

STUDY OF PRODUCTION LIMITS AND EXECUTIVE FUNCTIONS
OF ECONOMICALLY KANSAS FARM MANAGERS

BY

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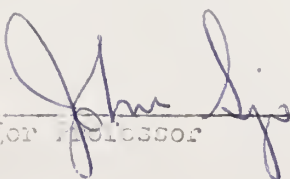
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CHAPTER I

INTRODUCTION

Statement of the Problem

There have been many changes in agriculture during the past 50 years. Capital has been substituted for labor in the form of new equipment. The development of insecticides, pesticides, and herbicides has had a marked effect on the increase in production. Marketing operations have become more complex and controversial as well. New farm organizations (such as integration, contract farming, and corporation farming) have added to changes with which farm managers must cope. Farm size has increased in order to make the adoption of new technology profitable.

These changes have required a higher level of management in order to achieve the most profitable rate of output. When these changes occurred, the high level of management was not available. It could not be purchased like a new piece of equipment or another quarter section of land. This high level of management was necessary if farm managers were to properly direct their actions in the decision-making process.

Purpose

This high level of management has to be developed from the existing management. For this development, studies have to be made and coordinated in order to improve all aspects of farm management. Thus far, emphasis has been on improving production practices and techniques rather than upon improving the efficiency of the managerial process itself.

It was the purpose of this study to explore just one area of farm management; namely, the decision-making process. Very little work has been done on how farmers make their decisions, and even less has been done on how farmers carry out these decisions. Until such work as this has been completed, it will be impossible for the farmers to obtain the high level of management required to run their operations effectively. It was the purpose of this study to find out exactly what the farmers did in their decision making. However, it was not the purpose of this particular paper to find out why they acted as they did. The study was not set up to gather the proper information to do this. Actually, to account for or to rationalize the farmers' actions would be a separate study.

Objective

The objective of this paper was to determine how selected Kansas farmers made their decisions and to determine how these same farmers carried out the executive function on specified decisions in their farm businesses. A greater understanding of the decision-making process is needed in order to develop techniques and programs for improving the executive ability of farmers.

This study has been just a part of a long-range project designed to increase the understanding of the entire managerial process. When this long-range objective has been completed, then it will be possible to develop the high level of management needed to operate under the new changes.

CHAPTER II

REVIEW OF LITERATURE

The purpose of this section is to become acquainted with some of the material that has already been written about decision making in farm management, with particular emphasis on the executive function of the manager. A review of this material will facilitate in the understanding of this study, as well as to provide a brief summary of other studies that have been completed.

Early Concepts of Management

The early general economists rarely considered managerial concepts as such. Their considerations of management were usually derived from an explanation of profits. From time to time, writers would refer to profits as a payment for risk bearing, supervision, and administration. Thus, Adam Smith recognized risk when he wrote that,

the lowest ordinary rate of profit must always be something more than what is sufficient to compensate the occasional losses to which every employment of stock is exposed. It is this surplus which is clear profit.¹

Smith recognized that profits as defined included wages for supervision and, in many instances, skill.

Another economist, J. B. Say, came somewhat closer to serving the needs of the agriculturalists. He conceived of a master agent having the reputation of

¹Adam Smith, *The Wealth of Nations* (New York: Random House, Inc., 1937), p. 96.

intelligence, prudence, integrity, and regularity; and he wrote that "this kind of labor requires a combination of moral qualities which include judgment, perseverance, and knowledge of the world, as well as of business." This master agent is "called upon to estimate, with tolerable accuracy, the importance of a specific product, the probably amount of demand, and the method of production."¹ Say did better than Smith, but he still failed to provide a systematic presentation of the managerial concepts and principles for use in learning, teaching, and studying management.

As subsequent economists refined economic theory, they became less and less concerned with management. Refinement was easier when the changes and fluctuations of the real world were assumed away and perfect knowledge was assumed. Under these assumed conditions, there was no need for management. Among these economists was Alfred Marshall, who, while not having a specific theory of management, hit upon many relevant points in his discussion of profits and business ability. He wrote,

business power is highly nonspecialized, because in the large majority of trades technical knowledge and skill become every day less important relative to the broad and nonspecialized faculties of judgment, promptness, resource, carefulness, and steadfastness of purpose.²

Other pertinent points made by Marshall included the idea that interest rates often partially cover the earnings of management and payment for risk bearing, that risk is related to managerial earnings and managerial earnings are rare, natural abilities, and that supply and demand schedules exist for managerial services.

Frank Knight, writing later, argued that the existence of a change accounts for imperfect knowledge and that, in turn, the existence of imperfect knowledge

¹J. B. Say, A Treatise on Political Economy, Bk 2, Chapt. 7, as reported by Leonard W. White, A History of Economic Ideas (New York: Longmans, Green, and Co., 1949), pp. 86-17.

²Alfred Marshall, Principles of Economics (London: MacMillan and Co. Ltd., 1904), p. 606.

...the needs for management.¹ Thus, management became a useful tool to struggle with the imperfect knowledge resulting from a change.

Recent Studies

One of the most recent and intensive studies was the Interstate Managerial Study (IMS). The IMS was devised by the North Central Farm Management Research Committee and conducted by members of its Risk and Uncertainty Subcommittee. Its purpose was to verify previous managerial concepts that were thought to have existed. The results of this cooperative effort have been presented in bulletins and have been used to improve recent textbooks in farm management.

Glenn Johnson had previously defined the functions of a manager. These were: (1) observation; (2) analysis; (3) decision; (4) taking action; and (5) acceptance of responsibility.² These were the five functions that a manager, operating in the presence of continuous change and only partly informed, must perform successfully if he was to succeed in his farm business.

Johnson then thought that "problem definition" should be added as the first step before observation.³ According to Johnson, these six functions are viewed as interrelated parts of a whole process which has continuity through time. Also, this classification is viewed as one of several alternatives, some of which might prove more useful than others.

¹Frank Knight, Risk, Uncertainty, and Profit (London: London School of Economics and Political Science, 1937), Reprint No. 16, p. 135.

²Cecil B. Haver and Glenn L. Johnson, Decision-Making Principles in Farm Management, Ky. Exp. Sta. Bul. 593, 1953, p. 8.

³Glenn L. Johnson, et al., A Study of Managerial Processes of Midwestern Farmers (Ames, Iowa: The Iowa State University Press, 1961), p. 172.

According to Knight, with change and imperfect knowledge obviously so important, farmers must continually learn to adjust. As a consequence, they must spend time learning and making decisions on the basis of what they learn. The essence of management is the process of learning and adjusting.¹

Johnson also defined five broad categories which managers must study as a basis for these adjustments. These categories are: (1) price structures and change; (2) production methods and responses; (3) prospective technological changes; (4) the behavior and capacities of people associated with farm businesses; and (5) the economic, political, and social situations in which a farm business operates.²

Johnson noted that in making decisions certain psychological patterns appear important. Persons adjusted to their present income level and social status appear to attach increasing importance to increases in income as the changes involved become large enough to make significant improvements in their socio-economic level possible. This condition causes persons to accept long chances of making gains capable of bringing about major changes in their level of living even if the odds appear to be quite unfavorable.³

Also in connection with decision making, certain strategy principles are important. Part of these strategies are impersonal; i.e., the manager sometimes operates against an impersonal economic or physical system which does not respond to his actions. Included among these principles are the insurance principles, long-chance taking principles, and flexibility principles. The other strategy

¹Frank Knight, Risk, Uncertainty, and Profit (New York: Houghton-Mifflin, 1921), p. 61.

²Elmer and Johnson, Decision-Making Principles in Farm Management, pp. 4-5.

³William L. Johnson, Managerial Concepts for Agriculturalists, Ky. Exp. Sta. Bul. 619, 1954, p. 45.

principles are personal in nature and are employed mainly by managers dealing with other individuals or organizations capable of responding to the managers' actions. The personal strategy principles deal with the use of force in all forms at the disposal of the manager, the exploitation of a strategic position, covering up intentions, and discovering an opponent's intentions.¹

Research work by Johnson, L. A. Bradford, and Cecil Haver has resulted in definitions of five knowledge situations. This was an extension of Knight's three states of knowledge which were certainty, risk, and uncertainty.² Of the five categories set up by Johnson and his workers, three involve subjective uncertainty, one subjective risk, and one subjective certainty.

When subjective uncertainty exists, there are three situations of this imperfect state of knowledge: the inactive, learning, and forced action situations. The first two of these three decisions are similar in that the manager concerned regards his knowledge of a contemplated business action as inadequate but willingly takes one of two alternative actions; he decides to learn, or feeling learning is not worthwhile, he refuses to act to learn. The third situation exists when outside influences force him to take action even though he feels his information is inadequate.³

An inactive situation is one in which what is known is insufficient for positive action, and in which it is felt that the cost of learning exceeds the value of what would be learned. In this case, the manager neither acts nor tries to learn. In the learning situation, the action under consideration is postponed

¹Ibid.

²Knight, Risk, Uncertainty, and Profit, p. 62.

³Haver and Johnson, Decision-Making Principles in Farm Management, p. 11. .

what is learned, because it is felt that what can be learned is worth more than the cost of obtaining it. In the forced action situation, some outside influences force action even though the existing state of technology is regarded as inadequate; and if time were available, more knowledge could be acquired at a cost less than its value.¹

When a subjective risk situation exists, the manager does not see the probable results of a contemplated action perfectly, but nevertheless has enough information (acquired through learning and experience) to decide whether or not to act. Further, he is willing to accept the consequences of decisions and action. The manager does not know everything about the decision, but he knows enough about the possible outcomes to be willing to make the choice and bear the responsibility. When a subjective certainty situation exists, the managers may not have perfect knowledge concerning a contemplating action, but their knowledge often becomes nearly enough perfect for them to operate as though they had perfect knowledge.²

The farmers interviewed in the IMS indicated that the subjective certainty (the manager acts as though he has perfect knowledge) category was important. Within the subjective uncertainty category, the forced action situations were important; the learning situation appeared to be particularly important; and the subjective risk category also appeared to be important to the farmers.³

The IMS also secured information on what kinds of farmers use different sources of information in making and carrying out their decisions. Analysis showed that education was positively correlated with: the use of extension service and experiment station publications as sources of information; the use

¹Johnson, Managerial Concepts for Agriculturalists, p. 12.

²Johnson, Managerial Concepts for Agriculturalists, p. 13.

³Johnson, Managerial Concepts for Agriculturalists, p. 47.

of government people as a source of production information; and with the farmers' use of farm magazines.¹

Two major conclusions were found. First, farmers who have completed higher grades in school use more sources of information. Second, farmers who have completed higher grades depend upon more direct sources of information such as county agents, agricultural teachers, government people, and extension and experiment station publications.

It was also found that in carrying out decisions that pertained to organizing farms, the farmers were more concerned about types of information having long-term implications. In carrying out decisions that pertained to the operating of farms, the farmers were more concerned with short-lived information involving the possibilities of short-run changes in the operation of their farms.²

In the IMS, the farmers surveyed sought information in making and carrying out decisions from various sources. The land-grant system appeared to be a good source of static information on existing production methods. Commercial sources appeared to provide dynamic information more effectively, particularly on: (1) prices, in which case the radio, press, and local markets were important; and (2) on new developments and inventions, in which case the radio, press, and farm implement dealers were important. The Farm Bureau, government agencies, the press, and radio appeared to be good sources of information on government programs and taxes. The manager himself appeared to be his own best source of information on human nature problems.³

¹Johnson, et al., A Study of Managerial Processes of Midwestern Farmers, p. 36.

²Ibid., p. 34.

³Johnson, Managerial Concepts for Agriculturalists, p. 46.

Neglect of Some Areas of Study

Though EMS researchers initially regarded observing, analyzing, deciding, acting, and responsibility bearing to be the five important functions of managers, the functions of acting and bearing responsibility were not given much attention in designing the study. No empirical results were available to report on such important functions as carrying out the decisions after they have been made and bearing the responsibility of the decisions.

According to Johnson, the neglect of these two functions in the EMS is partly a matter of happenstance, partly the absence of classifications and theory to guide empirical work, and also partly of the philosophic position the EMS researchers were adhering to. Each philosophic position they held was only one of a number of competing positions held as a matter of accident in their personal educational histories, rather than as a result of careful consideration of alternative philosophic positions.¹

The vastness of management as an area of study made impossible the complete coverage of all managerial functions. Thus, since a complete study could not be made of all the functions, action taking and responsibility bearing were neglected in many studies.

The absence of classifications and theory with respect to these two functions, in contrast to the readily availability of classifications and theories in other areas, made it reasonable to neglect action taking and responsibility bearing.

According to Johnson, the inadequate conditionally normative set of mind of the EMS researchers caused them to assume that managers had well-defined

¹Johnson, et al., A Study of Managerial Processes of Midwestern Farmers, p. 120.

normative concepts and well-defined problems. The IMS was deficient in the sense that it did not treat problem definition as a specific managerial function and that it did not place sufficient emphasis upon the processes where managers develop and use normative concepts in defining and solving problems. The IMS investigators assumed that farmers had already defined their own problems; hence, no specific attempt was made to investigate the process where by farmers recognize and develop problems. Responsibility bearing relates normative concepts or values to decision making via action. Thus, the neglect of the normative as a consequence of the conditionally normative set of IMS researchers led, logically, to the neglect of responsibility bearing and acting.

Johnson also noted that further research on managerial processes should include specific attention to action taking (the executive function) and responsibility bearing. If such research is approached from a more normative philosophy than followed by IMS researchers, the relevant questions concerning responsibility bearing will probably be more apparent.¹

When detailed understanding of normative structures is available, detailed questions will arise about the relationships between such normative structures and specifications for decisions.

Questions about specifications will also likely involve other questions about ability to execute decisions. The skilled executive, it is hypothesized, is able to carry out less accurate decisions than the less skilled executive. Further, the executive skills of a manager may vary according to the nature of the process being organized and supervised. Thus, knowledge about different kinds of executive skill is important in understanding specifications for decisions, observation, and analysis.²

¹Ibid., p. 141.

²Ibid.

With the development of vertically integrated farm business, contract farming, and larger-than-family farm business, executive skills may take on additional importance in agriculture. The relatively greater experience of English, southern, mid-southern, and western farmers with the administration of large scale farms suggests that studies of the executive function or process might be made advantageously in these areas of the world.

For reasons explained by Johnson, the IMS largely ignored the action or executive function. Farm management texts usually have very little material covering the executive function. The largest exposition to date of the executive function is by Warren H. Vincent, et al., but his emphasis is almost entirely on the supervisory aspects of execution. Vincent claims that this supervision involves a continuous series of problem solutions which require perception, gathering and analyzing of information, and the ability to arrive at a decision of what to do.¹

Partenheimer, in his study, defined a skilled executive as one who is able to perform with given physical resources--more actions than a less skilled executive. Executive skills consist of physical skills, technical skills, and public relation skills.²

Johnson has argued that management is not an input. He defines management as the controller of which, how much, when, and under what conditions inputs will be used in production functions.³

¹Warren Vincent, et al., Economics and Management in Agriculture (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1962), pp. 27-30.

²Earl Partenheimer, "Executive Skills and Executive Capacity in Farm Management," Journal of Farm Economics, XLIV (Dec. 1962), p. 1775.

³Glenn L. Johnson, "Methodology for Handling the Managerial Input," working draft for discussion at the Southern Farm Management Research Committee and Agricultural Policy Institute.

According to Partonheimer, past theories have said that management cannot be put into the production function and a coefficient estimated for it because: (1) it is impossible to measure management; and (2) as a result of this measurement problem, management is included as a fixed input in physical experiments from which input coefficients are measured. If one accepts Johnson's contentions that management is not an input and that the exercise of skills are not part of the management process, then execution must be considered a mechanical function. If execution is a mechanical function, then the authors have been justified in the past of their sparse treatment of execution.¹

Partonheimer believes conversely with Johnson that management is an input and that executive skills include physical, technical, supervisory, and public relation skills. These contentions indicate that the executive function is a worthwhile area of study.²

The studies that have been done on the executive function of management are limited indeed. This limitation should be corrected with new studies aimed at making the farm managers more aware of the importance in carrying out decisions.

¹Partonheimer, "Executive Skills and Executive Capacity in Farm Management," p. 1777.

²Ibid.

CHAPTER III

SCOPE AND PROCEDURE

Source of Data

The Kansas Farm Management Association is part of the Extension Service of Kansas State University. The Farm Management Association, which was established in 1931, consists of six individual associations which cover all 105 counties in Kansas. There are 3250 farmers participating in this program.¹

Farm records are kept by every Farm Management Association member and are analyzed annually by the association fieldmen. The results of these records are then made available to Kansas State University for research purposes.

Farm Management Association members were selected for this study for several reasons. First, they all had complete farm records which were available to the University. This simplified the gathering of data which were used in this study. These data were obtained from the fieldman of the association selected for this study. Second, Farm Management Association members tend to be more cooperative than nonmembers. They realize the results of the research may benefit them in the future. In fact, many of the association members have participated in research studies before, so it was not new to many of them. The interview technique used required the interviewer to obtain detailed personal information from the farmers. The depth of interview used to obtain the detailed information resulted in responses from the farmers that were too lengthy to be

¹McClidg, J. H., Department of Economics, Kansas State University, Oral Interview.

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written down verbatim. Hence, a tape recorder was employed to record the farmers' responses for later study. Due to these circumstances, it was necessary that the farmers had a cooperative attitude.

How the Farmers were Selected

Twenty farm managers were selected to be interviewed. In order to be selected, the managers had to meet the following criteria:

1. The farmers must not have been managing their farm in partnership with someone else. It was felt that a manager in partnership with someone else would be influenced in the decisions he made by his partner. This would not truly reflect the decisions made by the individual managers as they actually occurred, and it would not reflect how they were actually carried out either.
2. The farmers had to be cooperative. Since the interview took about an hour, the farmers had to sacrifice part of their time to be a part of the study. Also, in order to have a successful interview, both parties must be cooperative and understanding in order to obtain the proper information.
3. The farmers had to operate a fairly large operation. As mentioned previously by Johnson, large scale farmers make more decisions and are more effective in carrying them out.¹ This suggests that studies of the executive function might be most fruitful among large scale farmers.

¹Johnson, et al., A Study of Managerial Processes of Mid-Western Farmers, p. 140.

4. The farmers had to be fairly successful. This criteria was desired because it would make the results of this study on how managers make and carry out their decisions more meaningful. It will serve as a guide to other managers more if the results are indicative of above average managers.

5. The farmers had to live fairly close to Manhattan. This criteria was used so the interviewer could conduct interviews and still be able to attend classes at Kansas State University.

Association 1 was selected for this type of study because it included Manhattan and the surrounding area. A list of all the Association 1 members was given to a farm management fieldman from Association 1. He then checked those that he thought would meet the first four criteria. The interviewer then selected from the reduced list 20 farmers that lived close to Manhattan or lived at a location that was easy to fit into the schedule. That is, if the interviewer has to interview a farmer 50 miles away, he might as well interview some farmers along the way even though they might not be the closest ones to Manhattan.

Scope of the Study

The scope of this study included 20 farm managers in the Farm Management Association 1. Figure 1 shows the approximate geographical location of each manager. In all, five counties were visited in carrying out the interviews. The respective counties and the number of managers visited in each county were as follows: Clay, 2; Dickinson, 5; Geary, 3; Marshall, 6; and Riley, 4.

Even though the locations of the interviewed operators were in the same approximate vicinity, the type of farming was not uniform throughout the entire area. General livestock farms were found throughout the entire area. Wheat and

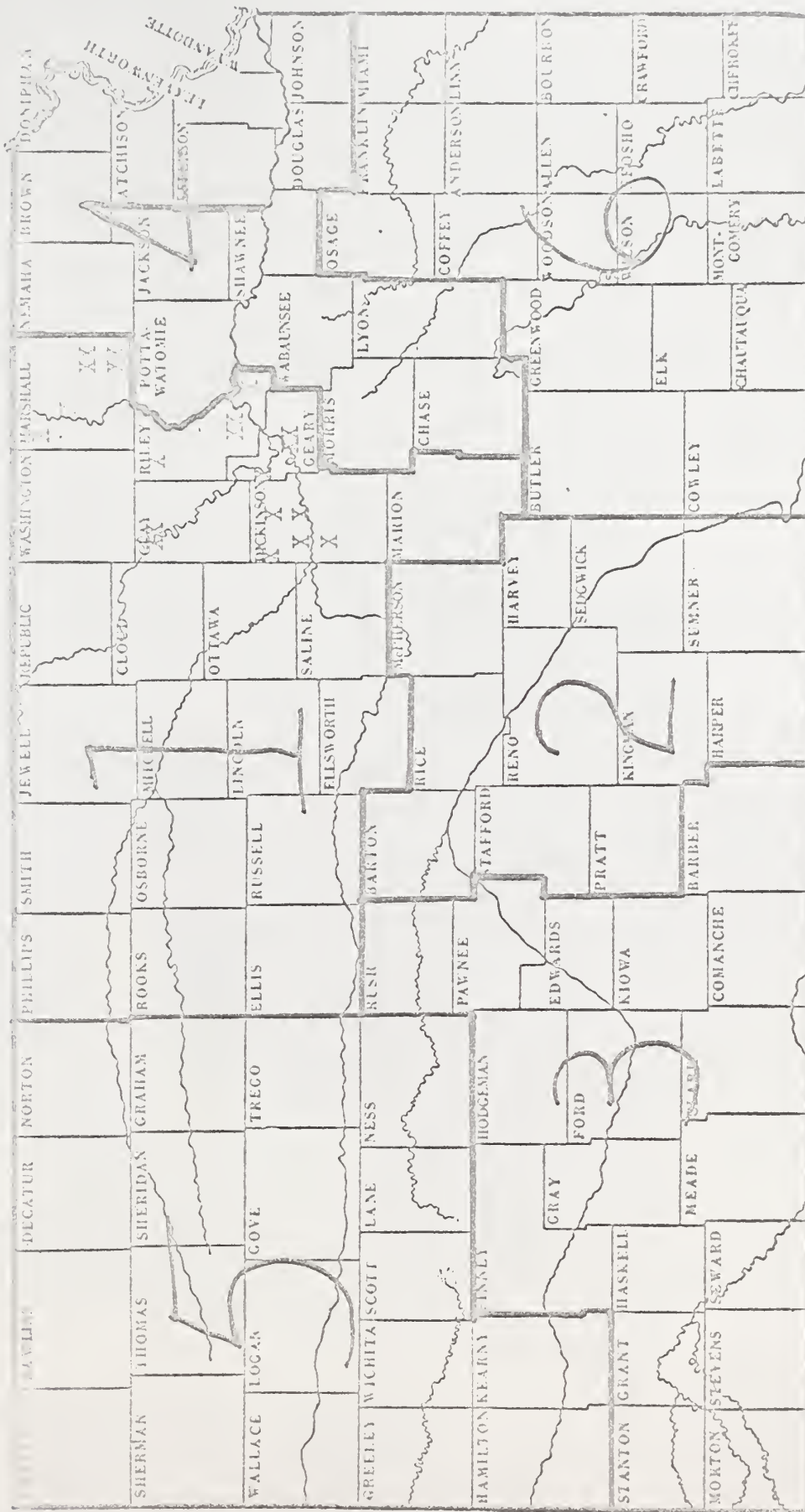


Fig. 1. Locations of Interviewed Farmers

X-Farmers used in the study.

corns were found in the southern part of the area, while more corn was found in the northern part of the area.¹

The climate is characterized by wide seasonal fluctuations. The greater part of the annual rainfall occurs during the growing season. "Except for some of those along the Gulf Coast, no state in the country has as much rainfall during the summer months as the eastern third of Kansas."² However, excess moisture in early summer sometimes interferes with planting or cultivating of spring crops, as well as wheat harvest.

Collection of Data

The data gathered from the farm management fieldman consisted of each farm operator's net income, total investment, and change in net worth. It would have been possible to have obtained this information at the time of the interview directly from the farmer. However, this would have been time consuming and subject to possible error. Also, if the information was obtained from the farmer at the time of the interview, the data for 1967 would not have been available because many of the interviews were conducted in 1967. The information was obtained from the fieldman in 1968 after he had analyzed his members records for 1967. The desired information was obtained for four consecutive years (1964-67), and averages were computed to eliminate the major variances that were not due to the managers' actions.

The remaining information on decision making was gathered by personal interview. The author was the only interviewer, which helped reduce variances in the interviews due to differences in interpretation of the farmers' answers.

¹Lee H. Hoover, Kansas Agriculture After 100 Years, Kan. Agr. Exp. Sta., Bull. 598, 1957, p. 18.

²Ibid., p. 5.

Appointments were made with the farmers prior to the interviewer's visit. A brief description of the study was sent along to familiarize each farmer with the purpose of the study and with the type of information that was needed.

The interviews were conducted during the fall and winter months. Nearly all interviews were conducted, according to the farmers' preference, at night. The interviews were conducted in the privacy of the farmers' homes. It was felt that this was most convenient, and the farmers would be more likely to give a good interview if they were more at ease. If it was not possible to interview a farmer at the appointed time, another appointment was made for a later date.

Out of 20 farm managers contacted to be interviewed, all 20 responded favorably. This illustrates the cooperation that was obtained throughout the study.

CHAPTER IV

RESEARCH METHODOLOGY

Sampling Procedure

A sample is a smaller representation of a larger whole. Actual observation in complete detail would be slow and tedious. Also, to analyze a large amount of material is wasteful when a smaller amount would suffice. Sampling allows more adequate scientific work by making the time of the scientific worker count. Instead of examining mass material from one point of view, a researcher may examine a smaller amount of material from many points of view. Sampling also saves money.

A sample must be representative and it must be adequate. Representativeness of sample is the careful delimitation of the universe to be sampled, as well as the definitions of the observations which are to constitute the sample. That is, the universe and the sample must all be defined as being the same (coincide).¹

There are two types of sampling--random sampling and stratified sampling. Random sampling is the selection of units to be employed in the sample. A random sample is one which is drawn so that the researcher has no reason to believe a bias will result. In other words, the units of the universe must be so arranged that the selection process gives equal probability of selection to every unit in that universe. Stratified sampling does not mean it does not employ randomness, but combines with it another method calculated to increase

¹William J. Coode and Paul K. Hatt, Methods in Social Research (New York: McGraw-Hill Book Co., Inc., 1952), pp. 209-13.

its representativeness. Because this method does improve representativeness, it allows the use of a smaller sample than does simple random sampling with greater precision and a consequent savings of money.¹

Stratified sampling is possible when a heterogeneous universe is divided into a homogeneous subuniverse. A homogeneous universe requires a smaller sample than does a heterogeneous universe.²

A form of stratified sampling was used in this study. A heterogeneous universe (all the farmers in Kansas) was divided into a homogeneous universe (all those Farm Management Association 1 members who met the first four criteria for selection). Then 20 farmers were selected from this homogeneous universe, but they were not selected at random. Selection from the homogeneous subuniverse was dependent upon how close the farmers lived to Manhattan. The farmers living closest to Manhattan were selected first, those living farther away were selected next, and those who lived a great distance from Manhattan did not have a chance to be selected.

A sample is adequate when it is of sufficient size to allow confidence in the stability of its characteristics. This in turn requires a measure of sampling error.³

The sampling error in a stratified sample is less than that in a random sample. This refers to the mathematical concept of probability. The meaning of the theoretical concept of probability refers to the chances that a given statement when made is true. This means the more that is known about a subject, the greater is the likelihood of making a correct statement. When a stratified sample is used properly, it introduces some additional knowledge concerning the

¹Ibid., pp. 214-21.

²Ibid., p. 222.

³Ibid., pp. 225-26.

item to be observed. Consequently, the size of the sample necessary for accurate estimation of the universe decreases. If the methods for measuring the error of a sample are applied to a stratified sample, they will always be conservative by overstating that error.¹

Reliability and Validity

The adequacy of a technique for collecting data is ordinarily judged in terms of criteria of reliability and validity. Reliability requires that repeated measurements yield results which are identical or fall within narrow predictable limits of variability. The criteria of validity demands that the measurements be meaningfully related to research objectives; that is, it measures what it is suppose to measure.

Both of these criteria apply not only to the data collection instrument, but also to the technique and procedure specified for using the instrument. The reliability and validity of social data depend not only on the design of the interview schedule, but also on the administering of the instrument--the interviewing technique.²

The reliability of survey data can be measured in the same way as the reliability of any other kind of research data--by retest.³

Unreliability in survey data can result from:

1. Interviewing error from inconsistencies in the way the interview was conducted.
2. Reporting error results from vagaries of mood or attitude on the part of the respondent.

¹Ibid., pp. 228-29.

²Danial Katz and Leon Festinger, Research Methods in the Behavioral Sciences (New York: The Drylan Press, 1953), p. 328.

³Ibid., p. 41.

3. Sampling error is implicit whenever a sample is taken as representative of a universe.
4. Errors in coding, tabulation, and analysis.
5. Anything which tends to create different results under theoretical identical conditions may contribute to unreliability.
6. Errors of memory on both parties.¹

Despite the many opportunities for error to enter the survey process, there is no doubt that when surveys are conducted with proper observation of the basic tenants of research, many types of data can be collected with not only tolerable but assuring reliability.

The validation of survey data often presents serious problems. The customary procedure for establishing the validity of measurements made in research is through comparison with an outside criterion. The most familiar procedure for determining validity is the simple demonstration of correlation between the measures made by the instrument and some criterion. When the correlation is high, the measure is said to be valid.² Unfortunately, there is not always an acceptable criterion available when survey data are gathered. The survey data are likely to have been done precisely because there were no relevant data at hand.

The validation of data on attitudes, expectations, intentions, and the like presents a problem of this kind. In this case, there is no outside "true score" which can be taken as a criterion. The statement which the respondent makes at the time of the interview is in itself a datum for analysis. It may or may not correlate with other nonverbal behavior. Its usefulness for predictive

¹Ibid., p. 42.

²Ibid., p. 286.

purposes is greater if it does, but its intrinsic validity is not dependent on this. Invalidity is present, of course, if the respondent consciously or otherwise misrepresents his attitudes or intentions because of unwillingness to cooperate with the interviewer.¹

Despite the absence of outside criteria, there are many internal tests which can be applied to data to demonstrate that they are more than expressions of idle thought on the part of the respondent. One finds, for example, the approval of proposals for the government to provide jobs for everyone is much higher among the low income people than among the high income people.

These findings are consistent with our general expectations based on other information about our society and its functioning. This is by no means as a convincing validation of data as an established outside criterion would supply. In the absence of such criterion, however, analysis of internal logic of survey data can often present an impressively consistent picture.²

Interview Technique

Each of the 20 farm managers selected for this study were interviewed individually. The interview consisted of finding what decisions the manager had made in the last four years and how the manager carried out these decisions.

An interview schedule serves two major functions. First, it must translate the research objectives into specific questions; the answers to which will provide the necessary data to test the hypothesis or explore the area set up by the research objectives. In order to achieve this purpose, each question must convey to the respondent the idea or group of ideas required by the

¹Ibid., p. 47.

²Ibid., p. 48.

research objectives, and each question must obtain a response which can be analyzed so the results can fulfill the research objective.

The second function of the interview schedule is to assist the interviewer into motivating the respondent to communicate the desired information. In motivating the respondent, the skills of the interviewer are of great importance, but the interview schedule does much to determine the character of the interviewer-respondent relationship and, consequently, the quantity and quality of data collected.¹

Advantages of Interviews

The interview is considerably more flexible than the questionnaire. In a questionnaire, if the subject misinterprets a question or records his answer in a baffling manner, there is usually little that can be done to remedy the situation. In an interview, there is always the possibility of rephrasing the questions to make sure they are understood or of asking further questions in order to clarify the meaning of the subject's response. There is more opportunity in an interviewing situation to appraise their validity than there is in a questionnaire. The interviewer is in a position to learn not only what a respondent says, but also how he says it.²

Another advantage is that the respondents may give personal and confidential information to an interviewer that they would not normally give out in a questionnaire. If the respondent has a guarantee directly from the interviewer as to how the facts will be used and kept confidential, it will facilitate the procuring of personal information. The interview allows the investigator to "read between

¹Ibid., pp. 340-41.

²Stewart Cook, Morton Deutsch, and Marie Jahoda, Research Methods in Social Science (New York: The Dryden Press, 1951), pp. 157-58.

the lines" and judge the respondent as to the truth in his answers.¹

Interviewing is most helpful in certain types of appraisals and analyses. Many persons who are notably successful in their occupational activities have certain methods of work, are guided by given standards, and react in a particular way, with the result that their performance is more successful than others. By skillful interviewing, the investigator can note the differences between successful and unsuccessful workers. The interview can be used to discover the traits for success in almost any occupation.²

The interview technique also has other advantages. It has been estimated that for filling out even simplest written questionnaires, at least 10 percent of the adult population is illiterate. Complicated questionnaires, which require extended written responses, can be used only with a very small percent of the population.³

Surveys conducted by personal interviews have an additional advantage over surveys conducted by mailed questionnaires in that they usually yield a much better sample of the population. Many more people are willing to cooperate in a survey when all they have to do is talk. In surveys where questionnaires are mailed to a random sample of the population, the return is as low as 25 percent.⁴

One limitation of the interview technique involves the respondent, his experience, his judgment, his willingness to divulge information, and his ability to express himself clearly.

¹Carter Good and Douglas Scates, Methods of Research (New York: Appleton-Century-Crofts, Inc., 1954), p. 637.

²Ibid., p. 638.

³Cook, Deutsch, and Jahoda, Research Methods in Social Science, p. 159.

⁴Ibid.

Types of Interviews

The depth of reports of an interview varies since not everything is reported on the same psychological level, but may be thought of as varying along a continuum. A major problem of the interviewer is to "diagnose the level of depth on which his subjects are operating at any given moment and to shift that level toward whichever end of the 'depth continuum' he finds appropriate to the case." This depth interviewing seeks to get at the structure of motivation that is the dynamic structure of the respondent. To learn about the dynamic structure of the individual or in other words what makes him do the things he does. The investigator needs the depth interviews, first, then other types of interviews may be used.¹

The depth interview is significantly different from other types of research interviews that might appear on the surface to be similar.²

1. The persons being interviewed are known to have been involved in a particular concrete situation (such as a decision).
2. The hypothetically significant elements, patterns, and total structure of the particular situation have been previously analyzed by the investigator, and he has arrived at a set of significant hypotheses concerning the meaning and effects of determinate aspects of the situation.
3. On the basis of this analysis, the investigator has developed an interview guide outlining major areas of inquiry and the hypotheses which locate the pertinence of the data to be obtained in the interview.
4. The interview itself is focused on the subjective experiences of the persons exposed to the pre-analyzed situation; these reported responses

¹Good and Scates, Methods of Research, pp. 640-41.

²Ibid., p. 641.

enable the investigator to test the validity of his hypotheses and to ascertain unanticipated responses to the situation, thus, giving rise to fresh hypotheses.

Some people do not know the real reasons for their motivation. Even if the subjects do know their real motives, they are likely to be embarrassed at telling the truth, and this presents another problem. They are habituated into giving socially approved reasons and excuses; they may have been taught not to complain, even when they have a valid reason; they may feel reluctant to discuss family goals and needs. Depth interviewing is of major importance in discovering the sources of one's willingness to make radical changes in his behavior. The depth interview, applied to select individuals, provides a depth of insight and a picture of dynamic interrelationships that questionnaires alone cannot give.¹

The preparation of the questions for the interview should be done through careful planning. Usually, the interviewer has a set of carefully prepared questions, to be introduced into the conversation at appropriate points, although he may vary the questions to adapt to individual circumstances. To avoid a meaningless array of material after the interviewer has gathered his facts, careful planning must be done in advance of the interview outlining the information necessary as a basis for conclusions that will satisfy the purpose of the investigation.

Apart from a depth interview, there are two other types of interviews. These are the schedule standardized interview and the nonschedule standardized interview. Each type is appropriate for certain purposes.

¹Ibid., p. 643.

A schedule standardized interview is designed to collect the same information from each respondent, and the answers of all respondents must be comparable and classifiable; that is, they must deal with the same subject matter, and the differences or similarities between the responses must reflect actual differences or similarities between respondents and not differences due to the questions asked or the meaning attributed to the questions. The interviewer asks the same questions in a prescribed order and records the response on the schedule.¹

The nonschedule standardized interview works with a list of information required from each respondent instead of using scheduled questions. For each respondent, the interviewer formulates his own questions to get at the same meaning, using prior knowledge and training as well as feedback he obtains in the course of the interview to determine the language congenial to the respondent. In other words, the schedule standardized interviewer asks the same question of each respondent and hopes this will have the same meaning; whereas, the nonschedule standardized interviewer formulates the classes of information he is seeking and hopes he can formulate questions in such a way that they will have the same meaning for each respondent. Thus, the interviewer who is unrestricted by fixed wording of a schedule can formulate each question in the vocabulary habitually used by the people of the educational level, social class, ethnic background, and geographical location of each respondent.²

Even though the nonschedule standardized interview has several advantages over the schedule standardized interview, the latter was used for this study. The schedule standardized interview was preferred for a variety of reasons.

¹Barbara Dohrenwend, David Kline, and Stephen Richardson, Interviewing--Its Forms and Its Functions (New York: Basic Book, Inc., 1965), p. 34.

²Ibid., pp. 45-46.

First, the interviewer lacked the prior training and experience that is necessary to conduct a nonschedule standardized interview. The interviewer must have a great deal of interview knowledge to conduct a nonschedule standardized interview successfully.

Another reason was that the group interviewed was already homogenous. The 20 farm managers did not vary significantly in educational level, social class, ethnic background, and geographical when interviewing a different manager. The nonschedule standardized interview is expressly for heterogeneous groups whose members do vary in educational level, social class, ethnic background, and geographical location.

Development of Interview Schedule

An interview schedule was developed which was used to guide the discussion in the interview and to obtain the desired information. Some of the questions in the interview schedule were taken from old schedules used in past survey work.¹ These old schedules also provided a guide in organizing the interview schedule used in this study. New questions were added to obtain most of the specific data required on decision-making procedures of the farm managers. Since the old interview schedules were concerned with something other than decision making, new questions had to be formulated for this. The interview schedule for this study consists of questions on decisions and strategy questions (See Appendix I).

¹The interview schedules that provided a source for some of the questions and a guide for the interview schedule organization were: "Proposed Questionnaire for Use in a Survey of the Role of Management in Farming," prepared by Glenn Johnson, Joel Smith, and Albort Haltor of Michigan State College for presentation to the Risk and Uncertainty Subcommittee, North Central Farm Management Research Committee (1954); and "An Empirical Study of the Identity of the Management Factor in Agriculture," by D. W. Thomas of Purdue University.

Use of Tape Recorder

In conducting the interviews, a portable tape recorder was used to record all of the conversations. It was felt that if the interviewer was free from having to write the responses of the farmers down, he would be able to conduct a smoother interview. This eliminated the pauses in discussion that usually occurred because the interviewer had to stop and write. The presence of these pauses tended to interrupt the farmers' responses and tended to break the farmers' train of thought. With the use of the recorder, the farmers were able to keep talking continuously until they answered the question. It was soon found that if the farmers were kept talking long enough, they would eventually get the question answered.

With these long responses all on tape, it was only necessary to take just the pertinent information off the tape. If a farmer's response was vague as to meaning, it was possible to go back and to listen to the tapes again in order to get a clearer understanding of what the farm manager meant. One could also obtain a clearer understanding of the answers to the questions by listening again to the entire response of the farmer (which would not ordinarily all be written down if not using the recorder). Thus, the meaning of the farm managers' responses were not taken from context.

The main disadvantage of using a tape recorder during the interviews is that the farmers may not feel quite as free or at ease if they have to talk into a microphone. Some people tend to be more conscious of what they are saying when it is being recorded. This could cause them to become tense during the interview.

The farmers were all aware their responses were being recorded. In fact, this was made known to them even before they accepted the request to be interviewed. The author, who conducted all of the interviews, feels that if having

a tape recorder present during the interview affected the farmers' responses in anyway, it was not evident to him. The farmers were completely at ease and never showed any indication of being afraid of what they were going to say. In fact, when the interviews were over and the tape recorder was turned off, many would remark about they forgot that thing was on!

In the author's opinion, the use of the tape recorder to record for later use, information obtained during an interview proved to be very satisfactory. Perhaps in the future more use will be made of the tape recorder in gathering information. Some day it may eventually be a common research method if its limitations are not completely disregarded.

Use of Case Study Method

The information that was taken off the recorded tapes was written up in case study form. This seemed to be the most logical research technique to use. The use of a statistical analysis was not practical because the sample was not selected at random and, thus, the results would not have been meaningful. On the other hand, with a small sample of 20 farm managers the case study technique was more plausible. The sample was small enough that each of the 20 farmers' responses could be compared to find the differences in decision making.

The case studies all contain the same type of information. All of the various decisions were written up, as well as the methods the farmers used to carry out their decisions. The case studies proved to be a very suitable method of learning how the farm managers went through the decision-making process.

Case Study Technique

References in the social science literature to "the case study method" are decreasing. Actually, this seems to be one result of the false distinction between "the statistical approach" and the "nonstatistical approach," as a consequence of which the case study method is sometimes associated with the use of less reliable research techniques. Many times it is thought of as a kind of intuitive approach derived from much participant observation and using all sorts of public documents, such as letters, diaries, etc., without adequate sampling design or checks on bias or distortion resulting from personal views of reality.¹

According to Good and Scates:

the case study method is to take into account of all pertinent aspects of one thing or situation, employing as the unit for study an individual, or an institution, a community, or any group considered as a unit. The case consists of the data relating to some phase of the life history of the unit or relating to the entire life process, whether the unit is an individual, a family, a social group, an institution, or a community. The complex situation and combination of factors involved in the given behavior are examined to determine the existing status and to identify the causal factors operating.²

As an investigational procedure, case studies frequently employ supplementary or complementary techniques. To evaluate the history of an individual or the development process of an institution or community depends on the use of the sources and principles of historical research. Many case studies utilize such data gathering instruments as tests, questionnaires, check lists, score cards, and rating scales. In most instances, direct observation is essential. The interview may be used to observe symptoms, collect data, diagnosis, treatment, and follow-up.

¹Goode and Hatt, Methods in Social Research, p. 330.

²Good and Scates, Methods of Research, p. 726.

Present objectives of the case study are no longer limited to correction of situations or conditions of maladjustment and remedial actions. Case studies of normal individuals, of effectively functioning institutions, and the behavior of groups are important today in understanding the normal rather than the abnormal situation.

In developing the case study technique, there are five essential characteristics to follow:

1. Continuity--Refers to the steps in the case study as a cycle. The steps include:
 - (a) Recognition and determination of the statistics of the phenomenon to be investigated.
 - (b) Collection of the data and facts relating to the factors associated with a given phenomenon.
 - (c) Diagnosis or identification of the causitive factors as a basis for remedial treatment.
 - (d) Application of the remedial treatment.
 - (e) Follow-up to determine the effectiveness of the corrective measures.
2. Completeness of data--The potential range of information includes symptoms, examination results, and history.
3. Validity of data--All doubtful data should be verified.
4. Confidential recording--All information should be kept confidential just like medical records.
5. Scientific synthesis--This is the interpretation of the evidence that is more than mere enumeration of data secured.¹

¹Ibid., p. 732.

There are several disadvantages in using the case study method. The response of the researcher usually presents the largest and most important problem. The researcher comes to feel a false sense of certainty about his own conclusions. The danger, then, does not lie in any technical weakness of this approach to the social processes. The researcher comes to feel that he could answer many more questions about this case than can be answered from the secured data. This, in short, is an emotional feeling of certainty which is much stronger than in cases of other types of research.¹

This danger then is one which the observer himself creates. The consequences of this feeling of certainty are many, but most of them lead to a temptation to ignore basic principles of research design. Since the researcher feels so very certain about the area he is investigating, he feels no need to check the overall design of the proof. Thus, he may feel he really has a satisfactory sample no matter how much he knows about the sample design.

This results in a strong temptation to extrapolate unwarrantedly. Another consequence is the failure to make explicit the generalizations underlying the analysis of the cases. A further danger resulting from the feeling of certainty is the failure to test the reliability of the data recorded, the classification used, or the analysis of the data.²

However, these difficulties may be avoided by the researcher who is willing to follow good research planning. Being warned of the dangers which result from the feeling of certainty, the investigator tries to develop a research design which takes into account these dangers.

However, the case study also has some very distinct advantages over the more statistical methods. First, emphasis should be placed on the wider range of

¹Coope and Hatt, Methods in Social Research, p. 334.

²Ibid., pp. 335-36.

personal experience which the use of the case study gives to the researcher. Because of the narrowness of most survey work, the researcher actually derives most of his wider range of experience in investigation at the stage of analysis when the meaning of a question is probed more deeply. This later stage is more fruitful, however, if there has been a prior period of absorbing the varied experiences of others. The case study is most useful because of its attempt to find the meaning of the recorded data within the life of the individual and only later in terms of classes of individuals.¹

If time and money are critical, the researcher may utilize a questionnaire or some form of interview as his main technique. If he wishes to study a much wider range of data, he may be willing to limit the number of cases. The student researcher will ordinarily not be able to generalize safely from a small number of cases, but it is often true that the depth of insight afforded by the case study will yield a useful hypothesis for later full-scale study.²

Another advantage of the case study method is the attitude of the investigator. His attitude should be one of alert receptivity of seeking rather than testing. Instead of limiting himself to the testing of pre-existing hypothesis, he is guided by the features of the object being studied which results in the constant process of reformulation and redirection as new information is obtained.³

Although more easily administered quantitative techniques have tended to replace case study techniques where prediction must be made rapidly for a large number of individuals, case study methods will continue to serve as a valuable and even indispensable supplement to the techniques of statistics for purposes of prediction. It remains to be proved that so called scientific and statistical

¹Ibid., p. 339.

²Ibid., p. 338.

³Cook, Deutsch, and Jahoda, Research Methods in Social Science, p. 42.

methods are superior to, or even equal to, the insights of trained workers especially gifted in understanding human behavior. Careful study is needed to determine the most fruitful way in which statistical and case study methods of prediction may be used to supplement and complement each other.

CHAPTER V

ANALYSIS OF THE CASE STUDIES

Description of the Model

The model used in this study was developed by Glenn L. Johnson and associates at Michigan State University.¹ The model (Figure 2) shows the various steps the manager takes in making a decision. When facing a problem, the manager may take one of two possible courses--he may act or he may take no action. A number of possible paths may be followed, however, in arriving at this final decision. The model in Figure 2 illustrates these situations.

The top box represents a problem facing the manager. This problem can be faced in a situation where the manager has flexibility or where he has no flexibility. Flexibility exists when the manager can defer or delay making a decision on the problem. In the case where no flexibility exists, an involuntary or forced decision is required. This situation exists when the manager is unable to make an "informed" decision, but nonetheless is forced by circumstances to evaluate the alternatives and decide whether or not to act. If he decides to act, it is called forced positive action; and if he decides not to act, it is called forced negative action. In some instances, the manager may have spent considerable time in gathering information, but he is still not ready to decide. In other instances a decision may be required with no opportunity to learn. In neither case has the manager been able to properly

¹Harmon H. Vincent, ed., Economics and Management in Agriculture (Englewood Cliffs, N. J: Prentice-Hall, Inc., 1962), p. 20.

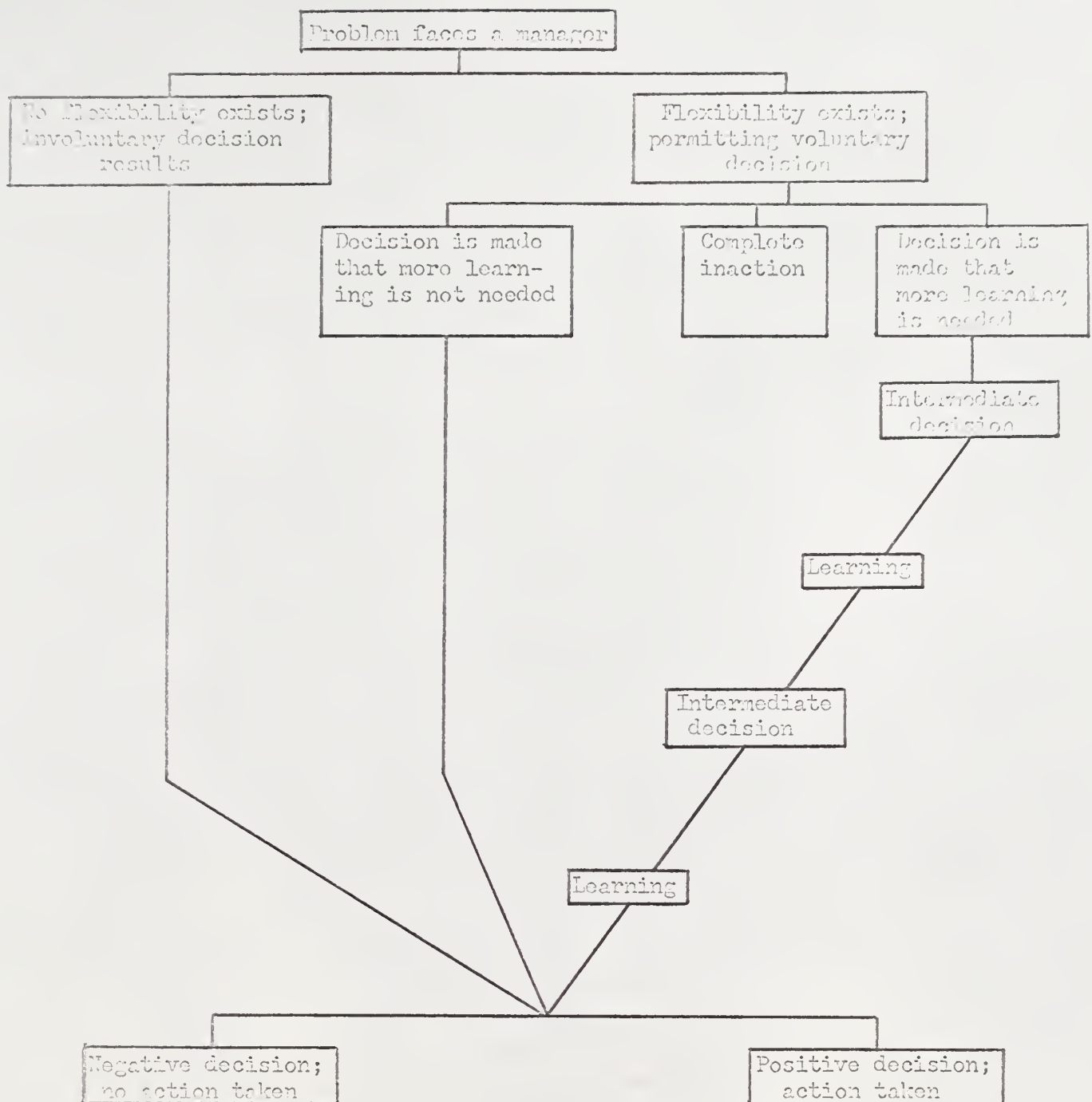


Fig. 2. Decision Model

evaluate alternative positive actions or assess the consequences of inaction. If he chooses to act positively, he has at best an unsatisfactory basis for predicting what the outcome will be. A dominant feature of this situation is that a decision is made even though uncertainty exists.

The right of the figure indicates the manager has flexibility and the opportunity to make a voluntary decision. It should be noted that the distinction between involuntary and voluntary should not be viewed as a matter of time. The distinction lies entirely in whether the manager is forced to decide before he is ready to do so willingly. Where flexibility exists, there are three situations that can occur.¹

The first is that no action is taken to learn, but a decision is made about the problem. This situation exists when the manager feels he can act without other learning. Previous learning has resulted in generalizations or rules-of-thumb that place the manager in a position to evaluate possible alternative courses of action and decide whether or not to act without further learning. In some cases prior knowledge may be such that the manager may behave as though he knows that a specific outcome will occur, or that a specific range of outcomes may occur with certainty. In other cases the manager may not be certain himself, but, nevertheless, thinks he can evaluate the alternatives well enough to decide without learning. He does feel, however, that his information is complete enough so that he is willing to accept the consequences of errors that follow from his decision.

The second situation is one of inaction. This situation may arise in a number of ways. In one case, the manager will avoid the decision when he does not have enough information to be ready, willing, and able to act and when he does not know whether acquiring the information is worth the cost. He may not recognize

¹Ibid., pp. 20-21.

the problem requiring a decision, or he may consciously defer consideration of the problem without attempting to gather and analyze information even if a problem is recognized. This latter situation may arise where the decision-maker is unable to formulate a concept of the worth or cost of information or of the worth or possible consequences of action. If the importance of worth of action cannot be assessed, it is unlikely that the manager will be able to develop a concept of the value of information needed to make the decision. Inability to do this or to develop a concept of the cost of gathering information, or both in combination, will prevent the manager from undertaking action to learn about the question. The key element which dominates this situation is uncertainty.

The third situation is learning. This situation exists when the manager does not foresee the future well enough to take action but does value the need for information more than the cost of obtaining it. Learning may involve considerable time and effort and perhaps an outlay of money. It also may involve a series of intermediate decisions, each leading to more learning before action is eventually taken. Usually, much of the cost of learning involves personal effort and is a subjective cost. How much effort and expenditure will be used in learning is an important question. Actually, information should be gathered as long as the decision-maker's evaluation of the additional cost does not exceed his appraisal of the worth of the information. Exact measures of neither the cost nor the value of the information are available, however. He will make some kind of subjective evaluation of each based on the extent to which he is willing to tolerate error and will continue his efforts as long as these additional outlays seem worth while. When learning no longer seems worth the cost, a decision to act or not to act will be made.

Uncertainty dominates two situations illustrated in the model. These are: (1) involuntary decision; and (2) the situation where flexibility exists but

no action is taken to gather and analyze information and no decision is made on the problem.¹

The manager may move from the uncertainty situation where he neither acts to learn nor makes a decision on the problem in a number of ways. The manager may go through involuntary learning by just watching some act or hearing about some act. In other cases the manager may have sufficient information but postpones the decision only because he may be uncertain about what ought to be. A period of reappraisal may resolve this conflict. In the latter case, uncertainty about values dominates. Once this uncertainty is removed, the manager is prepared to decide on the problem without gathering or analyzing information.

The manager may also move from a learning situation to an uncertainty situation. In gathering and analyzing information, he may find that the problem involves the unforeseen complexity either in prediction or value conflicts which tend to increase uncertainty or at least prevent him from reaching a point where he is willing to decide on the problem. In this situation, learning may cease but no decision will be made on the problem.

The manager will act willingly only when the uncertainty is reduced to the point where he is willing to accept the consequences of error. He will act to gather and analyze information only if he is certain enough of its worth to be willing to accept the consequences (in terms of the cost of learning) if he is wrong. The manager will act on a problem only if he feels he is certain enough of the outcome to be willing to accept the consequences of error.²

¹Ibid., p. 23.

²Ibid., p. 24.

Distribution of the Different Types of Decisions

The case studies were written up in the same form and are presented in Appendix II. When all of the case studies are read in sequence, they become somewhat monotonous due to their repetitive form. However, this repetition had a purpose. It made it easier to compare the case studies when the desired information needed was found in the same place in each case study. Once the analyst was familiar with one case study, then he was immediately familiar with the rest of the case studies (this is true for the reader as well). Thus, it was possible to extract data from any case study with relative ease. If the case studies were not written in the same form, the analyst would have to go through the entire case study until the desired data were found.

The case studies were analyzed to find any differences that existed in the way the farm managers' carried out their decision-making processes. The decisions were categorized into involuntary, complete inaction, voluntary without learning, and voluntary with learning decisions. A summary of the findings is presented in Table 1 (for a more thorough breakdown see Appendix III).

Table 1 indicates how many decisions of each type were made by each manager. It shows how many decisions were carried out, how many intermediate decisions were made, and how many primary, secondary, and tertiary decisions were made by each manager. It also shows when learning was acquired during an involuntary decision.

One noticeable feature was the distribution of decisions among the various categories. Out of a total of 80 decisions, 18 (23 percent) were involuntary decisions, 1 (1 percent) concerned no action to learn and no decision inaction, 21 (26 percent) were voluntary without learning decisions, and 40 (50 percent) were voluntary with learning decisions. This indicates that there were about twice as many decisions requiring learning (a more certain position) as there

TABLE 3

NUMBER OF DECISIONS MADE AT EACH STAGE.

Manager Miller	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Involuntary Decisions	2	-	2	-	1	-	1	-	3	1	1	-	-	1	1	1	1	2	-	-
Decisions Carried Out	2	-	2	-	1	-	1	-	3	1	1	-	-	1	1	1	1	2	-	-
Intermediate Decisions	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Learning Required	-	-	x	-	x	-	-	-	x	-	-	-	-	-	-	-	-	-	-	-
Complete Inaction	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Vol. Without Learning Decisions	1	3	1	-	1	-	-	2	-	-	-	3	2	-	1	2	1	-	1	1
Decisions Carried Out	1	3	1	-	1	-	-	1	-	-	-	2	2	-	1	1	1	-	1	1
Intermediate Decisions	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vol. With Learning Decisions	3	6	2	3	3	3	2	1	-	1	3	2	1	3	1	1	1	1	2	2
Decisions Carried Out	2	6	2	3	3	3	1	1	-	1	3	2	1	3	1	1	1	1	2	2
No. of 1st Intermediate Decisions	3	3	2	3	1	2	2	1	-	1	3	1	1	2	1	-	1	1	2	2
No. of 2nd Intermediate Decisions	2	-	-	1	-	-	-	-	-	-	-	1	1	-	-	-	-	1	-	-
Primary Decisions	4	4	2	3	3	3	3	3	3	1	4	4	3	4	3	3	3	3	2	2
Secondary Decisions	2	4	2	-	1	-	1	-	-	1	-	1	-	-	1	1	-	-	1	1
Tertiary Decisions	-	1	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

were involuntary and as there were voluntary without learning decisions (a more uncertain position). This is probably because farmers prefer certainty to uncertainty.

In addition to the 80 major decisions, there were 37 intermediate decisions. Of these 37, 1 (3 percent) was used by a farmer within an involuntary decision situation, none were used by farmers within the voluntary without learning decision situations, and 36 (97 percent) were used by farmers within the voluntary with learning decision situations.

It is apparent that the sequential analysis, which consists of the intermediate decisions and learning, may occur within involuntary decision situations just as they occur within voluntary with learning decision situations. An involuntary decision is forced because the manager is not ready to make the decision willingly. He may learn awhile, make an intermediate decision, learn some more, and still he may not be ready to make the decision willingly. It is not a matter of time that creates an involuntary decision but the degree of willingness. It is also apparent that most of the intermediate decisions will occur within voluntary with learning decision situations, while in very few cases will intermediate decisions occur within involuntary decision situations.

Frequency of the Sequential Analyses

Another breakdown is the number of major decisions that required sequential analysis compared to the number of major decisions that did not require sequential analysis. Since a sequential analysis may consist of more than one intermediate decision, the results will be somewhat different than those just obtained. This is shown in Table 2.

TABLE 2
MAJOR DECISIONS REQUIRING SEQUENTIAL ANALYSIS

Type of Decision	Sequential Analysis Used	No Sequential Analysis Used
Involuntary Decisions	1	17
Voluntary without Learning Decisions	0	21
Voluntary with Learning Decisions	31	9

It shows that sequential analyses were usually used by the farmers within the voluntary with learning decision situations more than they were used by the farmers within the involuntary decision situations. A sequential analysis could never be used by the farmers within the voluntary without learning decision situations since a sequential analysis requires that learning take place.

Another breakdown shows the number of case studies that required sequential analysis. Table 3 shows that once again practically all of the farm operators that made a decision requiring a sequential analysis made it within a voluntary with learning decision situation.

TABLE 3
NUMBER OF CASE STUDIES REQUIRING SEQUENTIAL ANALYSIS

Type of Decision	Sequential Analysis	No Sequential Analysis	No Decision
Involuntary Decision	1	12	7
Voluntary without Learning Decisions	0	12	8
Voluntary with Learning Decisions	18	1	1

Therefore, if we look at individual decisions as in Table 2, or if we look at the aggregate decisions as in Table 3, they show essentially the same thing. They show there was a strong tendency for practically all of the farmers to use sequential analyses within voluntary with learning decision situations and a tendency for very few farmers to use sequential analyses within the involuntary decision situations. They both show, of course, that no farmers used sequential analyses within a voluntary without learning decision situation.

Another interesting feature to note was that only five of the 80 decisions were not carried out. First, a distinction must be made between a decision that was not carried out and inaction. Inaction, as explained earlier, resulted from no action to learn and no decision on the problem. When reference is made to a decision that was not carried out, it means a decision that was made by the manager but no action has been started yet to carry out the decision. Table 4 shows the distribution of the decisions that were carried out.

TABLE 4
DECISIONS CARRIED OUT

Type of Decision	Number of Decisions	Number Carried Out	Percent Carried Out
Involuntary Decision	18	18	100%
Voluntary without Learning Decisions	21	18	86%
Voluntary with Learning Decisions	40	38	97%

All of the involuntary decisions were carried out, which suggests that the managers facing this situation had no alternative but to act positively in some manner. Essentially, they were forced into solving the problem, and solving the problem required some form of action. Eighty-six percent of the voluntary without

learning decisions were carried out. This was the lowest for the three types. This was because the managers were in a situation of uncertainty. When in an uncertain situation and no learning was done to remove the uncertainty, the managers were undoubtedly more hesitant about carrying out their decisions. Especially, if carrying out the decision meant risking the managers' operations. On the other hand, the managers who made voluntary with learning decisions carried out 97 percent of their decisions. The learning reduced the uncertainty of the managers, and they were able to carry out more decisions. There was not as much risk involved because they had time to be more certain about the outcome of their decisions, and, thus, less chance to lose when they carried out their decisions.

Testing the Decision Model

The individual decisions of the case studies were compared to the model described in the previous section. Every decision was studied and analyzed to see if it fit the model. Actually, the model was being tested to see if it was properly constructed and was truly representative of the way decisions were made and carried out. If the model could explain how each decision in the case studies was made and carried out, then it should be representative of most all decisions. One thing that must be remembered, however, is the limitation of this study. There were only 80 decisions from 20 managers which were used to test the model. Even if the model explained exactly how these 80 decisions were carried out, we could not say with certainty that the model will explain how all farmers make decisions. If a pattern of inconsistencies between the model and the empirical data analyzed was discovered, the representativeness of the model as an explanation of decision making and carrying out could be questioned.

After close inspection, it was found that the model fit correctly in 16 case studies and fit incorrectly in 4 case studies. Further analysis showed that the

model fit incorrectly on four separate decisions (one decision in each of the four case studies). Case Study No. 3 had the first decision that was inconsistent with the model. The second decision of this case study was an involuntary decision. However, this involuntary decision required a complete sequential analysis (learning and intermediate decision) before the decision could be made. The model did not account for this manager's actions. This was an example of how a manager could acquire information and make intermediate decisions and still be forced into the decision, because he was not ready to make it willingly. The fourth decision of Case Study No. 5, the second decision of Case Study No. 9, and the first decision of Case Study No. 14 were also inconsistent with the model tested. These last three decisions differed in about the same manner. They consisted of involuntary decisions that required learning (but no intermediate decisions) before the decisions could be made. The way the last three decisions differed was almost the same as the way the first decision differed, except the first required learning and an intermediate decision, while the last three just required learning before the decision could be made. This was an example of how a manager acquired information by learning and still was forced into the decision. As explained earlier, it is not a matter of a lack of time that causes an involuntary decision, but it is how willingly the manager is to make it. He may learn little or none, but if he was willing to decide, it will be a voluntary decision. On the other hand, he may take considerable time to learn and analyze the information, but if he was still not ready to make the decision willingly, then it will be an involuntary decision. Thus, it is very evident from the four examples in the case studies and from the definition of an involuntary decision that sometimes before an involuntary decision is made a complete sequential analysis may be required or just learning may be required.

Division of the Sample into Group 1 and Group 2

As mentioned before, there were four-fifths of the case studies that fit the decision model and one-fifth of the case studies that did not fit the model. It could be possible that the ones that did not fit the model could have some feature or characteristic in common. Likewise, the case studies that did fit the model could also have something in common. It would be beneficial if these characteristics or features of the managers in the case studies could be identified. These features could then be used to determine how different managers go about making their decisions.

One interesting result was that one-fifth of the managers did not follow the decision model. Of this group of four, one-fourth (one) was a dairy farmer and three-fourths (three) were livestock-grain farmers. This ratio of one-fourth to three-fourths for the group who did not follow the model was the very same as the ratio for the entire 20 managers. Out of the 20 managers, one-fourth (five) were dairy farmers and three-fourths (15) were livestock-grain farmers. The equality of the two ratios for the two groups certainly suggests that the type of farm operation had little effect on whether the manager followed the model or not.

Table 5 consists of the number of involuntary (forced) decisions, voluntary without learning decisions, voluntary with learning decisions, and inaction situations for the group that did not follow the model and for the group that did follow the model. Each type of decision is shown as a percentage of the total for each group. The percentage of decisions carried out is shown for each type of decision for both groups. Likewise, it shows the percentage of each group's decisions that were primary, secondary, and tertiary decisions. Percentages for the inaction situation were not calculated because no decisions were made in this situation.

TABLE 5

PERCENT OF DECISIONS MADE BY EACH GROUP

Type of Decision	Group 1		Group 2	
	No. of Decisions	% of Total	No. of Decisions	% of Total
Involuntary decisions	7	41	11	18
Voluntary without learning decisions	2	12	19	31
Voluntary with learning decisions	<u>8</u>	<u>47</u>	<u>32</u>	<u>51</u>
Total Decisions	17	100	62	100
Inaction situation*	(none occurred)		(only one occurred)	
Primary decisions	12	71	48	77
Secondary decisions	3	18	13	21
Tertiary decisions	<u>2</u>	<u>11</u>	<u>1</u>	<u>2</u>
Total Decisions	17	100	62	100

*The inaction situation was not included in the percentages because there are no decisions made in this situation.

In the following discussion, the group of four managers that did not follow the model will be referred to as Group 1, and the group of 16 that did follow the model will be referred to as Group 2.

The results from Table 5 can be compared in two ways. Group 1 can be compared to Group 2 for the three types of decisions, or the three types of decisions can be compared with each other within individual groups. The first comparison will be between the different types of decisions within the individual groups.

For a total of 17 decisions made by Group 1, 41 percent were involuntary, 12 percent were voluntary without learning, and 47 percent were voluntary with learning decisions. This group made slightly more voluntary with learning decisions than involuntary decisions. But they made over three times as many involuntary decisions as they made voluntary without learning decisions and, also, almost four times as many voluntary with learning decisions as they made voluntary without learning decisions. Thus, Group 1 made very few voluntary without learning decisions compared to the other two types of decisions. It is evident that the managers in this group had a greater chance of going through the learning process if all three types of decisions are considered. If the managers were able to delay their decisions so they were voluntary, there was an extremely good chance that the managers would go through the learning process because more voluntary with learning decisions were made than voluntary without learning decisions. It is difficult to explain these variations in types of decisions made. One evident trend is that the group who did not follow the model did not make many voluntary without learning decisions. It could be that these managers prefer learning to nonlearning when these two alternatives exist. Other answers may show up when other factors, such as income, investment, and experience are included in the breakdown. Another interesting trend is that 100 percent of all decisions made by Group 1 were carried out.

For a total of 62 decisions made by Group 2, 18 percent were involuntary, 31 percent were voluntary without learning, and 51 percent were voluntary with learning decisions. This group made almost twice as many voluntary without learning decisions as involuntary decisions and nearly three times as many voluntary with learning decisions as involuntary decisions. The group made about twice as many voluntary with learning decisions as they made voluntary without learning decisions. Over half of Group 2's decisions were voluntary with learning. This indicates they did a considerable amount of learning in solving a problem. It is also indicated that the situations which face the managers were such that they require few involuntary decisions. Also, if the managers were able to delay their decisions so they were voluntary (they do this quite well), there was a good chance the managers went through the learning process because more voluntary with learning decisions were made than voluntary without learning. For Group 2, 100 percent of the involuntary decisions were carried out, 84 percent of the voluntary without learning decisions were carried out, and 94 percent of the voluntary with learning decisions were carried out. If the decisions were involuntary, they had a very strong tendency to be carried out. If the decisions were voluntary, there was a greater chance the decision would be carried out if more learning was acquired than if no more learning was acquired.

In comparing the two groups, the percent of involuntary decisions made by Group 1 was over twice the percent of involuntary decisions made by Group 2. Table 5 shows the percent of voluntary without learning decisions made by Group 2 was over two and one-half times more than the percent of voluntary without learning decisions made by Group 1. In contrast to the above differences, Group 1 nearly equalled Group 2 on the percent of voluntary with learning decisions made.

In other words, the group that did not follow the model made a higher percentage of involuntary decisions than the other group, it made a lower percentage of voluntary without learning decisions than the other group, and it made nearly the same percentage of voluntary with learning decisions as the other group. It was also interesting that Group 1 carried out all of their decisions while Group 2 did not. In making voluntary decisions, Group 2 evidently was faced with a different type of situation or problem which caused the managers to not carry out their decisions.

Table 5 also shows the percent of each group's decisions that were either primary, secondary, or tertiary. Group 2 had a slightly larger percent of their decisions that were primary than Group 1. Group 2 also had a slightly larger percentage of their decisions that were secondary than Group 1, but Group 1 had a larger percent of their decisions that were tertiary than Group 2. This indicates that the managers in Group 1 were usually faced with problems that required about the same percentage of primary decisions as Group 2. However, while Group 2 made a larger percent of secondary decisions than Group 1, Group 1 made a larger percent of tertiary decisions than Group 2. Group 2 was able to solve their major problems by making fewer decisions than Group 1 was able to. This difference could be attributed to either the different kinds of problems the managers faced or to the differences in the characteristics of the individual managers and their operations.

The decisions made by the managers were categorized to compare the group that did follow the model to the group that did not follow the model. No attempt was made to rationalize the actions of the managers, because it was not a part of this study.

Characteristics of the Two Groups

At the time of the interview, no information, such as net income, total investment, and change in net worth was obtained. Instead, the data were taken from the Farm Management Association records. This was done because the information could be obtained faster and more accurately. Another reason was that the data for 1967 could be obtained in early 1968 from their farm records. Since many of the interviews were conducted in 1967, their 1967 figures were not completed yet and were not known. A four-year average (1964-67) was used to compute the average net income, average total investment, and average annual change in net worth for each manager. An average of four consecutive years was used to eliminate most yearly variations not under the influence of the manager, such as weather, disease, etc. Other information collected during the interview that was used to compare the case studies was experience of the manager, acres managed, education of the manager, and age of the manager.

The mean income, mean investment, mean change in net worth, mean acres managed, mean years of experience, mean years of education, and mean age was calculated for the group that followed the model and for the group that did not follow the model. These mean figures were also calculated for the entire 20 managers. This data was then used as another way of comparing the two groups. Comparing the groups by using physical units to measure them also made the comparison more objective. Table 6 contains the mean figures for both groups plus the mean for the entire 20 managers.

Table 6 shows that the mean total investment, mean acres managed, and mean years of education for the group that did follow the decision model were higher than the corresponding means for the group that did not follow the model. It

also shows that the mean net income, mean change in net worth, mean years of experience, and mean age for the group that did not follow the model were higher than the corresponding means for the group that did follow the model.

TABLE 6
GROUP CHARACTERISTICS

Characteristics	Mean Group 1	Mean Group 2	Mean Entire 20
Net Income	\$ 10,358	\$ 8,224	\$ 8,643
Total Investment	130,728	137,728	136,303
Change Net Worth	9,560	7,278	7,725
Acres Managed	651	866	816
Experience (Years)	24	22.7	23.7
Education (Years)	12.5	13.6	12.9
Age (Years)	45.7	42.7	43.5

The managers in the group that did follow the model (Group 2) were characterized as having made a smaller percentage of involuntary decisions, larger percentage of voluntary without learning decisions, an equal percentage of voluntary with learning decisions, a larger percentage of primary decisions, a larger percentage of secondary decisions, and a smaller percentage of tertiary decisions than did the other group. Also, the managers that did follow the model had a lower net income, higher total investment, smaller change in net worth, more acres, less experience, more education, and were younger than the other group.

The managers in the group that did not follow the model (Group 1) were characterized as having made a greater percentage of involuntary decisions, a smaller percentage of voluntary without learning decisions, an equal percentage

of voluntary with learning decisions, smaller percentage of primary decisions, a smaller percentage of secondary decisions, and a larger percentage of tertiary decisions than did the other group. The managers that did not follow the model also had a higher income, lower total investment, larger change in net worth, fewer acres, more experience, less education, and were older than the other group.

This comparison of the two groups has shown how different managers made different decisions, depending on certain characteristics they had. It is impossible to explain exactly why certain managers made a certain type of decision. This was not the objective of this paper, but it would prove to be an excellent subject for further research studies.

The characteristics of Group 2 have shown they operated a certain type of farm. This type of farm was a larger farm with a higher total investment, but returned a lower net income to the operator and had a smaller annual change in net worth. The managers of these farms were younger, less experienced, and more educated than the managers from Group 1.

The characteristics of Group 1 have shown they operated a different type of farm than the managers of Group 2. This type was a smaller farm which had a lower total investment, but returned a higher income and had a larger annual change in net worth. The managers of these farms were older, more experienced, and less educated than the managers of Group 2. A higher value was placed on education when managers from Group 2 started farming than when managers from Group 1 started farming.

Development of Hypothesis

A hypothesis can now be developed that will account for some of the managers' actions. Group 1 made a larger percentage of involuntary decisions than Group 2. This can be attributed to the managers of Group 1. They were older and probably

more conservative in their actions, which means they were not willing to make many of their decisions that brought about a change, so they resulted in involuntary decisions. On the other hand, Group 2 consists of the younger managers who welcome change. It is through change that Group 2 managers hope to get ahead. Thus, Group 2 managers were willing to make many decisions resulting in few involuntary decisions.

Group 2 made a larger percentage of voluntary without learning decisions than Group 1. This could be because Group 2 had to take chances to get ahead while Group 1 was more conservative and would not take the chance of being wrong. Both groups made about the same percentage of voluntary with learning decisions, which was larger than for any other type of decision. There was no indication of why both groups made about an equal percentage of learning decisions, but it is fairly clear why both groups made more voluntary with learning decisions than the other types. All of the farm managers interviewed preferred learning to nonlearning in order to reduce the uncertainty in their decision making.

This hypothesis can be used to explain the actions of the managers in the study, and it can also be used to explain the actions of other managers.

Methods Used to Carry Out the Action Process of a Decision

In the interview, the managers were also asked to check from a prepared list, the "sources of information and services" they used after the decisions had already been made. The list consists of 18 "sources of information and services" which were very general in nature. This was by no means a complete list, but it was general enough to give some idea of how the managers carried out the action process of their decisions.

Table 7 was prepared to show the percentage of decisions that were followed by certain actions of the managers.

"Knowledge previously accumulated" was mentioned as being used by the managers following 11 percent of the decisions. This refers to the knowledge or experience the managers had previously gained as a result of their work. It was always easier for the managers to solve their problems if they had solved the same problems before. It was just learning from experience what to do when the problem arises again. "Banks and other lending institutions" were mentioned by the managers following 9 percent of their decisions. It is clearly evident of the great need by the farmers for financial help. Many decisions in the case studies involved the purchase of equipment or land, which required the information and services of a bank or other financing association to carry out the decisions.

Eight percent of the decisions required "employment of resources," "farm management fieldman," "mass media," and "family influence" to help carry out the action process. "Employment of resources" refers to the use of land, labor, and/or capital as inputs in the production process. "Farm management fieldman," means that the fieldman has helped, through advice or providing other information, the managers carry out the action process. "Mass media" simply means that the managers used some form of radio, television, newspapers, or magazines to carry out their actions. "Family influence" means that the managers took into consideration the needs and desires of their families in carrying out their action. There must be no conflict of values or goals between the managers and their families in carrying out decisions.

Seven percent of the decisions mentioned by the managers required "machinery dealers," "county agents," "learning," and "time" to help them carry out the action process. Many decisions involving the purchase of equipment

TABLE 7

THE PERCENTAGES OF DECISIONS THAT WERE FOLLOWED
BY CERTAIN SELECTED MANAGERS' ACTIONS

Sources of Information and Services Used by the Managers to Carry Out the Action	Percent of Decisions
Action Type I--The Managers Were Required to Learn Before They Took Action	
Knowledge previously accumulated	11 $\frac{1}{2}$
Farm management fieldman	8 $\frac{1}{2}$
Mass media	3 $\frac{1}{2}$
Family influence	8 $\frac{1}{2}$
Time	7 $\frac{1}{2}$
County agent	7 $\frac{1}{2}$
Learning	7 $\frac{1}{2}$
Bulletins and circulars from KSU	6 $\frac{1}{2}$
Total	62 $\frac{3}{4}$
Action Type II--The Managers Could Have Learned Before They Took Action or They Could Have Taken Direct Action	
Banks and other lending institutions	9 $\frac{1}{2}$
Machinery dealer	7 $\frac{1}{2}$
Professional services--Lawyer, Veterinarian	4 $\frac{1}{2}$
Feed dealer	3 $\frac{1}{2}$
Elevator	1 $\frac{1}{2}$
Livestock commission	1 $\frac{1}{2}$
Total	24 $\frac{1}{2}$
Action Type III--The Managers Took Direct Action	
Employment of resources (land, labor, and/or capital)	8 $\frac{1}{2}$
Government programs	4 $\frac{1}{2}$
Real Estate Broker	1 $\frac{1}{2}$
Farm organizations	1 $\frac{1}{2}$
Total	13 $\frac{3}{4}$

were carried out through the information and services provided by the "machinery dealer." "County agents" provided many services and advice to the managers when they carried out their decisions. "Learning," of course, was required when the managers wanted to delay their decisions in order to make better decisions. When learning was used, a certain amount of "time" was also needed to delay the decisions and learn.

Other "sources of information and services" used were: "bulletins and circulars from KSU" following 6 percent of the decisions; "professional services" (lawyer and veterinarian) and "government programs" following 4 percent of the decisions; "feed dealers" following 3 percent of the decisions; "elevators" and "real estate brokers" following 1 percent of the decisions; and "livestock commission" and "farm organizations" following less than 1 percent of the decisions.

The "sources of information and services" to carry out the action process listed in Table 7 were divided into three categories. Category 1 contains "sources of information and services" that required the managers to perform learning before they could act to carry out their decisions. Category 2 contains "sources of information and services" that gave the managers an opportunity to learn before they acted or the "sources of information and services" were used directly by the managers as they acted to carry out their decisions. Category 3 contains those "sources of information and services" that were just used directly by the managers as they acted to carry out their decisions. In category 3, no learning was performed by the managers.

The "sources of information and services" from Category 1 (managers required to learn) were used following 62 percent of the decisions made by the managers. The "sources of information and services" from Category 2 (managers may learn, or act directly) were used following 24.5 percent of the decisions, and "sources

of information and services" from Category 3 (manager just acts directly) were used following only 13.5 percent of the decisions made by the managers. These results indicate that very rarely did the managers act to carry out a decision without first learning something about the alternatives or outcome of the decisions. This shows that the managers preferred learning to nonlearning in carrying out their decisions.

This gives a breakdown of what the managers used to help them carry out their actions. This also provides insight into some of the future needs of the farm managers. Managers will increasingly rely on their previous experience and knowledge in carrying out decisions. There will also be a future need for adequate credit and financing institutions. Due to increasing level of technology and increasing costs of technology, it will be impossible for a farm manager to survive without sufficient credit to meet his needs. There will also be an increasing need for managerial consulting services in the future. Farm management fieldman, banks, machinery dealers, fertilizer dealers, and many other organizations will play a dominant role in supplying the farm managers with information that will help them manage their farms more efficiently.

CONCLUSIONS AND IMPLICATIONS

This paper has been mainly concerned with how a select group of farm managers made their decisions and how these decisions were carried out.

Analysis of the case studies revealed that out of a total of 80 decisions, 23 percent were involuntary decisions, 1 percent resulted in complete inaction, 26 percent were voluntary without learning decisions, and 50 percent were voluntary with learning decisions. The two decisions with the highest percentages, voluntary without learning and voluntary with learning decisions, are positions of more certainty than either the involuntary decision or the inaction situation, which are positions of more uncertainty.

A decision model was tested to see if it described the decision-making process fully. The 16 managers whose decisions followed the model were labeled Group 2, and the 4 managers whose decisions did not follow the model were labeled Group 1.

Group 1's decisions did not follow the decision model because on one occasion a manager went through a sequential analysis (learning and an intermediate decision) before he made an involuntary decision. Also, on three other occasions, the managers went through just the learning process before they made their involuntary decisions.

It was found that Group 1 made a larger percentage of involuntary decisions, a smaller percentage of voluntary without learning decisions, and about the same percentage of voluntary with learning decisions as Group 2. Also, Group 1 made a smaller percentage of primary decisions, a smaller percentage of secondary decisions, but a larger percentage of tertiary decisions than Group 2. It was found that the managers in Group 1 had a higher net income, lower investment, larger change in net worth, smaller farm, more experience, less education, and were older than the managers in Group 2.

All of this information indicates that the farms of the group that did not follow the model were operated by older managers who were reluctant to change, so they were forced into many of their decisions. The farms that did follow the model were operated by younger managers who value change more highly, so they were forced into relatively few decisions. On the other hand, Group 2 made a higher percentage of voluntary without learning decisions than Group 1. Evidently, the managers of Group 2, in trying to get ahead, were more willing to take a gamble in making decisions than Group 1. Both groups made about an equal percentage of voluntary with learning decisions. This was the highest percentage for both groups than for any other type of decision. This indicates that for most all managers, learning was preferred to nonlearning. It was also found that a higher percentage of voluntary decisions than involuntary decisions were made by both groups. Since Group 2 made a lower percentage of tertiary decisions than Group 1, they required fewer decisions to solve a problem than Group 1.

It was also found in the study how the managers acted in carrying out their decisions. "Knowledge previously accumulated" was found to be used most often by the managers. "Banks and other lending institutions," "farm management field-man," "mass media," "county agent," and "bulletins and circulars" were other ways to carry out decisions that were used quite often by the farm managers.

All of this information has led to the objective of determining how the farmers went about making their decisions and a study of the methods used in carrying out the "action" part of these decisions. To determine why the managers acted as they did, or to rationalize their motives, is beyond the scope of this study. This would be an entirely separate study if it was properly evaluated.

Implications for Farm Management Research

This study has shown that farmers place great emphasis on learning activities which suggests a need for basic reorientation for farm management research. In the beginning, farm management research was concerned with the furnishing of information to farmers with respect to production problems. This study indicates that research should be done on ways and means of increasing the skill with which the five managerial tasks (observing, analyzing, decision making, acting, and bearing responsibility) are performed.

Future studies should include a program to extend the efforts of farm management research to those less prosperous and less fortunate farm managers. Current research mainly benefits those managers that have the necessary capital to purchase and use the latest technical innovations. Studies employing a random sample of all farmers would be helpful in determining how successful and less successful managers differ in their decision-making abilities. Studies on the more successful managers could be used to find the characteristics of those managers that contribute to their success, and also how the successful managers go through the decision-making process. These results could then be applied to develop programs designed to improve the managerial ability of the less successful farmers. These farmers must be taught to contend with their problems, solving them in a systematic and logical manner.

Implications for Extension Personnel

The roles of observation, analysis, decision making, action, and responsibility bearing in managerial activities have been confirmed by past studies. This suggests that one of the primary jobs of farm management extension workers should be to increase the skill of farmers in the performance of these five managerial tasks.

Training for skill in performing the managerial tasks necessarily involves more than furnishing the farmers data and information on production methods, prices, innovations, institutions, and personalities.

Training in these skills involves the analyzing of results of the various alternative actions which may be taken in a given situation and development of the ability to see the responsibilities which must be borne for action taken. As these responsibilities cross the indefinite line between the farm home and the farm business, the training must cover the importance of family goals and objectives in the management of business affairs.

Our extension programs should be tailored to meet every individual's need. But how is just one general extension program going to reach both types of farm operations mentioned previously? If a program that meets the needs of older farmers is designed, more than likely it will not meet the needs of younger farmers too. It was found in the study that older operators on smaller farms tend to be less willing to make a decision that will require a change than younger operators on larger farms. One general program will have a different effect on both groups. However, the same effect or outcome could be obtained from both groups if there was a separate program designed for each group. The ends for each group are the same, but the means to the ends for each group are different.

The managers used in this study have come to rely on their farm management fieldmen for advice and information. Future studies should also include a re-evaluation of the Farm Management Association and their programs. Their goals should be redefined to be more consistent with the continuously changing agricultural frontier. A program designed to meet the goals of the farmers several decades ago will be inadequate in meeting the goals several decades in the future. If farm managers are going to be able to carry out their decisions properly in the

future, their farm management fieldmen must be able to guide them wisely.

Likewise, programs directed at the county agents should also be re-evaluated to meet the changing needs of the managers in making their decisions. In order to act effectively, the farm management fieldmen and county agents will have to have understanding and insight in the decision-making process.

Implications for Farm Management Teachers

The need exists to reorientate farm management teaching from an emphasis on the distribution of data and information concerning the problems management must handle to an emphasis on training in performance of the managerial tasks. Students need to be made aware of the interrelationship between decision making and action taking and of the responsibilities which managers must bear. They need to be made aware of the costs and values of learning in managerial processes.

Implication for Farmers

If the five managerial tasks are correctly outlined in this study, then any farmer, by acquiring skill in the performance of the functions, can make himself a better manager. As a better manager, a farmer can expect a higher income and attain a higher degree of satisfaction from the resources at his command.

Implication for Methods to Carry Out Decisions

Another implication of the results of this study is in the areas that were used to help the managers to carry out their decisions. The managers indicated a heavy use of banks and other loan institutions in carrying out decisions. With the heavy use of farm credit now, it is almost certain that it will be demanded even more in the future. In order to meet these future needs, programs should

be established now to make sure there is adequate and reasonable financing to carry out these plans.

Efforts should also be made to develop the effectiveness of the mass media to its full potential. Radio, television, farm papers, and farm magazines are excellent sources of information which aid the farm managers in carrying out their decisions. Any work or studies done in this area to maintain this excellent source of information would be a tremendous help to the managers in making their decisions. Also efforts should be directed toward the continuous dissemination of information through bulletins and circulars. A high interest should be maintained in this area in order that the farm managers are exposed to the latest results from research and experiment station findings. Many are unaware of the immense amount of published material that is available. Programs to distribute this material should be designed to enable everyone to know how to obtain the desired information.

These have been just a few of the many areas that are going to become increasingly important to the farm managers. It is necessary that these areas be studied to increase their potential use in helping farmers carry out their decisions. Without an increase in many of these ways, farm managers may be very limited in the future as to how they go about carrying out their decisions.

APPENDIX I

DEPARTMENT OF ECONOMICS KANSAS STATE UNIVERSITY

Farm Management Survey

Farmer's Number _____

How many acres are in your farm?

Owned _____
Rented from someone else _____
Rented to someone else _____
Total operated _____

If renting, what kind of arrangement do you have?

Cropshare _____
Cropshare and cash _____
Livestock share _____
Cash lease _____
Other _____

What type of farm do you operate? _____

Farmer's Age

Under 25 _____	35-39 _____	50-54 _____
26-29 _____	40-44 _____	55-59 _____
30-34 _____	45-49 _____	60-64 _____
		65+ _____

Farmer's Education

Less than 4 _____	9-11 _____	16 _____
4-7 _____	12 _____	17+ _____
8 _____	13-15 _____	

Were you a 4-H Club Member? _____

Did you take VoAg in high school? _____

What was your major in college?

Agriculture _____	Arts & Sciences _____	Other _____
Education _____	Business _____	

How many years experience as a farm manager do you have? _____

Have you taken any agricultural short courses sponsored by the University (2-4 weeks)? _____

Have you taken any workshops sponsored by the county agent or VoAg teacher? (2-7 days) _____

I. What major problems did you have to deal with last year that usually didn't occur regularly? Disregard repetitive problems such as when to market grain and livestock, when to plant crops, or when to put on fertilizer.

"By problem I mean something that causes you to make a decision, you recognize that things aren't as they should be."

1. _____
2. _____
3. _____
4. _____
5. _____

II. Answer the following questions for each decision. Were you forced to make an involuntary decision because you didn't have time to delay or put off your decision until more learning could be acquired? _____

A. After you choose to correct this problem and were forced to make a decision right away, did you decide to act or not to act on the problem? _____

B. If so, what steps were taken to carry out the forced decision? _____

III. Then you had enough time which permitted flexibility and resulted in a voluntary decision? That is, the decision didn't have to be made right away and you had time to acquire more knowledge on the subject before making the decision, if desired. _____

A. If so, did you go ahead and make your decision anyway without learning anymore even though you had sufficient time to learn and you were not 100 percent sure your decision was right? You thought the value of the additional learning would be less than the cost so you went ahead even though you weren't positive of the outcome? _____

1. Was your decision to act or not to act? _____

2. What steps did you take to carry out this decision? _____

B. Did you fail to come up with a decision which resulted in complete inaction, that is you wanted to avoid the decision because you lacked sufficient information to accept the risk of the outcome and you didn't know if acquiring more information was worth the cost? _____

1. If so, explain why no decision was made? _____

2. Or did you think the value of additional learning would be more than the cost, so you delayed the decision until further learning took place?

1. While you were in the process of learning, did you learn a little, then found that you had to choose between making the decision with the newly acquired learning or to continue learning about the problem until you thought you were more capable of making the decision? _____

2. Did you find that this phase was easy, hard, or confusing to you? Please explain. _____

3. After you completed the learning process, did your decision call for action or inaction? _____

4. What steps did you take to carry out your decision? _____

Problem No. _____

After you arrived at your decision, what was the very first thing you did to carry it out? _____

2nd Step _____

3rd Step _____

4th Step _____

5th Step _____

6th Step _____

7th Step _____

From what people or groups did you receive help? _____

What kind of help did you receive? _____

What problems did you face in carrying out the decisions? _____

How did you solve these problems? _____

List A

Services and ways to carry out "action" after the decision is made.

- _____ Banks and other lending institutions--FHA, PCA
- _____ Machinery dealer
- _____ Food dealer
- _____ Elevators
- _____ Real estate broker
- _____ Livestock commission
- _____ Farm organizations - Farm Bureau, Grange, NFO
- _____ Professional Services - Lawyer, Veterinarian
- _____ County Agent
- _____ Farm Management Extension Agent
- _____ Bulletins and circulars from Kansas State University or USDA
- _____ Mass Media - Newspapers, Magazines, Radio and Television
- _____ Knowledge previously accumulated
- _____ Employment of resources - Land, Labor, and Capital
- _____ Government programs - Soil Conservation, Price Support, etc.
- _____ Family influence
- _____ Learning
- _____ Time
- _____ Others

5. What other steps in List A that you did not use would have been of help in carrying out your decision? _____

6. How would these steps have helped you? _____

D.

1. If you had it to do over again, would you have made the same decisions again or would you have changed any of them? _____

2. Explain why you would change your decision and what you would do to change it? _____

3. How did taking a wrong decision affect your motivation in making later decisions? _____
 4. In what instances did you make the right decision but you went about carrying out the decision in the wrong manner? _____
 5. Have you corrected this by taking the correct actions now? _____
 6. Explain what you did to correct your actions? _____
 7. How did taking the wrong actions affect you in carrying out later decisions? _____
 8. When you have to make a decision, do you compare the cost of gathering more information against the value of additional information in determining how long you can delay a decision? _____
 9. If not, how do you determine whether to make the decision or to gather more information first when flexibility exists? _____
 10. _____
 1. Do you find that your farm records are helpful in carrying out decisions that have already been made? _____
 2. How are they used in carrying out decisions? _____
- Let's suppose now that you are bargaining with other people, they are trying to get the best of you and you are trying to get the best of them.
3. In carrying out decisions that you have made (buying land, trading combines, etc.) do you ever try to cover up your actions in order to confuse the person you are dealing with in order to get the best deal? _____
 4. With what kind of people do you do this? _____
 5. In carrying out decisions with these other people, do you sometimes try to create the impression that you yourself are mixed up when you aren't in hopes that you may confuse the people you are dealing with in order to get the best deal? _____
 6. With what kind of people do you do this? _____
 7. Were there any times last year when you refused to use credit so you would be able to borrow in case of trouble? _____
 8. What were these instances? _____

9. On what occasions have you refused to close what appeared to be a profitable deal because the person that you were dealing with might not have been reliable? _____

10. What types of decisions did you postpone last year? _____

11. What are the advantages of postponing decisions? _____

12. What are the disadvantages? _____
13. Could you give me some minor decisions that you made last year?
(These may be repetitive) _____
14. What methods were used to carry out these decisions, or if the decisions weren't carried out, what methods were needed to carry them out?

15. Did you have imperfect knowledge as to the outcome of these decisions or were you 100 percent sure of the outcome? _____

Case Study No. 1

The first problem the manager faced was the shortage of labor one spring. The manager was not forced into this decision because he was ready to make the decision willingly. Since flexibility did exist, this was a voluntary decision. In this case, the manager did not value the need for additional information more than the cost of the additional information so he went ahead and made the decision without going through the learning process. The manager felt that his knowledge was complete enough so that he was willing to accept the consequences of errors that followed from his decision. This was a positive decision because action was taken to hire more labor and, thus, attempt to eliminate the initial problem.

The manager carried out this decision by advertising in the newspaper, contacting the employment agency, and telling his neighbors of his need for more help. The main obstacle was that there was no labor available anywhere.

This secondary problem brought about another decision to be considered. The manager was forced into this secondary decision because he was not ready to make this decision willingly. Since no flexibility existed, this was an involuntary decision. This situation existed when the manager was unable to make an "informed" second decision and then was forced by circumstances to evaluate the alternatives and decide whether or not to act.

The manager then made the decision to work harder, have feed mixed and delivered, and to take up some of his neighbors on their offers to help out. Since he decided to act, this was a forced positive decision.

In carrying out his decisions, the manager was affected by family influence and the long period of time it took to get the work done, mostly by himself.

The next major problem that resulted in a decision was when the Manager's hogs became infected with a swine disease called Rhinitis. The manager was not forced into this decision because he was ready to make it willingly. Since flexibility did exist, this was a voluntary decision. The manager did not foresee the future well enough to take action but valued the need for additional knowledge more than the cost of obtaining the knowledge. So he delayed his decision and went through the learning process. He made the intermediate decisions to keep the non-SBF pigs at the opposite end of the farm and to keep 50 gilts for a spring litter.

During the learning process, the manager consulted authorities on this particular disease at the University of Nebraska, consulted with his county agent, and talked to his farm management extension fieldman and Duroc fieldman. The manager then made the decision to switch to a SBF swine program. This was a positive decision because action was taken to eliminate the disease. The manager carried out his decision by visiting other SBF farms to see what was required for a SBF operation.

The problem this created next was in finding suitable SBF stock at a reasonable price without having to wait so long. The manager was not forced into making this decision about this particular problem because he was ready to make this secondary decision willingly. Since flexibility did exist, this was a voluntary decision. The manager did not foresee the future well enough to take action, but he valued the need for additional knowledge more than the cost of acquiring the knowledge. So once again he delayed his decision and went through the learning process. During the learning process, the manager toured several Missouri farms, and also looked into the possibility of acquiring SBF stock from the laboratory. He then made the intermediate decision to buy one sow from the laboratory. He then made his major decision

to obtain his SBF stock from other SBF operators in Missouri. Naturally, this was a positive decision because action was taken to get the stock. The manager carried out this decision by purchasing the SBF boars and sows for his new program.

The operator received help in carrying out these decisions from his veterinarian, county agent, farm management extension fieldman, bulletins and circulars from KSU, mass media, previous knowledge, employment of capital, family influence, learning, and time.

The manager's next problem was that he wanted to show his barrows at the barrow shows. He was not forced into this decision because he was ready to make it willingly. Since flexibility did exist, this was a voluntary decision. The manager did not foresee the future well enough to take action, but he valued the need for additional knowledge more than the cost of obtaining the knowledge. So he delayed his decision and went through the learning process.

During the learning process, the manager discovered that his twice-a-year farrowing program caused his barrows to be out of season for the barrow shows. He also learned that the other person, whom he was going to show with, was too busy farming to attend the barrow shows. So even with a reorganization of his farrowing schedule, he still could not show with the other person who was going to help him. He then made the intermediate decision not to reorganize his hog operation.

The manager then made the major decision not to show his barrows. This was a negative decision because no action was taken to show his barrows. He received help in making his decision from Kansas State University extension personnel, his county agent, other breeders, and from knowledge previously accumulated.

The last problem the manager faced was when he found himself with too much cattle. A poor market price for cattle caused him to delay selling them in hopes for a better price. He was forced into this decision because he was not ready to make the decision willingly. Since flexibility did not exist, this was an involuntary decision. This situation existed when the manager was unable to make an "informed" decision and was then forced by circumstances to evaluate the alternatives and decide whether or not to act.

The manager then made the decision to sell some of his cattle as feeders. This was a forced positive decision. He carried out this decision by contacting the sale barn, making arrangements with the sale barn operators, shipping the cattle to the sale barn, and finally selling them. The manager received help in carrying out his decision from the livestock commission and the sale barn.

There were no other steps in List A that the manager did not use that would have been of help to him if he was able to use them. The manager would not change any of his decisions if he had it to do over again, and he did not carry out a right decision in the wrong manner.

This operator finds that his farm management record books are helpful in determining the tax on new equipment, computing depreciation, and in comparing different enterprises. He never tries to cover up his actions to confuse the other person in order to get the best deal. He gives his honest opinion if asked and contends that, "no deal is a good deal unless profitable for both, because a bad deal will reflect back sometime in the future." Also he never tries to create the impression that he is mixed up in order to confuse the person he is dealing with. There was no time last year when the operator refused to use credit so he would be able to borrow in case of an emergency.

He has never refused to close a profitable deal because the other person might not have been reliable. If he is in doubt about the person he is dealing with, he will get the deal in writing.

The types of decisions delayed by this operator pertained mostly to live-stock. He claimed that the advantage of postponing decisions was that it allowed him more time to acquire knowledge about the various alternatives. While the disadvantage was that "the decisions must be solved some day and you might as well face up to them."

Repetitive decisions that he made in the last year were: (1) whether or not to buy premixed feeds; (2) when to blood test his hogs; and (3) whether to irrigate a small tract of land he had. Banks and other lending institutions and the veterinarian were used to carry out those repetitive decisions.

The operator had imperfect knowledge as to the outcome of all his decisions, non-repetitive and repetitive.

Case Study No. 2

The first problem the manager faced was that his tractor was in need of repair. He had the choice of repairing his old tractor or to trade it in on a new one. The manager was not forced into this decision, because he was ready to make the decision willingly. Since flexibility did exist, this was a voluntary decision. The manager did not foresee the future well enough to take action but valued the need for additional knowledge more than the cost of obtaining the knowledge. Therefore, he delayed his decision and went through the learning process.

During the learning process, the manager obtained information on how much it would cost to fix up the old tractor and how much it would cost to trade for a new tractor. He then made the intermediate decision that it would cost too much to repair the old tractor. He then made the major decision to trade his old tractor in on a new one. This was a positive decision because action was taken to get a new tractor.

Immediately, the manager was faced with a new decision--which model to trade for. He was not forced into this secondary decision either, because he was ready to make the decision willingly. Since flexibility again existed, this was a voluntary decision. The manager did not foresee the future well enough to take action, but he valued the need for additional information more than the cost of obtaining it. Again he delayed this decision and went through the learning process.

During the learning process, the manager received help from the various dealers who supplied him with the data and information on the different models and from other farm operators who offered their advice. The manager then made the decision of which model to buy. Obviously, this was a positive decision

because action was taken. In carrying this decision out, he looked at the various models, made an offer to the dealer, and paid the dealer. The machinery dealer and mass media helped him to carry his decision out after it had already been made.

The manager's next decision was whether or not to buy a silo that was needed. He was not forced into this decision, because he was ready to make the decision willingly. Since flexibility did exist, this was a voluntary decision. Again, the manager did not foresee the future well enough to take action, but he valued the need for additional knowledge more than the cost of obtaining it. So once again he delayed his decision and went through the learning process.

During the learning process, the manager priced several different silos to get an idea of their cost. He then made the decision to buy a silo. This was a positive decision because action was taken. Just as before he was immediately faced with another secondary decision--which one to buy. He was not forced into this decision either, because he was ready to make the decision willingly. Since flexibility did exist, this was a voluntary decision. The manager did not foresee the future well enough to take action, but he valued the need for additional knowledge more than the cost of obtaining it. Therefore, he delayed his decision and went through the learning process again.

He then made the intermediate decision to talk to salesmen from different companies. During the second learning process, the manager was helped by the salesman who supplied information on his own brand plus information on his competitor's brand. The manager then made the major decision to buy the brand that best fit his needs. Again this was a positive decision because action was taken to buy the brand he preferred.

The manager was now left with two tertiary decisions: where to build the silo and what size to build. The manager was not forced into these decisions because he was ready to make these decisions willingly. Since flexibility did exist, these two were voluntary decisions. In this case the manager did not value the need for additional knowledge more than the cost of obtaining the knowledge in both decisions, so he went ahead and made the decisions without going through the learning process. The manager felt that his knowledge on these problems was complete enough so that he was willing to accept the consequences of errors that followed from his decisions. These both were positive decisions. He decided to build the silo on a high, dry area, and he built the proper size so he could use the automatic unloader that he already owned.

His farm management extension fieldman, learning, time, and the silo company helped him to carry out the decisions after they had already been made.

Whether or not to build a livestock feeding floor was the next major decision the manager had to face. He was not forced into this decision because he was ready to make it willingly. Since flexibility did exist, this was a voluntary decision. The manager did not value the need of additional information more than the cost of obtaining it. He thought he could act without further information, so he went ahead and made the decision without going through the learning process. The manager felt that his knowledge was complete enough so that he was willing to accept the consequences of errors that followed from his decision. This was a positive decision, because he decided to build the feeding floor.

This led to a secondary decision of how thick to make the floor. Again the manager was not forced into this decision, because he was ready to make it willingly. The manager did not foresee the future well enough to take action

but valued the need for additional information more than the cost of acquiring it. So once more he delayed his decision and went through the learning process.

During the learning process, the manager consulted with the concrete company, farm management extension fieldman, and used his own previous knowledge. He then made the decision of how thick to make the feeding floor. This again was a positive decision. The manager carried out his decision by leveling the ground, setting the forms, and pouring the concrete.

His feed dealer, elevator, county agent, farm management extension agent, mass media, knowledge previously accumulated, employment of labor and capital, and family influence helped him to carry out his decision after it had already been made.

The manager's last major decision was whether or not to feed more grain to his dairy cows. The manager was not forced into this decision, because he was ready to make the decision willingly. This was a voluntary decision since flexibility existed. The manager did not foresee the future well enough to take action, but he valued the need for additional information more than the cost of obtaining it. So he delayed his decision and went through the learning process.

During the learning process, the manager received advice from other dairy-men and his farm management extension fieldman on how much to increase the grain, if he decided to increase it at all. He then made the intermediate decision that under past ration they did not get enough grain. He then decided to increase the amount of grain fed to his dairy cows. The manager carried out his decision just by gradually increasing the amount of grain fed with the silage.

The manager was then faced with another problem of having to handle the increased amount of grain by hand. He was not forced into this secondary decision, because he was ready to make it willingly. This, too, was a voluntary

decision because flexibility existed. The manager did not value the need for additional knowledge more than the cost of obtaining it. So he went ahead and made the decision without going through the learning process. The manager felt that his knowledge was complete enough so that he was willing to accept the consequences of errors that followed from his decision. He decided to build a bulk bin next to the silo which would eliminate his feed handling problem. This was a positive decision because action was taken. However, at the time of the interview, this decision had not been carried out. It was one of the manager's plans for the future.

Bulletins and circulars from KSU, mass media, and knowledge previously accumulated helped him to carry out his decisions after they had already been made.

There were no steps in List A that the operator did not use that would be of help to him in carrying out future decisions. The operator thought he made the right decisions, but they were carried out in a wrong manner. He thinks that he should have made his decisions sooner, which would have been cheaper in the long run. This has been corrected now. The operator does not compare the cost of gathering more information against its value in determining how long to delay a decision because he claims that there is not enough time to do this. He also finds that his records are helpful in figuring taxes and depreciation.

The operator sometimes tries to cover up his actions in order to get the best deal, particularly with car salesmen. However, he never tries to create the impression that he is mixed up so as to confuse the person he is dealing with. He has never refused to use credit, so he would be able to borrow in case of trouble. The operator has refused to close a good deal because the

other party may not have been reliable in dealing for the silo. He almost bought one brand until all the facts were known.

The operator tends to postpone decisions involving the trading of equipment. He claims the advantage of postponing a decision is that you have more time to accumulate capital and to arrive at a better decision. While the disadvantage is that you may work too hard too long if you fail to mechanize soon enough. A repetitive decision that he must always make is what variety of crops to plant. The county agent, mass media, accumulated knowledge, and family influence were used to help carry out this repetitive decision.

The operator had imperfect knowledge as to the outcome of all of his decisions.

Case Study No. 3

The first problem this manager faced was whether or not to stay in dairying. This decision resulted because he was forced off his dairy farm by the construction of a reservoir. The manager had the choice of staying in dairy farming or finding employment elsewhere. He was forced into this decision because he was not ready to make it willingly. Since no flexibility existed, this was an involuntary decision. This situation existed when the manager was unable to make an "informed" decision and then was forced by circumstances to evaluate the alternatives and decide between the two choices.

The manager made the decision to stay in dairy farming. This was a forced positive decision, because he took action to stay in dairying. In carrying out this decision, he faced another problem. For him to stay in dairying, he had to find another dairy farm.

The manager was forced into this secondary decision, because he was not ready to make it willingly. This was an involuntary decision since no flexibility existed. This situation existed once more because the manager was unable to make an "informed" decision and then was forced by circumstances to evaluate the alternatives and decide. He wanted to find another farm in the same area, which was hard to do. In this case the manager had spent some time in gathering and analyzing information, but he was still not ready to make the decision willingly. During this learning process, he talked to the realtor and looked at the records at the ASC and Soil Conservation Offices to learn more about the farm he was thinking of buying. He then made the intermediate decision to find a farm close to home.

The manager then made the secondary decision to purchase the farm that he thought was best. This was a forced positive decision because action was

to buy the farm. He carried out his decision by going to the realtor, Federal Land Bank, PCA, and finally paying for the land.

The manager was helped in carrying out these two decisions by the banks, PCA, machinery dealer, real estate broker, lawyer, county agent, farm management extension fieldman, bulletins and circulars from KSU, mass media, knowledge previously accumulated, employment of resources (land, labor, and capital), price support program, family influence, learning, time, dairy cooperative fieldman, and the Federal Land Bank.

Since the farm the manager purchased did not have suitable buildings, the next decision was where to build the dairy buildings. He was not forced into this tertiary decision because he was ready to make it willingly. This was a voluntary decision since flexibility did exist. The manager did not foresee the future well enough to act but valued the need for additional information more than the cost of obtaining it. So he delayed his decision and went through the learning process.

During the learning process, the manager looked at other farm layouts to find one that suited him. He also got suggestions on the best type of dairy barn. He then made the intermediate decision on the best type of dairy barn. He then made the tertiary decision of how he wanted his farm layout. This was a positive decision because action was taken to carry out his decision. He carried out his decision by building the dairy barn first, then the hay shed, water system, manure pit, silo, and fences in that order. The manager received help in carrying out his decision from the carpenters, equipment dealers, banks, bulletins and circulars from KSU, mass media, knowledge previously accumulated, employment of resources (land, labor, and capital), family influence, learning, and time.

the next decision for the manager was whether or not to buy a four-row lister. The manager was not forced into this decision, because he was ready to make it willingly. This was a voluntary decision since flexibility existed. In this case the manager did not value the need for additional knowledge more than the cost of obtaining it, so he went ahead and made the decision without going through the learning process. The manager felt that his knowledge was complete enough so that he was willing to accept the consequences of errors that followed from his decision. This was a positive decision because he decided to buy the lister.

But this decision led to a secondary decision. He did not know whether to buy a top planter or mow board type lister. The manager was not forced into this decision because he was ready to make the decision willingly. Since flexibility did exist, this was a voluntary decision. The manager did not foresee the future well enough to take action but valued the need for additional information more than the cost of obtaining it. Again he delayed his decision to go through the learning process.

During the learning process, he talked with the dealer to see what was selling best for this area of the country. He then made the intermediate decision to take the dealer's advice. The manager then decided which would be best. Obviously, this was a positive decision because action was taken.

The manager carried out his decision to buy a lister by going to the different dealers, saw one on the dealer's floor, and closed the deal. In carrying out his decision, he received help from banks, machinery dealer, county agent, farm management fieldman, bulletins and circulars from KSU, mass media, knowledge previously accumulated, employment of resources (capital), family influence, learning, and time.

There were no other steps in List A that he did not use that would have been of help to him if he did use them. If he had it to do over again, he would have made the same decisions, but he would have carried them out in a different manner. He would have changed the shape of his dairy lots, built a bigger silo, put larger pipes in the water system, and would have remodeled the house different. These have not been corrected yet and taking the wrong actions had no effect on the way he carried out his later decisions.

When the manager makes a decision, he compares the cost of gathering information against the value of the information in determining how long he can delay his decision. He finds that machinery analysis in his record books is helpful in carrying out decisions that have already been made. He never tries to cover up his actions or creates the impression that he is mixed up in trying to get the best of the person he is dealing with. There were no times last year when he refused to use credit, so he would be able to borrow in case of trouble.

The manager has never refused to close a profitable deal because the person he was dealing with might not have been reliable. He tends to delay those decisions where money is involved. He claims the advantage of postponing decisions is so the "bugs" will be worked out of the equipment before he buys it. The disadvantage of postponing decisions is that he might miss out on something.

Some minor repetitive decisions that he made last year were the rate of fertilizer application and the rate of planting. His farm management fieldman, fertilizer dealer, bulletins and circulars from KSU, family influence, and previously acquired knowledge were used to carry out these repetitive decisions.

The manager did not have perfect knowledge as to the outcome of these decisions.

Case Study No. 4

The first problem this manager faced was when he wanted to buy his farm. The manager was not forced into this decision, because he was ready to make it willingly. Since flexibility did exist, this was a voluntary decision. The manager did not foresee the future well enough to take action but valued the need for additional information more than the cost of obtaining it. Therefore, he delayed his decision and went into the learning process.

During the learning process, he received advice from his folks and neighbors and information on the land from his local ASC Office and former operator of the farm. He made the intermediate decision that the land was productive enough. He also figured the approximate income from the farm and compared it to the cost. He then made the intermediate decision that the income was sufficient enough to cover the cost. He then made the major decision to buy the land. This was a positive decision because action was taken. In carrying out his decision, the manager contacted the real estate agent to find out how many years he could pay for it, how much down, and the rate of interest. He then had the contract drawn up, which contained a non-penalty drought clause and finally closed the deal.

Bank, real estate broker, lawyer, bulletins and circulars from KSU, mass media, employment of capital, government programs, family influence, and time helped him to carry out his decision after it had already been made.

This manager's next problem was finding out how to farm his ground and whether or not to change his farm organization. He was not forced into this decision because he was ready to make it willingly. Again this was a voluntary decision because flexibility existed. He did not foresee the future well enough to take action, but he valued the need for additional information more

the cost of obtaining it. Therefore, he went through the learning process once before.

During the learning process, he studied his records, talked with his neighbors, farm management fieldman, county agent, and bank, who supplied him with advice on what he should do. He made the intermediate decision that his current farm organization was not the best. The manager then made the major decision to change some of his current methods of operation and organization. This was a positive decision because action was taken. To carry out his decision, the manager switched to stubble mulching, diversified to a grain-livestock operation, and switched to feeders and stockers.

After the manager had made his decision, banks, machinery dealer, county agent, farm management fieldman, bulletins and circulars from KSU, mass media, knowledge previously accumulated, employment of resources (land, labor, and capital), government programs, learning, and time helped him to carry it out.

The next problem this manager faced, that resulted in a decision, was the need for more labor. Actually, there were several approaches that could have been used. The manager was not forced into this decision because he was ready to make it willingly. Since flexibility did exist, this was a voluntary decision. The manager did not foresee the future well enough to take action but valued the need for additional knowledge more than the cost of obtaining it. He, therefore, delayed his decision and went through the learning process.

During the learning process, the manager compared the cost of automation with the cost of hiring more labor to see which would be the most profitable. He also learned of the shortage of good labor in his area. He then made the intermediate decision not to try and hire more labor. The manager then made the major decision to reduce hay acreage which would reduce his need for more

labor and because no available labor could be found. This was a positive decision because a decision was taken to eliminate the labor problem. Machinery dealer, feed dealer, county agent, employment of resources (labor), government programs, learning, and time helped him to carry out his decision after it had already been made.

If the manager had it to do over again, he would have changed some of his decisions in regard to the operation of the farm enterprises. He believed that he should farm less ground, concentrate on the hog operation, and plant different crops on the purchased ground. Since the manager made the wrong decision, he thinks more about his decisions now.

The manager made the right decision but carried it out in the wrong manner when he bought some heifers and put them on full feed (thinking the market would go up), instead of wintering them. This has been corrected now. The manager said that by taking the wrong action he would learn not to do it again. When the manager makes a decision, he does not necessarily compare the cost of gathering the information against the value of the additional information. Even though this manager had not been keeping his records long enough for them to be of great help, the records are useful to him in computing taxes.

This manager never tries to cover up his actions in order to confuse the person who he is dealing with or never tries to create the impression that he is mixed up in order to get the best of the person he is dealing with. On occasion this manager has refused what appeared to be a profitable deal because he was not sure how reliable the other party was.

Decisions concerning government programs were put off last year by the manager. The advantage of delaying these decisions for the manager is in order to end up in a better position with respect to acreage allotments.

The disadvantage, he claims, is that he may wait too long and be late in getting the crops planted.

Some repetitive decisions the manager made last year were whether to fertilize or not and, if so, how much to put on. Bank, elevator, county agent, farm management fieldman, mass media, knowledge previously accumulated, employment of resources (land, labor, and capital), learning, and time helped him to carry out these decisions. He was not 100 percent sure of the outcome of these decisions.

Case Study No. 5

The first decision this manager faced was whether or not to install a mechanized feeding system. The manager was not forced into this decision, because he was ready to make it willingly. Since flexibility did exist, this was a voluntary decision. In this case, he did not value the need for additional information more than the cost of obtaining it, so he went ahead and made his decision without going through the learning process. The manager felt that his knowledge was complete enough so that he was willing to accept the consequences of errors that followed from his decision. His decision was to go ahead and mechanize his feeding operation. This was a positive decision since action was taken to carry out the decision.

Immediately the manager was faced with a secondary decision, which model to buy. He was not forced into this decision, because he was ready to make it willingly. Since flexibility again existed, this was a voluntary decision. The manager did not foresee the future well enough to take action, but he valued the need for additional information more than the cost of obtaining it. So he delayed his decision and went through the learning process.

During the learning process, the manager talked to his banker and salesman from different companies, figured out the materials needed to build the system as planned, and received advice from relation, farm management fieldman, and neighbors. He then made the intermediate decision of which system would fit his needs best. The manager then made the secondary decision of which model to buy. This was a positive decision because action was taken to carry out the decision.

The manager was then left with tertiary decision of where to set it. Again the manager was not forced into this decision, because he was ready to

was willing. Since flexibility did exist, this was a voluntary decision. The manager did not foresee the future well enough to take action but valued the need for additional information more than the cost of obtaining it. So again he went through the learning process.

During the learning process, the manager talked to his neighbors and got ideas of where to build it. He then made the decision. This was a positive decision because action was taken.

In taking action on his decision after it was made, the manager received help from equipment dealer, farm management fieldman, knowledge previously accumulated, learning, and time.

The next decision the manager faced was whether or not to buy a honey-wagon for his waste disposal operation. He was forced into this decision, because he was not ready to make it willingly. He had to make the decision quickly, because he was afraid of a price raise. Since no flexibility existed, this was an involuntary decision. This situation existed when the manager was unable to make an "informed" decision and then was forced by circumstances to evaluate the alternatives and decide whether or not to act. In this case, he had spent some time in gathering and analyzing information, but he was still not ready to make the decision willingly. During the learning process, he talked to two different dealers to find out about the different models and their prices.

The manager then made the decision to purchase the one he thought was best. This was a forced positive decision because action was taken to buy the honey-wagon. He carried out this decision by getting the banker's consent and then closing the deal.

The banker, machinery dealer, government programs (stream pollution), learning, and time helped him to carry out his decision after it had already been made.

The third decision the manager faced was whether or not to cut off the pigs' tails. He was not forced into this decision, because he was ready to make it willingly. Since flexibility existed, this was a voluntary decision. The manager did not foresee the future well enough to take action, but he valued the need for additional information more than the cost of obtaining it. Therefore, he delayed the decision and went through the learning process.

During the learning process, the manager received advice from other operators on their own experiences. The manager then made the decision to cut off the pigs' tails. This was a positive decision because action was taken. He carried out this decision by waiting until the right time and then having the tails bobbed.

The veterinarian, bulletins and circulars, knowledge previously accumulated, and learning helped him to carry out his decision after it had already been made.

Other steps in List A that the manager did not use, but would have been helpful to him, included family influence and time. If the manager had it to do over again, he would have made the same decisions; and he never carried out the right decision in the wrong manner. He does not compare the cost of gathering information against the value of the information in determining how long he can delay a decision. Also, he thinks his farm records are helpful in decisions which involve comparing costs.

In dealing with salesmen, the manager sometimes tries to cover up his actions in order to get the best deal. However, he never creates the impression that he is mixed up in order to get the best deal. On occasions he has refused to close what appeared to be a profitable deal because the other person might not have been reliable.

This manager tends to delay those decisions that can be, if possible, delayed. The advantage of postponing decisions, for him, is that he has more

time to make and greater knowledge. He thinks the disadvantage is that he runs out on a good deal if he waits too long.

The repetitive decisions that he made last year were to put two calves on each cow and to save back more gilts to maintain the size of his herd. Family influence and other farmers' advice were steps from List A that were used to carry out these decisions.

The manager had imperfect knowledge as to the outcome of these decisions.

Case Study No. 6

The first major decision this manager was faced with was whether or not to get out of the poultry business. The manager was not forced into this decision, because he was ready to make it willingly. This was a voluntary decision since flexibility did exist. The manager did not foresee the future well enough to take action but valued the need for additional information more than the cost of obtaining it. So he delayed his decision and went through the learning process.

During the learning process, the manager received advice from his farm management fieldman and information from his county agent. He then made the intermediate decision that the poultry enterprise required too much time. The manager then made the major decision to dispense with his poultry enterprise. This was a positive decision because action was taken to carry it out. The manager carried out his decision by not ordering any more pullets, kept hens for awhile, and then finally disposed of them.

The only problem that resulted was that the manager missed his weekly egg check which he usually used to buy groceries. This was easily solved just by writing a personal check for the groceries. His county agent, farm management fieldman, bulletins and circulars from KSU, knowledge previously accumulated, and family influence were used by the manager to help carry out his decision.

The next decision the manager faced was whether or not to mechanize his feeding system. The manager was not forced into this decision, because he was ready to make it willingly. Since flexibility did exist, this was a voluntary decision. The manager did not foresee the future well enough to take action but valued the need for additional knowledge more than the cost of

obtaining the knowledge. So he delayed his decision and went through the learning process.

During the learning process, the manager received advice from the KSU Extension Service, farm management fieldman, and from his banker. He then made the intermediate decision that the present available labor could not do the job. He then made the major decision to mechanize his feed system. This was a positive decision because action was taken to carry the decision out. The decision was carried out by building an upright silo, constructing concrete bunks with center auger, building a feed mill, and purchasing an automatic silo unloader.

The operator received help in carrying out this decision from the bank, county agent, farm management fieldman, bulletins and circulars from KSU, mass media, knowledge previously accumulated, and learning.

The last major decision the manager faced was whether or not to get back into the hog business. The manager was not forced into this decision, because he was ready to make it willingly. This was a voluntary decision since flexibility did exist. The manager did not foresee the future well enough to take action, but he valued the need for additional information more than the cost of obtaining it. So he delayed his decision and went through the learning process.

During the learning process, the manager received advice from KSU Extension personnel, his farm management fieldman, and veterinarian. He also visited other hog operations to learn about disease control, equipment needed, and ventilation. He then made the decision to resume his hog operation. This was a positive decision because action was taken to carry it out. He carried out his decision by buying gilts, building pens and

shelter for the hogs, building a farrowing house, and starting a vaccination program.

The only problem faced in carrying out this decision was trying to combat hog diseases. This was solved by buying disease-free breeding stock (SST) and building new facilities. The manager received help in carrying out this decision from the bank, machinery dealer, feed dealer, veterinarian, county agent, farm management fieldman, bulletins and circulars from KSU, mass media, knowledge previously accumulated, employment of resources, and learning.

There were no other steps in List A that would have been of help if he had access to them. If he had it to do over, he would have made the same decisions again; and in no instances did he make the right decision but carried it out in the wrong manner. When making a decision, the manager does not compare the cost of gathering additional information against its value in determining how long he can delay a decision. The enterprise analysis from his farm records is useful to him in carrying out decisions.

In dealing with salesmen, the manager sometimes tries to cover up his actions in order to get the best deal; but he never tries to create the impression that he is mixed up when he isn't in order to get the best deal. There were a few times last year when he refused to use credit so he would be able to borrow in case of trouble, and there were a few times when he refused to close what appeared to be a profitable deal because the other person might not have been reliable.

Decisions that the manager postponed the most were usually centered around equipment. He claims his advantage of postponing a decision is that it gives you time to think, while the disadvantage is that if you postpone too long you have to think about too many at the same time. Therefore, a backlog of decisions would accumulate.

Case Study No. 2

The first decision the manager faced was whether or not to buy a farm. He was forced into this decision, because he was not ready to make it willingly. His parents, who lived on the farm, were moving to town, so he either had to buy the farm or forget it. Since no flexibility existed, this was an involuntary decision. This situation existed when the manager was unable to make an "informed" decision and then was forced by circumstances to evaluate the alternatives and decide whether or not to act.

The manager then made the decision to buy the farm from his parents. Since he decided to act, this was a forced positive decision. He carried out his decision by contacting a lawyer, drawing up a contract with his dad, and having the contract recorded. He did not face any problems in carrying out this decision.

In carrying out the decision, he received help from his lawyer, knowledge previously accumulated, family influence, and learning.

The next major decision the manager faced was whether or not to expand his sheep operation. He was not forced into this decision because he was ready to make it willingly. Since flexibility existed, this was a voluntary decision. The manager did not foresee the future well enough to take action but valued the need for additional information more than the cost of obtaining it. So he delayed his decision and went through the learning process.

During the learning process, the manager received advice and information from the local county Sheep and Lamb Association, his farm management fieldman, county agent, and banker. He then made the intermediate decision that he would have to increase the size of his operation or get out. He then made the major decision to expand his sheep operation. This was a positive decision because

action and then to carry it out. The manager carried out his decision by taking down the old buildings, remodeling the sheep shed, built a silo, purchased self-unloading wagons to fill the silo, purchased a silage blower, made a feed wagon, and increased his herd size.

The increase in herd size raised the question of whether he could produce enough feed. The manager was not forced into this secondary decision because he was ready to make it willingly. Since flexibility existed, this was a voluntary decision. Once again the manager did not foresee the future well enough to take action but valued the need for additional information more than the cost of obtaining it. So once again he delayed his decision and went through the learning process.

During the learning process, the manager consulted with his farm management fieldman about the possibility of increasing his feed production by irrigating some of his land. He then made the intermediate decision that irrigation was not feasible. He then made the secondary decision not to irrigate because it was an unfeasible proposition. This was a negative decision because no action was taken.

In carrying out the decision to expand, the manager was helped by his father, machinery dealer, feed dealer, county agent, farm management fieldman, bulletins and circulars from KSU, mass media, knowledge previously accumulated, and family influence.

The next major decision which faced the manager was whether to trade both of his combines in on one new combine or to rely on custom operators to do his harvesting. The manager was not forced into this decision because it has not been made yet. He failed to come up with a decision which resulted in complete inaction. The manager wanted to avoid the decision because he lacked sufficient information to accept the risk of the outcome, and he did not know if gathering more information was worth the cost.

There were no other steps in List A that the manager did not use that could have been of help if he had access to them. If he had it to do over, he would have made the same decisions. He carried out a right decision in the wrong manner when he expanded his sheep operation but failed to rotate them from one pen to another, which increased the incidence of worms in his operation. The manager has corrected this by rotating from pen to pen. The manager does not compare the cost of gathering more information against the value of additional information in determining how long he can delay a decision. He thinks his farm records are helpful in carrying out decisions because they show whether you are making or losing money.

The manager never tries to cover up his actions in order to confuse the person he is dealing with, and he never tries to create the impression that he is mixed up, when he isn't, in order to confuse the person that he is dealing with to get the best deal. There were no times last year when he refused to use credit so he would be able to borrow in case of trouble, and there were no occasions when he refused to close what appeared to be a profitable deal because the person he was dealing with might not have been reliable.

This manager tends to postpone those decisions where the future may be brighter. He thinks one advantage of postponing a decision is so that he can get next year's model of equipment. The disadvantage, he thinks, is that you lose sleep worrying about decisions that must be made; whereas, if they are already made, there is not much you can do about them.

Two repetitive decisions the manager makes every year are when to sell lambs and when to plant the crops. In carrying out these decisions, he receives help from the livestock commission, veterinarian, and county agent.

He is never 100 percent sure of the outcome of his decisions.

Case Study No. 3

The first major decision the manager faced was whether or not to buy a farm. He was not forced into this decision, because he was ready to make it willingly. Since flexibility existed, this was a voluntary decision. In this case, the manager did not value the need for additional information more than the cost of obtaining it, so he went ahead and made the decision without going through the learning process. The manager felt that his knowledge was complete enough so that he was willing to accept the consequences of errors that followed from his decision. He then made the decision to buy the farm. This was a positive decision because action was taken to carry it out.

The manager carried out his decision by contacting the Federal Land Bank, and then closing the deal. The only problem encountered was that the land was part of an estate which took several months to be settled. The interest rate was going to increase at the Federal Land Bank, so the manager wanted to get the purchase completed before the interest rate went up. There was really no way to solve this problem since there was so much "red tape" involved.

In carrying out his decision, the manager had help from the Federal Land Bank, farm management fieldman, employment of capital, and family influence.

The manager's next decision was whether or not to build a barn that was needed. He was not forced into this decision, because he was ready to make it willingly. Since flexibility existed, this was a voluntary decision. The manager did not foresee the future well enough to take action, but he valued the need for more information more than the cost of obtaining it. So he went through the learning process.

During the learning process, the manager received information and advice from his farm management fieldman and his neighbors. He then made the intermediate decision that there was a need for a barn, and he made the intermediate decision of which kind to build, if he later decided to build one. The manager then made the major decision to build the barn. This was a positive decision because action was taken to carry it out. He carried out his decision by talking to KSU Extension personnel, developing the plans, obtaining the materials, hiring the carpenters, and finally building it. The only problem encountered in carrying out this decision was where to build it. The terrain was unsuitable where he wanted to build it, so the ground was leveled and a retaining wall constructed.

In carrying out his decision, the manager had help from his county agent, farm management fieldman, knowledge previously accumulated, employment of resources (land, labor, and capital), and Extension Engineering at KSU.

The third major decision the manager faced was whether or not to expand his hog operation. He was not forced into this decision because he was ready to make it willingly. This was a voluntary decision since flexibility existed. The manager did not value the need for additional information more than the cost of obtaining it, so he went ahead and made his decision without going through the learning process. He felt that his knowledge was complete enough so that he was willing to accept the consequences of errors that followed from his decision. The manager then made the decision to expand his hog operation. However, at the present time no action has been taken to carry out this decision. As soon as the decision has been carried out, this will become a positive decision.

The only other step in List A that he would like to use more is mass media (magazines). If he had it to do over, he would have made the same decisions.

On one occasion he carried out a right decision in the wrong manner. His decision to build the barn was right, but he should have built it sooner instead of waiting so long. Taking the wrong action had no effect on carrying out later decisions. The manager compares the cost of gathering information against its value in determining how long he can delay a decision. His farm records are helpful to him in carrying out decisions, because they show how much fertilizer is best to use.

Dealing with equipment salesman, he sometimes tries to cover up his actions in order to get the best deal. However, he never tries to create the impression that he is mixed up, when he isn't, in order to confuse the person he is dealing with to get the best deal. There were no times last year when he refused to use credit so he would be able to borrow in case of trouble, and he has never refused to close what appeared to be a profitable deal because the other person might not have been reliable.

The manager tends to postpone those decisions which involve innovation (such as switching to 30 inch rows). He thinks one advantage of postponing a decision is that he wants to be right the first time so it won't cost him double if he makes a mistake. The disadvantage, however, is that if too many decisions are postponed the farm operation may become obsolete with old equipment.

This manager could not think of any repetitive decisions. This manager was not 100 percent sure as to the outcome of all his decisions.

Case Study No. 2

The first major decision this manager faced was whether or not to buy some land. He was forced into this decision, because he was not ready to make the decision willingly. He was afraid that if he did not act quickly, someone else would beat him. Since no flexibility existed, this was an involuntary decision. This situation existed when the manager was unable to make an "informed" decision, and then he was forced by circumstances to evaluate the alternatives and decide whether or not to act.

The manager then made the decision to buy the land. Since he decided to act, this was a positive decision. To carry out his decision, the manager had a contract drawn up and then closed the deal. The only pertinent problem encountered was in determining what belonged to the landlord and what belonged to the previous renter. He solved this by talking to the previous renter.

The manager was helped in carrying out his decision by his banker and government programs.

The next decision he faced was when his tractor broke down. He had the choice of repairing his old tractor or trading for a new one. He was forced into this decision, also, because he was not ready to make it willingly. Since flexibility did not exist, this was an involuntary decision. The situation existed when the manager was unable to make an "informed" decision and then was forced by circumstances to evaluate the alternatives and decide whether or not to act. In this case, the manager had spent some time in gathering and analyzing information, but he was still not ready to make the decision willingly. During this learning process, he received information from the equipment dealer as to the prices and sizes of the different models and advice from his banker.

The manager then made the major decision to trade for a new tractor. This was a forced positive decision because action was taken to carry out the decision. In carrying out his decision, the manager talked to his banker and then closed the deal with the equipment dealer. The only problem he had in carrying out his decision was what options to get with the tractor. Again his banker advised him on this.

In carrying out his decision, the manager had help from his banker, equipment dealer, and family influence.

The last major decision that this manager was faced with was whether or not to put on Atrazine. He was forced into this decision because he was not ready to make the decision willingly. He was forced into applying Atrazine because a heavy rain prevented his crop from being cultivated, and the Atrazine could be applied by spray plane. Since flexibility did not exist, this was an involuntary decision. This situation existed when the manager was unable to make an "informed" decision and then was forced by circumstances to evaluate the alternatives and decide whether or not to act.

The manager then made the decision to use the Atrazine. This was a positive decision because action was taken to carry it out. To carry out the decision, he talked to the fertilizer dealer, found a landing site for the plane, mixed the material, and then had it sprayed. The only problem was to get it on as soon as possible.

In carrying out his decision, he received help from the fertilizer dealer and the spray-plane operator.

One step in List 1 that the manager would like to use more in the future is his farm management fieldman. He feels that more of his advice would be most helpful. If he had it to do over, he would not have changed any of his decisions; and in no instances did he carry out a right decision in the

wrong error. The manager does not compare the cost of gathering information against its value in determining how long to delay his decision. His criteria for how long to delay a decision is what it would cost him if he did not make the decision. He finds his farm records are helpful in carrying out decisions because they provide hog production costs and the age of hogs to market.

In buying land, he has tried before to cover up his actions in order to confuse the person he is bidding against to get the best deal. However, he never tries to create the impression that he is mixed up in order to confuse the person he is dealing with. There were no times last year when he refused to use credit so he would be able to borrow in case of trouble. On occasions he has refused to close what appeared to be a profitable deal because the person he was dealing with might not have been reliable.

The manager does not postpone any certain types of decisions. He thinks the advantage of postponing a decision is so that he can gather more information before deciding, while the disadvantage is that he may worry too much if his mind is not made up.

Repetitive decisions that he must make every year are what type of livestock to winter and whose feed to buy. In carrying out these decisions, he is helped by his banker, livestock commission, and his farm management fieldman.

He is never 100 percent sure of the outcome of his decisions.

Case Study 15. 10

The first major problem that faced this manager was when the local Grade A dairy in town went out of business. A decision had to be reached on what to do in finding another dairy. This was a forced decision because the manager was not ready to make it willingly. Since no flexibility existed, this was an involuntary decision. This existed when the manager was unable to make an "informed" decision and then was forced by circumstances to evaluate the alternatives and decide whether or not to act.

The manager then made the decision to find another dairy to purchase his milk. This was a forced positive decision because action was taken. He carried out his decision by contacting other dairies in the area and picking the one which he thought would stay in business longest. However, this created a problem because the manager had to sell under Grade C first and then switch to Grade A later on. This meant that the manager had to install a bulk tank and do some remodeling to meet the Grade A regulations. In carrying out his decision on which dairy to do business with, the manager was helped by his county agent, farm management fieldman, knowledge previously accumulated, family influence, and advice from older dairymen.

This left the manager with a secondary decision of what type of bulk equipment to install. He was not forced into this decision because upon being ready, the decision was made willingly. Since flexibility did exist, this was a voluntary decision. The manager did not foresee the future well enough to take action, but he valued the need for additional information more than the cost of obtaining it. So he delayed his decision and went through the learning process.

During the learning process, the manager talked to an equipment dealer, asked the creamery fieldman to make sure a market would be available

In the future, received advice from his father, his banker, and other neighbors. He then made the intermediate decision that he wanted to enter the Grade A market. He then made the secondary decision on which equipment to buy. This was a positive decision because action was taken. To carry out the decision, the manager purchased and installed the equipment, contracted for the remodeling, and increased herd size.

The only problem encountered in carrying out this decision was financing the change. This was taken care of by the bank. In carrying out his decision, the manager received help from his banker, machinery dealer, county agent, and family influences.

Other methods in List A that would have been helpful to him in carrying out his decisions were farm organizations and bulletins and circulars from U.S. If the manager had it to do over again, he would have made the same decisions, but he would have carried some of them out in a different manner. He should have built a twelve-stall milkhause instead of an eight stall, and he should have bought more cattle in the beginning. He has corrected one action by buying more cattle, but the other action cannot be corrected unless a new milkhause is built, which is unlikely. Carrying out this decision in a wrong manner has meant less income for the manager to work with. The manager compares the cost of gathering more information against the value in determining how long to delay a decision. The manager did not know if his farm records were helpful in carrying out decisions because he had not been keeping them long enough.

In dealing with other people who are trying to get the best of him, the manager sometimes tries to cover up his actions in order to get the best deal. However, he never tries to create the impression that he is mixed up in hopes that he may confuse the person he is dealing with so that he may

...the last deal. There were times last year when he refused to do a deal which would be able to borrow in case of trouble. The manager has never refused a deal that appeared to be a profitable deal because the person he was dealing with might not have been reliable.

The manager tends to postpone his decisions on trading equipment. The advantage, to him, of postponing a decision is to have more time to learn, while the disadvantage is that he has his mind on it too much. Some repetitive decision he has to make are when to cull and sell cows, when to plant crops, and what crop to plant first. Methods used to carry out these decisions were his father, county agent, knowledge previously accumulated, and family influence.

He is never 100 percent sure of the outcome of his decisions.

Case Study No. 11

The first decision this manager faced was whether or not to sell his milk on a Grade A basis. The manager was not forced into this decision, because he was ready to make it willingly. Since flexibility did exist, this was a voluntary decision. The manager did not foresee the future well enough to take action, but he valued the need for additional information more than the cost of obtaining it. So he delayed his decision and went through the learning process.

During the learning process, the manager received advice from his county agent, veterinarian, FCA, and banker. He then made the intermediate decision that he could increase herd size, if he decided to go Grade A. The manager then made the major decision to switch to a Grade A operation. This was a positive decision because action was taken to carry out the decision. He carried out his decision by hiring workers to do the work, running water to the barn, built a milking room in the barn, and increased the size of his herd. The only problem that came up was that it was costing more than anticipated. He solved this problem just by explaining the situation to his landlord.

Methods that helped him in carrying out his decision were his banker, veterinarian, and his county agent.

The next decision the manager faced was whether or not to move from their rented land to the "home" place. The manager was forced into this decision, because he was not ready to make the decision willingly. This was an involuntary decision since no flexibility existed. This situation existed when the manager was unable to make an "informed" decision and then was forced by circumstances to evaluate the alternatives and decide whether or not to act.

The manager then made the decision not to move off his rented land. This was a forced positive decision because action was taken not to move.

The manager carried out his decision just by staying on his rented farm. In carrying out this decision, the manager was helped by the Federal Land Bank, his county agent, and his farm management fieldman.

The decision that the manager had to make was whether or not to put in milking equipment. He was not forced into this decision because he was ready to make it willingly. Since flexibility existed, this was a voluntary decision. The manager did not foresee the future well enough to take action but valued the need for additional information more than the cost of obtaining the information. So he went through the learning process.

During the learning process, the manager consulted with the milk association's fieldman to see if the present set up would be adequate and watched the hours put in on milking time to see if cost was worth the labor saved. He then made the intermediate decision that the labor saved would be worth the cost. The manager wanted to utilize family labor now but be ready after the family help is gone. He then made the major decision to install the new equipment. This was a positive decision because action was taken to carry it out. He carried out his decision by contacting the equipment dealer, getting a diagram of how it would be built, closing the deal with the dealer, and finally installation of the equipment.

Methods the manager used in carrying out his decision were his banker, farm management fieldman, mass media, knowledge previously accumulated, employment of resources (labor and capital), family influence, and time.

The last decision the manager had to make was whether or not to start using his land on his crops. The manager was not forced into this decision because he was ready to make it willingly. This was a voluntary decision since flexibility existed. The manager did not foresee the future well enough to take action but valued the need for additional information more

then the cost of obtaining it. So he went through the learning process.

During the learning process, he consulted his county agent and found out that as far as the cost is concerned, he would be better off to apply it to milo rather than to the corn. He then made the intermediate decision that increased production would more than offset the cost. The manager then made the major decision to apply the herbicide to his milo. This was a positive decision since action was taken. The manager carried out his decision by getting information on application of the herbicide and equipment needed to apply it, found out if any herbicide was available since it was rather scarce, got the equipment ready, and finally put on the herbicide.

The manager received help in carrying out his decisions from his county agent, mass media, knowledge previously accumulated, and the seed corn company.

Another step in List A that the manager did not use but would have liked to use was the Farm Home Administration. If he had it to do over, he would have made the same decisions. However, he would have carried one decision out in a different manner. He would have used more pressure in applying the herbicide. This has been corrected now by using the right equipment and pressure. The manager compares the cost of gathering information against the value of the information in determining how long to postpone a decision. He finds that his farm records are helpful in carrying out decisions because they show if the returns from the cow herd are worth their cost.

In dealing with other people, the manager never tries to cover up his actions in order to confuse the person he is dealing with; and he never tries to create the impression that he is mixed up, when he isn't, in order to confuse the person he is dealing with in order to get the best deal. There were several times last year that he refused to use credit so he would be able to borrow in case of trouble. He has never refused to close what appeared

Case Study No. 12

The first decision that this manager had to make was whether or not to buy some pasture. He was not forced into this decision, because he was ready to make it willingly. Since flexibility existed, this was a voluntary decision. In this case the manager did not value the need for additional information more than the cost of obtaining it, so he went ahead and made the decision without going through the learning process. The manager felt that his knowledge on this decision was complete enough so that he was willing to accept the consequences of errors that followed from his decision. The manager then made the decision not to buy the pasture land because the price was too high. This was a negative decision since no action was taken to buy the pasture. The manager carried out his decision by his inaction. He did receive some advice from his lawyer. There were no methods in List A that were used by the manager to carry out his decision of inaction.

The next decision the manager had to make was where to buy a spring tooth that was needed to work the ground. The manager was not forced into this decision, because he was ready to make it willingly. Since flexibility existed, this was a voluntary decision. He did not foresee the future well enough to take action, but he valued the need for additional information more than the cost of obtaining it. So he went through the learning process.

During the learning process, the manager obtained information on the price and style of spring tooth from his machinery dealer. He then made the intermediate decision on the brand and style he wanted, and he made the intermediate decision to look around some more. He then made the major decision to buy the spring tooth at a farm sale near by. This was a positive decision because action was taken. The only problem he came up against was how high to bid at the farm sale. From his knowledge of the new price and the people he

was willing, against, he was able to tell if he was bidding too high. The manager showed out his decision simply by being the highest bidder at the auction.

Methods used by the manager to carry out his decision were the machinery, dealer, mass media, knowledge previously accumulated, employment of resources (labor and capital), and time.

Another decision the manager had to make was whether or not to buy a new truck. He was not forced into this decision because he was ready to make it willingly. This was a voluntary decision since flexibility existed. The manager did not value the need for additional knowledge more than the cost of obtaining it, so he went ahead and made the decision without going through the learning process. He felt that his knowledge on the problem was complete enough so he was willing to accept the consequences of errors that followed from his decision. He then made the decision to trade his old truck in on a new one. This was a positive decision since action was taken to carry it out. He carried out his decision by talking to the dealer to get specifications and prices and then closed the deal. The only problem he faced in carrying out this decision was that the new truck did not have a hoist. He solved this problem by getting a hoist on it after he bought the truck.

Methods used by the manager to carry out his decision were the machinery, dealer, mass media, knowledge previously accumulated, and family influence.

The next decision that the manager faced was whether or not to build a warehouse. He was not forced into this decision because he was ready to make it willingly. Since flexibility did exist, this was a voluntary decision. The manager did not value the need for additional information more than the cost of obtaining it, so he went ahead and made the decision without going through the learning process. The manager felt that his knowledge of the situation

...so that he was willing to accept the consequences of a decision that resulted from his decision. He then decided to build the new house. This was a positive decision because action was taken. In carrying out his decision, the manager contracted a carpenter, drew up the plans for the house, tore down the old house, secured necessary materials, and then built the house.

Moreover, the manager had to make a secondary decision in regard to the floor plan and house design. He did not know exactly what he wanted in the floor plan and in the house design. He was not forced into this decision, because he was ready to make it willingly. The manager did not foresee the future well enough to take action, but he valued the need for additional information more than the cost of acquiring it. So he delayed his decision and went through the learning process.

During the learning process, the manager read books, visited with home Economics Extension Agent, and looked at other houses. He then made the decision of what he wanted in the plans of his house. The manager carried out this decision by drawing up the plans which he and his family liked best. This was a positive decision because action was taken to carry it out.

Methods the manager used to carry out his decisions were contractor, county agent, bulletins and circulars from KSU, mass media, knowledge previously accumulated, employment of resources (labor and capital), and family influence.

Other methods in List A that he did not use or would liked to have used were elevators, county agent, farm management fieldman, bulletins and circulars from KSU, mass media, knowledge previously accumulated, and government programs. If the manager had it to do over again, he would not have changed any of his decisions, and he did not carry a right decision out in the wrong

manager. He compares the cost of gathering more information against the cost of postponing for long he can postpone a decision. He checks his farm records and helpful in carrying out decisions because they show the production record on equipment.

In dealing with machinery salesman, the manager sometimes tries to cover his action in order to get the best deal. However, he never tries to get the information that he is needed in order to get the best deal. He has never refused to use credit so he would be able to borrow in case of trouble, but he has at times refused to close what appeared to be a profitable deal because the person he was dealing with might not have been reliable.

The manager tends to postpone decisions when he has to write people. For him the advantage of postponing a decision is to gain knowledge while the disadvantage is that other people may have time to change their minds. Retentive decisions that he made last year were when to market cattle, the price to establish for seed wheat, and how much to plant. Methods used to carry out these decisions were his elevator and his farm management fieldman.

He is never 100 percent sure of the outcome of all his decisions.

Case Study No. 13

The first decision this manager had to make was whether or not to buy a tractor. He was not forced into this decision, because he was ready to make it willingly. Since flexibility did exist, this was a voluntary decision. The manager did not foresee the future well enough to take action but valued the need for additional information more than the cost of obtaining the information. Therefore, he delayed his decision and went through the learning process.

During the learning process, the manager received advice from his father-in-law and his banker. He then made the intermediate decision on which model to buy, if he decided to buy. He then made the major decision to buy the tractor. This was a positive decision because action was taken to carry it out. In carrying out his decision, the manager priced the tractors at the different dealers, got dealer's offer, talked to his banker, and then closed the deal. The only problem he had was that he bought the tractor in the fall and there was not any custom work until the next spring. He solved this problem by talking to his banker, machinery dealer, farm management fieldman, knowledge previously accumulated, employment of capital, government programs, learning, and time helped the manager to carry out his decision.

The next decision the manager had to make was whether or not to expand his cattle operation. He was not forced into this decision, because he was ready to make it willingly. Again flexibility existed, so this was a voluntary decision. In this case the manager did not value the need for additional information more than the cost of obtaining it, so he went ahead and made the decision without going through the learning process. He felt that his knowledge was complete enough so that he was willing to accept the consequences of errors that followed from his decision. He then made the decision to expand

is called operation. This was a positive decision because action was taken to carry it out. He carried out his decision by talking to his banker, building new four-line feedbunks, and buying more cattle. The only problem that came up was financial, and he solved it by talking to his banker. The manager had help in carrying out his decision from his banker, relatives, feed dealer, veterinarian, farm management fieldman, bulletins and circulars from FNM, employment of resources (labor and capital), government programs, learning, and time.

Another decision that the manager had to make was whether or not to buy more land. He was not forced into this decision, because he was ready to make it willingly. Since flexibility existed, this was a voluntary decision. In this case the manager did not value the need for additional information more than the cost of obtaining it, so he went ahead and made the decision without going through the learning process. He felt that his knowledge was complete enough so that he was willing to accept the consequences of errors that followed from his decision. He then made the decision to buy the land. This was a positive decision because action was taken to carry it out. He carried out his decision by talking to his banker, the Farm Home Administration, and then buying the land for which he had an option on contract. Getting the FHM to operate fast enough so the deal would go through before the option ran out created a problem. He solved this by going to the local FHM Office and had them speed the process up. In carrying out his decision, the manager received help from his banker, farm management fieldman, knowledge previously accumulated, employment of capital, government programs, learning, and time.

However, it is likely that if he called him to see him in the county agent. If the manager had it to do over again, he would have made the same decisions; but in some cases differently, but a right decision in the wrong manner. Is there

not consider the cost of gathering water. When a drought is water in the area, he doesn't even gather it. He states that his farm records are not too good in carrying out decisions because they show if the profit ever is a small number of cattle being fed increases.

In carrying out decisions, he never tries to cover his decisions so as to confuse the person he is dealing with; and he never tries to create the impression that he is mixed up, when he isn't, in order to confuse the person he is dealing with. There were several times last year when the manager refused to use credit so he would be able to borrow in case of trouble, however, he had never refused to close what appeared to be a profitable deal because the person he was dealing with might not have been reliable.

A decision he postponed lately was the building of a new farrowing house. For him the advantage of postponing a decision is so he will not get too much capital tied up in a large investment unless he is certain the investment will pay. The disadvantage of postponing a decision for him is that he may get behind if he does not get into the operation right away.

Repetitive decisions that he made last year were when to sell cattle and when to plant milo. Methods used to carry out these decisions were his banker, livestock commission, farm management fieldman, knowledge previously accumulated, employment of resources (land, labor, and capital), and learning.

He is never 100 percent sure of the outcome of his decisions.

Case Study 2.10

The first decision this manager was faced with was whether or not to build additional grain storage which was needed. He was forced into this decision, because he was not ready to make the decision willingly. This was an involuntary decision since no flexibility existed. This situation existed since the manager was unable to make an "informal" decision and then was forced by circumstances to evaluate the alternatives and decide. In this case, however, the manager had spent considerable time in gathering and analyzing information, but he still was not ready to make the decision willingly. During this learning process, he received advice from his relation, capabilities of storage bin from the factory representative, and research information on high-moisture corn storage from the Extension Department at Kansas State University. The manager then made the decision to build a high-moisture grain storage bin. This was a forced positive decision because action was taken to carry it out.

The manager carried out his decision by visiting his relatives to see their high-moisture storage bin, inquired about them at a machine show, contacted the company to see who the local dealer was, closed the deal, and then had it built. A problem encountered by the manager was where to build the bin so it would fit best into his future plans for a feed center. He solved this problem by taking the advice of the contractor who built the bin since he had experience in building grain handling facilities. The manager had help in carrying out his decision from his banker, the local dealer, farm management literature, bulletins and circulars from KSU, two college professors, the extension department of KSU, and a (land, labor, and capital), to name a few.

Another decision this manager had to make was whether or not to trade his old planting equipment in on some new equipment. He was not forced into

land, which was tilled to corn, it was. The manager made the decision by hiring a consultant, leveling the land, and increasing the fertilization of his crop. The problem the manager had in carrying out his decision was that the cost of leveling the land was high and he expected a lack of microelements in the soil (particularly zinc) which reduced crop yield. He solved these problems by borrowing more money, plowing down the zinc rather than disking it under, and he went to single-cross hybrids rather than the standard double-cross hybrids.

In carrying out his decision, the manager received help from his banker, machinery dealer, county agent, farm management extension, bulletins and advice from FOS, mass media, knowledge previously accumulated, employment of resources (land, labor, and capital), government programs, family influences, learning, and time.

Another decision the manager had to make was whether or not to butcher all of his cattle or to sell some of them as feeders. He was not forced into this decision, because he was not ready to make it willingly. This was a voluntary decision since flexibility existed. He did not foresee the future well enough to take action, but he valued the need for additional information more than the cost of obtaining it. Therefore, he delayed his decision and went through the learning process.

During the learning process, the manager received advice from his banker, other stockmen, his feed dealer, and his farm management extension. He then made the intermediate decision that he could get more money if he sold his feeders. He then made the major decision to start selling some of his cattle as feeders. This was a positive decision because action was taken to carry it out. The manager carried out his decision by borrowing the money from the FOS, buying more silage for feed, buying high-moisture corn, and

the selling the cattle as feeders. The problem he faced in carrying out his decision were the lack of a reliable source of calves to work with in operation and the lack of a suitable market to sell his feeders. He solved this problem by traveling around for different sellers, and he found buyers for feeders at a commission firm in Kansas City.

The manager received help in carrying out his decision from his brother, feed dealer, elevator, veterinarian, county agent, farm management fieldman, bulletins and circulars from KSU, mass media, knowledge previously acquired, labor, employment of resources (land, labor, and capital), family influence, and learning.

There were no other steps in List A that he would have liked to use more. If the manager had it to do over again, he would have made the same decisions but would have carried one of them out in a different manner. When he increased his plant population, he planted too late and this reduced his yield. He has corrected this now by planting earlier. The manager compares the cost of obtaining additional information against the value of the information in determining how long to delay a decision.

Dealing with salesmen, he sometimes tries to cover up his actions so he will get a better deal. However, he never tries to create the impression that he mixed up so as to confuse the person he is dealing with in order to get a better deal. There were several times last year when he refused to use credit so he would be able to borrow in case of trouble, and on several occasions he has refused to close what appeared to be a profitable deal because the person he was dealing with might not have been reliable.

The manager did not know what kinds of decisions he postpones. For him, the advantage of postponing decisions is to gain more knowledge, and he always

and is often until the decision is made. The disadvantage is that, of course, a decision may cost him in the long run.

By tentative decisions that the manager made every year were which varieties of corn to plant, when to plant for sure, and what insecticide to use. He relied in carrying out his decisions from his banker, county agent, farm agent, and his own knowledge previously accumulated, and learning.

He was never 100 percent sure of the outcome of his decisions.

Case Study No. 15

The first decision this manager had to make was whether or not to buy a farm. He was forced into this decision, because he was not ready to make it willingly. His rented land was sold out from under him. Since flexibility did not exist, this was an involuntary decision. This situation existed when the manager was unable to make an "informed" decision and then was forced by circumstances to evaluate the alternatives and decide whether or not to act.

The manager made the decision to buy the farm. Since he decided to act, this was a forced positive decision. In carrying out his decision, the manager checked to see if he could get a FIA Loan, had his lawyer draw up a 60-day option, had the land appraised, and then closed the deal. The only problem he faced in carrying out his decision was making the down payment. He solved this by going to his bank and the FIA. He was helped in carrying out his decisions by his banker, feed dealer, lawyer, mass media, and family influence.

Another decision the farmer had to make was whether or not to buy a feed wagon. He was not forced into this decision, because he was ready to make it willingly. This was a voluntary decision since flexibility existed. The manager did not foresee the future well enough to take action, but he valued the need for additional information more than the cost of obtaining it. So he delayed his decision and went through the learning process.

During the learning process, the manager received advice from his machinery dealer and saw a model in operation. He then made the intermediate decision to delay the decision several years. Several years later he made the major decision to buy a feed wagon. This was a positive decision because action was taken to carry it out. He carried out his decision by securing financing through the bank, checking at the equipment dealers, and finally closing the deal. The people who helped carry out the decision were his banker and the machinery dealer.

The next decision he had to make was whether or not to go into the hog business. It was not forced into this decision, because he was ready to do it willingly. Since flexibility existed, this was a voluntary decision. In this case the manager did not value the need for additional information over the cost of obtaining it, so he went ahead and made the decision without going through the learning process. The manager felt that his knowledge was complete enough so that he was willing to accept the consequences of errors that followed from his decision. Then he made the decision to go into the hog business. This was a positive decision because action was taken to carry it out.

The manager carried out his decision by finding a place to buy his grain, bought grain and stored it at the elevator, converted chicken house into farrowing house, and built more fence. He received help in carrying out his decision from his banker, feed dealer, elevator, and his farm management fieldman.

Other methods in List A that this manager would like to have used were the veterinarian, farm management fieldman, bulletins and circulars from FSR, and knowledge previously accumulated. If he had it to do over again, he would have made the same decisions, and he did not carry a right decision out in the wrong manner. He compares the cost of gathering more information against the value of the information in determining how long he can delay a decision. He finds that his farm records are helpful in carrying out decisions because they show how much supplement to buy before he pays his taxes.

The manager never tries to cover up his actions in order to confuse the person he is dealing with in order to get the best deal. However, when dealing with a technician sometimes tries to create the impression that he is mixed up, when he actually is not, in hopes that he may confuse them enough for him to get the best deal. There was no time last year when he refused to use credit so he would be able to borrow in case of trouble. But at times he has refused to close what

agreed to a profitable deal because the person he was dealing with was not very reliable.

Decisions that he postponed last year were when to buy cattle and when to get them on grass. He does not think there is any advantage in postponing a decision, but the disadvantage is that he may lose out if he postpones a decision. Important decisions that he made last year were when to sell cattle and when to sell his wheat. Methods in List A that he used to carry out these decisions were his banker, elevator, and his farm management fieldman.

The manager was never 100 percent sure of the outcome of his decisions.

this decision, because he was ready to make it willingly. Since flexibility existed, this was a voluntary decision. The manager did not foresee the future well enough to take action but valued the need for additional information more than the cost of obtaining it. So he delayed his decision and went through the learning process.

During the learning process, the manager received advice from his neighbors, Extension Crop Specialists, and information on the equipment from the dealer. He then made the decision to trade equipment. This was a positive decision. However, action was taken to carry it out. The manager carried out his decision by visiting with neighbors who had the same machine, talked to machinery dealer to get deal, and closed the deal. Not knowing exactly the type of planter needed for this area posed a problem for him. He solved it by talking to the dealer who knew what would work best. Methods that helped the manager carry out his decision were machinery dealer, county agent, bulletins and circulars from UMN, knowledge previously accumulated, learning, and time.

The next decision the manager was faced with was whether or not to change his method of irrigation. He was not forced into this decision, because he was ready to make it willingly. Since flexibility existed, this was a voluntary decision. The manager did not foresee the future well enough to take action, so he valued the need for additional information more than the cost of obtaining it. So he delayed his decision and went through the learning process.

During the learning process, the manager received information from the Soil Conservation Service on the advantages of level land irrigation over sprinkler type irrigation and to see if the change would be feasible for him. He then made the intermediate decision that his present irrigation system was adequate for high yields. He then made the major decision to change to the level land irrigation method. This was a positive decision.

Case Study No. 16

The first decision the manager had to make was whether or not to buy the land. He was not forced into this decision, because he was ready to make it willingly. Since flexibility existed, this was a voluntary decision. The manager did not value the need for additional information more than the cost of obtaining it, so he went ahead and made the decision without going through the learning process. The manager felt that his knowledge was complete enough so that he was willing to accept the consequences of errors that followed from his decision. He then made the decision to buy the land up for sale. However, the land was auctioned off at a price higher than the manager was willing to pay, so he did not carry out his decision. This was a negative decision because no action was taken to carry it out.

The manager, not being successful in carrying out his decision to buy the land up for auction, was faced with a secondary decision of whether or not to buy some other land from a realtor. Again he was not forced into this decision, because he was ready to make it willingly. Since flexibility existed, this was a voluntary decision. Again he did not value the need for additional information more than the cost of obtaining it, so he went ahead and made the secondary decision without going through the learning process. The manager felt that his knowledge was complete enough so that he was willing to accept the consequences of errors that followed from his decision. He then decided not to buy the first piece of land the realtor showed him but did decide to buy another piece of land from the realtor that actually was closer to home.

This was a positive decision because action was taken to carry it out. In carrying out his decision, the manager went to see his banker, his lawyer, and his agent to deal with the realtor. In carrying out this decision, he had

a financial problem, but his banker solved it for him. The manager had to carry out his decision from his banker, real estate broker, farm agent, knowledge previously accumulated, employment of resources (land, labor, and capital), government programs, family influence, and time.

Whether or not to build a new house was another decision the manager had to make. He was not forced into this decision, because he was ready to make it willingly. Since flexibility existed, this was a voluntary decision. The manager did not foresee the future well enough to take action, but he valued the need for additional information more than the cost of obtaining the information. So he delayed his decision and went through the learning process.

During the learning process, the manager talked to his banker, his relation, and visited other new houses in the county. He then made the decision to build the house. This was a positive decision because action was taken to carry it out. He carried out his decision by hiring the contractor, getting floor plans from KSU and from the contractor, tore down the old house, and finally built the new house. What kind of heat (electric or gas) to use posed a problem, but this was left for the manager's wife to decide. The manager had help in carrying out his decision from his banker, lawyer, county agent, bulletins and circulars from KSU, mass media, knowledge previously accumulated, employment of resources (land, labor, and capital), family influence, learning, and time.

Whether or not to trade tractors was the next decision the manager had to make. This was a forced decision, because he was not ready to make the decision willingly. Since flexibility did not exist, this was an involuntary decision. This situation existed when the manager was unable to make an "informed" decision and then was forced by circumstances to evaluate the alternatives and decide whether or not to act.

The manager then made the decision to trade tractors. This was a large profit decision since he took action to carry it out. In carrying out this decision, the manager saw the machinery dealer, talked to his banker, consulted with his wife, found a good offer, and closed the deal. He had help in carrying out his decision from his banker, machinery dealer, mass media, employment of resources (land, labor, and capital), and family influence.

Other steps in List A that the manager would have liked to use were his own management fieldman, mass media, and time. If he had it to do over, he would have made the same decisions, but he would have carried out decisions out in a different manner. When he traded tractors, he should have traded for one with more horse power. This will not be corrected until he trades tractors again. The manager does compare the cost of gathering information against its value in determining how long he can postpone his decisions. He finds that his own records are helpful in carrying out the same previous decisions.

In dealing with others, he never tries to cover up his actions to confuse them in order to get the best deal. Also, he never tries to create the impression that he is wired up, when he isn't, so as to confuse the person he is dealing with in order to get the best deal. There were no times last year when he refused to get credit so he would be able to borrow in case of trouble. However, once he did refuse to close what appeared to be a profitable deal because the person he was dealing with might not have been reliable.

Decisions the manager postponed were when to sell livestock and buying equipment. Another advantage of postponing a decision is that they may sell themselves while the disadvantage is that things (livestock) may need later care to take care of. Repetitive decisions he made last year were when to plant corn, how much fertilizer to put on, and deciding what work to do first and what to let go for awhile. Methods in List A that he used to help carry

Case Study, No. 12

The decision this manager had to make was whether or not to build a new house. He was not forced into this decision, because he was really to make it willingly. This was a voluntary decision since flexibility existed. The manager did not foresee the future well enough to take action, but he valued the need for additional information more than the cost of obtaining the information. So he delayed his decision and went through the learning process.

During the learning process, the manager received advice from the builder and friends on the cost, and he received help from his wife in making the plans for the house. He then made the intermediate decision that he could do part of the work if he decided to build a house. He then made the major decision to build his new home. This was a positive decision because action was taken to carry the decision out. In carrying out his decision, the manager drove the nails, tore down the old house, dug a basement, built the house, and contracted a carpenter to do the inside finishing and cabinet work. The manager was helped in bringing out his decisions from the FGA, county agent, farm management specialist, and the lumber yard.

Whether or not to build a tractor was another decision the manager had to make. He was not forced into this decision because he was really to make it willingly. Since flexibility existed, this was a voluntary decision. In this case, the manager did not value the need for additional information more than the cost of obtaining it, so he went ahead and made the decision without going through the learning process. He felt that his knowledge was complete enough to make him willing to accept the consequences of errors that followed from his decision. He then made the decision to buy a tractor. This was a positive decision because action was taken to carry his decision out.

Case Study, Pt. 12

The first decision this manager faced was whether or not to buy a farm. He was forced into this decision, because he was not ready to make it willingly. Since no flexibility existed, this was an involuntary decision. This situation existed when the manager was unable to make an "informed" decision and thus was forced by circumstances to evaluate the alternatives and decide whether or not to act. He then made the decision to buy the farm. Since he decided to act, this was a forced positive decision.

The manager carried out his decision by getting both parties together, starting the interest rates, drawing up the contract, and closing the deal. In carrying out his decision, the manager had help from his bank.

Another decision the manager had to make was whether or not to trade tractors. He was not forced into this decision, because he was ready to make it willingly. This was a voluntary decision since flexibility existed. The manager did not foresee the future well enough to take action, but he valued the need for additional information more than the cost of obtaining it. So he delayed his decision and went through the learning process.

During the learning process, the manager found what models were offered by the dealer, received advice from his banker and from other operators who owned the same model of tractor. He made the intermediate decision that a bigger tractor was needed and made the intermediate decision to try one out. He then made the major decision to trade tractors. This was a positive decision because action was taken to carry it out. In carrying out his decision, the manager looked at the different models, tried one out, and finally closed the deal. Methods he used to carry out his decision were his banker, machinery dealer, knowledge previously accumulated, learning, and neighbors' information.

... to take on more ground was another decision. The manager was forced into this decision, because he was not used to the situation. Since no flexibility existed, this was an involuntary decision. The decision existed when the manager was unable to make an "informed" decision and then was forced by circumstances to evaluate the alternatives and decide whether or not to act.

The manager then made the decision to take on more ground. This was a forced positive decision since he decided to act. In order to carry out this decision, he simply made arrangements with the landlord and started farming the land. Because he took on more land, the manager faced the problem of acquiring more machinery and labor. He solved it simply by buying more machinery and hiring more labor. He had help in carrying out his decision from family members, borrowing, and time.

Other steps in List 1 that the manager could like to have used were the knowledge of the situation, knowledge previously accumulated, and learning. If he had it to do over, he would have made the same decisions; and on the occasion did he carry out a right decision in the wrong manner. The manager was not aware of the cost of gathering more information against its value in decision making. He was long in coming to a decision. He thinks that his family members are helpful in carrying out decisions concerning his taxes.

In dealing with other people, he never tries to cover up his actions in order to protect the other person, and he never tries to create the impression that he is doing in order to confuse the other person so he will get the best deal. There are no third party relationships in his credit so he would not be helped in case of trouble, and there was no time when he refused to help someone because he was a professional but because the person he was dealing with was not reliable.

He made a postponed decision concerning the timing of the decision. The advantage of postponing a decision is so he can learn more about the decision, while the disadvantage is that he may talk himself out of it eventually. He decided that he made last year were not to fertilize his wife and then to spray Atrazine. Methods from List A that he used to carry out these decisions were his machinery dealer, elevator, mass media, knowledge previously accumulated, and learning.

He is never 100 percent certain of the outcome of his decisions.

Case Study No. 76

Whether or not to trade trucks was a decision this manager had to make. He was not forced into this decision, because he was ready to make it willingly. Since flexibility existed, this was a voluntary decision. He did not foresee the future well enough to take action, but he valued the need for additional information more than the cost of obtaining it. So he delayed his decision and went through the learning process.

During the learning stage, the manager received advice from other farmers and dealers. He made the intermediate decision to take the dealers' word on what was the best truck. He then made the major decision to trade trucks. This was a positive decision because action was taken to carry the decision out. In carrying out the decision, the manager talked to other truck owners, to different dealers, and finally closed the deal. The operator received help in carrying out his decision from the machinery dealer, mass media, knowledge previously accumulated, family influence, learning, and his neighbors.

The next decision the manager had to make was whether or not to reorganize his feeding operation. He was not forced into this decision, because he was ready to make it willingly. Since flexibility existed, this was a voluntary decision. He did not foresee the future well enough to take action, but he valued the need for additional information more than the cost of obtaining it. So he delayed his decision and went through the learning process.

During the learning process, he received advice from KSC Extension specialists, his county agent, farm management fieldman, and farm veterinarian. He then made the intermediate decision that feeding part of the year was inefficient. He then made the major decision to reorganize his feeding operation. This was a positive decision because action was taken to carry it out. In

making his decision, the manager bought lighter weight cattle, built flexible pens so they could be expanded or changed to meet his future needs, and made his cattle pay their own way by paying for this reorganization out of his cattle profits. Problems he faced in carrying out his decisions were: flies, waste, and a lack of sufficient labor.

These problems resulted in several secondary decisions. He was not forced into these decisions, because he was ready to make them willingly. Since flexibility existed, these were voluntary decisions. In this case, the manager did not value the need for additional information more than the cost of obtaining it, so he went ahead and made the decisions without going through the learning process. He felt that his knowledge was complete enough so that he was willing to accept the consequences of errors that followed from his decisions. As for the flies, he decided to spray the cattle. To eliminate the waste problem, he decided to keep the waste cleaned up and to build a ridge in the corral so it would drain properly. Lastly, he decided to buy a silo unloader and a baler to eliminate the labor problem. These three secondary decisions were all positive because action was taken to carry them out.

The manager received help in carrying out his decisions from his feed dealer, county agent, farm management fieldman, bulletins and circulars from KCU, sales and knowledge previously accumulated, employment of resources (land, labor, and capital), and time.

Another step in List A that the manager would like to have used more was his bank. If he had it to do over again, he would have made the same decisions and would have carried them out in the same manner. He compares the cost of gathering new information against its value in determining how long he can delay a decision. He finds that his farm records are helpful in carrying out decisions because it shows him exactly what he is doing.

When dealing with other people, he never tries to cover up his mistakes. When he is dealing with a person he is dealing with; and he never tries to create the impression that he is covering up, when he isn't, in order to get the best deal. There was one deal last year when he refused to use credit so he would be able to handle in case of trouble, however, he has refused to close what appeared to be a profitable deal because the person he was dealing with might not have been reliable.

There were no certain types of decisions that he postponed last year. One of the advantages of postponing a decision is that he can gather more information. The disadvantage is that indecision may cause him to go around in circles. The types of decisions that he made last year were when to plant soybeans, when to buy cattle, and how much fertilizer to use. Methods in List I he used to carry this decision out were his banker, feed dealer, elevator, county agent, farm management extension agent, bulletins and circulars from NDS, his own knowledge previously accumulated, employment of resources (land, labor, and capital), government programs, family influence, learning, and time.

Case Study No. 60

Whether or not to buy some land was a decision this manager had to make. He was not forced into this decision, because he was ready to make it willingly. Since flexibility existed, this was a voluntary decision. The manager did not foresee the future well enough to take action, but he valued the need for additional information more than the cost of obtaining it. So he delayed his decision and went through the learning process.

During the learning process, he received advice from his family. He made the intermediate decision that he needed more land. The manager then made the major decision to buy the farm. This was a positive decision because action was taken to carry it out. He carried out his decision by looking at various farms that were for sale, making an offer on one farm, closing the deal, and having the contract drawn up. A problem created by the purchase was getting enough money for the down payment.

This problem created a secondary decision that had to be made--where to get the money. He was not forced into this decision, because he was ready to make it willingly. This was a voluntary decision since flexibility existed. In this case, the manager did not value the need for additional information more than the cost of obtaining it, so he went ahead and made the decision without going through the learning process. The manager felt that his knowledge was complete enough so that he was willing to accept the consequences of errors that followed from his decision. He then made the secondary decision to borrow the money for the down payment from his life insurance policy. This was a positive decision because action was taken. He carried out this intermediate decision by contacting the life insurance company and making arrangements with them.

The manager received help in carrying out his decision from his firm, bank, and children, mass media, knowledge previously accumulated, and family influences.

The second decision the manager faced was whether or not to quit raising wheat. This was a forced decision, because he was not ready to make the decision willingly. Since no flexibility existed, this was an involuntary decision. This situation existed when the manager was unable to make an "informed" decision and then was forced by circumstances to evaluate the alternatives and decide whether or not to act. He made the decision to stop planting wheat altogether because his allotment was so small. This was a forced positive decision because action was taken to carry it out. He carried out his decision by planting his wheat ground in other crops. A problem he faced in carrying out his decision was a drop in his net income due to the abatement of wheat income.

This problem led to a secondary decision--how to gain back the loss in income incurred by not raising wheat. This was not a forced decision, because he was ready to make it willingly. This was a voluntary decision since flexibility existed. Again the manager did not value the need for additional information more than the cost of obtaining it, so he made the decision without going through the learning process. He felt that his knowledge was complete enough that he was willing to accept the consequences of errors that followed his decision. He then made the secondary decision to start in the dirt raising business to help contribute to his income. This was a positive decision because action was taken to carry it out. He carried out his decision by obtaining some equipment and letting his neighbors know that he was in business.

The manager did not act in carrying out his decisions from his machinery without any government programs (Soil Conservation Service).

Under decision, the manager had to make was whether or not to trade chickens. He was not forced into this decision, because he was ready to make the decision willingly. Since flexibility existed, this was a voluntary decision. In this case,

APPENDIX III

TYPE OF DECISION AND FARM DESCRIPTION FOR EACH CASE STUDY

Case Study No.	1	2	3
Involuntary Decision	- <u>X</u> ---X	-----	<u>X</u> ---
Carried Out	+ +		++
Intermediate Decision			I
Learning			L
Voluntary Decision	X- <u>XXX</u> -	<u>XXXX</u> <u>XXXX</u>	-- <u>XX</u>
Vol. Dec.--No learning	X	<u>XX</u> <u>X</u>	X
Carried Out	+	++ +	+
Vol. Dec.--With learning	<u>XXX</u>	<u>XXXX</u> <u>XX</u>	<u>X</u> <u>X</u>
Carried Out	++0	++++ ++	+ +
1st Intermediate Dec.	III	I I I	I I
2nd Intermediate Dec.	I		
Farm Type	Lvstk. Grain	Dairy	Dairy
Experience	28	42	22
Acres	2,200	526	366
Ave. Net Income	13,349	10,600	8,627
Ave. Total Investment	361,991	89,917	115,093
Ave. Change Net Worth	29,235	3,231	17,598

X - Primary Decision

X - Tertiary Decision

X - Secondary Decision

+ - Decision Carried Out

APPENDIX III
(Continued)

Case Study No.	4	5	6	7
Inv. Dec.	---	---X-	---	X---
Ord. Out		+		+
Int. Dec.				
Lrng.		L		
Vol. Dec.	XXX	X XX -X	XXX	-X XX
Vol. Dec.--No Lrng.		X		
Ord. Out		+		
Vol. Dec.--W. Lrng.	XXX	<u>XX</u> X	XXX	<u>XX</u>
Ord. Out	+++	++ +	+++	+0
1st Int. Dec.	III	I	II	II
2nd Int. Dec.	I			
Farm Type	Lvstk. Grn.	Lvstk. Grn.	Lvstk. Grn.	Lvstk. Grn.
Experience	4	43	26	20
Acres	1,280	692	830	720
Ave. Net Income	4,427	11,962	10,483	3,260
Ave. Total Invest.	220,537	56,872	165,349	137,626
Ave. Chg. Net Worth	-7,964	1,604	6,327	5,270

C - Decision Not Carried Out

L - Learning

I - Intermediate Decision

APPENDIX III
(Continued)

Case Study No.	8	9	10	11
Inv. Dec.	---	XXX	X-	-X--
Crd. Out		+++	+	+
Int. Dec.				
Lrng.		L		
Vol. Dec.	XXX	---	-X	X-XX
Vol. Dec.--No Lrng.	X X			
Crd. Out	+ 0			
Vol. Dec.--W. Lrng.	X		X	X XX
Crd. Out	+		+	+
1st Int. Dec.	I		I	I ++
2nd Int. Dec.	I			I II
Farm Type	Lvstk. Grn.	Grain	Lvstk. Grn.	Dairy
Experience	35	26	20	23
Acres	480	896	800	820
Ave. Net Income	8,056	12,751	5,273	10,837
Ave. Total Invest.	66,418	101,073	99,075	100,347
Ave. Chg. Net Worth	15,170	9,247	21,498	5,185

APPENDIX III
(Continued)

Case Study No.	12	13	14	15
Inv. Dec.	-----	---	X---	X--
Crd. Out			+	+
Int. Dec.				
Lrng.			L	
Vol. Dec.	XXXXX	XXX	-XXX	-XX
Vol. Dec.--No Lrng.	X XX	XX		X
Crd. Out	O ++	++		+
Vol. Dec.--W. Lrng.	X <u>X</u>	X	XXX	X
Crd. Out	+ +	+	+++	+
1st Int. Dec.	I	I	II	I
2nd Int. Dec.	I			
Farm Type	Lvstk. Grn.	Lvstk. Grn.	Lvstk. Grn.	Lvstk.
Experience	19	4	4	21
Acres	720	555	512	960
Ave. Net Income	12,060	3,324	3,092	5,227
Ave. Total Invest.	130,805	97,831	249,973	104,937
Ave. Chg. Net Worth	6,675	-103	9,790	4,750

APPENDIX III
(Continued)

Case Study No.	16	17	18	19	20
Inv. Dec.	---X	--X	X-X	---	--X--
Crd. Out	+	+	+		+
Int. Dec.			+		
Lrng.					
Vol. Dec.	<u>XXX</u> -	<u>XX</u> -	-X-	<u>XXX</u>	<u>XX</u> - <u>X</u>
Vol. Dec.--No Lrng.	<u>XX</u>	X		<u>X</u>	<u>X</u> <u>X</u>
Crd. Out	O+	+		+	+
Vol. Dec.--W. Lrng.	X	X	X	<u>XX</u>	X
Crd. Out	+	+	+	++	+
1st Int. Dec.		I	I	II	I
2nd Int. Dec.			I		
Farm Type	Dairy	Lvstk. Grn.	Lvstk. Grn.	Lvstk. Grn.	Dairy
Experience	20	38	17	24	22
Acres	1,060	425	1,360	884	240
Ave. Net Income	19,672	3,707	5,475	9,965	5,373
Ave. Total Invest.	138,353	93,443	177,540	163,260	55,832
Ave. Chg. Net Worth	12,311	-387	3,573	4,411	7,367

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A STUDY OF THE DECISION MAKING AND MOTIVATIONAL FUNCTIONS
OF SELECTED CENTRAL KANSAS FARM MANAGERS

by

GARY DEAN BRUNING

B. S., Kansas State University, 1967

AN ABSTRACT OF A MASTER'S THESIS

submitted in partial fulfillment of the

requirements for the degree

MASTER OF SCIENCE

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KANSAS STATE UNIVERSITY
Manhattan, Kansas

1968

The objectives of this study were to (1) determine the factors that influence the decision-making of farmers and their decisions; and (2) determine the factors that influence the decision-making of farmers and their decisions.

Thirty farmers from the Farm Management Association were selected for this study. The criteria for selecting these 30 farmers were: (1) the farmer must not have been operating in partnership with anyone else; (2) the farmer must have displayed a high degree of cooperation with the researcher; (3) the farmer had to manage a fairly large operation; (4) the farmer had to be fairly successful; and (5) the farmer had to live relatively close to Kansas State University.

The interviews were recorded on a tape recorder and later were written up in case study form. Data such as net income, change in net worth, and total investment for each farmer were obtained directly from the records of the Farm Management Association in that Association. A four-year average (1964-67) was used to eliminate variations not due to the managers' actions.

Analysis of the case studies revealed that out of a total of 30 decisions, 23 percent were involuntary decisions, 3 percent resulted in complete inaction, 26 percent were voluntary without learning decisions, and 50 percent were voluntary with learning decisions. The two decisions with the highest percentages, voluntary without learning and voluntary with learning decisions, are positions of low certainty than with the involuntary decision or the inaction situation, which are positions of low uncertainty.

Most decisions were based against a decision model or one of the total was a representation of all the decisions in the case studies. The farmers decided decisions that did not fit the model were compared to those farmers whose decisions did fit the model.

