PROFESSIONAL DEVELOPMENT

"TROUBLESHOOTING" PERFORMANCE PROBLEMS

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The rationality of many managers tends to end when confronted with a "people" problem—that is, with the apparent failure of an individual or group of individuals to perform as desired. To illustrate, look at this problem:

> As part of their regular duties, engineers are required to submit monthly reports elaborating on the time and money invested in each project worked on during the month. These data are used by management as the basis for pricing proposals and projects.
>
> Theoretically, the time-and-cost reports enable the organization to make effective proposals. In practice, however, the reports are not effective. In many cases, data are inaccurate. In others, they are sloppily prepared and confusing. And almost without exception, the engineers fail to turn their reports in on time. As a result, the organization often submits badly priced proposals and fails to secure contracts. Or even worse, the organization enters into agreements that are destined to be financial disasters.
>
> The former department head discussed the problem with the new supervisor this way:
>
> "There are nineteen engineers in this department and only two or three hand in reports on time. By the time I got them it was too late to send them back for extensive correction, so I did the best I could to patch them together and make some sense out of them."

At a staff meeting of managers affected by the "problem," a number of problem causes were hypothesized and solutions proposed, including:

- a communication problem—run a training program (at least show a film) on the theory of communication;

- a writing problem—run a report-writing seminar for the engineers;

- a motivation problem—train the supervisors on one of the several theories of motivation, in hopes that knowing what makes people "tick" will help him get his reports in on time;

- a supervisory problem—train the supervisor in communications and human relations theory, the principles of good management, and leadership skills.

The recommendations coming from this meeting are not atypical of a group of managers concerned with human performance. Each manager has seen a different "problem" and cause, based on (1) his or her assumptions about people and (2) his or her repertoire of solutions to such problems (note: each cause is defined by a particular solution).

However, if this were a report-generating machine or system that was malfunctioning (in contrast to a group of people performing) the managers' approach would have been much different. They no doubt would have gotten some numbers on the extent of the deficiency and determined its impact—that is, they would have found out if it was worth worrying about. Next, they would have begun trouble-shooting the machine system in some logical sequence, perhaps first examining the input to the machine (the accuracy, completeness and timeliness of data to be converted into a report), then they would have examined the machine settings to see if they were within the prescribed tolerances (are the standards for the proper performance set?). Next, they would have asked whether the machine was being supplied with proper resources to perform as expected (lubrication, electric power), then questioned the quality control system which told the machine or machine operator when it was not performing up to standard, and, finally, if the cause of the problem had not yet been identified, they would summon a specialist to begin dismantling the machine itself.

The failure of managers to be objective when analyzing "people systems" is understandable, given the lack of useful tools for analyzing performance. For years, managers have been provided with a smorgasbord of solutions to performance problems and a variety of often disparate explanations—theories—of the causes. In the absence of any systematic approach to *analyzing* performance problems, we have been forced to match "problems" to solutions, rather than the reverse.

The objective of this article is to present the beginnings of such a rational approach to analyzing human performance problems.

THE PERFORMANCE SYSTEM

It is a given that the human being is more complex than any machine and that each individual is unique in its aspirations and capabilities. Unfortunately, our overwhelming preoccupation with this complexity and uniqueness gets in the way of our objectively analyzing "people-centered" problems. That is, if there is a performance problem which could possibly be the result of a human failure, we tend to conclude that this is the source of the problem and prescribe some packaged remedy.
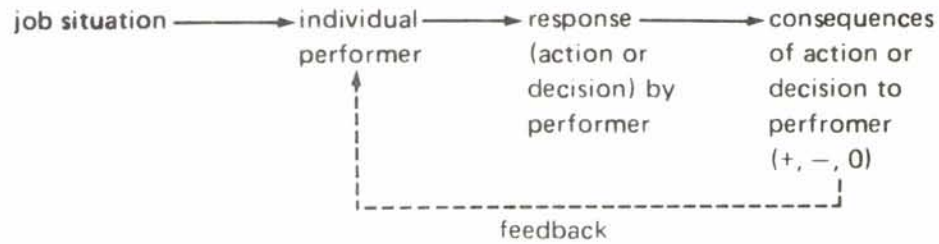
In contrast, a group of managers examining the failure to get reports from our "report-generating" machine knows that the machine is part of a *system.* That is, it takes inputs, converts them according to prescribed procedures into an output of certain specifications. The fact that none of our managers are overly familiar with the complex machine (certainly not qualified to repair the machine) does not prevent them from asking questions about the system—about the inputs, the expected outputs, the tolerance setting, and quality control feedback. Chances are good that they will isolate the system component which has malfunctioned—and chances are equally good that the failure is *not* within the most complex, mystical component of the system, the machine itself.

The human being in a work setting (the performer) is also part of a system—a performance system. Despite his or her uniqueness and complexity, he or she is but *one* component in this performance system. Like the machine system, the performance system will fail if one or more component malfunctions. And like the machine system, the performance system can be analyzed and malfunctioning components identified. And, further, like the machine system, failures of the system to perform are seldom the result of the most complex-appearing component malfunctioning.

The human performer is only one of five components in a performance system. These five components are:

(1) The job *situation,* or occasion to perform.

(2) The *performer.*

(3) The *behavior* (action or decision) that is to occur.

(4) The *consequence* of that behavior to the performer.

(5) The *feedback* to the performer on the consequences of the behavior.

Schematically, the relationship is:

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job situation ────────► individual ────────► response ────────► consequences
                        performer             (action or         of action or
                            ▲                  decision) by       decision to
                            ┊                   performer          perfromer
                            ┊                                      (+, −, 0)
                            ┊                                          ┊
                            └┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┘
                                          feedback
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That is, in any job, there is a *situation* or occasion where a particular *performer* is expected to make a particular *response* or take some action, which results in some consequence to the performer. That consequence may be considered as positive, negative, or of little value by the performer. And last, information on that consequence is fed back to the performer.

For example, when you are charging a plane ticket at the air terminal (situation), the ticket agent (performer) *should*, among other things, check your credit card with the book to see if it is an O.K. card (desired action). As a result, he or she learns your credit card is O.K. or not O.K. (a consequence), which is fed back to him or her immediately.

The overriding and simplistic "law" governing this system is that behavior is explained by its consequences. People tend to avoid doing things resulting in negative consequences and do more often those things which lead to positive consequences. Given the general law of the performance system, we find specifically that a desired job behavior may fail to occur in any job situation because of a breakdown in any of the five components in the performance system.

This can be illustrated with the ticket agent example. Assume that the airline was concerned with the failure of ticket agents to check credit cards of passengers. Each component of this performance system can be examined as follows:

(1) The job situation: Perhaps it isn't clear that the situation merits the desired action:

```
      ↓
      S ──────────► P ──────────► R ──────────► C
                    ▲
                    └──────────────────────────┘
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(In the credit card check, it may be that the occasion to perform—check all passengers regardless of amount of purchase—was not made clear.)

(2) The performer: Perhaps he is physically or mentally incapable of performing; or he is uninterested (the consequences of performing are insufficient):

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                    ↓
      S ──────────► P ──────────► R ──────────► C
                    ▲
                    └──────────────────────────┘
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(The ticket agent is physically incapable of reading the credit card book.)

(3) The behavior (response or action): Perhaps the performer does not know he is supposed to make the response; or does not know how to make it; or it is physically impossible to make; or he doesn't have the necessary tools or support:

$$S \longrightarrow P \longrightarrow R \longrightarrow C$$
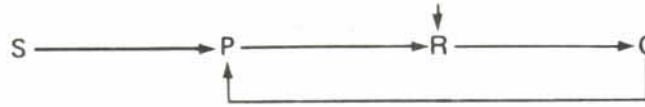
(The ticket agent doesn't know how to look up the credit cards correctly in the book.)

(4) The consequence: Perhaps the consequence is punishing or nonexistent:

$$S \longrightarrow P \longrightarrow R \longrightarrow C$$

(Perhaps the agent has a conflict in consequences. That is, every time he has walked to the end of the counter and looked up a credit card, he has found nothing. That provides no strong positive consequence for continuing to do this every time the occasion occurs. In addition, frequently customers are aggravated by the time this step takes and the apparent question of their honesty. They frequently express this hostility to the agent. This hostility [negative consequence] can be avoided by *not* checking the credit card. In addition, supervision is *always* concerned with the length of passenger lines waiting to be served and pushing the agents to handle passengers faster. The consequence of a harping supervisor may tip the scales in favor of not performing as desired.)
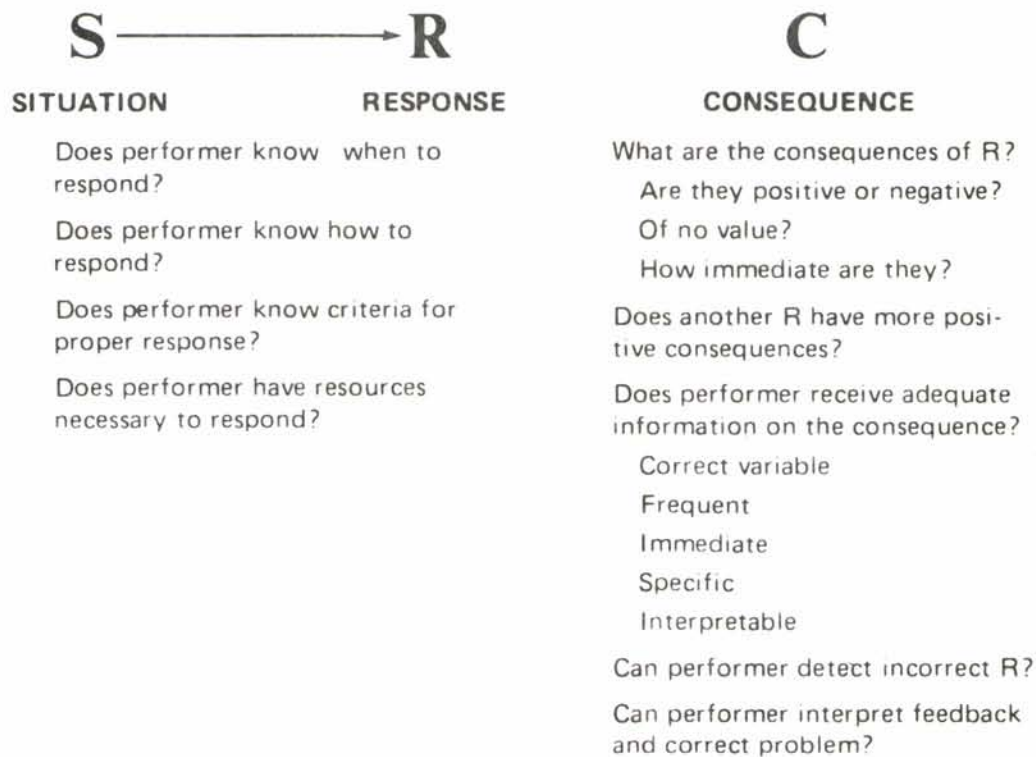
(5) The feedback: The performer receives no information about his response— whether it was adequate or inadequate, and, if it was inadequate, how to improve it:

$$S \longrightarrow P \longrightarrow R \longrightarrow C$$

(If an agent fails to check a credit card and the passenger's credit was in fact no good, the agent may never learn of this.)

According to our performance system, getting the desired human behavior to occur in a situation is the result of a number of conditions being right. Therefore, the failure of a behavior to occur can be the result of any one of these conditions not existing. This performance system gives us a framework for viewing human performance, for diagnosing and correcting performance problems.

In fact, the performance system can be used as a "template" which is placed over a performance problem. Then each component in the performance system can be identified and examined, much as a skilled

S ——————→ R   C

SITUATION RESPONSE	CONSEQUENCE

SITUATION / RESPONSE

Does performer know when to respond?

Does performer know how to respond?

Does performer know criteria for proper response?

Does performer have resources necessary to respond?

CONSEQUENCE

What are the consequences of R?
  Are they positive or negative?
  Of no value?
  How immediate are they?

Does another R have more positive consequences?

Does performer receive adequate information on the consequence?
  Correct variable
  Frequent
  Immediate
  Specific
  Interpretable

Can performer detect incorrect R?

Can performer interpret feedback and correct problem?

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Figure 1: TROUBLESHOOTING PERFORMANCE

maintenance man troubleshoots an electrical or mechanical system. Figure 1 contains useful questions in identifying breakdowns in the performance system.

Returning to the problem of getting the engineers to submit certain reports on time, the examination of that performance system using the questions in Figure 1 provided the following information:

(1) There is no significant deficiency among performers. The engineers know about writing good reports.

(2) There is a deficiency in the statement of the desired response. While they know what to write, the engineers don't know *how* it is expected to be written. There is no style manual to guide their writing.

(3) There is a further deficiency in the response component in that there is a lack of adequate support. The engineers are required to write the reports at their drawing boards. After they have written for several hours at the slanted boards, their necks and arms become stiff and tired. The services of the typing pool are not made available to the engineers; the detailed reports have to be written in longhand.

(4) There is a deficiency in the feedback or information on performance to the performers in question. The engineers are never told that their reports are

vital for preparing good proposals. As far as they know, the reports are filed away to gather dust on a shelf. The engineers do not know that their proposals are usually unacceptable because the former manager never sent them photocopies of the revisions he made.

(5) There is a deficiency in the consequence component in that an undesired response (reports submitted late) results in a generally positive consequence. It is less punishing to submit reports late than it is to get them in on time. When reports are submitted on time, the manager edits them and returns them for correction. If they are turned in late, the manager corrects them himself, sparing the engineers the job of making corrections.

With these data provided by analyzing the performance system, the recommended solutions included:

— Construct inexpensive cubicles in the engineering department for writing reports.

— Assign members of the secretarial pool to aid the engineers.

— Develop and distribute a report style book that specifies acceptable report format (which should reduce the need for rewriting).

— Circulate proposals and contracts based on reports throughout the engineering department.

FEATURES OF THE PERFORMANCE SYSTEM MODEL

The performance system is a theory—a hypothesis about the relationship between people and their environment. It is not meant to explain all of human behavior, but, in the work environment, it has proven to be a practical and effective way of analyzing performance problems.

There are several important features of this model, the performance system. First, it is a truly comprehensive model which provides us a "total systems" look at a performer. The model includes both the performer *and* the work environment. By looking at the job as a performance system with the five components, the examination of those components essentially covers all the bases in the work environment—the job description, the training, the work standards or performance objectives, the data for decisions, the tools to work with, and the incentives provided by supervision and the organization.

In the past, our "problem-solving" innovations have tended to concentrate on just one variable—e.g., management by objectives (clear statement of the response), sensitivity training and countless motivation theories (the performer component), and positive reinforcement (the

arrangement of positive consequences for the correct response). The result of trying to alter only one variable in the performance system is usually immediate, partial, and short-term improvement. And the new solution is branded as another flash in the pan. Usually this is an unfortunate and inaccurate conclusion, the "failure" of the new solution actually resulting from implementation in an organization without proper analysis of the shortcomings in the other components—e.g., MBO without necessary feedback on performance and consequences for proper performance will fail; a "sensitized" performer inserted back into the old performance, where the standards still remain vague, the feedback inaccurate, and good performance punishable, will most likely again become insensitive, quit, or have a breakdown. Positive reinforcement without necessary tools and support to do the job will have only a temporary effect.

Contrast this "one-component" change with the multiple changes required in the report-writing example above. It is quite conceivable that just one of those changes would have led to some immediate results, but after three months performance would be back to "normal"—poor. But by impacting all the deficient components simultaneously, the improvement will be complete and long-lasting.

The second point is that, by examining the performance system and where it has failed, we are looking at the *causes* of problems. This is in contrast to the historical approach of looking at and defining problems by the solutions at hand. For example, by placing the template of the performance system over the report-writing problem, it was seen that a number of *deficiencies must be corrected* if the desired performance was to be obtained. And, as the recommended solutions illustrate, all those deficiencies can be corrected *without* introducing a single "program" (e.g., "zero defects" or "nine steps to clearer writing") or conducting one training session. Much of our failure to improve job performance in the past has been the tendency to bend our problems to match our solutions, rather than modifying or generating solutions to solve our problems.

As you will see, the performance model not only makes the latter alternative possible, it helps generate simple, straightforward kinds of solutions.

Third, in contrast to the reaction of some, this conceptualization of the performance system is a very humanistic one. It puts the individual in proper perspective with the environment. This says several things:

(1) When assigning people to jobs, we ought to take a little more care about cleaning up the environment and in preparing the individual for that environment. The naive assumption that people will "conquer their work environment" (that is, learn to work in harmony with it while getting done

the job they were hired to do) is just plain wrong and in many cases harmful. Every time the performance of new people begins to deteriorate after six months in the "field," every time there is a call for "refresher" training or "retraining," the environment has just triumphed. Absence and turnover are more extreme results of the conflict between people and the work environment.

(2) When analyzing human performance problems using the performance model, one should examine the performer component last. One can usually give the performer the benefit of the doubt. That is, start with the assumption that he or she is reasonably intelligent, well trained, well motivated, and rational, and that if he or she is performing improperly it is for a rational, logical reason, which is usually explained by failure of one of the other components in the system.

All these features add up to the beginning of a practical management technology of human performance.

USING THE PERFORMANCE MODEL

The major value of the model for the individual manager is as a guide for troubleshooting and solving performance problems. The model provides a meaningful way to classify problems. The first distinction is between what can be called *deficiencies of knowledge,* where the poor performance results from the performer not knowing what to do, how to do it, or when to do it, and *deficiencies of execution,* where the poor performance results from factors in the environment.

Distinguishing between deficiencies of knowledge and of execution is a critical step in analyzing people-centered performance problems. A frequent result of failure to make this distinction accurately is that extended and expensive training is conducted in a foredoomed attempt to solve a supposed knowledge problem that is in fact an execution problem—a nontraining problem. In addition to being a waste of money, such training tends to reduce the credibility of the organization with the employee being trained, and frequently leaves management with the dangerous illusion that the performance problem in question is being solved.

This critical distinction between a deficiency of execution (D_E) and a deficiency of knowledge (D_K) can usually be made by getting the answers to the questions posed in Figure 1.

The second distinction is among those factors in the environment (nonperformer components of the performance system) which may have contributed to the poor performance. The three major classes are:

(1) *Lack of feedback:* This problem arises when the person either does not know that the behavior is important or does not know that he is failing to perform to standard. The solution to this problem is to design and implement an adequate *feedback system.*

(2) *Task interference:* Here, the person cannot perform as desired because he or she lacks the tools or because the layout or organization of the job is such as to interfere with proper performance. The solution to this problem is *job engineering.*

(3) *Punishment or unfavorable consequences:* In this case, the person has no incentive for performing as desired; frequently it is even against his own best short-term interests to do so. The solution to this problem is to *change the consequences* attendant on the job so as to encourage proper performance. Now let's look more closely at each of the three causes of D_Es.

FEEDBACK PROBLEMS

The individual performer is guided by the feedback he receives about his performance. In most cases, where an individual agrees with the work goals, he or she will improve if he or she knows:

(1) he or she is off target;

(2) how to correct or get on target.

If an individual fails to get feedback on his or her performance, he or she will begin to develop his or her own explanations of good and bad performance, of cause and effect, and he or she will inevitably develop superstitious behavior (i.e., he or she will erroneously attribute effects to certain causes).

The critical characteristics of effective feedback include:

(1) *Frequency:* Generally, the more frequent the feedback, the better.

(2) *Immediacy:* There should be little delay between the performance error and the feedback concerning it.

(3) *Specificity:* The feedback must in essence be "constructive criticism," in that it should differentiate the effects of various dimensions of performance.

(4) *Understandability:* The units used in stating the amount by which performance falls short should be clear to the person receiving the feedback.

(5) *Positive orientation:* The feedback should stress attainable performance subgoals, rather than punitive consequences—that is, reinforcement, rather than enforcement.

Most organizations abound with examples of poor feedback—computer printouts on last month's performance received three weeks into the next month (too infrequent, too late); production figures that lump all shifts together and memos to field noting "a drop in overall performance which

must be corrected" (not specific); and top management comment only when there is a negative exception, which means "no news is good news."

Frequently, performance can be dramatically improved by improving feedback. Usually this requires collecting no new data, but simply redistributing existing data in a more useful format.

When examining a performance problem that might be caused in part by lack of feedback, the following checklist of possible actions should point to effective corrective action:

Can performance improved by:

(1) setting standards?

(2) stating existing standards in a shorter time frame (e.g., units per hour rather than per day)?

(3) providing feedback on:

    (a) fewer dimensions of performance?

    (b) different dimensions?

    (c) additional dimensions?

(4) designing the job so the performer can tell whether he or she is performing properly (and if not, why not)?

(5) making the feedback message:

    (a) more specific (e.g., by unit supervisor rather than by section)?

    (b) free of "noise" (e.g., on a single sheet, not a two-inch thick computer printout)?

(6) having the message delivered by a more objective and positive source?

(7) changing the format to show:

    (a) cumulative performance record (a history)?

    (b) composite of various performance indicators (for comparison)?

    (c) performance in relation to standard?

(8) increasing frequency?

(9) providing permanent storage for comparison by performer (a memory system)?

CONSEQUENCE PROBLEMS

A person's performance is strongly influenced by the consequences he or she suffers or enjoys as a result of that performance. The consequences of performance may be positive, negative, or, for all practical purposes, nonexistent. They may also be immediate or long-term, and real or potential. Finally, they come simultaneously from a number of sources, including the work itself, subordinates, peers, bosses, and the organizational establishment.

It follows that proper management of consequences is critical in maintaining desired performance. This is particularly true in organizational settings where a complex environment of people, procedures, and events continuously metes out consequences. The frequent, random, and arbitrary consequences that naturally occur in the organization must be brought under management's control, balanced, and managed in a way to support the desired performance.

Poor performance can frequently be traced to the fact that the organization (system, situations, procedures) inadvertently provides negative consequences for—that is, "punishes"—the desired behavior. Take, for example, the airline manager who sought training in "decision-making" for his airport-terminal ticket-counter supervisors. When pressed for an example of poor decision-making, he was able to cite only the failure of supervisors to add additional staff to the counter when the passenger lines extended beyond a certain point. The analyst asked the counter supervisors why they didn't add staff under these circumstances. One replied that he had done so once, but got "burned" because it caused an overrun in the overtime budget. Now when he sees a need for additional staff, he calls *his* supervisor and asks him to decide. Not surprisingly, the supervisor's supervisor said much the same thing. Now he asks the manager, rather than run the risk of all that "heat." There are several costs that result from this set of negative consequences. One is the loss of service to customers and the possible loss of revenues. The other—the more insidious one—is that the manager is now bogged down making all manner of decisions that should be made two levels below him.

The following principles are basic to analyzing the balance of positive and negative consequences to performers:

(a) A consequence may be positive, neutral, or negative, depending on the individual, the time, and the circumstances.

(b) If a behavior continues, the balance of consequences is positive.

(c) If there are positive consequences for two mutually exclusive behaviors, the one with the greater positive consequence will occur.

(d) The further removed in time a consequence is from a behavior, the less effect that consequence will have on the behavior.

(e) The consequences that control the behavior are those that have value to the individual.

These principles can be restated as the following guidelines for analyzing the consequences of an act to a person:

(1) Frequently, people don't just *not* do something; they do something else instead. There is value, therefore, in looking at the consequences of both what is *desired* and what is *currently happening* (i.e., *undesired*).

(2) Do not mistake company policy and platitudes (e.g., "You will get promoted") for real consequences to the individual (e.g., missing lunch with the fellows, having to do extra paperwork).

(3) Separate *immediate* consequences (e.g., a sale today, holding up the car pool) from *long-term* consequences (e.g., weekend scrap report, monthly budget statement).

(4) Consider the certainty of the consequence. We will often elect to engage in behavior with a high probability of immediate results (e.g., taking an extra ten minutes for lunch, padding the call report) and low probability of negative consequences—i.e., getting caught.

(5) Finally, remember that what one person considers a positive consequence, another person may consider very negative. Some people will bust their backs to get a chance to give a group presentation; others in the same office will go to extreme lengths to avoid such an "opportunity."

When trying to identify consequences and assess their power, you must be careful not to impose your value system on the analysis. You must look at what *in fact* is happening in the way of consequences and infer from your observations whether the consequences are positive or negative to the individual.

TASK INTERFERENCE

A number of very common causes of poor performance can be classified as "task interference"—that is, something interfering with the person's making the proper response in the desired situation. For a salesperson, forms of task interference range from having to use a large, poorly laid-out parts or price manual to having more customers to call on than can possibly be done well in the time available.

Task interference describes those factors that make it either difficult or impossible to perform as desired. In addition to poor physical layout of a job, the major source of task interference is the lack of adequate resources—of time, tools or support equipment, or personnel.

Such problems can be identified by asking:

(1) Is there enough time to perform the task?

(2) Is there enough equipment to perform the task?

(3) Are there enough support people and services to perform the task?

(4) Are there competing tasks?

(5) Are there things that distract the employee from the task?

Task-interference problems constantly creep into jobs as procedures are modified, assignments subtly change in scope, and systems slowly evolve. The problems can usually be solved by some form of job engineering.

Although these kinds of problems are relatively straightforward and the solutions far from profound, it is important that a manager identify and correct these problems. An employee may be slow to admit that such a problem exists or quick to work around it, assuming that it is "just one of those things." (In fact, human beings are generally so adaptive that they will be up to their ears in "just one of those things" unless someone keeps clearing them out of the way.) It is important that a manager identify task-interference problems and get the interference removed, or at least help a subordinate figure out the optimal way to get around the interference.

SUMMARY

This article presents a framework for viewing human performance—a framework which suggests a systematic, objective approach to analyzing performance problems. The performance model also suggests something about the function of a manager. The manager is not just the manager of people, but of the *performance system*. The manager must keep *all* the components of the performance system in balance if he or she is to get the outcomes desired. This in turn raises questions about the emphasis in current management training on understanding people. It is interesting and possibly valuable to know about the dozen popular theories about the inner person. But it is critical that a manager know enough about the job and the work environment so that he or she can articulate reasonable performance objectives to the performer, provide the necessary resources, arrange appropriate consequences, and supply relevant performance feedback. If he or she can't do that, all the human relations training in the world won't make him or her a successful manager.