THE CONSTRUCTION OF A PROCEDURAL MODEL FOR DECISION-MAKING AND ITS COMPARISON WITH THE PRACTICES USED BY POLICE ADMINISTRATORS

Thesis for the Degree of M. S.
MICHIGAN STATE UNIVERSITY
Albert A. Ackerman
1964

THE CONSTRUCTION OF A PROCEDURAL MODEL FOR DECISION-MAKING AND ITS COMPARISON WITH THE PRACTICES USED BY POLICE ADMINISTRATORS

by

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AN ABSTRACT

Submitted to the
College of Social Science
Michigan State University
in partial fulfillment of the requirements
for the degree of

MASTER OF SCIENCE

School of Police Administration and Public Safety

1964

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ABSTRACT

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The police organization needs capable administrators to allow it to fulfill its responsibility to society. The most important function that a police administrator has is the making of decisions. In reviewing the literature on decision-making, and researching the decision-making practices followed by police executives, it became apparent, to the author, that there was a need to explore the process known as decision-making in an effort to provide guidelines for the practical decision-maker to use in his daily operations.

The basic hypothesis of this research is that the procedural model for decision-making, which is offered herein, is valid and can be supported by the literature and logical reasoning. To accomplish the aims of this study a procedural model for decision-making was constructed and explained. The literature in the field was reviewed and compared with the model. Case histories were developed from empirical situations and decisions which were selected from police departments within Michigan. This field research included the interviewing of police executives in an effort to determine how they arrive at their decisions.

The findings indicated that the nine-step procedural model was supported by the literature. An analysis of the empirical data revealed that the use of the proposed model might have increased the quality of the police administrators' decisions; at the very least, it would have allowed them to avoid certain pitfalls.

The study suggests that police administrators should take a greater interest in decision-making processes; particularly in increasing their capacity to make decisions.

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8/12/64

ACKNOWLEDGMENTS

I would like to express my profound thanks to The Provost Marshal General of the Military Police Corps, and the United States Army, for making this period of advanced study possible.

My sincere appreciation to Mr. Raymond T. Galvin, my thesis advisor, for his time, effort, and many worthwhile suggestions.

My thanks to the police administrators who were most helpful in providing the empirical data for this study.

My special thanks to my wife, Isabel, for her assistance, encouragement and understanding during the course of this research.

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CHAPTER I

INTRODUCTION

Governments have been established to allow our complex society to function in an orderly manner, rather than in a state of chaos. These governments have promulgated rules and regulations to achieve an orderly society; the enforcement agency for these rules and regulations is the police.

The police organization, in order to be able to perform its job effectively, must have a functional hierarchy of organization and capable police administrators. The most important job a police administrator has is to make decisions. How he makes these decisions or how he should make them is a question that is often asked. The answers, when offered, vary from "a hunch" to game theory and linear programming.

This thesis will be concerned with how the police administrators make their decisions; the construction of a decision-making model which police administrators may use in the daily operations of their departments; the literature available in the field of decision-making; and case histories relating to the decision-making processes used by police administrators within the state of Michigan.

The public judges a police department by the contacts it has with the members of the department. These police officers when dealing with the public are usually acting in accordance with departmental policy. This policy is directly controlled by the quality of the decisions which are made concerning it. An improvement in the technique of decision-making should lead police administrators toward the establishment of better policies, which in turn will result in better performance by the police officers, who establish the department's reputation by their contacts with the public.

I. STATEMENT OF THE PROBLEM

It was the purpose of this study (1) to construct a procedural model for decision-making; (2) to review the existing literature in the field and compare it with the procedural model, to determine if it will support or reject the model; and (3) a comparison of the model with actual decisions made within several Michigan police departments.

The basic hypothesis of this research is that the procedural model for decision-making, which is offered in Chapter II, is valid and can be supported by the literature and logical reasoning. An effort will be made to test the model by collecting field data from the various police departments, however, a word of caution is necessary. The

The comparison of actual practices with the model does not permit acceptance or rejection of the model. It cannot be assumed that the procedures which the administrators follow in their decision-making are necessarily correct, even if the resulting decisions produce excellent results.

There are three key questions which the study will attempt to answer:

1. Is the proposed model a valid procedure to accomplish rational decision-making?

2. Did the police administrators, whose cases were analyzed, follow a rational procedure to arrive at their decisions?

3. Would adherence to the model have increased or decreased the factors considered in arriving at a decision by the police administrators?

Conclusions will be developed after the hypothesis has been tested and the key questions have been analyzed.

II. IMPORTANCE OF THE STUDY

It need only be realized that every action that takes place was preceded by a decision to act, and the role of a decision in "getting things done" will become apparent.

Administration would be impossible without the decision-maker who makes it effective.

The value of this study will rest with the use that police administrators make of the procedural model which was constructed, and the extent to which it helped the administrator become more effective in his primary role--as a decision-maker.

Police decision-makers must strive for excellence in the operation of their departments if they are to keep abreast of the other divisions of government. The police executive through the demonstration of his administrative abilities can do much toward increasing the prestige of, and respect for law enforcement.

III. SCOPE OF THE STUDY

The scope of this research will be limited as indicated below:

1. A procedural model for decision-making will be constructed. Although the model should be valid for any decision-making situation, in its development the following assumptions were made:

a. The situation will allow adequate time to follow a rational procedure in arriving at a decision.

b. The situation will be concerned with an area for which specific policy guidance does not exist. The decision will in fact determine future policy.

c. That the decision is being made at the proper level. That the person making the decision is acting within his scope of responsibility and authority, and that he also has the information, or means of obtaining it, needed for a rational consideration of the question involved.

2. The literature reviewed for the comparison will be limited to published books and articles on the subject.

3. The empirical situations and decisions selected for comparison will come from city (50,000 - 100,000 population) police departments within the state of Michigan. The police administrator interviewed will be at the middle-management level of the department.

IV. TERMS USED AND THEIR DEFINITIONS

To insure that the thesis is clearly understood, several terms will be defined in the light of how they are herein used. The definitions themselves will not be referenced as they are the combinations of many ideas in the field, in addition to the viewpoints of the author. Discussion later in the study will adequately identify the main sources for these definitions.

Decision. A decision is the selection of a possible course of action or the selection not to act when confronted with a problem or question.

Decision-making process. The decision-making process includes all the measures taken to arrive at a decision and to insure its implementation. It starts when the decision-maker becomes aware of and identifies the problem and terminates with the action following the decision, including the supervision of the results.

Rational Decision-making. A technique for making decisions based on the decision-maker's ability to reason logically, as by drawing conclusions from inferences. Ideally it means the absence of emotionalism when making the decision. It will be discussed later, but should be noted now, that the rationality of an individual is limited; therefore the procedures followed to arrive at a decision are at best only partly rational.

Rational decision. A decision is rational if the alternative selected will accomplish the goal sought by the decision-maker.

Judgment. A judgment is an estimate of an existing or future condition or situation.

Middle-Management. All the empirical cases will come from police departments; middle-management in a police department will be construed to mean from just above the Desk Sergeant to just below the Chief in the hierarchial structure of the department.

V. ORGANIZATION OF THE REMAINDER OF THE STUDY

The remainder of this research is divided into four additional chapters as follows:

Chapter II will present the development and explanation of the procedural model for decision-making.

Chapter III presents a review of the literature and an analysis of the comparison between the literature and the model.

Chapter IV is devoted to the field research conducted, including the methodology, empirical data gathered, and the findings.

Chapter V will present a summary of the study and a development of the conclusions.

VI. SOURCES OF INFORMATION

The primary sources of information came from library research and empirical research.

In the library research an effort was made to find literature on the theoretical aspects of decision-making, as well as writings on practical decision-making problems. Most of the information came from books and professional journals, particularly in the fields of business, sociology, economics, and psychology. Specific sources will be accredited throughout the study.

The empirical studies were conducted through personal interviews in several city police departments within the state of Michigan. The cities chosen had a population between 50,000 and 100,000.

CHAPTER II

CONSTRUCTION OF A PROCEDURAL MODEL FOR DECISION-MAKING

"Why should a decision-making model be necessary, decisions are so commonplace, everyone knows how they make them?" This statement couldn't be further from the truth. The following were the comments made by businessmen in response to a question by John McDonald[1], on how they arrived at their decisions:

Charles Cox, president of Kennecott Copper, says, "I don't think businessmen know how they make decisions. I know I don't."

Charles Dickey, chairman of the executive committee of J. P. Morgan Company, says, "There are no rules."

Benjamin Fairless, ex-chairman of United States Steel: "You don't know how you do it; you just do it."

John McCaffrey, president of International Harvester: "It is like asking a pro baseball player to define the swing that has always come natural to him."

Dwight Joyce, president of Glidden Company, says, "If a vice president asked me how I was able to choose the right course, I'd have to say, 'I'm damned if I know.'"

When he was asked, "How do you make your decisions?"

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[1] John McDonald, "How Businessmen Make Decisions," *Fortune*, 52 (August, 1955), p. 85.

by Robert Morell[2], William M. Day, president of Michigan Bell Telephone Company, replied, "I don't think we know how we make our decisions."

In these examples some of the most successful administrators in the country readily admit that they don't know just how they make their decisions, that they just make them.

For any administrator who desires to improve his decision-making ability it becomes necessary to follow a logical improvement program from some starting point. The starting point should be with what he does now; however, as has been shown, he is unlikely to know what he is doing now. Were the administrator to use as his base point a procedural model he would be able to check on his progress and logically build on his experience by the use of a consistent approach to problem-analysis and decision-making.

The primary purpose for the model that is offered here is that it be used as a tool through which police administrators can analyze their present decision-making procedures; as well as being a guide to future decision-making. It goes without saying that the more adequate the decisions, the more adequate the police service will be.

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[2] Robert W. Morell, Managerial Decision-Making (Milwaukee: The Bruce Publishing Company, 1960), p. 2.

The author is not attempting to convert "successful decision-makers" into users of the model. It is offered as a guide to those who desire to improve their decision-making ability.

The procedural model for decision-making will now be presented; it will be followed by an explanation of the various phases of the model.

DECISION-MAKING PROCESS MODEL

1. Define the problem or questionable situation clearly.
2. Determine the goal or desired results.
3. Development of alternatives which are capable of achieving the goal.
4. Analysis of the alternatives.
5. Evaluating the alternatives in light of their desired results and unwanted consequences.
6. DECISION - Selection of the alternative which maximizes the desired results and minimizes the undesirable results, while allowing a high probability of successful implementation.
7. Issue the communications necessary to start the action which will implement the decision.
8. Supervise the implementation of the decision.
9. When results indicate that the decision can be improved, take the available information and re-enter the model at step #3. Adjust the original decision as necessary.

EXPLANATION OF THE MODEL

Although the listing of the procedural steps is self-descriptive, a further explanation will be offered to insure the understanding of the author's concept of each step. The information provided will not be exhaustive, but should provide adequate guidelines for the proper use of the model.

Step #1. Defining the Situation. Most problems are so complex that they can never be completely analyzed. While it is not necessary to identify every detail of the situation, it is necessary to be able to identify the real problem. This will take some digging into the situation; too superficial an analysis may reveal an apparent problem, but solving the apparent problem will not meet the needs of the situation. The real problem must be sought and found.

The problem should be stated in a precise, realistic manner so that it can be clearly understood and that it will allow intelligent pursuance of the remaining steps of the model.

After identifying and stating the problem, assume that the problem stated has been completely solved, then ask yourself if this would correct or solve the situation you were confronted with; if not you have not uncovered the real problem.

Step #2. Determining Goals. The goal is what you want to get done.

Once the real problem has been recognized, a goal which will solve the situation must be determined. The goal decided upon should:

1. Satisfactorily correct or solve the situation.
2. Be attainable with the resources available.
3. Be ethically acceptable in our environment.

Step #3. Developing Alternatives. A development of possible solutions to the situation which are within the capability of the resources available and which are capable of meeting our goal.

Research and information gathering are of primary concern here. Although it can never be ascertained that all the possible alternatives have been uncovered, an effort must be made to develop as many as time and economy will permit.

Information sources for the development of alternatives may come from:

1. Facts known to the decision-maker.
2. Facts unknown to the decision-maker, but he knows that the information is available.
3. Facts, as well as their availability, unknown to the decision-maker, which are supplied to him by others during the quest for information.
4. Creative thinking by the decision-maker and others.

5. Alternatives which come to light during the search for information.

6. Judgments made by the decision-maker.

7. Judgments made by others and accepted by the decision-maker.

8. Recognition that an area of uncertainty will exist.

Step #4. Analyzing Alternatives. It is recommended that this step especially be done in writing or schematically. This will aid in further analysis. A worksheet would be very useful for this purpose; for an example form see Figure 1.

The following is a guide that may be used for the analysis of the alternatives:

1. Take each alternative and list what is factually known will happen if it is adopted.

2. Take each alternative and list what is estimated will happen if it is adopted. An estimate regarding the degree of probability of the results should also be made.

3. Taking each alternative, along with what is known will happen and what is estimated will occur, project both the wanted and unwanted consequences of it.

Step #5. Evaluating Alternatives. Now take the list of alternatives, along with the wanted and unwanted consequences which were developed, and evaluate them with the

WORKSHEET

Alternative No. ______. ________________________________

____

____

____

If this alternative is pursued the following:

1. Will happen (fact)
    a.
    b.
    c.
    d.
2. Should happen (estimate)   Degree of Probability
    a.
    b.
    c.
    d.

The consequences of this alternative are:

1. Wanted
    a.
    b.
    c.
    d.
2. Unwanted
    a.
    b.
    c.
    d.

FIGURE I

view toward determining the order in which they will produce the most desired results and the least undesired results.

This can be considered a form of weighting the consequences, however, a word of caution is necessary:

1. The number of wanted vs unwanted consequences for each alternative is immaterial. The prime consideration is the importance of the consequences concerned and the effect they have on our goal.

2. Do not attempt to develop a numerical weighting system by which to evaluate the consequences. While this might be possible if each consequence could be isolated and separately considered, it must be remembered that these consequences exist in combinations with each other.

A subjective evaluation of the total effects of all the consequences on an alternative must be made by the decision-maker. This is a judgment on his part, and this intellectual judgment cannot be replaced by a mathematical model or a computer program.

Step #6. Decision. The decision-maker selects the alternative he judges to have the best chance to successfully meet the established goal. This need not necessarily be the alternative which appeared first in order on the list prepared during the previous step. Several of the alternatives may be capable of providing a satisfactory and acceptable solution; the decision-maker may then decide on the basis of which alternative he judges to have the greatest probability of successful implementation. A decision is a prelude to action; the decision-maker in his thinking cannot stop at the point of selecting the best "decision", but must also consider the action which will follow it.

Step #7. Implementation Instructions. Before action can follow a decision, the performers of the action must be notified of the decision and supplied with instructions as to what is expected of them. This communication is essential and the decision-maker must insure that it is properly and promptly prepared and delivered into the hands of those who are required to act.

These instructions must be clear and precise, and leave no doubt or possibility for misunderstanding on the part of the receiver. The communication system should provide for a request for clarification by any properly concerned person, who has received the instructions and doesn't understand them.

Step #8. Supervising Implementation. After the appropriate communications have been issued the decision-maker must supervise their implementation. This insures that the decision is acted upon and that it is done properly. It also allows the decision-maker to discover any confusion or misunderstanding surrounding the action required by the decision; this will enable him to correct instructions promptly.

Step #9. Adjusting the Decision. When the results of the decision become evident the decision-maker may realize that he made the wrong decision or that his decision must be modified to become effective. This being the case he should promptly re-evaluate the situation, taking this newly uncovered empirical information and re-entering the model at step #3. Upon arriving at the new or adjusted decision the necessary instructions should be issued and ample supervision provided.

Be watchful, however, that before a change in a decision is made that it has been determined that it is actually necessary to achieve the goal. Minor changes which may improve the efficiency of the implementation might well be left undone if they would create other problems, ie: new training requirements, lack of confidence by subordinates in the decision-maker, excessive administrative burden, etc.

To change or not to change is a judgment which must be made by the decision-maker. As a guideline, a change should not be made unless it offers a considerable advantage.

CHAPTER III

REVIEW AND ANALYSIS OF THE LITERATURE

This chapter will be divided into three sections. The first will review the literature in discussing such areas as, the role of the administrator and executive; the limitations on rationality in decision-making; economic man in relation to the administrative man; effects of automatic data processing on decision-making; and methods of improving decision-making ability. Section II will present an analysis of the decision-making models appearing in the literature. Thirdly, the proposed procedural model will be compared with the literature.

I. GENERAL REVIEW

Role of Administrative Theory and the Administrator. Throughout history men have employed elaborate rituals for making up their minds. They have poured libations and sacrificed oxen in hopes of persuading a capricious and possibly hostile Nature to reward their decisions. They have consulted sibyls and watched the flight of birds to discover what the future holds in store. They have put their faith in proverbs and rules of thumb devised to take some of the guesswork out of living. They have sought divine guidance, as did George Romney, former president of American Motors, when he fasted and meditated before deciding to seek the Republican nomination for Governor of Michigan.[1]

Executives are remarkably candid about their own ability to analyze the act of decision--usually they admit that they just don't know how they do it.[2]

A general theory of administration must include principles of organization that will insure correct decision-making, just as it must include principles that will insure effective action.[3]

Care must be exercised when attempting to establish organizational procedures for operation. Official rules must be general enough to have sufficient scope to cover the multitude of situations that may arise. But the application of these general rules to particular cases often poses problems of judgment, and informal practices tend to emerge that provide solutions for these problems. Decisions not anticipated by official regulations must frequently be made, particularly in times of change, and here again unofficial practices are likely to furnish guides

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[1] George A. Boehm, "Helping the Executive to Make Up His Mind," Fortune, 65 (April, 1962), p. 128.

[2] Robert W. Morell. Managerial Decision-Making (Milwaukee: The Bruce Publishing Company, 1960), p. 2.

[3] Herbert A. Simon. Administrative Behavior (New York: Macmillan, 1957), p. 1.

for decisions long before the formal rules have been adapted to the changing circumstances.[4] The organizational policy must take both the formal and informal influences and communications into consideration.

The reaching of a decision is the core of administration, all the other attributes of the administrative process being dependent on, interwoven with, and existent for the making of decisions.[5] A characteristic of the services of executives is that they represent a specialization of the process of making organization decisions, and this is the essence of their functions.[6]

Executive work is not that of the organization, but the specialized work of maintaining the organization in operation. This requires several essential executive functions: (1) the providing of a system of communication; (2) promoting the securing of essential efforts; and (3) the formulation and defining of organizational purpose.[7]

Business executives, along with politicians and military

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[4] Peter M. Blau and W. Richard Scott. Formal Organization: A Comparative Approach (San Francisco: Chandler Publishing Co., 1962), p. 6.

[5] J.L. McCamy, "Analysis of the Process of Decision-Making," Public Administration Review, 7 (1947), p. 41.

[6] Chester I. Barnard, The Functions of the Executive (Cambridge, Mass.: Harvard University Press, 1938), p. 189.

[7] Ibid., pp. 215-217

officers, are the principal professional decision-makers of the world. Of the three groups, only the military have a formal doctrine of decision. Traditional United States military doctrine is known as "the estimate of the situation."[8]

Rationality in Decision-Making. Administrative theory is peculiarly the theory of intended and bounded rationality--of the behavior of human beings who satisfice because they don't have the wits to maximize.[9] The need for an administrative theory resides in the fact that there are practical limits to human rationality, and that these limits are not static, but depend upon the organizational environment in which the individual decision takes place.[10]

Consider the individual as a decision-maker. He is not an "economic man". This is not so much because he has feelings, needs social support, and so on, as the Human Relations school suggested, but because there are cognitive limits on his rationality, because he cannot know enough. "Economic Man", in some models at least, is assumed to be in a clearly defined environment, to know all the possible alternatives open to him and their likely con-

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[8] John McDonald, "How Businessmen Make Decisions," Fortune, 52 (August, 1955), p. 86.

[9] Simon (1957), op. cit., p. xxiv.

[10] Ibid., p. 240.

sequences, and to have a clear way of ranking his preferences for them. However, in practical decision-making, human beings have to act in relation to very much more limited and simplified models, which may be readily available as routines or may be the result of prolonged search.[11] The executive's knowledge of the factors that may influence the outcome of a decision is always limited. A major difficulty is that decision-making is concerned with future behavior which cannot be predicted with a high degree of certainty.[12]

Actual behavior falls short, in at least three ways, of objective rationality:

1. Rationality requires a complete knowledge and anticipation of the consequences that will follow on each choice. In fact, knowledge of consequences is always fragmentary.

2. Since these consequences lie in the future, imagination must supply the lack of experienced feeling in attaching value to them. But values can be only imperfectly anticipated.

3. Rationality requires a choice among all possible

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[11] R. N. Spann, "The Study of Organization," Public Administration, 40 (1962), p. 392.

[12] Henry H. Albers. Organized Executive Action (New York: John Wiley and Sons, 1961), p. 203.

alternative behaviors. In actual behavior, only a very few of all these possible alternatives ever come to mind.[13]

March and Simon's theory of rational choice incorporates two fundamental characteristics: (1) choice is always exercised with respect to a limited, approximate, simplified "model" of the real situation. This model is the chooser's "definition of the situation;" and (2) the elements of the definition of the situation are not "given"--that is, we do not take these as data of our theory--but are themselves the outcome of psychological and sociological processes, including the chooser's own activities and the activities of others in his environment.[14]

According to Simon[15], it is impossible for the behavior of a single, isolated individual to reach any high degree of rationality. The number of alternatives he must explore is so great, the information he would need to evaluate them so vast that even an approximation to objective rationality is hard to conceive.

The organizational and social environment in which the decision-maker finds himself determines what consequences

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[13] Simon (1957), op. cit., p. 81.

[14] J. G. March and H. A. Simon. Organizations (New York: John Wiley and Sons, 1961), p. 139.

[15] Simon (1957), op. cit., p. 79.

he will anticipate, what ones he will ignore.[16] The administrator through education, training, and experience has built a personal framework over a period of years within which he considers his decision. Within this framework he has specific and general knowledge, skills, and motivations, including a set of values of what is worthwhile for him and for the organization.[17] Although facts are universal, it should be noted that interpretations of facts are personal. The decision-maker should be aware that his analysis of facts is dominated to a great extent by his conceptual framework.[18]

A cardinal sin in decision-making is the manufacturing of facts. This takes place when the decision-maker has already prejudged a situation and wishes to build a case for his "decision of desire" by providing an illusory factual base.[19]

The executive is also interested in the value or worth of the events he observes or participates in. His values are continuously a factor in the decisions he makes and the

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[16] March, op. cit., p. 139.

[17] Carroll Shartle. Executive Performance and Leadership (Englewood Cliffs, N.J.: Prentice-Hall, 1956)p.286.

[18] Morell, op. cit., p. 20.

[19] Ibid.

direction he pursues.[20]

Simon sees three categories of limitations to an individual's rationality: (1) unconscious skills, habits, and reflexes; (2) values and conceptions of purpose; and (3) knowledge and information.[21]

Economic Man Vs Administrative Man. While economic man maximizes--selects the best alternative from among all those available to him; administrative man, satisfices--looks for a course of action that is satisfactory or "good enough."[22] What is the economic man like? According to Edwards, he is completely informed; infinitely sensitive; and rational.[23]

The rational man of economics and statistical decision theory makes "optimal" choices in a highly specified and clearly defined environment. These models make three basic assumptions: (1) that all the alternatives of choice are "given"; (2) that all the consequences attached to each alternative are known; and (3) that the rational man has a complete utility-ordering for all possible sets of consequences.[24] The models of economic man and his mathematical

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[20] Shartle, *op. cit.*, p. 152.

[21] Simon (1957), *op. cit.*, p. 241.

[22] *Ibid.*, p. xxv.

[23] Ward Edwards, "The Theory of Decision-Making," *Psychological Bulletin*, 51 (1954), p. 381.

[24] March, *op. cit.*, pp. 137-138.

relations are for the most part inadequate for the construction of verifiable theories of behavior of individuals within the organization.[25]

Cyert describes the fallacy of economic and statistical models by showing that they usually set up a situation where: (1) the decision-maker is confronted with a number of different, specified alternative courses of action, (2) each alternative has a set of consequences attached to it, and (3) the decision-maker has a system of ranking preferences among the consequences; whereas, in the real world:

1. Alternatives are not given, they must be searched for.

2. Consequences are not known, they must also be sought out.

3. Comparisons are not usually based on a single criterion. In place of a search for the "best" alternative the decision-maker usually seeks a "satisfactory" alternative.[26]

Automatic Data Processing and Decision-Making. However significant the techniques for programmed decision-making that have emerged over the last decade, and however great

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[25] Martin Shubik, "Studies and Theories of Decision-Making", *Administrative Science Quarterly*, 3 (1958), p. 298.

[26] Richard M. Cyert, H.A. Simon and Donald B. Trow, "Observation of a Business Decision," *Journal of Business* 29 (1956), p. 237.

the progress in reducing to sophisticated programs some areas that have previously been unprogrammed, these developments still leave untouched a major part of managerial decision-making activity. Many, perhaps most, of the problems that have to be handled at middle and high levels in management have not been made amenable to mathematical treatment, and probably never will.[27]

Present indications are that operations research will live up to its expectations of helping executives to make decisions more intelligently, but the decisions will always remain to be made. The possibility of removing all subjective and qualitative factors must be deemed at the present time to be more a hope than a real possibility, and the construction of completely consistent and logical goals, while a reasonable objective in decision-making is probably unattainable.[28]

Executives have no reason to fear that they will be replaced by machines producing decisions "untouched by human brains." Hunch and intuition are still invaluable. Indeed, most decision theorists today are looking for ways

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[27] Herbert A. Simon. The New Science of Management Decision (New York: Harper, 1960), p. 21.

[28] Edward C. Bursk. New Decision-Making Tools For Managers (Cambridge, Mass.: Harvard University Press, 1963) p. 29.

to incorporate expert judgment with their mathematics. They want to take full advantage of the comprehensiveness of the human mind to augment the precision of computers. This inclusion of judgment is making decision theory more realistic, but at the same time it may cost the theory some of its mathematical incisiveness.[29]

The "machine" model of human behavior also tends to ignore the wide range of roles which the participant simultaneously performs and does not effectively treat problems associated with the coordination of the roles. In particular, it should be obvious that supervisory actions based on the naive "machine" model will result in behavior that the organization wishes to avoid.[30]

"Project Rand" was established by the Rand corporation, which is an independent, non-profit organization whose principal business is long-range, scientific, military research designed to aid Air Force decisions. Rand scientists have concluded that no decision mechanism can be devised that will completely escape the basic uncertainties and complexities that plague large problems of decision.[31]

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[29] Boehm, _op_. _cit_., p. 129.

[30] March, _op_. _cit_., p. 81.

[31] John McDonald, "The War of Wits," _Fortune_, 43 (March, 1951), p. 99.

In the new era of decisions, as in the past, the executive must find the problems and the alternatives. The combination of these creative acts, together with the act of judgment, still defines and probably always will define the prime function of the executive.[32]

Improvement of Decision-Making Ability. The capacity of most men to make decisions is quite narrow, although it is a capacity that may be considerably developed by training and especially by experience.[33] By securing an understanding of the decision-making process and by deliberately putting it to work for him an individual should be able to augment whatever ability he may already have in this area.[34]

Effective decision-making demands more than experienced-based judgment. In the final analysis, there is no substitute for this judgment, but it should be disciplined by application within a systematic problem-solving approach.[35] The secret of problem-solving is that there is no secret. It is accomplished through complex structures of familiar

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[32] McDonald (Aug., 1955), *op. cit.*, p. 137.

[33] Barnard (1938), *op. cit.*, p. 190.

[34] Morell, *op. cit.*, p. 12.

[35] Robert W. Carney, "Make Your Decisions Effective," *Administrative Management*, 24 (December, 1963), p. 55.

simple elements.[36]

Can an executive develop his abilities to make effective management decisions except through the process of making good ones and bad ones over a long period of time? Many managers are emphatic in saying that they doubt it. Short cuts and easy ways to executive excellence in decision-making have been notably unsuccessful. Experience still appears to be the best teacher of this most basic management skill.[37]

Decision-making deals with problems and alternatives. Whether the decision-maker chooses one alternative or another depends very much upon his ability to reason validly.[38] Far too many errors in solving problems and in making decisions are due to loose reasoning and to an ignorance of the mind. We must think logically before we can act logically.[39]

The major objectives of a decision-making training program should be to provide realistic situations in which the learner can increase his capacity as a business decision-maker through increasing his understanding of the decision

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[36] Simon (1960), op. cit., p. 27.

[37] Charles H. Kepner and Benjamin B. Tregoe, "Developing Decision Makers," Harvard Business Review, 38 (September, 1960), p. 115.

[38] Morell, op. cit., p. 13.

[39] Ibid., p. vii.

process and sharpening his analytical skill: data collection, evaluation and analysis, situational diagnosis, solution alternative development.[40]

Barnard feels there are four things the executive must learn regarding decision-making:

1. Not to decide questions that are not now pertinent.
2. Not to decide prematurely.
3. Not to make decisions that cannot be made effective.
4. Not making decisions that others should make.[41]

II. ANALYSIS OF DECISION-MAKING MODELS

In this section a number of the decision-making models encountered in the literature will be presented. Comments concerning each model will be offered by the author.

Anderson[42] offers his scientific method of reasoning, which includes five steps:

1. Stating the problem
2. Formulating an hypothesis

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[40] American Management Association. Top Management Decision Simulation (New York: AMA, Inc., 1957), p. 113.

[41] Barnard (1938), op. cit., p. 194.

[42] George Anderson. How To Make Correct Decisions (New York: MacFadden, 1964), p. 69.

3. Observing and experimenting
4. Interpreting the data
5. Drawing conclusions

The model appears to be too general to be of much value to the practical decision-maker. The establishment of goals, and the preparation for the implementation of the decision, which must be considered throughout the decision-making process, are absent in Anderson's model. There is no disagreement with what he says, just that he isn't specific enough, nor covers all the phases necessary for rational decision-making.

Ball[43] postulates four phases in his logical approach to problem-solving:

1. Recognize, define, and list all available alternatives.

2. Select a means of measuring each alternative in terms of desired results.

3. Forecast the results of each alternative in terms of the decision criterion.

4. Construct a "decision rule" by which the most attractive results can be identified and thus the most desirable alternative selected.

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[43] Roger E. Ball and Allan A. Gilbert, "How to Quantify Decision-making," Business Horizons, 1 (Winter, 1958), pp. 74-75.

This model appears to be too over-simplified to be of much practical significance. No mention is made of problem identification, or goals; however, when Ball speaks of desired results in step #2, we can assume he means goals. Ball's concept of decision criterion (step #3) and decision rule (step #4) are not completely explained by him, which makes the use of his model awkward. There is no mention of follow-up action.

Carney[44] proposes the following logical sequence for decision-making:

1. Finding and defining the problem
2. Analyzing the problem
3. Developing feasible alternative solutions
4. Selecting the best alternatives
5. Making the final decision work

There is no serious criticism of this model as the development of goals can be assumed to be within the analyzing of the problem. The selection of the best alternative however, may often prove difficult to do.

Drucker's[45] model is quite similar to the previous one:

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[44] Robert W. Carney, "Make Your Decisions Effective," Administrative Management, 24 (December, 1963), p. 55.

[45] Peter F. Drucker. The Practice of Management (New York: Harper and Brothers, 1954), pp. 353-363.

1. Defining the problem
2. Analyzing the problem
3. Developing alternate solutions
4. Deciding upon the best solution; criteria for selecting these solutions:
    a. The risk involved
    b. Economy of effort
    c. Timing
    d. Limitations of resources
5. Converting the decision into effective action

Drucker offers his criteria for selecting a best solution, which gives his model a greater practical value than that of Carney's.

Folsom[46] offers his seven stages of the decision-making process:

1. Analyzing the situation to find out if there is a problem
2. Collecting facts
3. Analyzing the factors of the problem
4. Creating new ideas and new ways to tackle the problem
5. Weighing alternative courses of action

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[46] Marion B. Folsom. Executive Decision Making (New York: McGraw-Hill Book Co., 1962), p. 41

6. Deciding on a single definite course of action
7. Following up

By assuming the inclusion of the formation of goals, and the development of alternatives, in his stages the technique appears very adequate.

Gore[47] offers the following model:

1. Perception--of the need to establish policy
2. Interpretation--consideration of alternative reactions, interpreted against what might be called the internal objectives of the office
3. Struggle for Power--an effort to gain the support of power centers
4. Formalization--the formulation of the decision

Gore's model is concerned more with the agency chief's actions and thinking, than those of his subordinate administrators who must perform the more detailed calculations. This model appears to have little value for the middle-management executive.

Gray[48] has a five phase procedure for problem-solving:

1. Concern--a common concern for the problem
2. Consideration--how does the problem relate to

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[47] William J. Gore, "Administrative Decision-Making in Federal Field Offices," Public Administration Review, 16 (1956), pp. 284-291.

[48] Roger Gray, "Problem-Solving and Executiveship Can Improve Leadership," Adult Leadership, 12 (June,1963)p.44.

the organization and what are the possible solutions

3. Conviction--is the proposed solution:
    a. adequate
    b. can it accomplish the job
    c. acceptable
4. Commitment--acceptance of responsibility to achieve the goal
5. Cooperation--working together to accomplish the goal

This model appears to be another over-simplification and would have to give much more specific information before it would have any value for the practical decision-maker.

Kingsbury[49] offers his nine steps of creative problem-solving:

1. Observation--assembling and analyzing facts
2. Definition--define the basic problem
3. Preparation--gather other pertinent data
4. Analysis--of all relevant material
5. Ideation--piling up alternatives by way of ideas
6. Incubation--letting up, to invite illumination
7. Synthesis--putting the pieces together

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[49] Warren T. Kingsbury, "A Case For Creative Problem-Solving," Adult Leadership, 12 (Feb., 1964), p. 230.

8. Evaluation--judging the resultant ideas
9. Development--planning the implementation of those ideas

This model seems useful although Kingsbury does not mention goals, nor does he provide for the supervision of the implementation. More information would be necessary before the incubation phase could be properly evaluated. His reference to judging is excellent, since judgment plays an important role in decision-making.

Morell[50] presents his four stages of decision-making:

1. Stage of uncertainty
2. Stage of analysis and definition
3. Proposal of alternatives
4. Stage of verification

This again is a general viewpoint of the decision-making process which provides few practical guidelines for the decision-maker.

A group of executives developed the "seven steps of good decision-making" in a workshop sponsored by the New York Adult Education Council.[51]

1. Decide what the problem or opportunity is

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[50] Morell, op. cit., p. 27.

[51] "Seven Steps of Good Decision-Making," Management Review, 44 (1955), p. 619.

2. Evaluate the situation in terms of its scope, your individual responsibility, the other people involved, and the company policy

3. Analyze the situation in terms of available facts, information sources, precedent, your empirical knowledge, competitive factors, possible alternatives, and creativity

4. Consider the emotional climate and physical environment involved, the problems of status, skill, competency, coordination and communication

5. Decide carefully what ultimate purpose will be served by the decision

6. Do not fear responsibility for what you decide

7. Never default; make the decision

This model is especially interesting to study since it was developed by a group of operating business executives. Although it ably covers the area, it still lacks the more specific guides which should prove helpful to the decision-maker. No mention is made of the preparation for the implementation of the decision, or of supervision after its implementation.

Simon[52] postulates three phases of decision-making:

1. Intellegence--scanning the environment to see what matters require a decision

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[52] Simon (1960), _op. cit._, p. 31.

2. Design--processes for developing and examining possible courses of action

3. Choice--processes for choosing among courses of action

What Simon says is true, however, it is so general that it has little value to the practical decision-maker. It should be of interest however, to persons interested in the formulation of administrative theory or the development of decision-making processes. It makes no mention of implementation plans, or supervision of the results.

The following model of a "perfect rational decision" includes Simon's earlier stress on the fact-value distinction and later concern with the process of choice. There are four steps involved, the first three concerned with the formulation of choices and the last representing the act of choosing.[53]

1. <u>The recollecting of all primary values relevant to the situation</u>. Some are obviously relevant and some obviously irrelevant, but some values do not indicate relevance or irrelevance without the third step of reducing them to intelligible derivative values.

2. <u>The collection of all relevant facts</u>. This

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[53] V. Subramaniam, "Fact and Value in Decision Making," <u>Public Administration Review</u>, 23 (1963), pp. 236-237.

involves collecting the more certain facts as well as making factual judgments or probability evaluations of many others.

3. The logical combination of each relevant value with all its relevant facts. This must be carried on till an intelligible derivative value (and its means) can be isolated in each case. In this process primary values of doubtful relevance are weeded out or included as soon as each yields an intelligible derivative value of obvious relevance or irrelevance.

4. The comparison of these relevant derivative values or alternatives. The order of preference in some cases is established simply and immediately. But in many cases the process of derivation, as in step #3, has to be carried further into the future to get a further set of intelligible derivates called consequences.

A diagram of the model which was offered by Subramaniam is shown in Figure 2. This model undertakes a theoretical evaluation of rational decision-making, and offers little to the practical decision-maker who is confronted with empirical situations which he must solve. Its value in the realm of theory also is limited by the importance it places on the distinction between fact and value, and the requirement that they always be identified.

Diagram of a Model of a Perfect Rational Decision

	Primary Value-X + Relevant Facts ↓ Derivative Value Grade 1 = End + Relevant Facts ↓ Derivative Value Grade 2 = means in re: Derivative Value Grade 1 and End in re: Derivative Value Grade 3 + Relevant Facts ↓	Primary Value-Y + Relevant Facts ↓ Derivative Value Grade 1 = End + Relevant Facts ↓ Derivative Value Grade 2 = means in re: Derivative Value Grade 1 and End in re: Derivative Value Grade 3 + Relevant Facts ↓	Primary Value- Z + Relevant Facts ↓ Derivative Value Grade 1 = End + Relevant Facts ↓ Derivative Value Grade 2 = means in re: Derivative Value Grade 1 and End in re: Derivative Value Grade 3 + Relevant Facts ↓
ALTERNATIVES	Derivative Value Grade 3 = means in re: Derivative Value Grade 2 and End in re: Derivative Value Grade 4	Derivative Value Grade 3 = means in re: Derivative Value Grade 2 and End in re: Derivative Value Grade 4	Derivative Value Grade 3 = means in re: Derivative Value Grade 2 and End in re: Derivative Value Grade 4
The Moment of Choice			
Future	+ Relevant Facts ↓ Derivative Value Grade 4 = Consequences	+ Relevant Facts ↓ Derivative Value Grade 4 = Consequences	Eliminated as irrelevant

Note: When a current derivative value, transposed into the indicative mode, is combined with relevant facts, the resultant, relating to the future may be called a consequence.

Snyder[54] renders his model of the decision-making process:

1. Deliberation and calculation
2. Specification and clarification of values
3. Interpretations of information concerning objective events
4. Evaluation of probable outcomes
5. Choice of one alternative

This model again is rather broad in scope and offers few practical guidelines to the decision-maker. There is no concern with the implementation of the decision, or the supervision of the results.

Muther[55] suggests a seven stage model for decision-making:

1. List the pros and cons
2. Tally the gains and losses--assigning a numerical value for each factor
3. Factor analysis--rating each alternative on each factor, based on the numerical value assigned to it
4. Solicitation of the opinion of others
5. Test run--the establishment of a pilot project

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[54] Richard Snyder and Glenn D. Paige, "The United States Decision to Resist Aggression in Korea: The Application of an Analytical Scheme," Administrative Science Quarterly, 3 (1958), p. 347.

[55] Richard Muther, "Techniques for Making Better Decisions," Management Review, 45 (1956), p. 821-822.

6. Standard of reference--the development of a set of facts and figures universally accepted

7. Using your subconscious--allowing it to simmer in the back of your head

Muther fails to discuss the identification of the problem and the establishment of goals. In addition no provisions are made for the implementation of the decision or the supervision of the results.

Bristow[56] offers a five-step decision-making format:

1. Preparation for a decision
    a. Delegation or referral of the decision if possible
    b. Clarification of the problem area and/or identification of the critical factor.
    c. Introspection to determine if the administrator's present mood is favorable to decision-making
    d. Adoption of a calm but interested outward appearance in approaching the decision
2. Research and fact finding
    a. The administrator must relate the time spent seeking information to the urgency of the decision

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[56] Allen P. Bristow and E.C. Gabard. *Decision-Making in Police Administration* (Springfield, *Illinois: Charles C. Thomas, 1961), pp.* 29,49,68,79,98.

b. He must learn the location of and develop sources of information

c. He must develop objectivity in his analysis of facts and in the assumptions he draws

3. Identification of alternatives

a. The widest range of alternatives possible must be selected

b. Selected alternatives must be evaluated by various considerations

c. The alternatives and considerations should be written or diagramed to clarify their relationships for the administrator

4. Selecting between alternatives

a. Diagram the decision

b. Adopt a numerical system of weighing considerations

c. Choosing between decision and indecision

d. Planning to avoid instant decisions

5. Implementing the decision

a. Informing all those concerned with the reason for the choice and the action expected from them in its execution

b. Timing the decision announcements to coincide with favorable conditions or limiting factors

c. Preparing to justify or alter the decision should conditions indicate an error

d. Accepting full responsibility for the decision and its consequences

Bristow presents rather complete and detailed guidelines for an administrator to follow. The establishment of goals and the supervision of results can be presumed to be present in his model.

The models analyzed in this section contained many valid points and were extremely valuable to the author in the construction of the procedural model for decision-making which is offered in this thesis. A quick over-view of the models shows a general lack of concern with; the establishment of goals; the development of detailed guidelines which would be of practical value to the "real world" decision-maker; the preparation for the implementation of the decision; the importance of the communication processes; provisions for effective supervision of the results, and a procedure for corrective action when the results are not satisfactory.

III. COMPARISON OF LITERATURE WITH THE PROPOSED MODEL

This section will compare the literature with the decision-making process model tendered by this thesis. To make the review as understandable as possible each of the nine steps in the model will be compared separately. The referenced information used in the last section will not be duplicated here, although, the reader is advised to consider how the models offered in the literature relate to the proposed model.

Step #1. Defining the Situation. Effective clarification of the problem will establish the direction of the decision-making process. Too often administrators, when faced with a problem, at once begin frantically to find solutions without knowing which area of the problem requires decision. Before one can arrive at a logical decision one must first determine and define the problem.[57]

Whatever the means of recognizing the problem, this must come about as early as possible, for if events are allowed to shape themselves, they may proceed along lines not to the best advantage of the organization.[58] A real problem well stated in one interrogative sentence is already on the road to solution. It acts as a directive indicating in which areas a solution should be sought.[59]

An individual can attend to only a limited number of things at a time. The basic reason why the actor's

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[57] Bristow, op. cit., p. 15.

[58] Joseph D. Cooper. The Art of Decision-Making (New York: Doubleday and Co., 1961), pp. 17-18.

[59] Morell, op. cit., p. 21.

definition of the situation differs greatly from the objective situation is that the latter is far too complex to be handled in all its detail. Rational behavior involves substituting for the complex reality a model of reality that is sufficiently simple to be handled by problem-solving processes.[60]

Emotional bias, habitual or traditional behavior, or the tendency of the human being frequently to seek the road of least resistance may result in the decision-maker's performing a superficial analysis followed by a statement of the "apparent" problem instead of the "real" problem. An excellent solution to an apparent problem, of course, will not work in practice because it is the solution to a problem that does not exist.[61]

Step #2. Determining Goals. In clarifying a decision situation the administrator must objectively eliminate his own personal desires, and must attempt to substitute the goals most beneficial to his organization.[62] Organization decisions do not relate to personal purposes, but to organization purposes.[63]

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[60] March, op. cit., p. 151.

[61] Morell, loc. cit.

[62] Bristow, loc. cit.

[63] Barnard (1938), op. cit., p. 195.

A great deal of behavior, and particularly the behavior of individuals within administrative organizations, is purposive--oriented toward goals or objectives. Each decision involves the selection of a goal, and a behavior relevant to it.[64] The values and objectives that guide individual decisions in organizations are largely the organizational objectives--the service and conservation goals of the organization itself.[65]

The ability to perceive goals helps assure that all actions are usefully related. An action which is not specifically related to a useful goal dangles without effect; in fact, it may constitute an impediment. Preidentified goals enable you to carry on a multiplicity of activities. They provide for an economy of effort in that you are able to exclude things which do not pertain to defined and acceptable goals.[66]

Step #3. _Developing Alternatives_; _Step #4_. _Analyzing Alternatives_; _and Step #5_. _Evaluating Alternatives_. In the proposed model these three steps are separated and each contributes a significant part to the decision-making process; however, the literature does not make this dis-

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[64] Simon (1957), _op_. _cit_., p. 4.

[65] _Ibid_, p. 198.

[66] Cooper, _op_. _cit_., p. 211.

tinction and discusses the area covered by these steps together. For that reason, they are combined in this review.

Responsibility for organization decision must be assigned positively and definitely in many cases because the aptness of decision depends upon knowledge of facts and of organization purpose, and is therefore bound up with organization communication.[67]

Cooper[68] specifies three important techniques which should be considered during the early stages of decision-making:

1. Assess the whole situation, looking to the experience of the past and the present and projecting into the future.

2. Get as close as possible to the facts and materials of the problem itself and the environment in which it exists.

3. Keep an open mind, reserving judgment until all of the significant information has been accumulated.

It is hard to focus on problem-solving and decision-making without considering the communication and coordination

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[67] Barnard (1938), *op. cit.*, p. 189.

[68] Cooper, *op. cit.*, p. 31.

of information. One of the critical decision-making skills of the manager is knowing what questions to ask and of whom.[69] Search processes and information-gathering processes constitute a significant part of decision-making and must be incorporated into any theory of decision-making that is to be adequate.[70]

A decision can be only as good as the best of the alternatives taken into consideration. This is the point for the use of creativity in developing probable alternatives. Therefore, it behooves us to spend time conceiving alternatives that hold great promise. Making sure we really are considering the most promising alternatives is manifestly an essential step in making good decisions.[71] Creating and figuring out alternatives and their consequences in connection with the problem and its characteristics and the relevant facts is thus a major part of all rational decision-making.[72]

One of the chief attributes of a successful business executive is his skill in planning and decision-making.

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[69] Kepner, op. cit., p. 124.

[70] Cyert, op. cit., p. 248.

[71] Manley H. Jones. Executive Decision Making (Homewood, Illinois: Richard D. Irwin, 1957), p. 25.

[72] Morell, op. cit., p. 24.

In carrying out this function, the typical executive draws heavily on his experience with similar previous situations and relies on intuition, hunch, and that nebulous asset called business judgment.[73]

If all of the pertinent facts bearing on a decision could be collected, within a reasonable time, there would be very few problems of difficult decision-making. However, the quality of "all" is too elusive; neither the time nor the cost can be afforded. Therefore it is necessary to concentrate on obtaining the key pertinent facts. This brings in the element of personal judgment in the determination of need and relevance.[74]

Available facts concerning a contemplated decision may vary from complete staff reports covering every phase to practically nothing. Most decisions are made on the basis of incomplete evidence. Facts may not be available, or there may not be sufficient time or staff assistance to uncover or assemble them.[75] In many cases an executive is hard put to know what is the best decision. While no one can ever be sure he has all the facts, there are times when the total sum of available information is really quite

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[73] Ball, op. cit., p. 73.

[74] Cooper, op. cit., p. 49.

[75] Shartle, op. cit., p. 284.

limited, yet the executive cannot delay his decision for further investigation. At these times especially, the soundness of the executive's reasoned guess depends to a large extent on the breadth of his education and experience.[76]

Bureaucratic formalization is one method for reducing uncertainty in formal organizations. Official procedures provide precise "performance programs," which prescribe the appropriate reactions to recurrent situations and furnish established guides for decision-making. But uncertainty cannot be completely eliminated.[77] In teaching, emphasis should be on the fact that executives often have to act without sufficient knowledge and that there is much that is "literally unknowable."[78]

Dale[79] stresses the impact of uncertainty in decision-making and to study it more effectively he postulates three categories of decisions, depending on the degree of uncertainty involved.

1. Routine decisions which are handled by precedent

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[76] Folsom, *op. cit.*, p. 50.

[77] Blau, *op. cit.*, p. 240.

[78] Chester I. Barnard, "Education for Executives," *The Journal of Business*, 18 (October, 1945), p. 181.

[79] Ernest Dale, "New Perspectives in Managerial Decision-Making," *Journal of Business*, 26 (1953), pp. 1-3.

and habit.

2. Decisions affecting several departments. Not routine but they allow for a fair degree of accuracy in evaluating relevant factors.

3. Uncertainty is one of the major factors involved. The uncertainty predominates the decision process.

In addition he gives three reasons for this uncertainty:

1. Inaccuracy of data since all factors involved can not be defined, measured, and verified accurately. Judgment is therefore involved in weighing it and error may result.

2. The influence of the past and future, such as, custom, experience, background, folklore, and subconscious memories and drives may exercise an important influence on decisions, even though that influence may not be apparent on the surface. Many decisions require the use of interpretation, intuition, speculation, and extrapolation.

3. The personality and status of the decision-maker.

These noneconomic factors in decision-making are what add the uncertainty to the economic model of decision-making. Economic theory, at best, can provide only a partial explanation. Its weakness is that it omits some factors altogether and weights others incorrectly.

An alternative is optimal if: (1) there exists a set

of criteria that permits all alternatives to be compared, and (2) the alternative in question is preferred, by these criteria, to all other alternatives. An alternative is satisfactory if: (1) there exists a set of criteria that describes minimally satisfactory alternatives, and (2) the alternative in question meets or exceeds all these criteria.

Most human decision-making, whether individual or organizational, is concerned with the discovery and selection of satisfactory alternatives; only in exceptional cases is it concerned with the discovery and selection of optimal alternatives.[80]

Step #6. Decision. A decision is a course of action chosen by the decider as the most effective means at his disposal for achieving the goals or goal he is currently emphasizing--for solving the problem that is bothering him. Note that a decision is something quite apart from the actual performance of the act that has been decided upon; it is a conclusion that a man has reached as to what he (or others) should do later--sometimes only a moment later. It is a solution selected after examining several alternatives--chosen because the decider forsees that the course of action he elects will do more than the others to further his goals and will be accompanied by the fewest

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[80] March, *op. cit.*, p. 140.

possible objectionable consequences.[81]

A simple decision situation exists if (1) among the evoked alternatives of action one is clearly better than all others, and (2) the preferred evoked alternative is good enough to be acceptable. Under these conditions a decision will be made quickly and there will be no ex post facto evaluations of the decision. If on the other hand, no alternative is clearly better than the others, or if the best alternative is not "good enough", there will be delay in decision-making and ex post facto re-evaluations and rationalizations.[82]

Most decisions have to be based on incomplete knowledge--either because the information is not available or because it would cost too much in time and money to get it. To make a sound decision it is not necessary to have all the facts; but it is necessary to know what information is lacking in order to judge how much of a risk the decision involves, as well as the degree of precision and rigidity that the proposed course of action can afford. Precise decisions cannot be made on the basis of coarse and incomplete information.[83]

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[81] Jones, op. cit., pp. 5-6.

[82] March, op. cit., p. 113.

[83] Drucker, op. cit., p. 359.

In making administrative decisions it is continually necessary to choose factual premises whose truth or falsehood is not definitely known and cannot be determined with certainty with the information and time available for reaching the decision.[84]

Conflict in decision-making arises in three major ways:

1. Unacceptability--none of the alternatives are good enough.

2. Incomparability--the preferable alternative cannot be identified.

3. Uncertainty--the individual does not know what the probable outcome of the alternatives will be.[85]

One of the weak links in decision-making and action is the planning of the specific means through which decisions are to be put into effect.[86]

Step #7. Implementation Instructions. Plans and decisions can become effective only when they are communicated, understood, and accepted by all affected persons in the system.[87] Communication in organizations is a two-way

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[84] Simon (1957), op. cit., p. 51.

[85] March, loc. cit.

[86] Cooper, op. cit., p. 143.

[87] Mary C. Niles. The Essence of Management (New York: Harper and Brothers, 1958), p. 19.

process: it comprehends both the transmittal to a decisional center of orders, information and advice; and the transmittal of the decisions reached from this center to other parts of the organization.[88]

Carney[89] feels that the decision-maker has three tools which he may use to assist in getting his decision accepted:

1. He can motivate others by giving them a chance to participate in the process of decision-making.

2. He must insure adequate communications of information, both up and down the line.

3. He can use his authority.

Hierarchical differentiation is dysfunctional for decision-making because it interferes with the free flow of communication.[90]

Selection of the most satisfactory alternatives does not climax the process of decision-making. The administrator who makes a decision rarely takes any part in its execution, and because of this his subordinates must have a clear understanding of the action required on their part.[91]

<u>Step #8</u>. <u>Supervising Implementation</u>. Once the plan

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[88] Simon (1957), *op. cit.*, pp. 154-155.

[89] Carney, *op. cit.*, p. 56.

[90] Blau, *op. cit.*, p. 243.

[91] Bristow, *op. cit.*, p. 88.

is activated it must be monitored and coordinated until it is finally completed.[92] The reporting of accomplishment against previously assigned and defined targets is the principal means of assuring compliance with the plan.

The total effort calls for clear understanding of all of the tasks expected of them. However, it is one thing to tell people that they have certain tasks to do as part of a greater effort; it is another to have them perform exactly as intended. This calls for considerable skill in communications and supervision.[93]

Should a group of people decide to prove they are right and the analyst is wrong, their motivation may move production far beyond what it had been. This is the principle of the self-fulfilling prophecy. It is well accepted as a sociological fact but, because we do not yet have a means of measuring and forecasting it, this must be labeled a subjective rather than an objective probability. Administrators have learned that "subjective probabilities" are likely to be more important than objective ones.[94] It is the task of the supervisor to

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[92] Cooper, op. cit., p. 128.

[93] Ibid., p. 130.

[94] William J. Gore, "Developments in Public Administration," Public Administration Review 22 (September, 1962), p. 168.

supply this motivation.

Step #9. Adjusting the Decision. The decisions we make today have unplanned future consequences, some good and some bad. Many decisions evolve from the force of circumstances rather than the plan of man. It is possible to know only a few of the totality of major and minor consequences that may follow a decision.[95]

When the alternative chosen is proven to be an error, the administrator should accept complete responsibility for the mistake and should correct the error. Correcting an error is made simpler if a written decision technique was used in the decision. The remaining alternatives and their considerations should refresh the administrator's memory of the problems involved, and re-decision should be simply a matter of changing the weight of each consideration to fit present circumstances.[96]

The decision assumes certain conditions; the action encounters them. When you are actually up against them they usually look different. But then something else happens; as soon as you do something you change the conditions which may, in turn, require a change in the original action.[97]

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[95] Albers, loc. cit.

[96] Bristow, op. cit., p. 97.

[97] Cooper, op. cit., p. 124.

CHAPTER IV

CASES FROM MICHIGAN POLICE DEPARTMENTS

This chapter will be concerned with the field research that was conducted. The first section will discuss the methodology used; while the empirical data obtained will be presented in Section II and Section III.

I. METHODOLOGY

The empirical studies were conducted through personal interviews in five police departments within the state of Michigan. The cities selected had a population between 50,000 and 100,000. The police administrators interviewed were all at the middle-management level.

The purpose of this field research was to determine what practices these police executives followed in arriving at the decision they made. To insure that a lack of time for pursuing an adequate decision-making process did not invalidate the data, the decision situations reviewed were administrative in nature and not those with immediate operational urgency.

All the interviewing was done by one person and an interview guide[1] was used. The interviewer did not ask the questions in the guide but attempted to determine

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[1] see Appendix A.

the answers from the discussion which took place. An effort was made to have the administrator do most of the talking, and to allow him to present the situation in his own way. It was determined that asking pointed questions about the decision-making procedures he followed would place too great an emphasis on these in his mind and might tend to invalidate the results. The interview guide allowed the interviewer to determine in which areas he lacked information, so that he could steer the discussion in that direction. Notes were not taken during the interview; it was felt the administrator would speak more freely this way. Immediately after each interview the interviewer, using his guide, wrote down the information he had received.

This procedure was followed at the first police department visited, however, it was noticed that when the administrator was asked to relate decision-making situations, a certain awkwardness developed, and lengthy interviews were required to establish rapport, before the information necessary was freely given. This technique was changed for all the future interviews, and the initial inquiry asked about new policies, practices or changes. The transition to the necessary subject matter went smoothly as the police executives were happy to explain what they had done, how they had done it, and why.

The information which was gathered was analyzed to determine what decision-making procedures had been followed and the effects they had on the solution decided upon. The cases were then prepared for the presentation which follows in the next section.

II. CASE HISTORIES

The information obtained regarding each situation was summarized and developed in narrative form. Unnecessary details were eliminated although an effort was made to insure that all the pertinent data was presented.

The case histories are tendered in two parts, (1) the narrative summary discussed above, and (2) a short analysis of the decision-making situation by the author. A further functional analysis of all the cases will be found in the next chapter.

Case History No. 1

Narrative Summary. For years lost and confiscated property was kept in one of three property holding areas within the police station. The person on duty at the time determined where it went. There were no written policies or instructions concerning the method of handling this property. Access to the three property rooms was not limited, any policeman with an interest in the property was able to handle it. When the property was in one of these rooms there was no record as to which one, or where in the room it was located. There was no log or other means for accounting for the chain of custody of the property. On occasion items were lost. Then a rifle which had been confiscated the evening before was missing the next day and could not be found; this resulted in members of the Department purchasing a new rifle for the owner. It was then decided that the existing situation had to be improved.

Due to a lack of space, the location of the proposed property room created a problem. After rejecting the use of the basement, it was decided that a room would be constructed in the garage. No funds were available so this construction was undertaken by the policemen on a self-help basis. The construction of a plywood covered frame room was well underway, when a fire inspector informed the police that this structure would be in violation of the fire regulations. It was then decided to build it out of bricks. This construction is taking place now. While this construction is going one, a written policy is being developed to insure adequate control of the property and the assignment of responsibility for it.

Analysis. The problem had been apparent to those responsible for some time, however, until an unfortunate incident highlighted the need for immediate action, it had been by-passed. The goal of a centralized property room, with assignment of control responsibility, and the need for a written procedure governing its use, was quickly established. Alternative locations were considered and the most practical one was selected.

The construction of a wooden property room started with the police administrator being unaware of the consequences of this action, as a result it was necessary to adjust the decision. The consequences in this case were not unusual and should have been foreseen. The anxiety to have a property room as quickly as possible contributed to this oversight.

Implementing instructions for the use of the property room are being prepared and will be published prior to its use. The supervisor was flexible enough to adjust his decision to a workable solution when he was confronted with a problem while carrying out the original decision.

Case History No. 2

Narrative Summary. Several years ago the department relied completely on verbal testimony when presenting the evidence to support a charge of drunkenness in court. No technical tests or equipment were used to support this verbal testimony. The police supervisors were dissatisfied with the percentage of convictions that were obtained in this manner.

The existance of the Intoximeter, a chemical test for intoxication, became known to the administrator. He arranged for a demonstration and the results were satisfactory. Arrangements were made for the purchase of this equipment. Plans for its centralized use at the police station were developed, and in coordination with the Health Department a training and refresher training program for police officers on the use of the Intoximeter was established. Since the inception of this program a minimum of two police officers per shift have been qualified to use it. It was determined that it would not be necessary to issue these Intoximeters to each patrol, as some state police agencies do, since the time it would take to bring a suspected offender to the station would be minimal. The results produced by the use of the Intoximeter have been excellent and the original plan for its use, and the training program did not have to be changed.

Analysis. The administrator properly recognized the reason for his low percentage of convictions in drunkenness cases and knew that to solve this problem he would have to improve the descriptive abilities of his officers or obtain a technical device of some type which could support their testimony. Since only the Intoximeter was considered, numerous alternative devices were overlooked. Once the decision was made to procure the Intoximeter, the alternative ways in which it could be used were thoroughly explored. When the decision was made to use the instrument centrally, the necessary coordination was effected and plans were published. The supervision of the results indicated that an excellent choice had been made and that there was no need for an adjustment of the original decision.

Case History No. 3

Narrative Summary. The department was undergoing a rash of motor vehicle accidents involving police cars, driven by police officers during their tour of duty. Then a police officer driving his patrol car under an underpass, ran a red traffic signal at the intersection and was struck in the side by a civilian automobile whose driver had the right of way. The police car was on routine patrol and no emergency situation existed. The police officer concerned had been involved in two previous accidents while on duty and displayed a rather cocky attitude and indicated no remorsefulness.

Prior to this time no action, either judicial or disciplinary, had been taken against any police officer involved in an accident. The circumstances of this case were discussed with the officer's supervisor and the administrator recommended that disciplinary action be taken, to the Chief, who concurred. The purpose of the punishment being to teach the officer a lesson. There was no morale problem involving other members of the department either before or after the disciplinary action.

The accident rate for all city-owned vehicles was extremely high at this time and shortly after this incident, although not directly related to it, the City

Manager created a five-man board to review all accident cases involving city equipment, and to make recommendations for disposition to him. The board ceased to function after the accident situation improved, although the board was still authorized and existed on paper.

Next, two police officers in separate accidents, (1) running off the roadway and striking a telephone pole, and (2) a rear end collision, again highlighted the accident problem within the police department. It was now decided that officers should not be treated more favorably than citizens, so both officers were issued a summons and were later convicted in court. No departmental disciplinary action was taken or deemed necessary.

The policy which exists today is that the officer will be issued a summons if the investigation reveals that he has violated a local ordinance. Departmental disciplinary action may or may not be taken depending on the evaluation of the circumstances in each case.

Analysis. It was recognized that doing nothing when a police officer was involved in an automobile accident, while on duty, in which he violated a law, was undesirable. The initial goal was to deter vehicle accidents by holding the responsible officers accountable for them. When it was realized that the problem existed on a city-wide basis, the need to treat police officers like other city employees and citizens became obvious. This resulted in the policy providing for the issuance of summons. This policy was developed as a result of a series of reaction decisions, which adjusted the previous policy. This policy has been disseminated by verbal instructions. The development of alternatives never took place during the establishment of this policy, rather a trial and error method, to test the first possible course of action that came to mind, was used.

The present policy appears to be working satisfactorily and allows sufficient flexibility regarding disciplinary action to be adaptable to any future situation.

Case History No. 4

Narrative Summary. The investigations section of the police department was under the supervision of the Patrol division and the investigators were assigned to each of the three shifts. When an incident was reported which required investigation any investigator on duty at the time was assigned to the case. When further leads were received concerning this case they were checked-out by any available investigator and not necessarily the one to whom the case was originally assigned. This practice had several consequences; (1) the investigator who was assigned portions of the case did not strongly identify himself with the event, nor was he well informed on all the aspects of the case; (2) the prosecutor when he was preparing to try the case would have to deal with seven or eight investigators rather than one or two. The personnel within the investigations section were aware of this shortcoming, although they could do nothing to change the situation.

Shortly thereafter, the department underwent an internal reorganization and the investigations section emerged as a separate bureau. The investigator who headed the bureau was authorized to change personnel working hours and to assign cases in any way he deemed necessary. After considering various alternatives the administrator decided to assign the bulk of his work force during the hours of 8 a.m. to 12 p.m., when the workload and availability of witnesses was the greatest. In addition, he changed the case assignment policy. An incident was assigned to one or two investigators and they handled all the follow-up investigations which were necessary. This provided a continuity to the investigations which had not existed before. As a result of this new policy the quality of the investigations increased, the morale of the investigators improved, and the prosecutor was completely satisfied since it simplified his case preparation.

Analysis. The reason for the existing situation had been recognized and the need to provide more efficient investigations was established. Action on the situation started when an administrator was given additional responsibility and the authority to act. Several courses of action were considered and evaluated before the present policy was decided upon. Implementing instructions were developed and issued and the effects of the change were closely watched. The new policy solved the original problems and there has been no need to adjust it to date.

Case History No. 5

Narrative Summary. The Chief on several occasions requested special reports concerning patrol activity from the administrator. When this occurred it was necessary to have a policeman review each patrolman's daily activity report which was submitted during the period in question. There was considerable delay before the report was ready and many man-hours were needed to accomplish it. A bulletin from the National Safety Council was received by the administrator at this, which recommended that departments as large as this one use mechanical processing for their records. This started a quest for information concerning the use of automatic data processing.

Arrangements were made to have commercial firms demonstrate their equipment; an officer was sent to several departments which were using IBM equipment to see how it was used and how effective it was; and liaison visits were made to other divisions of the local government who had recently started using mechanical equipment. After considering the types of equipment available and the needs of the department, it was decided to acquire the use of an IBM punchcard system. Procurement details were worked out and a Sergeant was sent to several training schools to enable him to become qualified in the programming aspects of the system. He then developed a coding system for the patrolman's daily activity report which would allow all the information it contained to be transferred to the punchcards. Written instructions were prepared and issued and the IBM system was tried. It worked smoothly with very few errors and is considered successful by the department. They are now reviewing their operations to determine what other functions could be handling mechanically.

Analysis. The dissatisfaction with the delay in preparing reports and the awareness of new equipment created an interest. After determining what should be achieved, arrangements were made to study several possible solutions. Information was gathered and training was arranged for. Once the decision was made, additional training took place and excellent instructions were issued. Close supervision indicated that the step taken had produced excellent results. There is a continuing search to improve and expand the system.

Case History No. 6

Narrative Summary. On all incidents requiring investigation a complaint report was submitted, one copy of which went to the Records section. Additional information was submitted by using a supplementary report, which identified the previous report number and the subject's name, before giving the details in narrative form. The Record section, which received a copy of this supplementary report, needed various statistics which were obtained by Records section personnel going over the narratives and picking them out. This was often difficult to do because there was no set format for the supplementary report and information was frequently missing. The records administrator knowing what statistics he needed, devised a new form for the supplementary report, which had less narrative information and more fill-ins and check-offs. A pilot study of the form was conducted for three months. The form proved satisfactory, however, several common errors were uncovered. Written instructions were revised and the form was adopted. Its use is being supervised, however, it has not been in use long enough yet to enable determination of the results.

Analysis. The administrator readily identified the source of his problem and knew what results he wanted to achieve. He wrote down the information he required from this report and then developed several tenative forms which would provide it. After considering each and making some modifications, one was selected and a pilot study was scheduled. Close supervision showed the forms adequacy as well as some shortcomings. The necessary adjustments were made and the form was adopted. Supervision continues.

Case History No. 7

Narrative Summary. The Chief indicated that he wanted one of the patrol areas covered by a policeman who divided his time between walking and vehicle patrol. He established the requirement of immediate communication ability with this patrolman at any time. The Communications section chief was assigned the responsibility for developing an adequate communications plan. He considered the portable radio equipment he had on hand, which had been used for surveillance operations, but found it was too bulky and heavy for a patrolman to carry on foot-patrol.

Arrangements were made to have various types of commercial equipment demonstrated. A "Handie-Talkie", weighing thirty-two ounces was considered ideal if it could operate, as claimed, over a prolonged period. Two of these radios were purchased, and one was put in use for a trial period of several weeks. The same policeman operated it and he had been verbally briefed. The results were excellent and both sets were pressed into fulltime use. The department now has four "Handie-Talkie" radios with five more on order. The communications have been excellent and the present plan is that eventually each walking patrolman will have one. All instructions regarding the use of these radios have been verbal. Close supervision over their use is being continued.

Analysis. The administrator was confronted with a communications problem when it was decided to operate patrols in a new way. He was told what was desired and these were his goals. He thoroughly explored and compared the possibilities available to him and selected the one which promised the best results. A test of the equipment, under operating conditions, was made before going ahead with a full-scale procurement. Verbal instructions were issued and the use of the new radios was closely supervised. Several quick arrests due to the use of the "Handie-Talkie" increased the enthusiasm for it.

The procurement and use of the new radios was accomplished in an excellent manner, although the lack of written instructions, regarding the technical aspects of their use, may prove to be a shortcoming when the newness of the equipment wears off and new personnel are assigned to use them.

Case History No. 8

Narrative Summary. The policy within the department had been that whenever an officer felt he needed an arrest or search warrant he would contact the municipal judge, even if it was after normal working hours. The Judge in a conversation with the Chief mentioned that he was often disturbed by these calls, when in fact the circumstances didn't justify the issuance of a warrant.

The chief of the Investigations bureau was told to come up with a proposed solution. He inquired into the situation and found that no written policy covered this procedure, it was just the way it had always been done. He also realized that most of the incidents requiring the use of a warrant would be of interest to the Investigations bureau. A tentative written policy was submitted to the Chief for his approval, which provided for all requests for warrants to be cleared with the chief of the Investigations bureau or, if he wasn't available, with the Lieutenant whose shift was on duty. One of these two men would then telephone the Judge if the circumstances warranted it and make the necessary request. This plan was approved and a written policy has been issued. The action has not resulted in any hardship for the police department and the Judge has been very well satisfied with the results.

Analysis. The situation had existed for a long time but the need for action was manifested when the Judge complained. The problem was adequately identified and a goal was established. There were no indications that any alternative, other than the one selected, was thought of. After the decision was approved, written instructions were issued and the change in policy was implemented. Routine supervision indicated that the results were satisfactory to all concerned and no adjustments were necessary.

Case History No. 9

Narrative Summary. The department maintained the identification photographs of previous offenders in "Mug Books", which were grouped by the type of offense concerned. The photographs were the standard size, black and white print, with a front view and a profile view. Whenever a witness to an offense was asked to look at these photographs it was necessary for him to page through thousands of them. This was time consuming and often resulted in witnesses becoming confused as to what the suspect actually looked like, after seeing a lot of photographs that looked something like him. A rape victim would only screen the book of previous sex offenders; if the offender had a previous larceny record she would never get a chance to see that photograph.

The head of the Identification section was not satisfied with this system, nor with the adequacy of black and white photographs. Since a mechanical processing system was used for some functions in the Records section, he decided to explore the possibility of using it to help him improve the present system. He visited other police departments to see what they were doing and brought back some ideas from each. After this information was analyzed a check list form for recording a detailed description of the offender was prepared. It was adequate enough to allow policemen to complete them in a uniform manner, as well as adaptable to coding for use with an IBM punchboard system. Next, the types of color photography which would be suitable for identification work were considered.

An identification system was developed whereby the information from the detailed description form, and information of previous offenses were placed on an IBM punchcard. The cards also included the color slide transparency number; this transparency contained a full length view of the previous offender. Now, whenever a witness is asked to identify someone, the number of pictures he looks at is greatly reduced, by sorting out descriptive characteristics, and methods of operation if desired. The color transparency which is projected "life-size" on the wall also eases identification. The results to date have been excellent.

Analysis. The administrator had identified a problem area and generally knew what he wanted to accomplish. He sought to procure as much information as possible so that he could select the answer most suitable for his situation. The development and analysis of alternatives were excellently done. The selection was made and verbal instructions were issued. Early supervision required some minor adjustments in photographic techniques, due to a difference in what the administrator wanted and what the photographer thought he wanted. Written instructions, which still do not exist, might have prevented this. The results of the new system are quite superior to those of the previous one.

Case History No. 10

Narrative Summary. The department had been using a 4 x 6 arrest card which included the subject's name, residence, occupation, personal physical description, alias, as well as the charge for which he was arrested; where, and by whom he was arrested. The date of trial was also shown, and if convicted the penalty the Judge assessed was indicated. There was only one copy of this arrest card and it was circulated among those who needed it, including the Prosecutor's office. This resulted in numerous searches for these cards and delay in obtaining the information that was on them. The card when finally completed was filed in the Records section.

The records administrator sought to improve this situation. He was aware at this time that several functions within the department had switched to automatic data processing. His aim was to insure ease in locating the arrest card, as well as providing the search flexibility that a mechanical system would provide. The information on the present arrest card was considered adequate. The administrator devised a card containing the same information, in a format more suitable for coding for IBM use. The new form was printed in four copies with carbon paper attached. The original copy remained in the Records section, the fourth copy at the police desk, while the other two copies circulated. Periodically the second and third copy returned to the Records section to allow up-dating of the original card. The arrest card information was now always obtainable from the Records section. In addition statistical reports concerning the arrest cards could be quickly prepared. All instructions regarding the change-over in arrest cards were verbal. The operation is being supervised, but is too recent to allow an adequate evaluation at this time.

Analysis. The administrator was aware of the problem and established his goal. His search for alternative means was limited since the present arrest card provided sufficient information and if he used any mechanical processing at all, it would be the IBM punchcard system which was available. An excellent system was developed, although the lack of written policy regarding its use, may have its consequences. Adequate supervision is being maintained.

Case History No. 11

Narrative Summary. The Chief became interested in portable radios which would allow the officer on foot-patrol to communicate with the police station. He instructed his Communications section supervisor to look into the feasability of procuring a radio of this type. The supervisor, realizing the radio would be carried for eight hours by a patrolman, established several criteria: (1) the set should weigh less than four pounds, and (2) the set must be completely transistorized. He then contacted several commercial sources to determine what type of equipment was available; this search included a trip to Chicago where he observed a demonstration of the "Handie-Talkie" radio. This radio was the only one which fit the criteria he established. The performance capabilities which were claimed by the manufacturer would meet the requirements of the police. One radio was purchased and placed into operation. It worked well and two more radios were purchased, and three more are presently on order. Operating instructions and methods of use were given verbally to the officers by their commanders. The radios are now retained by the operating personnel, and the Communications supervisor, whose office is in a separate building, knows little of their status.

Analysis. This administrator was presented with a problem situation and he quickly established his goals. He searched for alternative means, however, only one alternative satisfied his needs, therefore, it was selected. The instructions issued were verbal and due to lack of supervision the administrator no longer knows if the radios are still performing satisfactorily or are in an acceptable state of maintenance.

This administrator worked very thoroughly until the radios were procured, since that time he has done little follow-up.

Case History No. 12

Narrative Summary. This administrator was assigned as chief of the Investigations section. When he reviewed the outstanding investigations he realized that some of them had been pending for over a year, and that no action on them had taken place in months. The investigators who had been assigned to the case weren't too concerned about completing the investigations. He wanted to develop a system whereby he would be able to know the status of any investigation at any time. He sought information from different departments and inquired about the F.B.I.'s method. Since he had only ten investigators in his section he felt he did not need a very complex system and proceeded to construct a case log method. The log showed which cases had been assigned to each investigator, the date assigned, and the current status. He required his investigators to report their progress at least every ten days. He issued verbal instructions to effect the changeover. This was followed up by a period of close supervision and minor corrections were made as necessary. This method is still in operation and meets the requirements of the section.

Analysis. The administrator became aware of his problem and decided what he wanted to achieve. He then searched for ways to do it. He modified the available information to fit the situation with which he was confronted. Verbal instructions were given to implement the new system. The results were closely supervised and necessary adjustments were made.

Case History No. 13

Narrative Summary. The accident rate in the downtown business district had always been extremely high. Although three patrols covered this area the general opinion was that the volume of traffic was so great that the accident rate would always be high. Then an administrator, who had received some training in traffic, decided to study the situation. He computed the enforcement index for all the patrol areas and found it to be the lowest in this downtown area, even though three patrols were assigned to it. A further study of the situation revealed that the patrols operating in this area received very little supervision, since the Sergeant, who was in charge of traffic details, had numerous additional duties which consumed most of his time. The administrator then set out to determine how he could provide adequate supervision which would raise the enforcement index and, he hoped, lower the accident rate. After considering several alternatives he elected to give a shift Corporal this responsibility. The Corporal was briefed verbally and started his new assignment. The results were excellent; enforcement went up, and the accident rate decreased. A constant emphasis by the administrator on the importance of enforcement in this area has motivated the Corporals involved to continue their excellent supervision of the area.

Analysis. The administrator found the cause of his problem and determined what his goals were. He considered alternate means for reaching them and selected one. Adequate instructions and excellent supervision have made his solution work well.

Case History No. 14

Narrative Summary. The police had been using an electric speed timer and a radar set to enforce the speed laws for several years. These two pieces of equipment had their limitations however; the speed timer required the laying of rubber tubes across the roadway, and the radar, an older model, had a range of two-hundred feet. This made it difficult to appredend the habitual violator, specifically the youngsters who "drag-raced" between the "Drive-Ins" in town. The administrator arranged for the demonstration of new radar devices. He selected a portable model which could be mounted inside of a vehicle in a few minutes and had a range of fourteen-hundred feet. Officers on all three shifts were trained in its use and the radar was put into operation twenty-four hours a day, weather permitting. This plan met with immediate success and resulted in a curtailment of much of the speeding which had existed. The enforcement rate on speeding violations has also increased. Arrangements have been made to procure another radar set to allow increased coverage.

Analysis. The administrator was faced with a problem and he determined its cause. He then decided he wanted to obtain a device which did not have the limitations of his present equipment. He gathered his information and selected a piece of equipment. He then arranged for training and the issuance of instructions regarding its use. He adequately supervised its operation and has continued his planning.

Case History No. 15

Narrative Summary. Each separate division of the department, ie: Juvenile, Traffic, Investigations, maintained their own records. To determine if an individual had a previous record it was necessary to check in four or five places. The condition and completeness of the records varied from section to section. In addition, no record was kept of witnesses or complainants in a case, other than on the report which was filed under the subject's name.

There was a change in top administration within the department and one executive was given the responsibility of developing an adequate records system. He realized the deficiencies of the present system which led to delay, lack of information, and poor maintenance of files. He determined that he wanted a centralized records system, which would provide quick and adequate information, the maintenance of which was the responsibility of one person. He visited various government law enforcement agencies to see what they were using. He selected a method which with slight modification was adaptable to his purpose. A centralized Records section was established and written instructions were issued to effect the change-over. The new system provided for a central source for record checks and included a cross-index reference to all the people who had been involved in a case and not only the subject and victim. The operation was closely supervised and the results were excellent. The records assisted the police much more than they had in the past.

Analysis. The administrator recognized the problem and set his goals. He sought information as to how he could achieve his goals and selected the alternatives he felt would do the best job. Adequate implementing instructions were issued and they were followed by good supervision. No adjustments in the new policy were necessary.

III. GENERAL FINDINGS

An analysis of the case histories indicated that the problem of making a decision was approached in various manners by the police administrators interviewed. None of these administrators consistently followed a set format in arriving at their decisions.

Most of these executives were unable to discuss how they made their decisions in terms of a decision-making process. They knew that they were faced with a problem and that they selected a solution; sometimes by a trial and error method, other times with an effort toward evaluating alternatives, and at times the acceptance of the first solution considered which appeared satisfactory.

Several generalizations can be made regarding these decision-makers and decision-making situations. First, few of the police administrators knew why they selected the alternative they did, other than the fact that they "thought" it was the best answer. Secondly, in few cases were a sufficient number of alternative solutions developed. In several instances obvious alternatives were not even considered. Thirdly, much more care was taken in evaluation prior to deciding when the decision would result in an expenditure of money. Fourth, the administrator was often pressed into making a decision, although the environment in which he was operating had changed very little.

Regardless of their method of making decisions, and their lack of concern with decision-making procedures, the police administrators involved were able to get things done.

CHAPTER V

SUMMARY AND CONCLUSIONS

This chapter contains two sections, the first, will review the information obtained from the literature and the field research. The second section will deal with the conclusions of the study to include, a comparison of the model with the literature and the empirical data; the development of final conclusions; and certain recommendations which are offered.

I. SUMMARY

Summary of the Literature on Decision-Making. In reviewing the literature on decision-making it was noted that there was a general lack of concern with the following elements: the establishment of goals; the development of detailed guidelines which would be of practical value to the "real world" decision-maker; the preparation for the implementation of the decision; the importance of the communication processes; provisions for effective supervision of the results; and a procedure for corrective action when the results are not satisfactory.

Judgment exercised by the executive is the vital element of decision-making,[1] still the application of a systematic approach to problem-solving should increase the caliber of the decisions made.[2] Experience is still considered one of the best teachers in this area.[3]

There is a general agreement that the executive's ability to make decisions can be improved, although it is cautioned that the limitations on man's rationality must be taken into account.[4]

Analysis of the Field Data. There were as many different approaches to making a decision as there were administrators interviewed. The administrators displayed no formality in following a set procedure, yet several observations were made which could be considered common for the group:

1. The solution selected was "felt" to be the right one, that is why it was picked. This "feeling" was difficult for the decision-makers to explain. The ability to

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[1] John McDonald, "How Businessmen Make Decisions," *Fortune*, 52 (August, 1955), p. 137.

[2] Robert W. Carney, "Make Your Decisions Effective," *Administrative Management*, 24 (December, 1963), p. 55.

[3] Charles H. Kepner and Benjamin B. Tregoe, "Developing Decision-Makers," *Harvard Business Review*, 38 (September, 1960), p. 115.

[4] Herbert A. Simon. *Administrative Behavior* (New York: Macmillan, 1957), p. 81.

explain the method used in evaluating alternatives was absent in almost every case.

2. Very seldom were all the forseeable alternatives developed and considered.

3. Whenever the decision was concerned with an expenditure of funds a much greater effort was made to develop and evaluate as many alternative solutions as possible.

4. The situation which the decision changed often existed for sometime; the act of decision being motivated by a blunder, criticism or outer-department influences.

II. CONCLUSIONS

Comparison of the Literature with the Model. While the literature ignored several aspects of the decision-making process, which the model included, only Step #5, Evaluating Alternatives was in conflict with some of the literature. Muther[5] and Bristow[6] both emphasize the use of a numerical system for weighting alternatives. The evaluating of alternatives by a non-numerical method was favored by the majority of writers in the field. The value of a

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[5] Richard Muther, "Techniques for Making Better Decisions," Management Review, 45 (1956), pp. 821-822.

[6] Allen P. Bristow and E.C. Gabard. Decision-Making in Police Administration (Springfield, Illinois: Charles C. Thomas, 1961), p. 79.

numerical weighting system in an intellectual activity requiring judgment is questionable. The establishment of a numerical rating system would allow the use of a concise, neat approach to decision-making, which might be possible if each alternative and consequence could be isolated and separately considered, unfortunately, this is not the case. These alternatives and consequences exist in combination with each other and present a complex situation rather than a simple one. The evaluator who makes a subjective judgment to assign numerical values and then attempts to compute these values with arithmetical exactness violates a principle of the scientific method.

It can be stated that the available literature supports the model which was proposed by this thesis.

Comparison of the Field Data with the Model. The procedures followed by police decision-makers were not as complex as those proposed by the model. The field data indicates that excellent results can be and are attained by much simpler methods of decision-making than those proposed in this study. While the empirical data does not support the necessity for using the model it by no means rejects it. Many of the decisions made would have benefited by a systematic approach such as the model offers. The use of the model in all the situations encountered would not have hindered the decision-maker, although in several cases it would have taken him longer to arrive at a decision. It should be noted that time was not a factor in any of these decisions. The use of the model would definitely have resulted in the development of more alternatives, which would have enabled avoidance of several of the pitfalls which the administrators encountered.

It was mentioned in the Introduction that the comparison of actual practices with the model would not permit acceptance or rejection of the model. An analysis of the data indicates that the use of the model would not have reduced the effectiveness of any of the decisions made, and would probably have increased the quality of some of them.

Final Conclusions. The research findings support the following statements:

1. The hypothesis was supported. The proposed model allows an adequate approach to the decision-making process.

2. Specifically regarding the three key questions which were asked:

a. Is the proposed model a valid procedure to accomplish rational decision-making? The findings indicate that the answer is yes, although it must be remembered that man's rationality is limited.

b. Did the police administrators, whose cases were analyzed, follow a rational procedure to arrive at their decisions? Yes, they did follow a rational procedure, however, their rationality was limited more than was necessary, by their failure to approach each situation systematically.

c. Would adherence to the model have increased or decreased the factors considered in arriving at a decision by the police administrators? The factors which were considered would have been increased in almost every case.

3. The use of the model in the field might have increased the quality of the police administrator's decision; at the very least, it would have allowed him to avoid certain pitfalls.

Recommendations.

1. It is recommended that further research concerning the use of this model be conducted. This research could take several directions, ie: the comparison of the model with the executive practices in large city police departments; the trial use of the model in a labortory situation, where a control group is used; or an effort to refute the model by finding or developing situations in which it would not work adequately.

2. An interesting area for study might be to uncover the motivation for action on decision-making

situations which existed for some time before they were acted upon.

3. It is further suggested that police administrators take a greater interest in decision-making processes, both in their daily operations and in their training programs.

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APPENDIX

APPENDIX A

INTERVIEW GUIDE

1. Narrative Summary (obtained thru non-leading questions)
    - A. Recognition of problem
    - B. Actions
    - C. Decision
    - D. Actions
    - E. Results (if known)
2. Questions concerning the D/M's approach to the situation
    - A. <u>I.D. Problem</u>
        - (1) How did you hear of the situation and what did you do?
        - (2) Did you determine what the real problem was? How? What was it?
    - B. <u>Goals</u>
        - (1) What did you do after you knew what the problem was?
        - (2) Did you establish any goals? How? What were they?
    - C. <u>Development of Alternatives</u>
        - (1) What did you do after your goals were established?
        - (2) Did you determine what alternatives were available to you? How? What were they?

D. Analysis of Alternatives

(1) What did you do after you knew what the alternatives were?

(2) Did you determine what would and/or should happen if they were adopted? How? What were the results?

E. Evaluating Alternatives

(1) What did you do after you had judged what the consequences of the alternatives would be?

(2) Did you evaluate each alternative in any way? How? What were the results?

F. Decision

(1) What did you do next?

(2) Did you select one of the alternatives available to you? On what basis? What was your decision? Why that one?

G. Implementing Instructions

(1) What was done after the decision was made?

(2) Who was required to act on the decision? How were they notified? Were the instructions understood (at that time)? How do you know?

H. Supervising Implementation

(1) What was done after the instructions were issued?

(2) Who supervised the action? How (frequency, etc.) What were the results of the supervision?

I. <u>Adjusting the Decision</u>

(1) Did that complete the requirements of the situation?

(2) Did the supervision reveal any shortcomings in the decision? What were they? What was done? How? Results?

3. General Questions

A. Was there any serious deficiency in the D/M process used?

B. Were any apparent alternatives neglected?

C. Were any apparent sources of information ignored?

D. Did the D/M use any guidelines for arriving at his decision?

E. Was there effective coordination of information both before and after the decision?