

THE DECISION MAKING PROCESS

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ABSTRACT

Decision making is one of the most important activities in which school administrators engage daily. The success of a school or school district is critically linked to effective decisions. In this article, I discuss how individual decisions are made. I describe and analyze two basic models of decision making: the rational model and the bounded rationality model.

Because decision making is so important and can have such significant effects on the operation of schools, it has been suggested that administration is decision making (March, 2010). It would be a mistake however, to conclude that only administrators make decisions. Increasingly, important decisions are being made in schools by non-administrative personnel. Thus, while decision making is an important administrative process, it is fundamentally a *people* process. In this article, I describe and analyze how individual decisions are made. I begin by discussing the nature of decision making. This is followed by a description and analysis of two basic models of decision making: the rational model and the bounded rationality model.

The Nature of Decision Making

Decisions are made at all levels of school organization. The superintendent makes decisions concerning a school district's goals and strategies. Then principals make tactical decisions concerning those goals and strategies to accomplish them in relation to their own buildings. Department heads and team leaders then make curricular and operational decisions to carry out the day-to-day activities of a department or unit. And, finally, classroom teachers make decisions in their classrooms.

Consider the following decisions that need to be made at different organizational levels:

- How much inventory should be carried in the school district warehouse?
- Where should the newly proposed elementary school be located?
- Should the school district renovate the old high school or build a new one?
- How many classes of freshman English should our department offer next semester?

- What textbook series should the mathematics department adopt?
- Should all of our principals attend the conference on the use of technology?
- What minimum rules should I adopt in my classroom?

Questions such as these require an answer. Someone is going to have to do some decision making in order to provide answers.

Decision making is a process of making a choice from a number of alternatives to achieve a desired result (Eisenfuhr, 2011). This definition has three key elements. First, decision making involves making a choice from a number of options—the school district can carry more or less inventory of school supplies and the math department can choose the Macmillan or McGraw-Hill math series. Second, decision making is a process that involves more than simply a final choice from among alternatives—if the school district decides to renovate the existing high school rather than build a new one, we want to know how this decision was reached. Finally, the "desired result" mentioned in the definition involves a purpose or target resulting from the mental activity that the decision maker engages in to reach a final decision—to locate the new elementary school on the east side of town.

Decision making is a way of life for school administrators. Although everyone in a school makes some decisions, school administrators are paid to make decisions. Their main responsibility lies in making decisions rather than performing routine operations. The quality of the decisions made is a predominant factor in how the superintendent, for example, views a principal's performance, or how a principal views a department head or team leader's performance. Furthermore, decision making affects the performance of a school or school district and the welfare of its stakeholders: students, teachers, parents, and the community.

How are Individual Decisions Made?

Now that I have discussed the nature of decision making in schools, I will now consider the matter of how people go about making decisions. Historically scientists have emphasized two basic models of decision making: the rational model and the bounded rationality model (March, 2010).

The Rational Model

Administrative decision making is assumed to be *rational*. By this we mean that school administrators make decisions under certainty: They know their alternatives; they know their outcomes; they know their decision criteria; and they have the ability to make the optimum choice and then to implement it (Towler, 2010). According to the rational model, the decision making process can be broken down into six steps (Schoenfeld, 2011). (See Figure 1.)

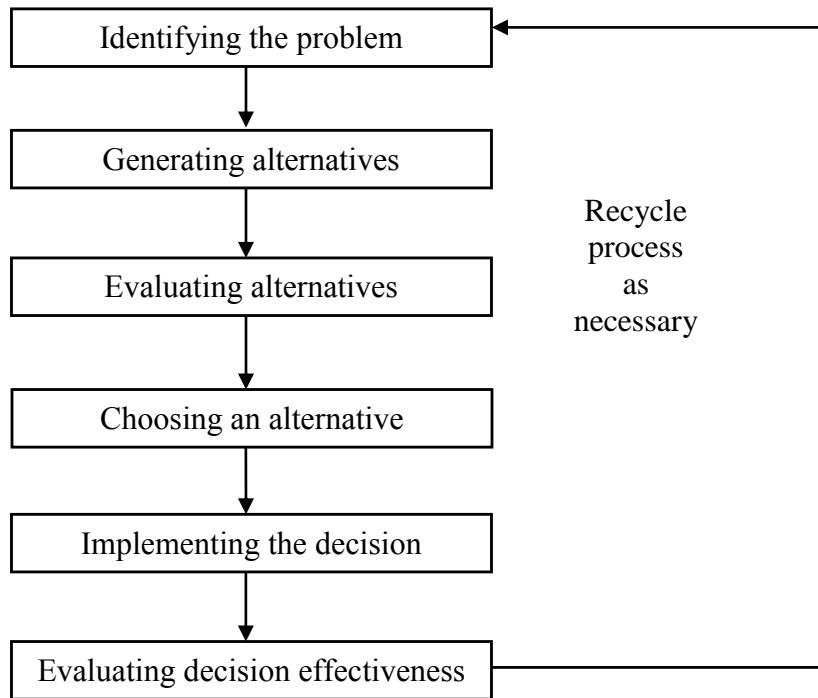


Figure 1. The decision-making process.

After a problem is identified, alternative solutions to the problem are generated. These are carefully evaluated, and the best alternative is chosen for implementation. The implemented alternative is then evaluated over time to assure its immediate and continued effectiveness. If difficulties arise at any stage in the process, recycling may be effected.

Thus, we see that decision making is a logical sequence of activities. That is, before alternatives are generated, the problem must be identified, and so on. Furthermore, decision making is an iterative activity. As shown in Figure 1, decision making is a recurring event, and school administrators can learn from past decisions. The paragraphs that follow elaborate on each of these steps and explain their interrelationships.

Identifying the problem.

Schools exist to achieve certain goals, such as educating students. Within the school, each department or subunit has goals, such as increasing test scores, reducing dropouts, and/or developing new approaches to teaching. Establishing these goals becomes the basis for identifying problem areas, deciding on courses of action, and evaluating the decision outcomes. A decision is said to be effective if it helps a school administrator to achieve a specific objective or set of goals for the school or school district. Failure to achieve a desired goal becomes a problem, and the school administrator is ultimately responsible for solving it.

Effective decision makers are keenly aware of the importance of properly *identifying the problem* and understanding the problem situation. Kepner and Tregoe

(2005) developed a method of problem analysis that suggests that the first step in decision making, identifying the problem, is the most important step. According to these authors, providing a good definition of the problem affects the quality of the decision. Their method suggests that it is often easier to define what the problem is not, rather than what it is. Also, the problem—and its solution—are prioritized with other problems, to clarify its relative importance. The final step is searching for cause-effect relationships. In summary, their method of problem analysis includes: (1) problem identification, (2) definition of what the problem is and is not, (3) prioritizing the problem, and (4) testing for cause-effect relationships (Kepner & Tregoe).

The process of identifying problems requires surveillance of the internal and external environment for issues that merit attention (Verschaffel, 2011). School administrators scan the world around them to determine whether the school is progressing satisfactorily toward its goals. For example, school administrators survey students, teachers, parents, and community members using instruments to measure satisfaction, organizational climate, and the like. Other information may come from formal information systems, such as periodic accounting reports, Management Information System (MIS) reports, and organizational plans designed to discover problems before they become too serious. Or the information may be gathered informally by talking over the situation and by personal observation. A principal, for example, might discuss a school performance problem with teachers, the superintendent, or other principals to obtain ideas and information. The school administrator must be plugged into an information system, whether formal or informal, that gathers these data as a means of identifying problems.

In addition to identifying problems, school administrators must also define the situation, which is partly a matter of determining how a specific problem arose. This is an important stage, because the situation definition plays a major role in subsequent steps. Suppose, for example, that a school has had decreasing test scores for the last two years. One principal might define this situation as the result of a changing student population in the school attendance area and begin to search for new approaches to teaching these students, who come from lower socioeconomic backgrounds. Another principal might define the situation as a case of an inappropriate match between what is taught and what is measured — that is, placing the blame on the achievement test being used. The problem — declining test scores — is the same in both cases, but the two different definitions of the situation call for two different solutions.

Generating alternatives.

Once the problem has been identified, the second step in the decision-making process is to *generate alternatives* to the problem. In developing these alternative solutions, school administrators first must specify the goals that they hope to achieve through their decision. Are they trying to reduce the dropout rate, improve the quality of instruction, increase test scores, or something else? Once school administrators have determined their goals, they can search for alternative means of reaching them. Information must be collected regarding each of the alternatives and their likely consequences. More specifically, the school administrator must seek to learn as much as

possible concerning the likelihood that each alternative will result in the achievement of various outcomes, and the extent to which those outcomes will contribute to the achievement of the goals and objectives being sought.

Ideally, the school administrator should seek to generate as many alternatives as possible and should attempt to ensure that the alternatives are relatively diverse — that is, not highly similar to one another. The extent of the search for alternatives is limited by the importance of the decision, the cost and value of additional information needed to evaluate alternatives, and the number of people affected by the decision (Zopounidis, 2011a, b).

The more important the decision, the more attention is directed to developing alternatives. For example, if the decision involves where to build a new multimillion-dollar high school, a great deal of time and effort will be devoted to identifying the best location. On the other hand, if the problem is to select a color to paint the classrooms in the new high school, less time and effort will be devoted to the activity.

The length and thoroughness of the search for alternatives depends on the cost of evaluating additional alternatives (Narayanan, 2005). For example, a 2 % improvement in the solution of a \$10 million problem may produce a profit margin of \$200,000. However, if the cost of evaluating an additional alternative is \$250,000, the evaluation costs \$50,000 more than the possible savings. As a rule of thumb, the increase in the improvement of a solution should always be more than the cost of performing the additional evaluation of an alternative. Moreover, the greater the number of people affected by a problem, the more likely the organization will conduct a lengthy and thorough search for alternatives (Ehrgott, 2011). However, when dealing with complex school problems affecting numerous people, it is often necessary to compromise on some points. Human benefits cannot be measured in dollars and cents (Schoenfeld, 2011).

Evaluating alternatives.

The third step in the decision-making process is *evaluating* each of the *alternatives* generated in step 2. In evaluating an alternative, school administrators must ask the following three questions: (1) "Is the alternative feasible?" (2) "Is it a satisfactory alternative?" (3) "What impact will it have on people?" (Grant, 2011).

The first question—whether the alternative is feasible—simply means: Can it be done? For example, if one alternative requires a general layoff of school faculty but the school district has a collective bargaining agreement that prohibits such layoffs, that alternative is not feasible. Similarly, if a school district has limited capital, alternatives that require large capital outlays are not feasible, unless funds can be borrowed to meet the capital-outlay requirements.

The second question concerns the extent to which the alternative is satisfactory — that is, the extent to which it addresses the problem. For instance, suppose a principal wants to expand the curriculum by 25%. One alternative is to implement a trimester schedule. On closer examination, however, the principal may discover that the plan would expand the curriculum by only 15% and that such a modest expansion may also negatively affect the quality of the program. The principal may decide to implement the trimester plan anyway and search for other ways to achieve the remaining 10% expansion

in the curriculum and find ways to maintain the quality of the program. Or he may decide to drop the alternative from consideration entirely.

The third question addresses the impact of an alternative on school personnel. The alternative that is chosen must be acceptable to those who must live with the consequences of the decision. Failure to meet this condition is the single most likely reason for failure of the decision-making process to solve problems (Hastie, 2010). For this reason, questions of acceptability of a proposed alternative should be of great concern to the principal. On the one hand, even a mediocre solution to the problem may prove effective if it is implemented with enthusiasm and commitment. On the other hand, a technically correct alternative may fail to succeed if implementation is halfhearted.

Choosing an alternative.

Once the administrator has evaluated all of the alternatives, he attempts to *choose* the best *alternative*. The evaluation phase will have eliminated some of the alternatives, but in most cases two or more will remain.

How does a school administrator decide which alternative is the best? One approach is to select the alternative that is feasible, satisfactory, and acceptable to the work group (Gilboa, 2011). Because most situations do not lend themselves to sophisticated mathematical analysis, the school administrator uses this available information in combination with judgment and intuition to make the decision (Mendel, 2011). The basis of judgment should be how close the outcomes or consequences of the alternatives come to achieving the desired goals of the school. For example, if the original goal was to decrease the dropout rate as much as possible, regardless of the costs, the school administrator might choose an alternative that will decrease the dropout rate significantly but that carries a high cost, rather than an alternative that would reduce dropouts only moderately at a minimal cost. However, if the original goal was to reduce the dropout rate by a moderate amount and if that goal is more desirable now, the second alternative might be a better choice.

Finally, the school administrator may be able to choose several alternatives simultaneously. Suppose, for example, a school principal is hiring an English teacher and has two strong candidates for the position. One strategy that is frequently used is to offer the position to one candidate and keep the other candidate on hold. Should the first offer be rejected, the principal still has an acceptable alternative to filling the position.

Implementing the Decision

After choosing an alternative, the school administrator faces the challenge of *implementing the decision*. A sound decision can fail if implemented poorly. It is useful, therefore, to consider some suggestions for successful implementation (Ahmed, 2011).

1. *School administrators need to make sure that the alternative is clearly understood.* This is accomplished by communicating the decision to all involved staff. Effective communication is necessary for effectively implementing decisions.

2. *School administrators need to encourage acceptance of the alternative as a necessary course of action.* Committees can help a school administrator achieve commitment. If the people who must carry out a decision participate in the process, they are more likely to endorse enthusiastically the outcome. Thus, the degree to which persons have or have not been involved in prior steps may substantially affect the success of the total decision-making process.
3. *School administrators need to provide enough resources to make the alternative succeed.* School administrators set up budgets and schedules for the actions they have decided to undertake. Specifically, the decision may require acquiring office space, hiring staff, procuring funds, and the like.
4. *School administrators need to establish workable timelines.* The school administrator now faces a "how much" and "how soon" decision. As part of the process of implementation, he must ask himself whether to move forward step by step or whether to take the entire action at once.
5. *School administrators need to assign responsibilities clearly.* In other words, what should be done by whom? Because the solution of most administrative problems requires the combined effort of many school members, each person should understand what role he or she is to play during each phase of the implementation process.

Evaluating decision effectiveness.

The final step in the decision-making process is *evaluating the effectiveness* of the decision. When an implemented decision does not produce the desired results, there are probably a number of causes: incorrect definition of the problem, poor evaluation of alternatives, and/or improper implementation. Among these possible causes, the most common and serious error is an inadequate definition of the problem. When the problem is incorrectly defined, the alternative that is selected and implemented will not produce the desired result.

Evaluation is important because decision making is a continuous, never-ending process. Decision making does not end when a school administrator votes yes or no. Evaluation provides school administrators with information that can precipitate a new decision cycle. The decision alternative may fail, thus generating a new analysis of the problem, evaluation of alternatives, and selection of a new alternative. Some experts suggest that many large problems are solved by attempting several alternatives in sequence, each providing a modest improvement (Hicks, 2005). Evaluation is the part of the decision-making process that assesses whether a new decision needs to be made.

The Bounded Rationality Model

The rational decision making model, discussed above, characterizes the decision maker as completely rational. If a decision maker were completely rational, she would

have perfect information: know all alternatives, determine every consequence, and establish a complete preference scale. Moreover, the steps in the decision-making process would consistently lead toward selecting the alternative that maximizes the solution to each decision problem.

Frequently, school administrators are not aware that problems exist. Even when they are, they do not systematically search for all possible alternative solutions. They are limited by time constraints, cost, and the ability to process information. So they generate a partial list of alternative solutions to the problem based on their experience, intuition, advice from others, and perhaps even some creative thought. Rationality is, therefore, limited. Herbert Simon (1982, 1997, 2009) coined the term *bounded rationality* to describe the decision maker who would like to make the best decisions but normally settles for less than the optimal.

In contrast to complete rationality in decision making, bounded rationality implies the following (Simon, 1982, 1997, 2009):

1. Decisions will always be based on an incomplete and, to some degree, inadequate comprehension of the true nature of the problem being faced.
2. Decision makers will never succeed in generating all possible alternative solutions for consideration.
3. Alternatives are always evaluated incompletely because it is impossible to predict accurately all consequences associated with each alternative.
4. The ultimate decision regarding which alternative to choose must be based on some criterion other than maximization or optimization because it is impossible to ever determine which alternative is optimal.

Satisficing.

One version of bounded rationality is the principle of *satisficing*. This approach to decision making involves choosing the first alternative that satisfies minimal standards of acceptability without exploring all possibilities. This is the usual approach taken by decision makers (Nielsen, 2011). Simon (1997) expresses it this way: "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." (pp. 140-141)

Heuristics.

When school administrators make satisficing decisions, they may use a set of heuristics to guide their decisions. A *heuristic* is a rule of thumb that can help the decision maker find a solution in a complex and uncertain situation (Moustakas, 1990). We use heuristics in our everyday lives. For example, a heuristic rule for dealing with other people is the Golden Rule: "Do unto others as you would have them do unto you." Football coaches use the rule, "When in doubt, punt." In playing chess, we follow the rule of "controlling the center of the board." And a heuristic for investors is that if a stock drops 10% or more below its purchased price, sell.

In the social and behavioral sciences, there are many well-known heuristics used to make a wide variety of decisions. Some of these include the following: "The customer is always right." "Treat employees as mature adults." "When in doubt, stick to the business you know best." These are all rules that help simplify complex decision-making situations. Applying heuristics often helps school administrators make satisficing decisions possible. But the heuristic approach, as with judgment and intuition, has a tendency to oversimplify complex problems or introduce bias into decision making.

Primacy/recency effect.

One bias, which may affect the effectiveness of a school administrator's information search behavior, is the primacy/recency effect. In the decision-making process, the decision environment is searched for the following purposes: finding problems, identifying decision alternatives, determining consequences, and developing evaluation criteria. Although decision makers may have different strategies for these different purposes, the decision maker is often inordinately influenced by information discovered early in the search process (*the primacy effect*) or late in the search process (*the recency effect*). Thus, everything else being equal, the importance attached to information may be affected by its order in the search sequence (Brown & Moberg, 2004).

Bolstering the alternative.

Another way in which the search for information is biased and inhibits decision optimization is the phenomenon of *bolstering the alternative* (Bubnicki, 2003). Even before accumulating the information on which to base a decision, the school administrator may prefer one alternative to all the others; the decision maker, therefore, searches for information that rationalizes the choice. Only information that supports the decision maker's preferred alternative is considered legitimate and acceptable.

A related bias in the search for information is the school administrator's professional training and identification with a particular department that may also bolster the alternative. For example, an assistant superintendent for curriculum may tend to view most problems with a curriculum bias, regardless of their nature, and an assistant superintendent of finance (business manager or chief financial officer) may perceive the same problems in terms of finance. Although such biases are bound to exist, it is important to understand that they can strongly influence a decision maker's ability to make accurate decisions.

Intuition.

Another aspect of bounded rationality, mentioned previously, is intuition. *Intuition* represents a quick apprehension of a decision situation based on past experiences and the reinforcement associated with these experiences, which is devoid of conscious thought (Myers, 2002). For example, when you are driving an automobile the decision to apply the brakes is intuitive because it comes almost automatically and

without reasoning. Years of driving experience have taught us precisely when to apply the brakes. The same type of intuition often guides a school administrator's decisions. The decision to discipline a staff member or to buy an item for inventory may be quite intuitive for the school administrator and is based on years of experience.

Research on administrative behavior in schools is consistent in identifying the demands on the principal as fragmented, rapid fire, and difficult to prioritize (Lunenburg & Irby, 2006; Matthews & Crow, 2010; Sergiovanni, 2009; Ubben, Hughes, & Norris, 2011). Half of the activities of principals last less than ten minutes and only 8 percent exceed an hour. Researchers conclude that principals are action-oriented and do not like reflective activities. These data support the observation that much decision making is intuitive. The fast and hectic pace of a principal's job makes the use of intuition almost a necessity.

Incrementalizing.

Another approach to decision making, sometimes referred to as *muddling through*, involves making small changes (increments) in the existing situation. Charles Lindblom (1993), its author, distinguishes between completely rational decision making and *incrementalizing*, which is based on successive limited comparisons. On the one hand, the rational approach to decision making involves determining objectives, considering all possible alternative solutions, exploring all conceivable consequences of the alternative solutions, and finally choosing the optimal alternative solution that will maximize the achievement of the agreed-on goals.

Incrementalizing, on the other hand, does not require agreement on goals, an exhaustive search of all possible alternatives and their consequences, or selection of the optimal alternative. Instead, Lindblom argues that no more than small or incremental steps, that is, “muddling through”, is all that is possible. In other words, incrementalizing is a process of successive limited comparisons of alternative courses of action with one another until decision makers arrive at an alternative on which they agree.

The garbage-can model.

Earlier we noted that while school administrators want to make optimal decisions, the realities of organizational life — including politics, time constraints, finances, and the inability to process information — limit purely rational decision making. Applying rational decision making is particularly troublesome for schools. The technologies of teaching are varied and not well understood. Moreover, schools have multiple and conflicting goals that are vague and ambiguous. And schools lack clearly defined success criteria (Fullan, 2010; Lunenburg & Ornstein, 2008). Thus, problems and solutions cannot be translated easily into a logical sequence of steps (rational decision-making model).

In accordance with this view, David Cohen, James March, and Johan Olsen (1972) conceptualized this decision-making process as a *garbage-can model*. As members of a school or school district generate problems and alternative solutions to problems, they deposit them into the garbage can. The mixture is seen as a collection of

solutions that must be matched to problems. Participants are also deposited into the garbage can. Mixing problems, solutions, and decision participants' results in interaction patterns leading to decisions that often do not follow purely rational decision making.

Conclusion

Decision making is one of the most important activities in which school administrators engage daily. The success of a school is critically linked to effective decisions. Decision making is a process involving choices. The process generally consists of several steps: identifying problems, generating alternatives, evaluating alternatives, choosing an alternative, implementing the decision, and evaluating decision effectiveness.

Two major approaches to decision making have been identified. The rational model characterizes decision makers as completely rational - searching through perfect information to make optimal decisions. The inherent imperfections of decision makers and the social and organizational systems in which they are imbedded impose limitations on decision makers' ability to process information needed to make complex decisions (bounded rationality) that restrict decision makers to finding solutions that are less than optimal.

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