

MANAGING THE WHITE SPACE

By Geary A. Rummler and Alan P. Brache

What is
'process management'
and what's
so revolutionary
about it?

A awful lot of managers don't understand their business.

That sounds like a line of boilerplate from a screed on "getting close to your customers," doesn't it? But we're talking about something else.

The sermon on knowing thy customer as thyself is a good and worthy one. And it has been delivered so loudly and so often for the past several years that many companies have taken it to heart. A lot of managers—the good ones—now know quite a bit about their customers. Spurred by the simultaneous pounding on the themes of "back to basics" and "stick to the knitting," many also understand their own products or services. Some even know the competition pretty well.

Yet here we are announcing that managers don't understand their business. What we mean is this: They don't understand, at a sufficient level of detail, how their companies get products developed, made, sold and distributed.

We believe the main reason for this is that most managers view their organizations from a perspective that is fundamentally flawed. They see the business through a cracked lens.

There is a better way to look at an organization and to run one. It's called process management. Companies including IBM, Ford, Boeing, GTE, Motorola, McDonnell Douglas and AT&T are using it to improve the way they do all sorts of things.

Before we can judge the virtues of this new set of lenses, however, we have to see what the world looks like through the glasses we're wearing now.

The Vertical View

Ask managers to draw pictures of their companies. You'll almost always get something that looks like the traditional organization chart depicted in Figure 1. The drawing may have more tiers, more boxes and different labels, but what it will show is the fact that each department or business unit

has its own management hierarchy.

As a picture of a business, what's missing in Figure 1? Well, it doesn't show the products or services we provide. It leaves out the customers we serve. And it gives us no sense of the work flow through which we develop, produce and deliver our products. In short, the familiar organization chart doesn't show what we do, for whom we do it or how we do it. Other than that, it's a great picture of a business.

Hold on, you say. An organization chart isn't supposed to show those things.

Fine. So where's the picture of the business that *does* show those things? And why does no one ever draw it?

The organization chart is a valuable administrative convenience for two reasons: It shows which people have been grouped together for operating efficiency and it shows reporting relationships. But it must not be confused with the "what, why and how" of the business. Unfortunately, the two are confused all the time. And when that happens, it is the organization chart, not the business, that gets managed.

The trouble is, when managers see their organizations as a collection of vertical functions (marketing here, production there, accounting down the hall), they manage accordingly. More often than not, a senior manager who oversees several functions will manage them on an individual basis. Goals are set for each unit separately. Meetings between units are limited to activity reports: Unit A learns only that Unit B processed 603 invoices last month, which was eight more than during the same month last year, and so on.

In this environment, managers of individual departments tend to perceive other functions as enemies, rather than as partners in the battle against the competition. "Silos" are built around departments: tall, thick, windowless structures that keep each department's affairs inside and everyone else's affairs out.

These silos prevent interdepartmental issues from being resolved between peers at low and middle levels. Cross-functional concerns (matters of scheduling or accuracy, for instance, that involve two or more departments) are pushed to the highest level. The manager at the top of one silo discusses the issue with a

counterpart at the top of another. Then both bosses pass their decision back down to the levels at which the work gets done. The silo culture thus forces managers to resolve every mundane issue that arises, taking their time away from higher-priority concerns involving customers or competitors. Lower-level people, who could be handling these issues, take less responsibility for results. They come to think of themselves as mere drones.

And that's not the worst-case scenario. Sometimes department heads are so at odds that cross-functional issues don't get resolved at all. Then you start to hear of things "falling through the cracks" or "disappearing into a black hole."

As each unit tries to achieve its individual goals, it gets better and better at "making its numbers." When it gets very good at this, it is hailed as a star, a peak performer, an "optimized" function. But in fact, one unit's stellar performance at making its numbers can hinder the organization's overall performance.

For example, the sales and marketing unit can achieve its goals and become a corporate hero by selling lots of products. If those products can't be designed or delivered on schedule or at a profit—well, that's a problem for R&D or manufacturing or distribution; sales did its job.

R&D can look good by designing technically sophisticated products. They can't be sold? That's market-

ing's headache. Can't be made at a profit? That's manufacturing's problem. And so it goes.

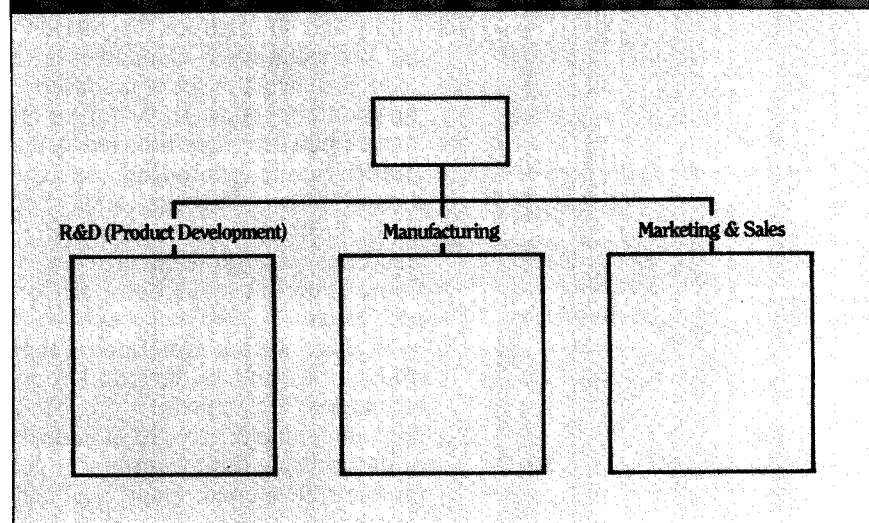
Enter the senior manager who oversees these units. This executive goes to the manager of manufacturing and demands to know why manufacturing failed to produce something on time or up to specifications. The predictable response: "It's not our fault, it's those so-and-so's in R&D."

This phenomenon was described wonderfully in a 1987 *Forbes* magazine interview with General Motors' CEO Roger Smith. In regard to a reorganization plan Smith is explaining, *Forbes* asks: "Couldn't you just call in the boss of Fisher Body and say, 'If I get one more complaint about your division, you and the top three guys are finished?'"

Smith's answer sheds light on why GM and other corporate behemoths ran into so much trouble during the past decade against competitors such as the Japanese: "OK, we could do that, and it's the way we used to do it. But he [the Fisher man] says, 'Wait a minute. I did my job. My job was to fabricate a steel door, and I made a steel door, and I shipped it to GMAD. And it's GMAD's fault.' So you go over to the GMAD guy and say: 'Listen, one more lousy door and you're fired.' He says, 'Wait a minute, I took what Fisher gave me and the car division's specs and I put them together, so it's not my fault.'

"So, you get the Chevrolet guy, and

FIGURE 1
TRADITIONAL (VERTICAL) VIEW OF AN ORGANIZATION



you say, 'One more lousy door and. . . ' 'Wait a minute,' he says. 'All I got is what GMAD made.' So pretty soon you're back to the Fisher guy, and all you are doing is running around in great big circles."

What Smith just described is a silo culture. In the good old days of sellers' markets, it didn't matter much. A company could introduce products at its own pace, meet only its internal quality goals, and set prices that guaranteed adequate margins. There were no serious consequences to the evolution of functional silos. Those days are over. Most companies today have to compete in a buyer's market. We need a different way to look at, think about and manage organizations.

The Horizontal View

Figure 2 illustrates a horizontal view—a "systems" view—of a company. It has some marked advantages over the traditional organization chart. For starters, it includes those three missing ingredients: the customer, the product and the flow of work.

As for that flow of work, notice that the horizontal view helps us to see how work actually gets done, which is

through processes that cut across functional boundaries. Finally, it shows the internal customer-supplier relationships through which products and services are produced; that is, it shows us that function B is a customer of function A and a supplier of function C.

Critical interfaces, which occur in the 'white space' on an organization chart, become visible in the horizontal view.

This brings us to the premise behind process management: The greatest opportunities for performance improvement often lie in the functional interfaces—those points at which a baton is being passed from one department to another. For example: the passing of new product ideas from marketing to research and development; the handoff of a new

product from R&D to manufacturing; and the transfer of customer billing information from sales to finance.

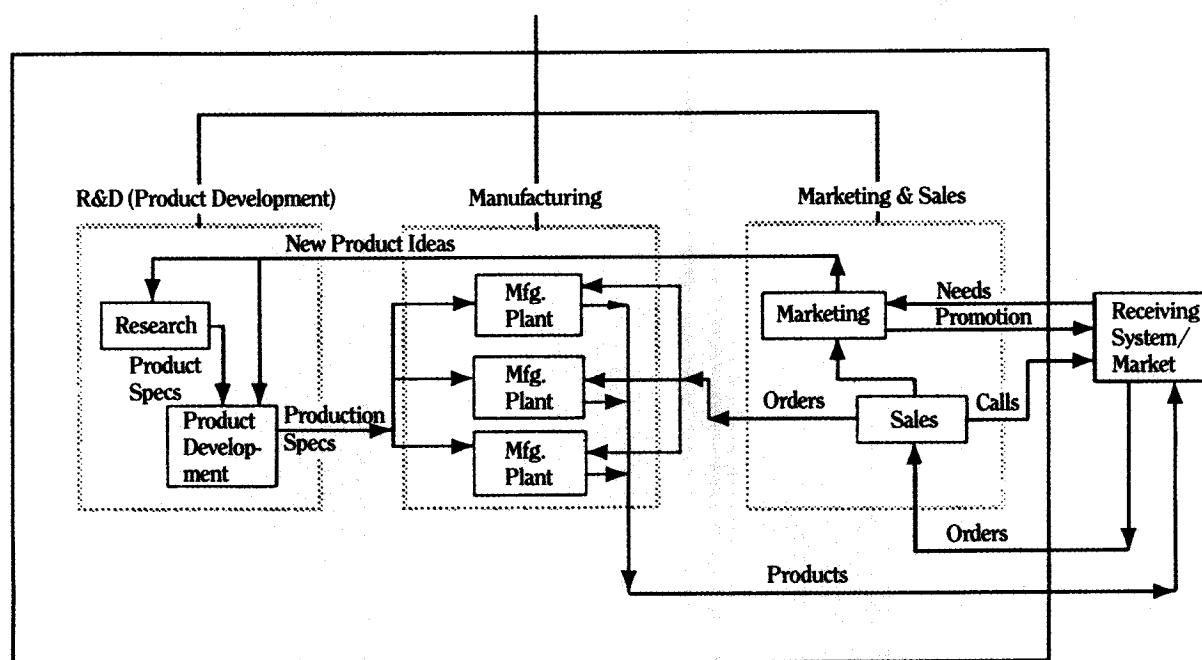
Critical interfaces, which occur in the "white space" on an organization chart, become visible in the horizontal view of an organization.

We said earlier that managers tend to manage the organization chart instead of the business. It is their failure to recognize what goes on in the white space that explains senior managers' most common answer to the question, "What do you do?" That answer is: "I manage A, B and C."

Assuming that A, B and C already have competent managers, we have to ask if the senior manager sees his or her job as re-managing those functions. If so, is that a role that justifies a salary? We don't believe so. A primary contribution of a manager at the second level or above is to manage interfaces. The boxes already have managers. The senior manager adds value by managing the white space between the boxes.

The systems view of an organization is the starting point—the foundation—for designing and managing organizations that respond effectively

FIGURE 2
SYSTEMS (HORIZONTAL) VIEW OF AN ORGANIZATION



to the new reality of cutthroat competition and changing customer expectations.

John Manoogian, general manager of the Alpha division of Ford Motor Co., puts it plainly: "We simply cannot achieve and maintain our goals of leadership in quality, cost and on-time programs without continuously improving the processes we use to conduct our business."

How To Do It

How does process management work? The methodology that follows can be used to fix a broken process, to redesign an existing process in response to a change or in pursuit of continuous improvement, or to design a new process. For simplicity, we will refer to all three applications as

"process improvement." A successful process improvement project is one in which a cross-functional team addresses a business need by creating an efficient and effective process. Here's a step-by-step approach.

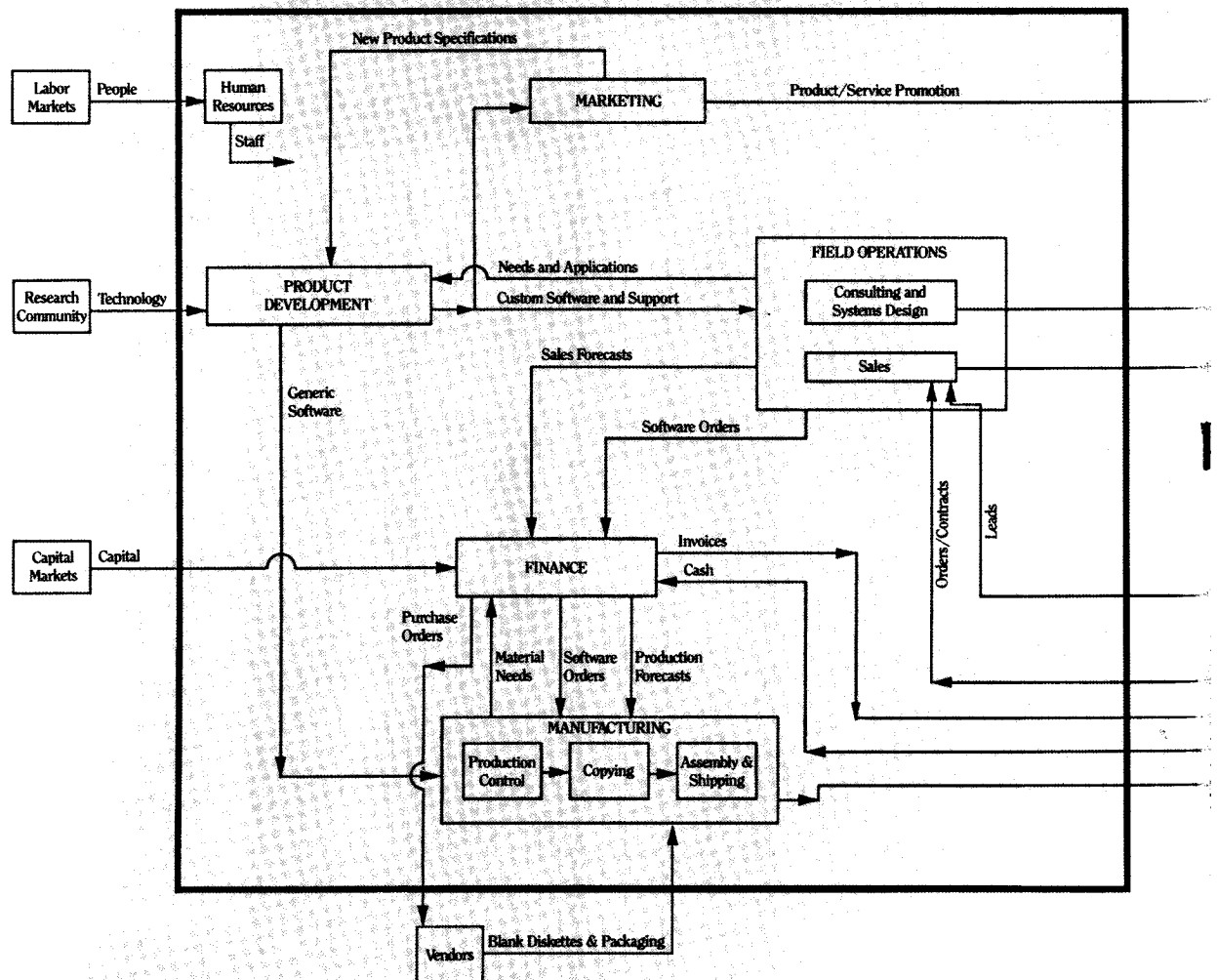
1. *Identify a critical business issue.* Process improvement begins when senior management identifies a critical business issue (CBI). A CBI is a measurable goal based on a current or potential problem or opportunity that has an impact on the organization's strategy.

A retail store, for example, may want to establish a competitive advantage by reducing the time it takes to have the "hot item" of the day available to the customer. Its CBI might be: "Reduce order-to-receipt cycle time to two weeks." One of a

home security company's strategic objectives may be to close a competitive gap in the area of billing accuracy. Its CBI might be: "Reduce the number of billing errors to no more than one per thousand bills." A chain of pizza parlors may believe it can increase its share of the business lunch market by speeding up its service. The CBI: "Fill customer lunch orders within seven minutes." A manufacturer of home appliances may be losing money on its line of blenders. Its CBI: "Establish a 10 percent margin in the blender line."

After the CBI is determined, other goals of the process improvement effort, if any, are established. For example, top management may want a narrative description of the procedures involved in each process step, an

FIGURE 3
RELATIONSHIP MAP - COMPUTEC



evaluation of the current organization structure or a set of benchmarking data (documentation of other organizations' process capabilities and characteristics).

2. *Select critical processes.* Once senior managers have established a CBI, they identify one or more cross-functional processes that have the greatest potential to resolve it. For the retail store, the critical process might be "buying." For the security company, it probably would be the billing process. For the pizza chain, the food preparation process and the customer order process would be critical. The appliance maker might select the manufacturing process.

3. *Select a leader and members for a process improvement team.* It may be tempting to assign the task to an

analyst, but we believe that a successful effort must involve representatives from the departments that contribute to the critical process. The most significant and lasting benefits are derived from the insights and commitment of the people who ultimately will make the improvements and work within the process.

Let's invent a software development and system integration company. We'll name it Computec. The functions involved in Computec's order-filling process are field operations, finance and production. Therefore, an order-filling process team should include at least one representative from each of those functions.

Each team member should meet these criteria: has a detailed understanding of the steps in at least one of

the functions that contributes to the process; is able to comprehend the "big picture" (beyond his or her own function); is not wedded to the current process; is creative enough to envision a better way of doing things; has a high energy level; is able to work effectively in a group of peers; is available to attend team meetings; perceives being assigned to the team as a reward.

As for the team leader, this should be a person who meets the criteria for selection as a process team member and also is able to manage a task group effectively: establish schedules, control the pace, assign individual tasks, marshal resources and so on.

In our experience, an effective team can have as few as three or as many as 12 members. In most cases, the team is assigned a process improvement facilitator whose regular job is not part of the process being analyzed—perhaps a consultant or staff trainer. The facilitator, who is an expert in process improvement, teaches the subject to the group and works closely with the team leader.

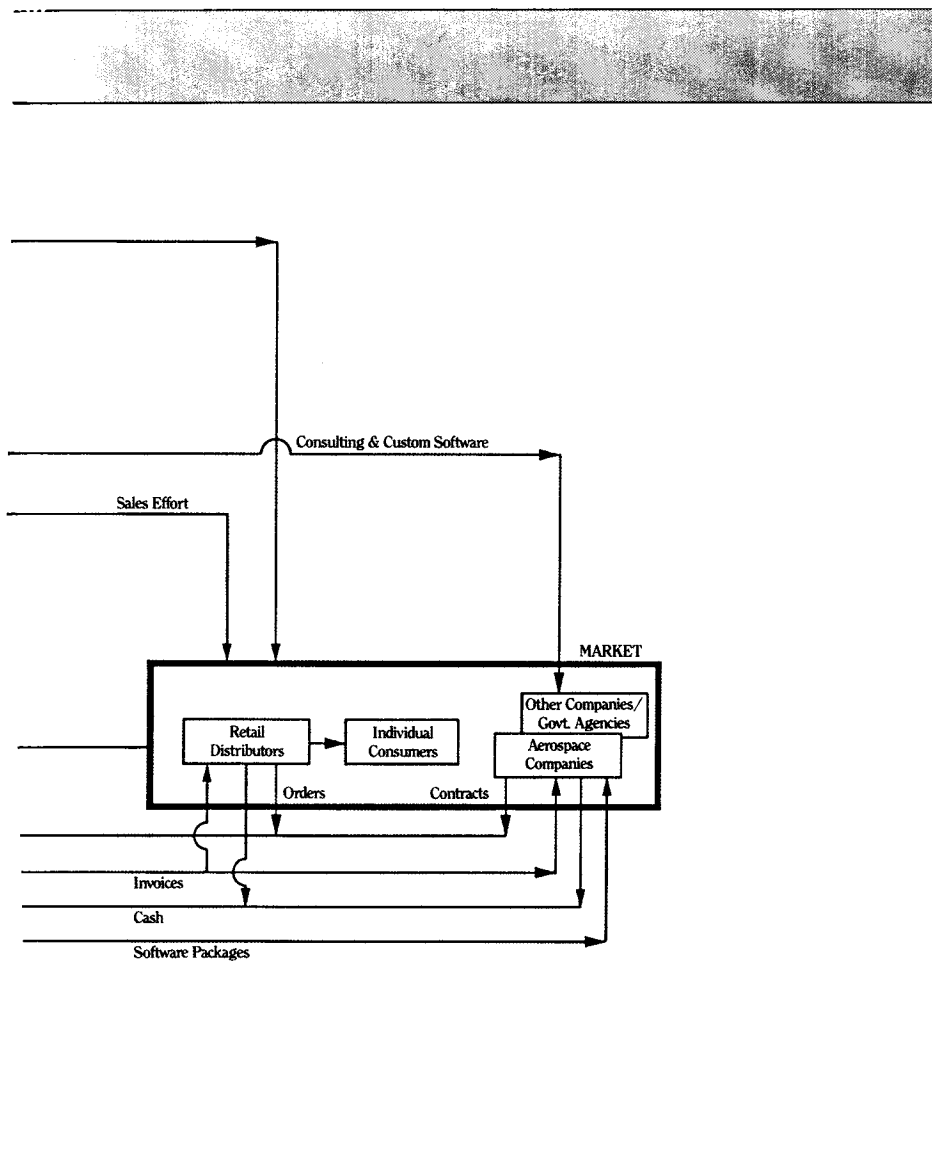
4. *Train the team.* The team is taught (usually by the facilitator) the rationale and tools of process improvement.

5. *Develop "is" maps.* The team develops a relationship map (which depicts the internal and external customer-supplier interfaces) and a process map (which depicts a flow of activities). Both maps depict the current state of affairs; they show what "is." Computec's relationship and process maps are shown in Figures 3 and 4.

The most efficient approach usually begins with the facilitator developing a "straw man" map based on one-to-one interviews with the team members. When the team first meets as a group, it refines this straw man, ensuring that it accurately depicts the current situation.

6. *Find the "disconnects."* As the team is developing the "is" process map, it lists the disconnects in the process. A disconnect is a missing, redundant or illogical factor that could affect the CBI.

If, for example, the Computec team's CBI involves reducing cycle time, its members should be particularly interested in disconnects that contribute to wasted time. A close look at the process map in Figure 4



reveals that the serial nature of the process, repeated order logging and a credit-checking bottleneck all slow down the process.

A second type of disconnect is not a flaw in the logic of the process, but rather a failure to execute a process step efficiently or effectively. For example, the steps in Computec sales administration's order-entry process may make sense, but excessive keying

errors result in incorrect orders.

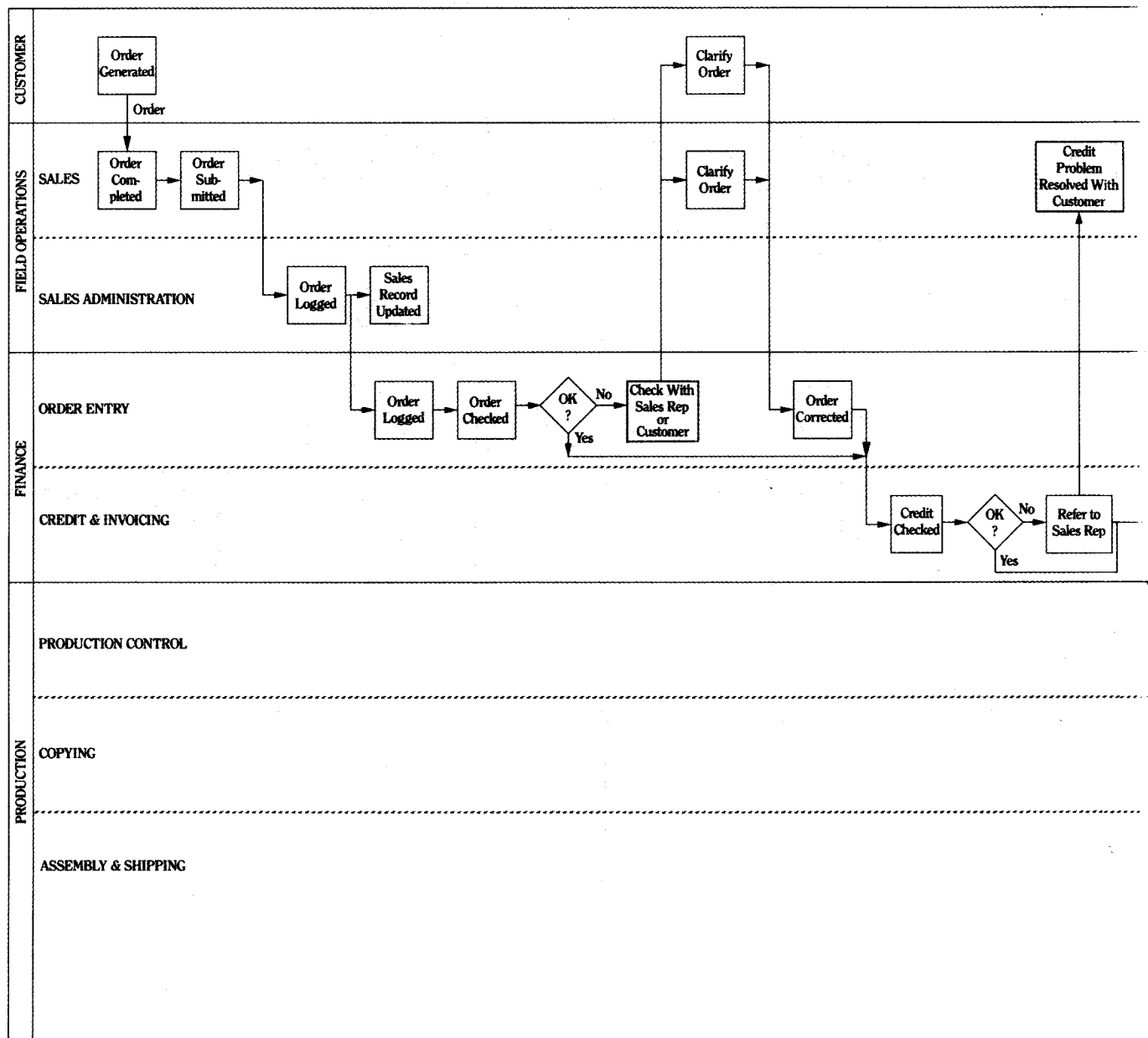
Disconnects are listed, but not resolved, at this point. The number and severity of disconnects, along with the definition of the CBI, dictate the appropriate level of detail for the mapping.

7. *Analyze disconnects.* The full process team (or, more commonly, subteams or individuals), identifies the causes of the disconnects. For

some, the causes are already known or not important to the solution. Others require a root cause analysis technique (such as Kaoru Ishikawa's fishboning method or Kepner-Tregoe's problem analysis) to determine why they are occurring. If subteams are doing the analyses, they present their results to the full team.

8. *Develop a "should" map.* The team creates a second process map

FIGURE 4
COMPUTEC ORDER FILLING - AN "IS" PROCESS MAP



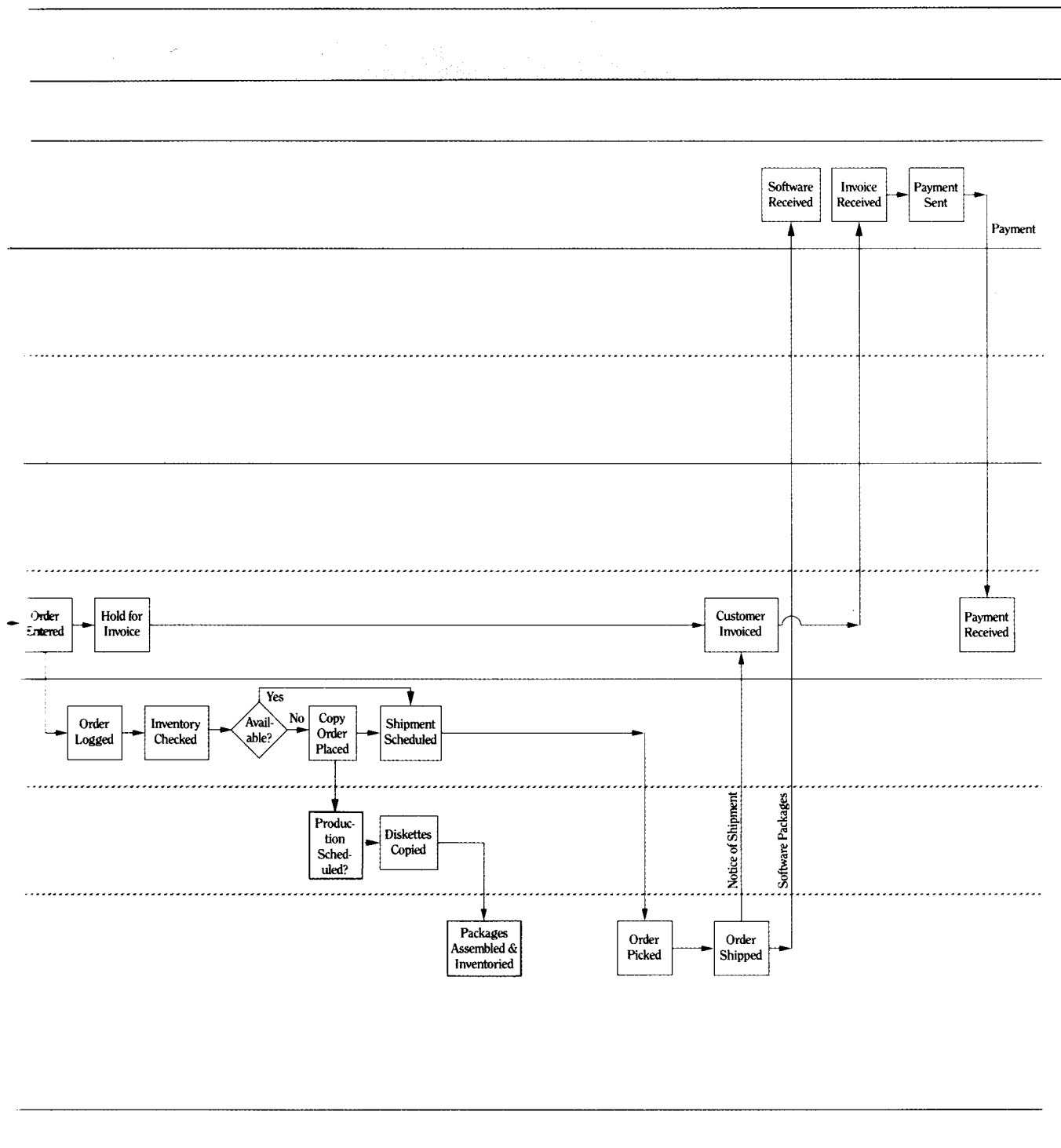
(and, frequently, a relationship map) depicting a process that would achieve the goal of the CBI: the process not as it is, but as it should be. This “should” process is a streamlined value chain of activities that produce the product or service required by the ultimate customer. Since a “perfect” process may be unaffordable, it is the team leader’s job to ensure that the team is not being

unrealistic in its assumptions about what can be done. Computec’s “should” process map for order filling, which appears in Figure 5, addresses the disconnects we identified in Step 6.

9. *Establish measures.* Driven by the CBI, the team hammers out measurements or standards for the process and its subprocesses. Start by creating end-of-the-line customer

measures. In other words, by what standards will the final customer of the process judge the quality of the things the process is producing? (The CBI statement may already contain these measures.) Then work backwards, inserting measures at critical junctures in the “should” process, as shown in Figure 6.

10. *Recommend changes.* Some process teams are empowered to



make changes, within certain boundaries, without securing management approval. Others need to go through a recommendation procedure. In either case, the team should document the steps required to move from "is" to "should," and draw up an action plan.

At this step, we formally address the roles that people play in the process. If job goals, job design and

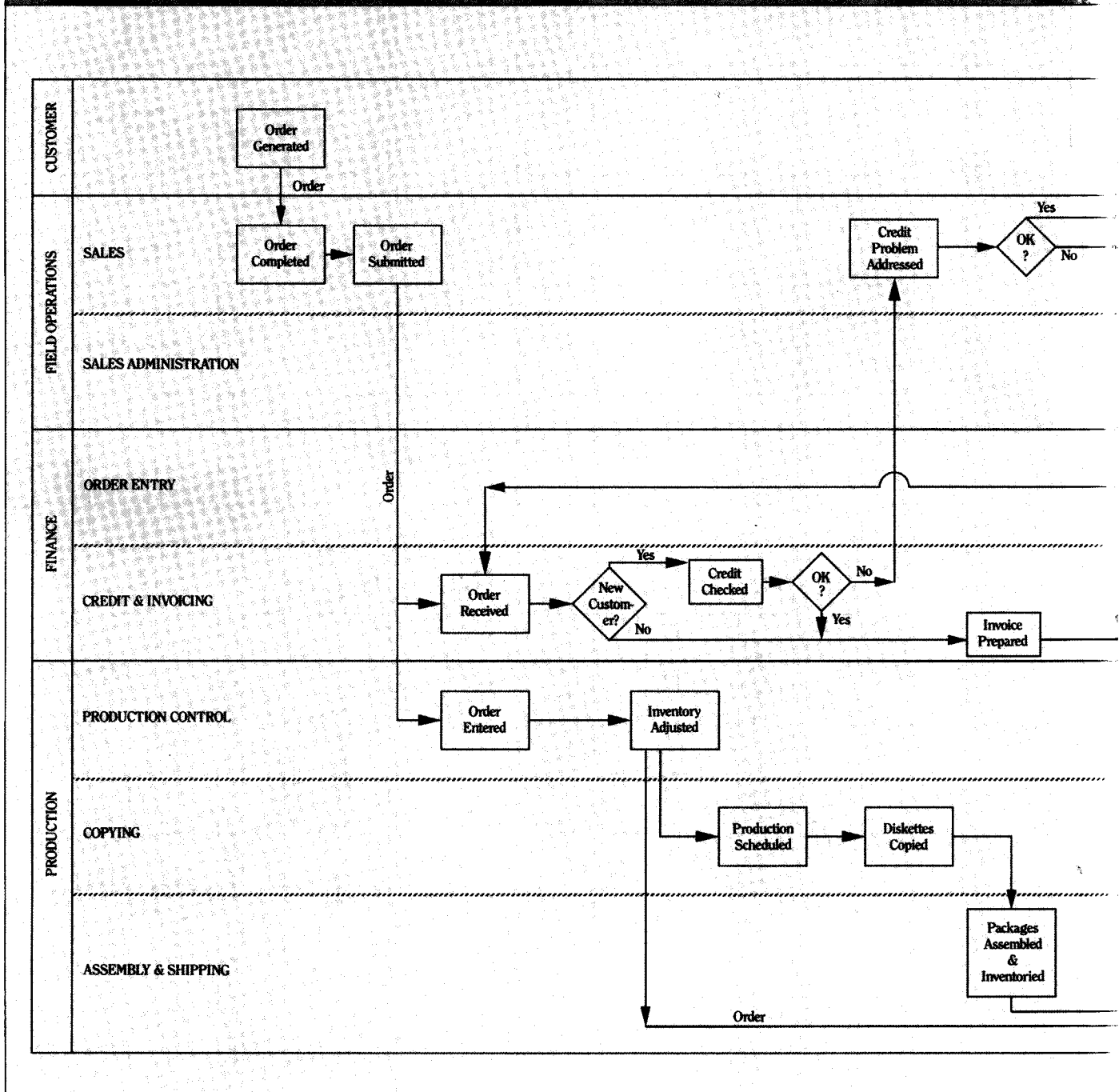
human-performance management do not support the proposed changes to the process, the improvements will not stick. Teams often recommend that jobs be added, deleted or modified; that certain people be given specific types of training; that reward systems be modified; and that additional resources be provided.

A particularly useful way to begin planning for change is to analyze the

variables in the human performance system: performance specifications (job outputs and standards), task interference (performance barriers), consequences (rewards and punishments), feedback (performance information), knowledge/skill levels and individual capacity. (See "The Systems View of Human Performance," TRAINING, September 1988.)

Compute's "should" process

FIGURE 5
COMPUTEC ORDER FILLING - A "SHOULD" PROCESS MAP



The most significant benefits come from the people who ultimately will work within the process.

probably will not work, for example, unless production control clerks are trained in order-entry procedures, salespeople are rewarded for submitting orders in a timely fashion, and credit analysts receive regular, specific feedback on customers' payment practices.

11. *Implement changes.* Do it. Change the process, following the plan developed in Step 10.

How long does a process improvement project take? It depends on a variety of factors, including the complexity of the process, the nature and magnitude of the CBI, and the maturity of the process. (A "primitive" process, which has never been documented, measured or managed, may take more time to analyze and improve than a mature process that only requires fine-tuning.)

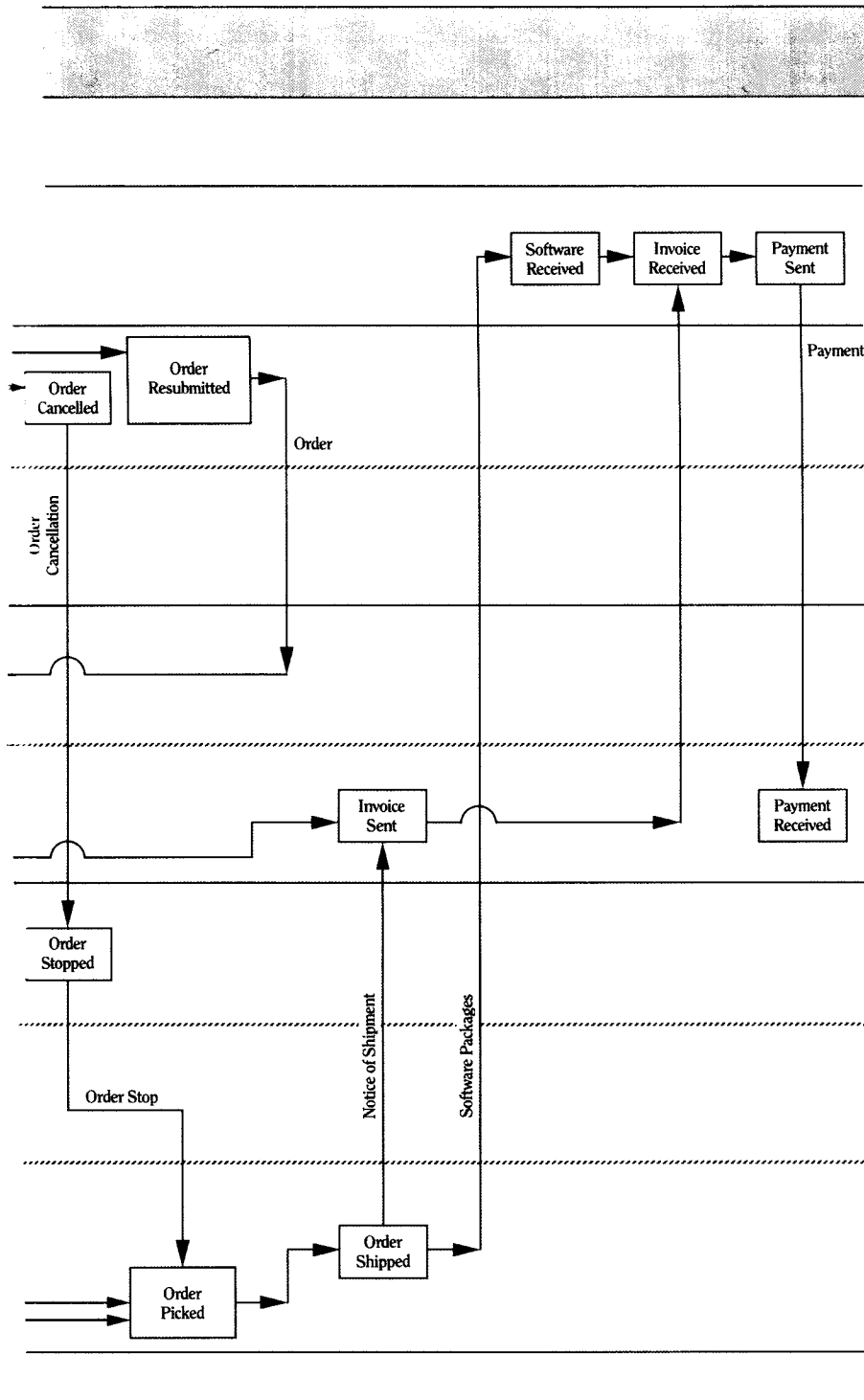
We have seen process improvement projects in which the first 10 steps were finished in five half-day meetings on consecutive days. At the other end of the spectrum was a project in which five subprocess teams met for six weeks, spread out over a nine-month period. A typical project spans two or three months and involves eight to 10 meetings of four to six hours apiece.

Here are three quick examples of process improvement projects in real organizations.

A company that manufactures computer components was concerned about its frequent failure to deliver products on time. A cross-functional team of 12 managers worked for four days to analyze the entire order-to-delivery process. The team recommended a series of changes that were implemented over a two-month period. The result: reduction in average cycle time from 17 weeks to five weeks and a 65 percent increase in on-time delivery. This process continued to be improved during the next 12 months. Cycle time is now down to five days.

Senior managers of a regional telephone company were dissatisfied with the performance of the customer-billing process, which involves nearly every department in the company. The process improvement effort was driven by the need to improve quality in a deregulated environment. Because of the breadth and complexity of the process, five cross-functional subteams were formed. They found 183 disconnects in the process. The ensuing improvements resulted in quality gains (based on customer surveys), cost savings and a measurement system for tracking the contribution each function makes to the overall process.

A high-technology company assigned a task force to design a "factory of the future" to make semiconductors. The task force began by



specifying the goals and general parameters of the factory. In an example of proactive process management, they then used "should" process mapping to design the production process and the key support processes. Lastly, they identified the jobs, skill sets and staffing that would be required by the processes.

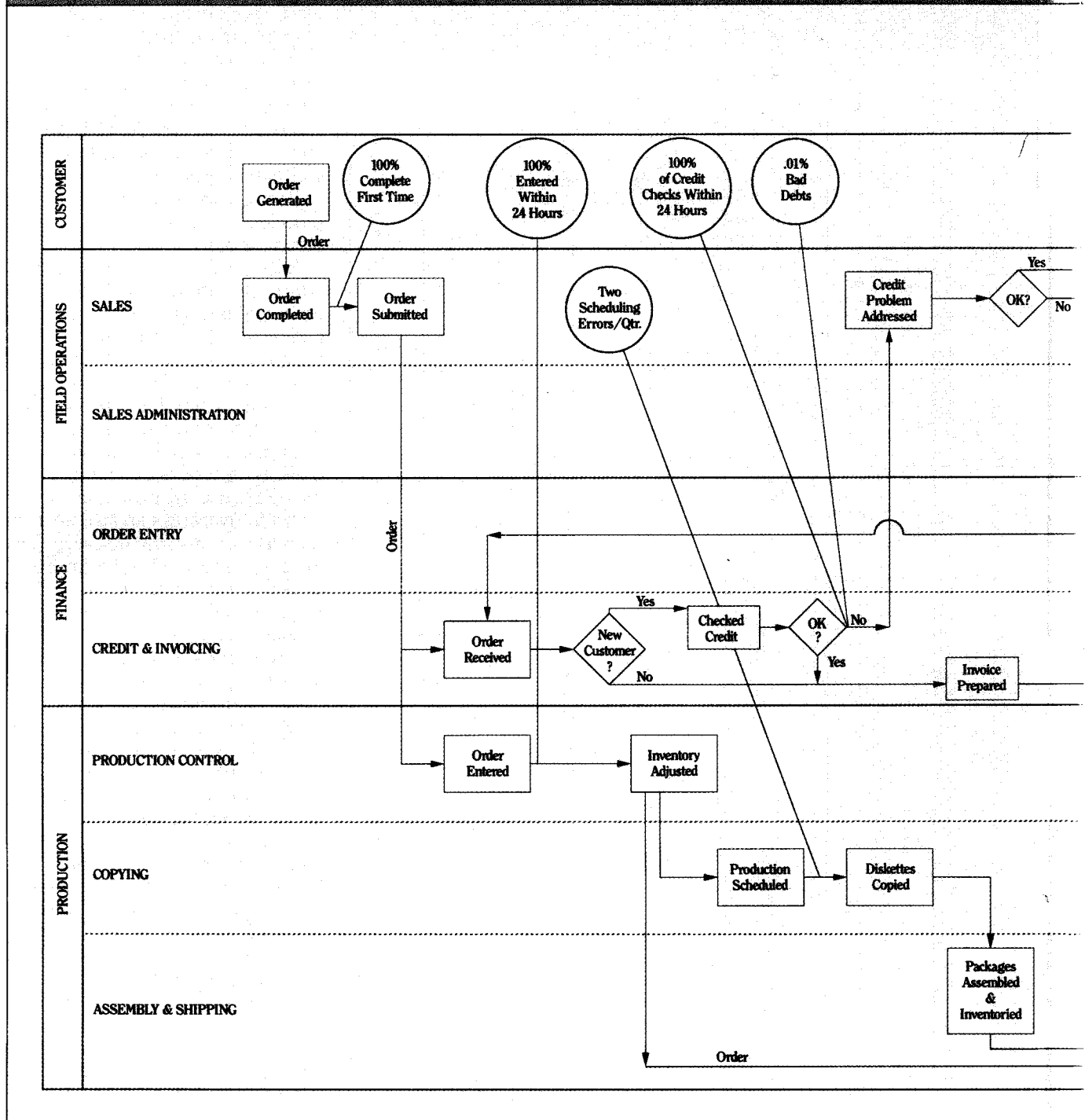
Step 11 in a process improvement project is not the end but the beginning. If an infrastructure for the ongoing management of a process is not established, the process will fall into disrepair as quickly as a rebuilt car engine that is not kept tuned. Here are some keys to the effective practice of process management.

"Strategic" Processes

While a long-range goal may be to establish a management plan for every process, most organizations begin by identifying the critical few that warrant the investment in ongoing process management.

A strategic process is one that influences a competitive advantage

FIGURE 8
SELECTED PROCESS SUBGOALS FOR COMPUTEC'S ORDER-FILLING PROCESS



that senior management wants to establish, reinforce or expand. If the time it takes to fill a customer order is a potential competitive advantage, "order processing" is a strategic process. If the quality of customer service is a competitive advantage, the customer service process is strategic. If new products are central to

the competitive advantage, the process of developing and producing products is strategic.

Those examples are all "customer processes." They produce a product or service visible to the customer. Administrative (purely internal) processes also can be strategic. For example, if the cost of producing a

product or service is a competitive advantage, then budgeting and capital expenditure processes may be as strategic as design and manufacturing processes. If the ability to respond quickly to the needs of a changing market is a competitive advantage, the market research and planning processes are probably strategic. Similarly, human resource development, billing and purchasing could be strategic processes.

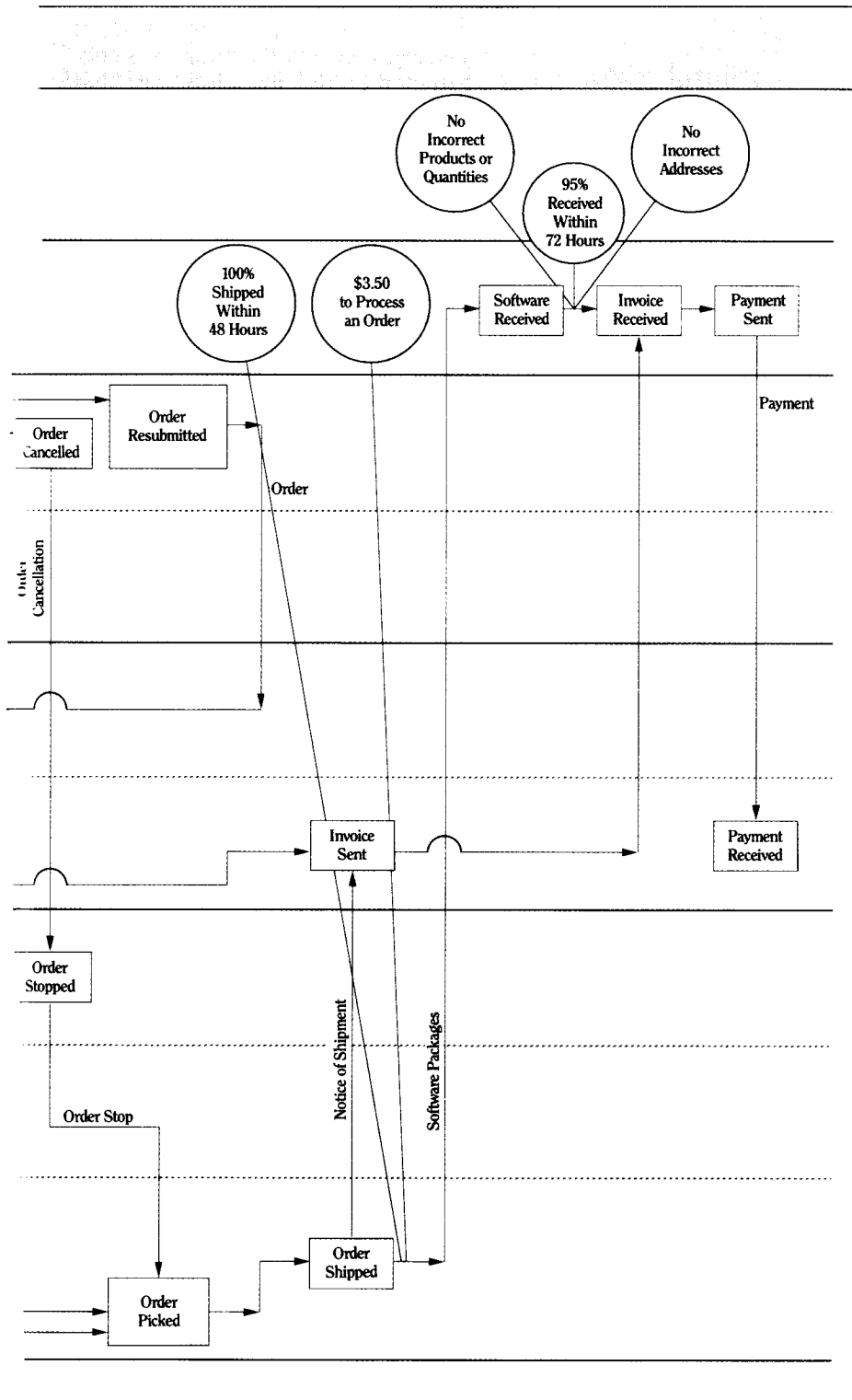
Top managers usually do not need sophisticated tools to identify the highest-priority candidates for process management. What they do need is a clear strategy based on competitive advantages, and a list of their organization's customer and administrative processes. By evaluating the impact of each process on the competitive advantages and on the organization's goals, they can readily identify strategic processes.

The Vertical and Horizontal Organizations

If we had to select one action that makes the greatest contribution to lasting process management, it would be the appointment of an "owner" for each key process. The process owner, or sponsor, oversees the performance of a cross-functional process. The owner monitors the process to see how well it is meeting customer requirements and internal goals. The owner ensures that a permanent team strives continuously to improve the process. The owner serves as the "white space ombudsman" who helps resolve interface problems among the different units that contribute to a process. The owner develops a plan and a budget for the process. The owner serves as the conscience, evaluator and champion of the process.

Without a process owner, the "handoffs" that occur in the white spaces tend to be ignored. As each line manager concentrates on his or her piece of a process, each department reverts to the old focus on making its numbers—often to the detriment of the process.

The process owner is akin to a "matrix manager" who oversees a cross-functional product or project. But there are two important differences. First, products and projects come and go; processes change but are permanent. Second, unlike a matrix manager, the process owner does



not represent a second organizational structure.

That statement requires some explaining. Effective process management demands the peaceful coexistence of the vertical and horizontal dimensions of an organization. In most cases, a purely horizontal organization structure—a company organized solely around processes—is not practical. It's usually more efficient, for example, for people in finance, human resources and information systems to be grouped together.

In a process-driven environment, reporting relationships remain vertical. Functional managers retain their power. They have as much authority as in any traditional organization. Each line manager is still responsible for achieving results, allocating resources, setting policies and developing procedures.

So how do we overlay the horizontal dimension onto the vertical structure? The key is measurement. And the first step in measurement is to establish customer-focused, process-driven performance indicators.

The difference between a process-

driven organization and a traditional, purely vertical organization is just this: Each function is measured against goals that reflect its contribution to one or more processes. That is, a department is measured—and its manager is judged—in terms of its impact on those customer-focused,

The difference in a process-driven organization: measurement.

process-driven performance indicators.

That's where process owners come in. They not only help resolve problems in the white spaces, they ensure that process considerations continue to dominate functional interests. As long as function managers are judged and rewarded by their contributions to processes, you see no tugs-of-war between bosses, as you do in many matrix-managed organizations. By the same token, individuals are not

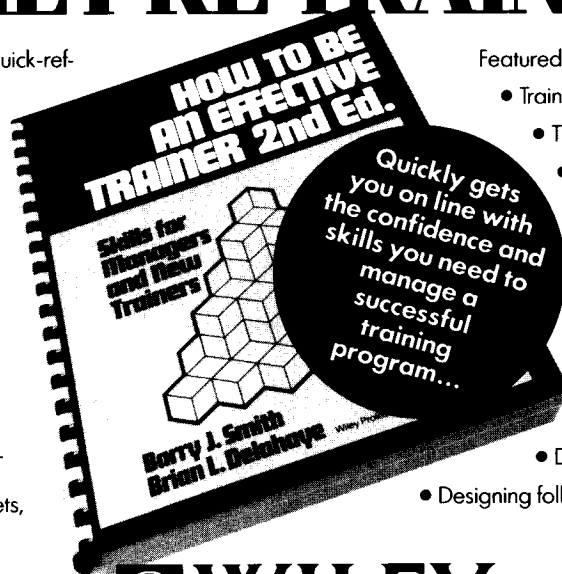
continually torn between commitments to their vertical (line) managers and their horizontal (product or project) managers.

Therefore, process management can coexist quite peacefully with the functional organization. It doesn't threaten people's power or accountability, it doesn't necessarily change the organization structure or reporting relationships, and it doesn't change the direction of the business. It changes the way the business is conducted only by ensuring that processes (which are there already) are rational and by aligning functional goals with process goals. Good process owners don't threaten line managers because they add value without taking anything away; they are making contributions nobody ever made before.

This picture of peace and harmony depends to a large degree, however, on the people selected to be process owners. Because of the pivotal nature of the role, a process owner generally should be a senior manager with a major equity stake in the total process; that is, someone who has

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much to gain if the process succeeds and much to lose if it fails. Furthermore, the owner should be someone who understands the workings of the entire process, the effect of the larger business environment on the process, and the effect of the process on the business. Obviously, the owner also should have strong interpersonal skills—the ability to influence, persuade and lead.

The process owner's responsibility is usually associated with a position, rather than an individual. Often it is the person who manages the largest number of people working in the process. At one telecommunications company, for example, the vice president of finance was appointed owner for the billing process. When he left that job, his successor became the process owner.

An Institution

In an organization that goes beyond "improvement projects" and institutionalizes process management, each key process has an owner. Each has a permanent team that meets regularly to figure out how to make fur-

ther improvements. Each process has a map that documents its various steps and the departments or functions that perform those steps. Each has a set of customer-driven measures that shape its functional measures. Each has an annual business plan that includes its expected results,

Institutionalized process management is a culture.

objectives, budget and nonfinancial resource requirements.


To ensure that key processes meet these and other performance criteria, IBM, Ford and Boeing have created process certification ratings. At Ford, for instance, a process must meet 35 criteria to achieve the top rating of "1" on a four-point scale. These criteria range from a basic requirement that the process have a name and be documented to a demand that the process be assessed by customers as

"defect free."

Institutionalized process management is more than adherence to a particular methodology. It is a culture. It's a culture in which process owners, teams and line managers practice continuous improvement rather than sporadic problem solving. Managers use their relationship and process maps to orient new employees, evaluate strategic alternatives and improve their service to internal and external customers. The needs of those customers drive goal setting and decision making. Policies, technology and personnel decisions all support the overriding goal: efficient and effective processes. T

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