case it was the second variable entered into the equation. It was interesting to note in the findings reported above that the variable title of those supervised, rather than the number you supervise, was significant enough to enter the regression equation. Evidently the types of employees supervised rather than the quantity supervised causes the greatest difference between the actual time a buyer spends on preparing and issuing purchase orders and the amount of time he feels should be so spent.

When the dependent variable was set to be the perceptual difference in administrative or departmental duties

and analyzed with demographic and organizational variables as the independent variables, only one variable was entered into the significant regression equation. This variable, title, had a beta coefficient of +.25. The entire regression equation (Var 203 = -.437 + .25 Var 30) only accounted for approximately 6 per cent of the variability of the dependent variable departmental duties. These results are reported in Table 54.

It is interesting to note that even though they were not of a significant level the first nine variables entered were all organizational variables. The least significant variables were found to be number of dependents, number of purchasing departments in the firm, and years in purchasing with present company.

With the perceptual difference in the major job element all dealings with vendors as the dependent variable and the demographic and organizational variables as the independent variables, the results as reported in Table 55 indicated two variables entered into the regression equation at the .05 significance level. These two variables and their respective beta coefficients were years with the present company in any position, -.42; and years with the present company in purchasing, +.29. Together these two variables accounted for approximately 8 per cent of the variability in the dependent variable.

This finding was somewhat surprising in lieu of the results of the simple correlation analysis. It may be recalled that these two variables, tenure with the company in any position and tenure with the present company in purchasing, had a coefficient of correlation of +.84. It was difficult to interpret the findings indicated above in that the former of these two variables would have a negative beta coefficient and the latter a positive coefficient. A possible explanation might be that those buyers who have more company tenure than job tenure would usually indicate a smaller difference between the amount of time they spend with vendors and the importance they attach to this function than would those buyers whose company tenure and job tenure were more equal. Another possible explanation for this finding might be the fact that many buyers were found to have been transferred (or promoted) into the purchasing position and consequently may have relatively little actual job tenure.

Variables which were next to enter the regression equation, although not at the .05 significance level, were found to be the title of those supervised, types of materials purchased, and marital status. Least significant were the variables age, total number of years worked in purchasing, and size of the purchasing department.

It was pointed out in the findings of the simple correlation analysis that evidently past experience in

purchasing with other employers did not seem to reduce the amount of time that the buyer felt necessary to spend with vendors. The findings in this particular regression analysis seemed to substantiate the earlier finding.

Table 56 reports the findings of the regression analysis of the dependent variable perceptual difference in filing and the demographic and organizational variables as the independent variables. Five variables were found to be entered into the regression equation at a significant level. These variables and their corresponding beta coefficients were found to be number of purchasing department in the firm, -.20; the number of employees supervised, -.16; whether someone preceded the buyer at the current job, +.13; whether or not the buyer was a supervisor, -.14; and highest degree earned, +.17.

The findings also reported that variables which might be expected to be "companion" type variables for some of those mentioned above were in fact the least significant variables in the analysis. Specifically, the least significant variables were found to be what happened to your predecessor and title.

It was mentioned previously that one of the analysis of the perceptual difference in the major job elements resulted in no variables being entered into the regression equation at the .05 significance level. That variable was the perceptual difference in all dealings with other,

non-buyer company personnel, and the results are reported in Table 57. This was somewhat surprising as it was expected that the organizational variables would be significant similar to the findings of the simple correlation studies. However, this particular finding suggests that no significant degree of accuracy could be expected from a prediction of this particular dependent variable from information known about demographic and organizational variables.

Table 58 reports the findings from the regression analysis of the perceptual difference in the last of the seven major job elements, other, non-specified duties. When analyzed with the demographic and organizational variables as the independent variables, three variables were found to be in the regression equation at the .05 significance level. These variables and their respective beta coefficients were found to be highest degree earned, -.23; years of education, +.24; and types of materials purchased, -.14. Least significant were the variables what happened to your predecessor, did someone precede you, years with the present company in any position, and age.

Another difficult interpretation of the findings is presented above--i.e., the negative beta coefficient for the variable highest degree earned, and the positive coefficient for the variable years of education. The most likely explanation for this difference between variables so apparently similar is that these two variables are not

really similar at all. The results of the frequency studies indicated that many buyers apparently continue their education through night school courses and that their highest degree earned was not necessarily related to the total years of education they had received. The conclusion which follows, then, is that years of education relates to age of the buyer. However, although the variable age was not significant at the .05 level, it did enter the regression equation with a positive beta coefficient. The interpretation was further complicated, though, when the other variables closely associated with age and indirectly with years of education, such as job and company tenure, et cetera, were analyzed, it was found that these variables entered the regression equation with negative beta coefficients. Consequently, it would be difficult to interpret this finding in terms of age. The explanation, then, would have to lie in the additional education received by the buyer.

The results of the regression analysis for hypothesis 4, the relationship between mobility and satisfaction, are reported in Table 59. The mobility variable was set as the dependent variable and the five subscales of the JDI--work, supervision, pay, promotion, and co-workers--were the independent variables. The regression equation which resulted was not found to be significant at the .05 level at any step of the regression analysis. In fact, the

TABLE 59

REGRESSION RESULTS OF DEPENDENT VARIABLE MOBILITY AND JDI SUBSCALE VARIABLES

Step Entered	JDI Subscale Variable Entered	Partial R with dependent variable holding previously entered variables constant	Multiple R
1	#37--pay	----	.078
2	#38--promotions	.05	.095
3	#36--supervision	-.05	.108
4	#39--co-workers	.05	.118

Regression equation found to be not significant.

significance was so small that one variable, the subscale work, was not even entered into the final regression equation.

No significant relationships were found in the simple correlation studies, reported earlier, for these variables either. Consequently, tests for curvilinearity were conducted. Again, no significance was found between these variables even when the satisfaction variables were made the dependent variables.

These findings suggest that although satisfaction might be used as a predictive variable for forecasting turnover among present employees, as reported in the review of the literature in Chapter II, past turnover should not be used to predict satisfaction on the present job.

The results for the regression studies for hypothesis 5 are reported in Table 60. In this analysis, the variable number of companies worked for in purchasing was the dependent variable while the independent variables were the perceptual difference variables. The results did indicate a significant regression equation containing two variables. However, the amount of variability accounted for in the dependent variable mobility was only approximately 6 per cent--hardly a strong predictor. In any case, the regression equation, where significant at the .05 level, contained the following variables and their respective beta coefficients: product research perceptual difference,

TABLE 60

REGRESSION RESULTS OF DEPENDENT VARIABLE MOBILITY AND PERCEPTUAL DIFFERENCE VARIABLES

Step Entered	Perceptual difference Variable entered	Partial R with dependent variable holding previously entered variables constant	Multiple R
1	#201--product research	----	.170
2	#203--departmental duties	.15	.224
3	#207--other, non-specified, duties	-.10	.242
4	#214--purchase order follow-up	.10	.259
5	#206--all dealings with non-buyer, company personnel	.07	.268
6	#212--post-order vendor contact	-.05	.273
7	#204--all dealings with vendors	.03	.274
8	#213--selecting vendor	.02	.275
9	#205--filing	.01	.276
10	#202--preparing and issuing purchase orders	.07	.283

Var. 22 = 1.45 - .19 Var. 201 + .15 Var. 203

Approximately 6% of variability accounted for in the dependent variable.

-.19, and departmental duties perceptual difference, +.15.

It should be pointed out that the results of the simple correlations studies between the mobility variable and the perceptual difference variables indicated two significant coefficients of correlation. These coefficients were for the same two variables identified as being significant in the multiple regression reported above, i.e., perceptual difference in product research and departmental duties. Consequently, it is difficult to conclude that the relationships which might exist between these variables would be based solely on the establishing of the variable mobility as being the dependent variable.

Other analyses were made to determine if additional information could be obtained regarding these variables. Specifically, tests were made for curvilinearity first with the mobility variable as the dependent variable and secondly with the perceptual difference variables as the dependent variable. No significance was found.

It can be concluded, then, that some significant relationships do exist between the number of companies a buyer has worked for in purchasing and the amount and types of job perceptual differences he might experience. However, although these relationships were found to be significant, as indicated in the regression equation and the per cent

of variability accounted for, the predictive strength of these relationships was rather weak.

The sixth and final hypothesis, relationship between perception and satisfaction variables, was analyzed by multiple regression analysis, and the findings are reported in Table 61. In this analysis, the variable total satisfaction was set as the dependent variable and the perceptual difference variables as the independent variables. The resulting regression equation was not found to be significant at the .05 level. Consequently, additional analyses were made concerning these two sets of variables. Specifically, each of the five satisfaction subscales--work, supervision, pay, promotion, and co-workers--were individually set as the dependent variable and analyzed with the perceptual difference variables as the independent variables.

Only three significant relationships were found. However, the resulting significant regression equations each contained only one variable and each accounted for only 2 per cent, or less, of the variability of the dependent variables. As these significant independent variables in the three respective significant regression equations were the same as the variables found to be significant in the simple correlation studies reported earlier in this chapter, they are not reviewed in this section.

TABLE 61

REGRESSION RESULTS OF DEPENDENT VARIABLE TOTAL SATISFACTION AND PERCEPTUAL DIFFERENCE VARIABLES

Step Entered	Perceptual difference Variable Entered	Partial R with dependent variable holding previously entered variables constant	Multiple R
1	#213--selecting vendor	----	.162
2	#205--filing	-.14	.210
3	#211--vendor interviews	-.06	.219
4	#214--purchase order follow-up	-.06	.227
5	#212--post-order vendor contact	-.03	.229
6	#206--all dealings with non-buyer, company personnel	-.02	.230
7	#204--all dealings with vendors	.01	.230

Regression equation found to be not significant.

Additional analyses were made to determine if significant relationships might exist when the perceptual difference variables were set as the dependent variables and the satisfaction variables as the independent variables. No significance was found in these analyses. Tests for curvilinearity were also conducted in the same manner--i.e., alternating the dependent variables. Again, no significant results were found. These findings, then, suggest that no "predictions" could be made confidently between the perceptual differences expressed by the industrial buyers in this study and their indicated levels of job satisfaction.

Additional regression analyses were made to test the possibility of curvilinear relationships between job satisfaction and demographic and organizational variables. Specifically, these variables tested were age, years with present employer in any position and in purchasing, and types of materials purchased. No significant results were found.

CHAPTER VI

SUMMARY AND CONCLUSIONS

This chapter summarizes the findings reported and interpreted in Chapter V. Also, conclusions are made as to whether the six hypotheses tested in the study should be accepted or rejected. The last of this chapter suggests areas for further study in regards to industrial buyers, their mobility, job satisfaction, and job perceptions.

At the outset of this study it was reported that there were two purposes in conducting this study; the first was to determine profiles for buyers in areas other than those involving demographic variables only. The second purpose was to test the relationships which might be found between the four sets of data obtained in the study in order to compare these findings with results of other studies reported in the literature. Consequently, the summary of the study is divided into two sections--one summarizing the buyer profiles and the other the relationships found between the sets of variables.

Summary

Buyer Profiles

Six categories of variables were considered to be demographic variables. Profiles were made of these six

variables in order to compare with profiles made of buyers in other studies. Where comparisons could be made, it was found that the buyers surveyed in the current study were similar to buyers in the other studies. Specifically, the following profiles were compiled.

Age.--The median age was found to be forty-two. Twenty-five per cent of the buyers in the current study were found to be thirty years of age or younger, and 25 per cent were found to be fifty or older. Dividing the range of ages into thirds, the oldest age in each third was found to be thirty-four, forty-seven, and seventy-two respectively.

Marital Status.--Only 8.4 per cent of the buyers were found to be single. The remaining 91.6 per cent indicated they were either married, divorced, or a widower.

Dependents.--Approximately 55 per cent of the buyers in the study indicated they had two or less dependents. Another 31 per cent have either three or four and approximately 14 per cent indicated they have five or more dependents. The mean number of dependents was found to be 2.4.

Highest Degree Earned.--Only 2 per cent of the buyers reported they had received less than a high school diploma. Sixty per cent reported their highest degree to be a high school diploma, and approximately 32 per cent indicated they had received a Bachelor's degree. The

remaining 6 per cent had received a Master's degree or other.

Years of Education.--Differences were found in the distributions for the variable years of education and the variable highest degree earned. A comparison with the findings reported below and those indicated above, under the heading years of education, revealed these differences. Only 21 per cent of the buyers indicated they had received only twelve years or less of education. Thirty-nine per cent indicated they had received some college or thirteen through fifteen years of education. Twenty-three per cent indicated they had gone to school for sixteen years and 17 per cent for longer than 16 years.

Two conclusions seemed to be suggested from these findings. Either many buyers quit their formal education and become buyers, or many buyers tend to continue their education after becoming buyers.

Years Tenure with Present Company (a) in Purchasing and (b) in any Position.--The findings reported for these two variables indicated that many buyers were transferred (or promoted) into the purchasing department from other positions within the firm. For example, approximately 35 per cent of the buyers indicated they had been in purchasing with their present employer three or fewer years. On the other hand, only 24 per cent of the buyers had three or less years company tenure in any position. Also, 37 per

cent reported they had been in purchasing for more than ten years; but, on the other hand, 49 per cent indicated they had been with their present employer, in any position, for the same amount of time.

Total Years in Purchasing.--Similar results were found for this variable as was reported concerning company tenure in any position and in purchasing. Specifically, using the same number of years reported above, only 23 per cent of the buyers had been in purchasing for three years or less, and 49 per cent for ten or more years.

Of the organizational variables, to be summarized below, several were probably unique to this particular study. For example, the size of the company, single or multi-plant operation, and size of purchasing department are variables which may not be indicative of the organizational environment of most industrial buyers. The same may be true for the other variables, but variables such as do you supervise anyone, title, did some precede you, et cetera, may provide general information concerning the complete buyer profile. Since a review of the literature did not reveal a buyer profile which included these portions of the organizational environment, they were included although the possible bias mentioned above may exist.

Size of Company.--Although the original selection of companies to be surveyed in this study excluded those companies which were thought to be smaller than 500

employees, 13 per cent of the respondents indicated they worked for companies of this size. The likely explanation for these companies being included in the survey was that most of them were local offices of larger companies. The reference used for selecting companies to be included in the survey did not make such a distinction. They were included in the findings, however, as additional information might be provided from their inclusion. Thirty-nine per cent of the buyers indicated they worked for companies employing between 501 and 2,000 workers. Another 19 per cent indicated they were employed by firms having between 2,001 and 7,000, and 29 per cent indicated their employer hired over 7,000 persons.

Single or Multi-Plant.--Approximately one-third of the buyers in this study reported their company was a single-plant operation. The balance replied that their company was a multi-plant operation.

Number of Purchasing Departments.--Fifty-six per cent of the respondents reported their company had only one purchasing department. Another 13 per cent indicated that their companies had two purchasing departments; and the balance, or approximately 32 per cent, reported they worked in companies having three or more. A comparison of these last two variables seemed to suggest that several multi-plant operations conducted their purchasing through only one purchasing department.

Size of Purchasing Department.--About one-fifth of the buyers in this study indicated that only three or fewer persons were authorized to purchase in their firm. Approximately one-third of the buyers indicated their company had between four and six buyers, another 18 per cent between seven and twelve. Thirty-one per cent of the respondents indicated their company had more than twelve persons authorized to purchase.

Do You Supervise Anyone?--Sixty per cent of the buyers in this study responded affirmatively to this question. The balance, or 40 per cent, indicated they did not supervise other employees.

Number Supervised.--Approximately 16 per cent of the buyers reported that they supervised only one person, and 20 per cent indicated they supervised either two or three employees. An additional 24 per cent indicated they supervised four or more employees. (As mentioned above, the balance or 40 per cent reported they supervised no one.)

Title of Employees Supervised.--This question was divided into four possible choices--clerks and other non-buyers, buyers only, combination of buyers and others, and supervise no one. Respectively, the responses were 26 per cent, 9 per cent, 25 per cent, and 40 per cent.

Your Title.--The respondents in this study were found to hold a range of positions (or at least a range of job titles). Specifically, the titles reported were:

assistant buyer, 7 per cent; buyer, 46 per cent; senior buyer or assistant purchasing agent, 13 per cent; purchasing agent, 13 per cent; supervisor or director of purchasing, 13 per cent; and other, 9 per cent. It was suggested that perhaps one reason for the rather small amount of correlation between variables was this wide range of job titles.

Types of Materials Purchased.--More buyers reported they bought only production materials, 28 per cent, than did buyers for any other single type or combination of materials. In fact, only 3 per cent or fewer of the buyers bought only a single type of materials other than production materials. Specifically, 3 per cent purchased M.R.O. materials only; 1 per cent, services only; 3 per cent, capital equipment only; and 3 per cent, other. On the other hand, 16 per cent of the buyers indicated that they bought two of the above categories. Another 22 per cent reported that they purchased three categories of items; and the balance, 25 per cent, indicated they purchased at least four categories of materials.

Two other variables were included in the classification of organizational variables. These two variables--did someone precede you at your present position; and if so, what happened to this person--were included to obtain additional information about (a) the buyers' organizational environment and (b) the mobility patterns of buyers. Consequently, it would have been possible to classify these

two variables as being either organizational or mobility variables.

Did Someone Precede You at Your Present Position?--Twelve per cent of the buyers in this study indicated that no one preceded them at their present job. This would indicate that these positions were newly created at the time these buyers started their purchasing jobs with their present employer. The balance of the buyers, approximately 88 per cent, indicated that someone did precede them.

If Someone Preceded You at the Present Position, What Became of This Person?--Some of the most surprising findings in this study resulted from the responses to this question. Only 31 per cent of all respondents indicated that their predecessor had been transferred or promoted within the company. Another 15 per cent indicated that their predecessor had retired from the firm. As mentioned above, only 12 per cent indicated that no one had preceded them at their current position. The balance of the respondents, or 42 per cent, reported that their predecessor had left the company.

This particular finding, coupled with the following results, indicated that buyers are in fact a very mobile group. The following results were previously reported as the main variable under the heading of mobility variables.

Number of Companies Worked for in Purchasing.--Of the respondents, 64 per cent indicated that they had

worked in purchasing only for their present employer. The balance, or approximately 36 per cent, indicated they had worked for at least two companies in purchasing. Of this 36 per cent, over 14 per cent of all respondents reported that they had worked in purchasing for at least three companies.

In a similar manner, profiles were made for buyers according to their indicated job satisfactions. Satisfaction was determined in five areas: the work itself, supervision, pay, promotion, and co-workers. Although the respondents scored higher in all five areas when compared to unstratified national satisfaction scores, several findings did appear to be worthy of note. For example, buyers scored much higher in three of the five areas of job satisfaction than in the other two areas. Specifically, buyers indicated they were generally well satisfied with the work itself, with the supervision, and with their co-workers. On the other hand, indicated satisfaction with pay and with promotions was substantially lower.

Further, the results obtained when satisfaction was stratified according to education were substantially different from the national normative scores derived using the same stratification. The buyers in the current study, at nearly every major percentile (the 25th, 50th, 75th, and 99th), indicated higher levels of satisfaction than the normative scores for fewer years of education (and for

tenure as well). However, as education increased, the buyers in this study indicated lower levels of satisfaction than found in the normative scores. (As job tenure increased, however, satisfaction increased.)

The profiles for the buyers in this study in regard to how they spend their time, how they feel they should spend their time, and the differences between these two variables (called perceptual differences) were somewhat more difficult to establish. This difficulty was due to the findings that a wide range of responses were given for each of the variables in these classifications. Quite probably, the reason for the wide range of responses was due to the different job titles incorporated in the study.

Realizing that a considerable range did exist for these variables, caution should be used in interpreting the profiles defined below. (The variables are listed in decreasing order of time spent.) The buyers indicated that they spent their time, on the average, in the following manner: preparing and issuing purchase orders, 26 per cent; all dealings with vendors, 24 per cent; counseling with other, non-buyer personnel in their own company, 15 per cent; departmental duties, 14 per cent; product research, 9 per cent; filing, 8 per cent; and other, non-specified duties, 4 per cent.

On the other hand, the buyers indicated that they felt, again on the average, that their time should be

spent in the following manner: all dealings with vendors, 27 per cent; preparing and issuing purchase orders, 19 per cent; counseling with other, non-buyer company personnel, 16 per cent; product research, 16 per cent; departmental duties, 13 per cent; filing, 7 per cent; and other, non-specified duties, 2 per cent.

The findings for the difference between the actual amount of time spent on a job element and the amount of time which was felt should be so spent were not too conclusive. For example, the median difference for only two pairs of variables was found to be greater than + or -.16. These two pairs, and their median difference, were for the variables product research, -5.16, and purchase orders, +4.89. The inconclusiveness of these findings, however, was indicated by the range of difference reported by the buyers. The ranges of the difference between the pairs of variables were as follows: product research, 60 per cent; preparing and issuing purchase orders, 85 per cent; departmental duties, 74 per cent; all dealings with vendors, 90 per cent; filing, 60 per cent; dealings with other, non-buyer company personnel, 73 per cent; and other, non-specified duties, 50 per cent.

Variable Relationships

It was difficult to summarize the simple correlation studies results other than as was reported in the tables

in Chapter V. However, the findings did reveal that certain variables were significantly correlated with other variables more often than others. Those variables most often correlated at the .05 level were found to be highest degree earned, years of education, and years tenure with present company in purchasing. Each was found to be significantly correlated with thirteen other variables. The variables age and title were found to be significantly correlated with twelve other variables, and the variable importance of preparing and issuing purchase orders with ten. Three other variables were found to be significantly correlated with nine other variables; these were the variables years of tenure with present company in any position, do you supervise anyone, and the number of persons supervised. The variables size of the company, the title of those supervised, and the amount of time spent on departmental duties were found to be significantly correlated with eight other variables. All other variables were found to be related with seven or fewer other variables.

Of the eighteen major step-wise regression analyses reported, only one regression equation was found which accounted for more than 50 per cent of the variability in the dependent variable. This regression analysis was between the dependent variable mobility and the independent variables demographic and organizational variables.

Significant regression equations were found in twelve of the remaining seventeen major analyses reported. However, the amount of variability accounted for in the dependent variables was found to be between 2 and 13 per cent. The balance of the regression analyses resulted in no significant regression equations.

Conclusions

Several general conclusions were suggested from the findings in this study. For example, it seemed that in this particular group of buyers many were transferred or promoted into the purchasing function from other areas of the company. Although it was difficult to determine specifically, it appeared that perhaps as many buyers were transferred into positions in the purchasing department as were transferred or promoted out of purchasing.

It was also found that buyers evidence a rather high degree of purchasing job mobility. This conclusion was born out by both the number of buyers having worked for more than one company in the purchasing function and the number of buyers who left their employment while being in the purchasing department.

It was also found for this group of buyers that there was, apparently, a relatively high level of job satisfaction as compared to the national normative scores derived for the JDI. However, closer inspection revealed

a marked decrease in the satisfaction expressed for pay and promotions. Also, when the group was stratified by education, the buyers in this study were found to demonstrate considerably different patterns of satisfaction than resulted from similar stratifications with the national sample. Specifically, satisfaction decreased rather than increased with increased education.

Another finding suggested that there was no generally accepted idea of what the purchasing job really was. The respondents indicated a wide range of activities performed with varying amounts of time spent on each. By the same token it was found that there was little agreement as to what buyers felt the purchasing job, in general, should be. On a specific note, however, many buyers felt that his individual job was not being conducted as he felt it should be--i.e., many buyers indicated a rather high degree of job perceptual difference. When these differences were analyzed as a group, however, little meaningful results were found.

Specifically, the results indicated that of the six major hypotheses tested in this study, two should be accepted and four should be rejected. The hypotheses and their respective findings are as follows.

Hypothesis 1--Industrial buyers demonstrating high job mobility do not reflect similar demographic backgrounds. This hypothesis was rejected. Several demographic and

organizational variables were found which were significantly related to the past job mobility of the buyers.

Hypothesis 2--Industrial buyers demonstrating similar demographic backgrounds do not reflect similar degrees of job satisfaction. This hypothesis was rejected as several significant relationships were found between the demographic and organizational variables and the various satisfaction subscales.

Hypothesis 3--Industrial buyers demonstrating similar demographic backgrounds do not reflect similar job perceptions. The tests for total perceptual difference would indicate that this hypothesis should be accepted. However, the findings for each of the seven major job elements indicated significant, although weak, relationships with certain demographic and organizational variables. It was suggested that this hypothesis, too, be rejected.

Hypothesis 4--Industrial buyers demonstrating high job mobility are not less satisfied with their present jobs than those demonstrating low job mobility. This was one of the two null hypotheses which the findings indicated should be accepted.

Hypothesis 5--Industrial buyers demonstrating high job mobility reflect no difference between their job perceptions and those buyers demonstrating low job mobility. This hypothesis was rejected as several significant relationships were found to the contrary.

Hypothesis 6--Industrial buyers demonstrating high job perceptual differences do not reflect different levels of job satisfaction than those buyers reflecting lower job perceptual differences. This hypothesis was accepted as no significant relationships were found between these two sets of variables, particularly as a result of the regression analyses.

Limitations

As was pointed out earlier in the study, a limitation of the study was that only those companies and those buyers in these companies who agreed to participate in the study were included in the findings. Possibly, then, the results were biased in favor of the less satisfied buyers or those buyers expressing a greater amount of perceptual difference.

Another possible bias was that the study was conducted in such a large metropolitan area. There has been some evidence that job satisfaction has been found to be negatively related with the size of the community. This factor should be considered before general acceptance of the findings of this study are made.

One other possible limitation of this study was the author's own experience as an industrial buyer. Although every attempt was made to prevent a personal bias, it was recognized that this was perhaps not always possible.

Suggestions for Further Study

Because of the exploratory nature of this study, several expected results were not found. However, it was felt that the fact has been established that there was a rather high mobility rate among many industrial buyers. As was indicated at the outset of this study, high buyer turnover nearly always has to lead to higher industrial purchasing costs. The results of this study seem to suggest that additional research in this area is warranted.

Specifically, it is suggested that (a) additional personality variables be explored, (b) that the organizational variables be more closely investigated, and (c) that the stratification according to job title be more exact.

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APPENDIX

A. Cover Letters and Questionnaire

B. Follow-up Letters

APPENDIX A: COVER LETTERS AND QUESTIONNAIRE

pmac
Purchasing management association of chicago
201 N. WELLS ST. • CHICAGO, ILLINOIS 60606 • 312/782-1940

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Typed inside address.

I am writing to you to strongly urge your attention to the enclosed letter from Professor Leroy Plumlee. As a former president of this Association, I am aware of the importance of this type of research to both the Association and particularly to you as a member of the Purchasing Profession.

Let me encourage each of you to participate in the research and to persuade your buyers to complete and mail their questionnaires. Studies of this nature are important in finding out more about our profession. By learning, perhaps we can improve it.

Sincerely yours,

Harry N. Wada
Director of National Affairs

CHICAGO--HOST TO THE NAPM CONFERENCE MAY 16 19 1971
AFFILIATED WITH THE NATIONAL ASSOCIATION OF PURCHASING MANAGEMENT

NORTHERN ILLINOIS UNIVERSITY
DEKALB, ILLINOIS 60115

Department of
MANAGEMENT

Area Code 815
Telephone 753-1243

Typed inside address.

Your company is part of a carefully calculated sample from the greater Chicago area selected to participate in research being conducted at Northern Illinois University. Basically, the research centers on determining the amount and causes of turnover among industrial buyers--be it due to termination, promotion, retirement, or other causes. Little research has been conducted on the importance of the purchasing function, consequently little is known about buyer attitudes and opinions, or the frequency and costs of turnover. Hopefully, when you receive the results of this study you will be better able to reduce the costs of turnover in your own company.

The procedures are fairly simple. If you will indicate the number of personnel in your company who are authorized to purchase, questionnaires will be sent to you to distribute to them. (A sample questionnaire and its cover letter are enclosed for you inspection.) Since the entire survey is to be conducted by mail, no one will call to disturb your personnel. Nor will the purpose of the study be mentioned; and nowhere will mention be made of turnover or salary. The code number which appears on the questionnaire is only to allow statistical analysis of the data by type of industry and company size; data from similar companies will be grouped for analysis and no company will be identified or analyzed individually.

Only through the cooperation of all of the selected companies can the results of the study become useful. Won't you please take part in the research, and return the enclosed post card indicating the number of questionnaires you would like me to send you. Thank you.

Sincerely yours,

E. Leroy Plumlee
Assistant Professor
Management Department

Enclosures
blm

NORTHERN ILLINOIS UNIVERSITY
DEKALB, ILLINOIS 60115

Department of
MANAGEMENT

Area Code 815
Telephone 753-1243

Dear Buyer:

Your company has agreed to take part in a research project being conducted here at Northern Illinois University. Permission has been obtained from your Director of Purchasing to allow you to participate.

You are being asked to complete the enclosed questionnaire and mail it directly back to me in the postage-paid envelope provided. In pretests of the questionnaire, the average time to complete it was only seven to eight minutes.

You will note a number on the questionnaire. This code is to identify the type of industry and company size. Results from similar industries and sizes will then be totaled for analysis. No individual or specific company will be identified in the report--only totals. By returning your questionnaire directly to me you can be assured that your answers will remain confidential.

Having been an industrial buyer for four years, I can imagine that you have definite feelings about the items in the questionnaire and might enjoy this opportunity to express them. Won't you please take time now to complete and mail it? Only through your cooperation can the study be successful and help to shed some additional light on this job of industrial purchasing. Thank you for your help.

Sincerely yours,

E. Leroy Plumlee
Assistant Professor
Management Department

Enclosures
blm

PART I.

The following questions deal with how you spend your time in your present position. Please indicate the AMOUNT OF TIME you spend on each of the following elements or factors of your job. If you would, please express the amount of time as a percentage, and that the total equals 100 percent. (Do not be too concerned if your totals do not exactly equal 100%. The important point is that the percentages do reflect the relative differences between items.)

Note: This is NOT an indication of how important you feel a factor to be but rather, is a ranking of the ACTUAL AMOUNT OF TIME you spend on each.

A. THE OVERALL JOB--Major Job Elements	AMOUNT OF TIME spent as a percent of 100%
1. Product research not associated with any specific purchase requisition, including industrial shows, plant visitations, and review of catalogs and periodicals.	_____ percent
2. Preparing and issuing purchase orders.	_____ percent
3. Other duties not directly related to specific purchase orders, including committee work, inventory control, and administrative duties.	_____ percent
4. ALL dealings with vendors.	_____ percent
5. Maintaining files, including those for vendors, materials, catalogs, and prices.	_____ percent
6. ALL dealings with company personnel as to product, vendor, and quantity selection.	_____ percent
7. Others, please specify _____ _____	_____ percent
	100 percent

B. WORK DEALING WITH VENDORS.

Because the fourth question above, "All dealings with vendors" is concerned with several job elements the following questions are necessary to provide more detailed information. Considering only the following four job elements, again indicate the AMOUNT OF TIME spent on each. Please be sure to express your feelings as a percentage AND that this total equals 100%.

	AMOUNT OF TIME spent as a percent of 100%
1. Contacting and negotiating with vendor, including vendor interviews.	_____ percent
2. Post-order vendor contact, including invoice adjustments and material adjustments (wrong material or quantity received.)	_____ percent
3. Selecting vendor, including the issuing and evaluating of bids.	_____ percent
4. Purchase order follow-up, including expediting, issuing change orders.	_____ percent
	100 percent

PART II.

BACKGROUND DATA

Age_____ Marital Status: Married_____ Single_____ Other_____ No. of dependents_____

Education: Less than high school diploma _____ Masters degree_____

High School diploma _____ Other _____

Bachelors degree _____

No. of years beyond that checked above_____

No. of years with present company (in any capacity)_____

No. of years IN PURCHASING with present company_____

No. of companies you have worked for IN PURCHASING (including present employer)_____

Total no. of years you have worked IN PURCHASING_____

Approximate no. of people employed by your firm:

Less than 500	_____	2,001 - 5,000	_____
501 - 1,000	_____	5,001 - 7,000	_____
1,001 - 2,000	_____	7,001 and above	_____

Did someone precede you at your present position? Yes_____ No _____. If yes,did this person receive a transfer or promotion_____, retire_____, leave the company for other reasons_____, other_____.

No. of persons in your firm who are authorized to purchase_____

No. of purchasing departments in your firm: one_____, two_____, More than two_____

Type of operation: Single plant_____, Multi-plant_____

Title of your position_____

Do you supervise anyone: Yes_____ No_____. If yes, how many_____, their title(s)_____

Types of materials you purchase: Production materials_____, Supplies (MRO)_____, Services (maintenance, etc.)_____, Capital equip._____, Other_____

Major product produced by your company_____

PART III.

The following questions concern five broad areas of your job. Write "Y" beside those items that describe your job. Write "N" beside those that do not. If you are undecided about any of the descriptions below, write "?" beside those items.

WORK

_____Fascinating
_____Routine
_____Satisfying
_____Boring
_____Good
_____Creative
_____Respected
_____Hot
_____Pleasant
_____Useful
_____Tiresome
_____Healthful
_____Challenging
_____On your feet
_____Frustrating
_____Simple
_____Endless
_____Gives sense of accomplishment

SUPERVISION

_____Asks my advice
_____Hard to please
_____Impolite
_____Praises good work
_____Tactful
_____Influential
_____Up-to-date
_____Doesn't supervise enough
_____Quick tempered
_____Tells me where I stand
_____Annoying
_____Stubborn
_____Knows job well
_____Bad
_____Intelligent
_____Leaves me on my own
_____Lazy
_____Around when needed

PAY

_____Income adequate for normal expenses
_____Satisfactory profit sharing
_____Barely live on income
_____Bad
_____Income provides luxuries
_____Insecure
_____Less than I deserve
_____Highly paid
_____Underpaid

PROMOTIONS

_____Good opportunity for advancement
_____Opportunity somewhat limited
_____Promotion on ability
_____Dead-end job
_____Good chance for promotion
_____Unfair promotion policy
_____Infrequent promotions
_____Regular promotions
_____Fairly good chance for promotion

CO-WORKERS

_____Stimulating
_____Boring
_____Slow
_____Ambitious
_____Stupid
_____Responsible
_____Fast
_____Intelligent
_____Easy to make enemies
_____Talk too much
_____Smart
_____Lazy
_____Unpleasant
_____No privacy
_____Active
_____Narrow interests
_____Loyal
_____Hard to meet

PART IV.

The following questions deal with the IMPORTANCE of the various factors or elements of your job. Earlier you were asked to indicate how you actually spent your time. Now you are being asked to indicate HOW IMPORTANT you consider each of the following factors. Do not let the amount of time spent on each unnecessarily influence your judgement. How important, in your job of purchasing, do you feel each to be.

Again, indicate your feelings as a percentage totaling 100 percent. Accurately indicating the relative differences between items is more important than having your total exactly equal 100%.

A. THE OVERALL JOB--MAJOR JOB ELEMENTS	Degree of IMPORTANCE as a percent of 100%
1. Product research not associated with any specific purchase requisition, including industrial shows, plant visitations, and review of catalogs and periodicals.	_____ percent
2. Preparing and issuing purchase orders.	_____ percent
3. Other duties not directly related to specific purchase orders, including committee work, inventory control, and administrative duties.	_____ percent
4. ALL dealings with vendors.	_____ percent
5. Maintaining files, including those for vendors, materials, catalogs, and prices.	_____ percent
6. ALL dealings with company personnel as to product, vendor, and quantity selection.	_____ percent
7. Others, please specify _____ _____	_____ percent
	100 percent

B. WORK DEALING WITH VENDORS.

Because the fourth question above, "All dealings with vendors" is concerned with several job elements the following questions are necessary to provide more detailed information. Considering only the following four job elements, again indicate HOW IMPORTANT you feel each to be. Please be sure to express your feelings as a percentage AND that this total equals 100%.

	Degree of IMPORTANCE as a percent of 100%
1. Contacting and negotiating with vendor, including vendor interviews.	_____ percent
2. Post-order vendor contact, including invoice adjustments and material adjustments (wrong material or quantity received).	_____ percent
3. Selecting vendor, including the issuing and evaluating of bids.	_____ percent
4. Purchase order follow-up, including expediting, issuing change orders.	_____ percent
	100 percent

THANK YOU FOR YOUR HELP AND COOPERATION.

APPENDIX B: FOLLOW-UP LETTERS

NORTHERN ILLINOIS UNIVERSITY
DEKALB, ILLINOIS 60115

Department of
MANAGEMENT

Area Code 815
Telephone 753-1243

Thank you for your interest and agreement to participate in the research I am conducting to analyze turnover and attitudes of buyers. Only through cooperation such as you have shown can the study be successful.

Enclosed are the number of questionnaires you indicated for distribution to your buyers. Each questionnaire has a postage-paid envelope attached so that your personnel may mail their replies directly to me. In a pilot pretest of this study most companies agreed to participate, but only about a quarter of the questionnaires were returned. As you can understand, a much higher percentage of returns is necessary to insure valid results, so you will be of considerable help if you will strongly urge your buyers to complete and mail their questionnaires.

As I mentioned to you earlier, the results of the study will be made available to you. Hopefully this will be completed this fall. There is every reason to believe the results will be very meaningful and perhaps somewhat surprising. Let me add that I would appreciate hearing from you if you have any questions or comments concerning this study. You may call me collect, if you wish, at 815-753-1916 or 815-753-1243. Again, thank you for your help.

Sincerely yours,

E. Leroy Plumlee
Assistant Professor

Enclosures
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NORTHERN ILLINOIS UNIVERSITY
DEKALB, ILLINOIS 60115

Department of
MANAGEMENT

Area Code 815
Telephone 753-1243

Recently we talked with you regarding our research project being conducted here at Northern Illinois University. As you may recall, the study is concerned with industrial buyer motivation, job satisfaction, and turnover. The study should provide interesting results to those involved with the purchasing function. May we assure you that results of the study will be sent to all participating firms.

The study, encouraged by several members of the Chicago Purchasing Management Association, is not difficult to administer. If you would indicate the number of persons authorized to purchase on the enclosed postcard, questionnaires would be sent to your attention for distribution. The questionnaire itself only takes six to eight minutes to complete. Your buyers may then return their forms directly to us in a postage paid envelope which will be provided.

Again let me assure you that only totals will be reported--no mention will be made of any individual or any specific company. I hope you will look at the enclosed sample questionnaire and return the postcard indicating you will participate. Only through the cooperation of the companies in the selected sample can the study be meaningful. Thank you.

Sincerely yours,

E. Leroy Plumlee
Assistant Professor
Management Department

ELP:lak
Encl.

NORTHERN ILLINOIS UNIVERSITY
DEKALB, ILLINOIS 60115

Department of
MANAGEMENT

Area Code 815
Telephone 753-1243

August 24, 1970

Dear Purchasing Executive,

Will you help me?

The response to our Industrial Buyer Research Study has been very good. However, as of now we have not received any questionnaires from your company. Every company selected in the study and every questionnaire is important. Please let me explain.

We have carefully selected over 180 business firms from the Chicago area to represent a major section of business activities. These companies have, we believe, approximately 700 buyers. In order to maintain the integrity of the sample no substitutions of firms can be made. So, in order to attain a high level of significance and accuracy, it is important for all the selected companies to participate.

If you did not receive the questionnaires sent to you for distribution to your buyers or if you need additional ones for any reason please let us know. We'll be more than glad to send them to you. Again let me thank you for your interest and cooperation.

Sincerely yours,

E. Leroy Plumlee
Assistant Professor
Department of Management