Decision Making in a Changing World

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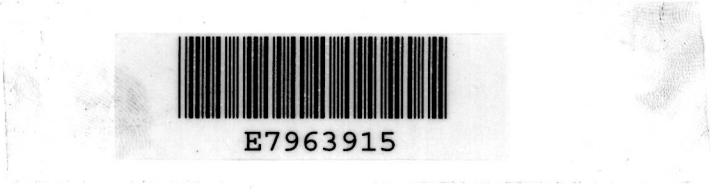
DECISION MAKING IN A CHANGING WORLD

Selected essays from *Innovation,* the magazine about managing in an environment dominated by rapid change and advancing technology



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Introduction

There was a time when an executive would have been proud of having made a right decision based largely on his experience and intuition. Those were the good old days. Or so say the executives who still cherish the element of bravery involved in the seat-of-the-pants approach to decision making. But those days are over, or at least well on the way out, and the executive who still holds with this traditional kind of decision making will have to content himself with nostalgia. What matters now, as the essays which originally appeared in *Innovation* magazine clearly point out, is that the executive learn to understand and use the new decision-making tools born of advanced technology.

In theory, this should not be an awesome task. The executive should be able to recognize computers, PERT, econometric models, and all the other new management tools as the natural progeny of his decision-making past. After all, didn't he have a hand in creating the technology and the managerial environment for the major breakthroughs? Then why his resistance? Why does he fight a stubborn, often irrational rear-guard action against accepting the tools that promise to be more effective in his battle with the old corporate enemies: financial waste, mismanagement of manpower and material resources, ineffective use of time? That there is a resistance is apparent from the frequent appearance in the essays of statements such as "we will have to" and "changes must be made in . . . ."

The tone of the first section of essays, "The New Managerial Environment," is pointedly optimistic. While Chris Argyris raps the manager on the knuckles for his "irrational resistance to potentially rational processes," such as computers and management information systems, he also sees a way out. One suggestion is to reduce the manager's "fear and resistance" by increasing his managerial and technical competence through more effective interpersonal, group, and intergroup activities. But pity the traditional manager. No sooner does he accept the computer as a friend and ally in decision making then along comes Avery Johnson and "new think." As if adjusting to feeding, storing, and transferring data into the computer were not difficult enough, now the manager is faced with the prospect of entering into a dialogue with the machine, interacting on a nonverbal basis with a mechanism that can

sense personal preferences, read thoughts, and respond in kind. "Toys to think with," says Johnson. "Machines that talk back!" utters the executive with disbelief. A frightening but exhilarating challenge.

If you are a far-seeing and action-prone technologist heed author Kenneth Knight's advice and go slow, be patient, and recognize that resistance to decisions involving acceptance of new ideas is rooted in human factors that bristle with emotions. The NIH (Not Invented Here) syndrome is a case in point. "No wonder," explains Knight, "that this year's decisions sound like last year's."

A further plea to introduce the new decision-making tools with a gentle but firm take-my-hand approach is related in Tom McGrath's account of how Avon Products is evolving its management information system from the company's existing EDP operations. Along with the other essays in the section entitled "Some Tools for Decision Making," McGrath emphasizes the need for a conscious strategy—in this case on the part of Avon's top management—to tailor the system to human as well as corporate needs. "We don't jump in and try to show an executive how much better he can do his job by using the MIS," he states. "We start by offering him better access to the information he wants, and we give it to him in the format he's used to . . . . We give him a chance to do just what he always has done—but with a little less strain." A similar message comes through in Richard Mason's essay on what management information systems are and what they should be. There has been, he contends, too much talk about what computers can do and too little talk about how the information is going to be used and whether the manager really wants or needs it all anyway.

But management information systems and their accompanying coterie of computers and EDP equipment are not the only new decision-making tools being offered to the manager. Among the other tools are three mathematical models for arriving at and testing decisions on new-product marketing, as described by Sam Goodman, who discusses what they can and cannot do. All three models—DEMON, SPRINTER, and NSPM—enable the manager to structure the marketing environment, determine the outcome of each possible decision, and screen out the most effective advertising strategy for each stage of the product's life cycle. You would expect that every manager acting logically—or rationally, if you prefer—would be willing at least to explore the models in good faith. Evidently not so. Polarization appears to be the natural reaction, with

each of two camps tenaciously holding onto its own parochial view. The first group argues that "marketing decisions will become automated, and that computer programs, based on mathematical models, will arrive at policy decisions with little or no need for an executive's intuition." The second group believes with equal tenacity that the "marketing environment is much too complex to be adequately represented by an abstract model." They believe that whatever a computer model can do, they can do better and cheaper. As a parting shot, the author observes that "marketing models demand a great degree of cooperation and interraction since they cut across departmental lines. His hope is that this might "dictate a change in the organizational philosophy of many firms and force people to admit, maybe for the first time, that they are all actually working for the same company." Those human factors creep up again.

Another of the new decision-making tools is DECIDE, a project-planning network with unusually broad applications to R&D activities. DECIDE, according to author J. T. Huffstetler, offers the manager the advantages of a probabilistic planning method that more closely resembles the real world of decisions than either PERT/CPM or the decision tree, the parent methods upon which DECIDE is based. But there are penalties, too, that more appropriately should be interpreted as additional benefits. For example, DECIDE requires that the planner follow each possible decision to its logical conclusion, which forces him to answer all those bothersome questions beginning with "What if?"

In the last section, "The Framework for Decision Making," the essays discuss the systems approach, the power of planning, and the art of forecasting. Each in its own right is a separate discipline, and yet, in theory and practice, each shares in and contributes to a common cause. The forecaster looks ahead and predicts what is likely to happen if . . . . The planner focuses top management's attention on where the company is going, when it is going to get there, and how. The slugger in the line-up is the systems man—"the rarest bird of all," according to author Alan Bloch. What's the systems man's job? He organizes the company for change by preparing the way for the application of the new decision-making tools and techniques. He develops the diplomacy for innovation and, of course, much more. But why spoil the reader's pleasure. It's all in the book.

Ronald J. Asinari
April 1971

Part 1

The New Managerial Environment

1

Resistance to Rational Management Systems

Be more rational? Sure. Get a better feel for the future? Absolutely. Cooperate with the computer? Okay. Only keep that damn machine out of my operation! Follow along as Chris Argyris considers the natural history of resistance to rationality, in this case MIS (management information system), from his experience as management consultant.

Professor Argyris is Professor of Administrative Sciences at Yale University and a Managing Consultant.

Rationality is one of the highest order goals in civilization. To be sensible, to use the power of reason, to avoid emotionalism in making decisions are characteristics that civilized people honor and value and strive to attain. To be rational is to be good.

We have even created our organizations with rationality in mind: If every man behaves reasonably and sensibly, then bureaucratic structures (our dominant form of organization) can achieve their goals.

Of course, for organizational managers and executives to conduct their affairs rationally, they also need to know a lot of things. In American industry, for example, management requires a virtual torrent of information about its own operations plus knowledge of its market environment, those hard-to-control forces operating beyond its doors.

"If only we could cut the guesswork out of this decision . . . . If only we had more information . . . . If only we could shape up Department X . . . . If only we knew the consequences of this new policy . . . ." Information, insight, foresight, in a word—rationality; with these we could do anything.

We all go through this "if only" fantasy in our work and personal lives. Because we all go through the fantasy, technicians constantly develop new methodologies and technologies in the pursuit of rationality; operations research, PPBS, and computer models are only recent examples.

Because we all experience the fantasy, then obviously new systems that provide more information, more accurate models of the world we live in—in short, more rational ways of choosing our next steps—are welcomed enthusiastically. People who can make such things happen are universally acclaimed, adopted as blood brothers, given succor, comfort, and honor.

So you might think.

Unfortunately, the opposite usually happens. I've seen it over and over again. New developments for rational decision making often produce intense resentment in men who ordinarily view themselves as realistic, flexible, definitely rational. Managers and executives who place a premium on rationality, and work hard to subdue emotionality, become resistant and combative in the back-alley ways of bureaucratic politics when new technologies are introduced.

These reactions sound paradoxical. Yet they stem from ingrained, almost unconscious processes in American organizational life. Waves of fear, insecurity, and tenacious resistance arise unbidden from the bowels of the organization.

This does not happen because men are stupid. It happens because of their long and successful education in organizational survival, where they learn deceit, manipulation, rivalry, and mistrust—qualities endemic to our present organizational structures.

Professionals in the field of information sciences genuinely believe that work-life has become so complicated that the only way to achieve effective management is through the expanded and deepened rationality available from sophisticated information systems. These men have a sense of mission, expressed by one man I met recently in a multibillion-dollar corporation: "We want to unfreeze this colossus and push it into the twenty-first century."

A major assumption of information scientists is that if "real life" situations can be adequately modeled (with valid inputs to a computer model) then action will be more effective. To put it another way, more and more of the complex decisions of life can be influenced by rational thought.

I'm not a computer or information specialist. So my description of

a sophisticated management information system (MIS) comes from experts in that field. It's the creation and analysis of data in such a way that a person can have it immediately available for his ongoing decision making; not routine decisions, but important, critical, innovative ones.

Decision makers can get overwhelmed by too much information. Overloads occur regularly. The beauty of a management information system (MIS from now on) is that with it one man can identify relevant patterns in two hours instead of a group taking up to two months.

These kinds of systems are still new. But they can be fully workable in the next twenty-five years. Even today it's not difficult to program the entire Swedish economy; who would have dreamed of that twenty-five years ago?

In the last three years, I have been working on some intellectual questions raised by these possibilities. For example, is it possible to bring information to our society in such a way as to make our society more effective? In this context, my definition of "effective" is: giving more people the opportunity to free and informed choice as well as personal commitment to that choice.

Things are not as simple and hopeful as they once seemed to me. In the university, we generally assume that all valid knowledge is good. What I'm finding as I study the impact of information systems on organizations is that some valid knowledge is considered bad—bad because it is threatening.

In many companies, valid data on important problems would reveal a maze of coverups, elaborate fictions, incompetence, missed opportunities, and distrust. All these things can impede an organization from reaching its goals, or even keep it from rationally defining its goals. Valid data for an MIS would reveal to many managements how much has been hidden from it all these years.

No wonder that MIS seems such a threat, that we face the irony of irrational resistance to potentially rational processes.

With regard to MIS, there does exist some valid basis for resistance, or at least skepticism. Many executives agree that increased rationality is a worthwhile goal. But they express opposition in terms of two specific issues: (1) they don't understand the new information technology, and (2) they don't believe it's wise to use such technology when it still hasn't proved itself.

These are acceptable, albeit temporary objections.

But I believe there is a deeper reason for executive resistance. It's rarely discussed because executives themselves are rarely aware of it.

This basic, unspoken reason usually surfaces after lengthy discussion about the *probable* long-range effects of MIS.

At this point managers begin to realize that fundamental changes will be required in their personal styles of managerial thought and behavior. That's when the danger signals start.

Those other stated objections—lack of knowledge and the primitive state of the art—are important, but only temporary. Eventually they will be overcome by research and dissemination of knowledge. But concern and fear about what MIS will do to managers—what it will reveal about the way they've been operating all this time—is what creates the basic resistance.

Naturally, this is not easily admitted or spoken about. However, to make sense of this emotional block to rationality, to see both the human potentials and the human problems in MIS and other rational technologies, we should face the issue squarely.

To understand this we have to think about the nature of organizations and about the ways men invent to carry out their own work. For the crux of the problem is there, in the lessons men learn along the paths to institutional power and security.

By far the most dominant organizational design used today is the pyramidal structure where authority resides at the top; commands travel down through an ever-widening succession of levels to the bottom. The most fundamental property of the pyramidal structure is its intended rationality; within respectable tolerances, men will presumably behave rationally. In other words, men will behave the way the design requires them to behave, they will do what the organization wants them to do. Or so the planners hope.

The personal effects of being in such an organization are central to the issues under consideration here. Three aspects of the pyramidal bureaucracy are especially crucial: specialization of work, a rigid chain of command, and unity of direction.

This combination tends to make employees, especially lower-level workers, dependent upon and submissive to their superiors. They also experience very short time perspectives (get today's work done; don't think about tomorrow) and little sense of responsibility about their work. Employees who prefer a sense of challenge and some control over their work situations are not satisfied. They become frustrated and experience a sense of psychological failure.

They can adapt to the frustration and failure, all right, but in such