

1 Getting Off the Cliff Edge

Many organizations solve problem after problem without improving the processes in which the problems emerge. Such organizations are always hanging on the edge of a cliff. They invest large sums of money without significant return. After solving numerous problems, they ultimately discover they are in approximately the same place as when they started.

This chapter discusses some fundamentals you will need to know in order to get off the cliff edge and points you in the direction of improving processes in ways that count.

Each problem solved introduces a new unsolved problem
Anonymous (U.S. Department of Labor)

A DEFINITION OF PROCESS IMPROVEMENT

Process improvement is a way of applying logic to work. It is a rational, systematic approach to work, to the way work gets done. A process is a series of logically related activities performed to achieve a specified outcome. There is a process to purchase office supplies, a process to admit patients to a hospital, and so on.

Process improvement requires an iterative methodology for making changes to the process so as to raise the customer's judgment of the outputs. To improve a process you need to do the following:

- walk through the process from beginning to end and back again, eliminating obvious variations and defects to bring the process under control and make it more predictable,
- then cycling back to the beginning to start streamlining or simplifying the process to make it more efficient, and after that,
- cycle back to make the process error-free, and so on, in a recurrent loop of continuous improvement.

It is necessary to stress that the walk-through must be done in the shoes of the customer (a subject we discuss in Chapter 2).

Prevention Vs. Problem Solving

Many organizations confuse process improvement and problem-solving. They think that if they find a problem in the process and fix it, they're improving the process. A good many so-called process improvement efforts have ended up on the edge of a cliff.

Finding and fixing problems is too piecemeal an approach for enduring process improvement

The problem with the problem-solving approach is its piecemeal nature, its failure to consider how solutions relate to one another and to the whole. An improvement team is often charged with solving a particular, visible problem without being given a chance to understand the process in which that problem is embedded. Consequently, they can't see all the pieces and are apt to fix problems without making changes to the system that would eliminate the problem once and for all.

Production is not the application of tools to materials, but logic to

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Such individual solutions don't add up to significant gains because they are isolated solutions, often unconnected to the overall goals of the organization. Such solutions may even be counterproductive.

In contrast, improving processes prevents problems. By understanding your process in terms of its outcome and the activities that produce the outcome, you can see both the whole of the process and its parts. You can see how changes to one activity will affect the others. You can diagnose a process and bring it under control. You can make changes to your process that will eliminate problems and prevent them from recurring.

Continuous Improvement Vs. Acceptable Defect Levels

The idea of continuous improvement may be a new one for organizations used to thinking in terms of acceptable defect levels. Acceptable defect levels vary a good deal. For example, a hospital might allow 60 to 70 errors per 100 statements, but only 1 error per 100 blood tests.

Organizations that allow acceptable defect levels may not be aware of the proliferating costs of a defect. A defect may cost the organization one dollar in the design phase, ten dollars by the time it reaches manufacturing, one hundred dollars when it is shipped, and one thousand dollars by the time it reaches the customer. The costs of defects can spiral out of control even when acceptable defect levels are low.

An assumption behind "continuous improvement" is that defects can always be reduced. In the first case, an organization might set a goal of reducing errors to 50 percent over the first month, 40 percent over the following month, and so on. Very low defect levels can always be reduced, too. In the second case, the one error per 100 blood tests could be reduced the first month to .75, then .5, then .25, and so on. *If you wish to make an improved product, you must already be engaged in making an inferior one.*
-Jacob A. Varela)

Some organizations also set performance standards and quotas as a way to improve productivity. Management may issue a fiat to increase production from 100 documents an hour to 105 an hour. But fiats have little to do with productivity. Only changes in the process will improve productivity.

Even defect-reduction is only a part of process improvement, however. Customer perceptions and preferences are vital, and are discussed more comprehensively in Chapter 2.

WHY IMPROVE PROCESSES?

The reason organizations want to improve is because they know something somewhere isn't working as well as it could.

An organization consists of its processes. To improve these processes is to improve the organization.

Work Processes vs. the Organization Chart

Many people think of the organization in the hierarchical terms of the organization chart. But an organization chart describes the chain of command, not the work processes.

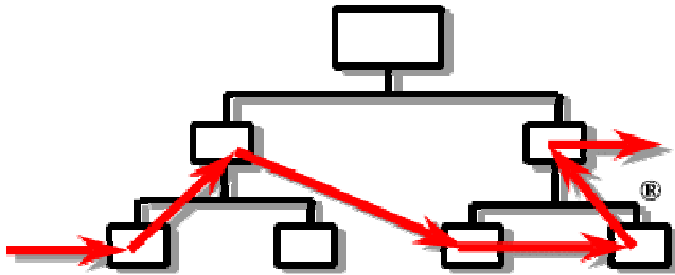


Figure 1: Work Flow and the Organization Chart

The organization chart is constructed vertically, while work flows through the organization in a more horizontal fashion. Since the organization chart has to do with power and control, not how work gets done, it is of little use in improving processes. It can even get in the way, creating barriers and

territorial disputes. Executives sometimes tend to adjust the organization chart rather than improve their work processes.

Managing horizontally means focusing on a process and its outputs to the customer instead of a department and its reporting structure. Managing horizontally recognizes the interdependencies of processes and avoids the parochial, fragmented approach promoted by the organization chart. Managing horizontally takes the broad perspective, keeping the customer clearly in view.

What needs to be improved work gets done not the people doing the work

Improve Processes, Not People

Adjusting the organization chart is part of a tendency to assume that people are the problem when something is wrong. Certain people are perceived to be incompetent, or have a bad attitude, or lack motivation.

Far more often than not, however, processes are the problem, not people. Nearly all people come to work wanting to do a good job. What needs to be improved is the way the work gets done, not the people who do the work. Doing this involves making changes to the process so that people can do a good job.

At least 85 percent of an organization's problems can be solved by improving its processes. Appropriate job skills training will solve another 10 percent. Only about 5 percent of an organization's problems are genuine "people problems."

The organization chart also tends to encourage the mistaken idea that only managers are capable of identifying and making improvements. This assumption overlooks the valuable resource residing in the work force. Workers know their own work processes best and will suggest excellent ways to improve them when given the chance.

Leadership

Although workers can contribute importantly to process improvement, the responsibility for the organization's processes belongs to management, and therefore management needs to be

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accountable for improving processes.

Organizations that initiate process-improvement efforts are sometimes tempted to turn over the responsibility for them to outside experts. “We’ll hire a consultant to improve things” goes the thinking.

Executives within the organization accountable for results should lead the process improvement effort.

Outside experts, however, cannot lead an improvement effort, because

they do not have a personal stake in the success of the effort. The responsibility for process improvement cannot be delegated.

Improving a process requires leadership of a person in the organization accountable for results, preferably an executive, whose own success is linked to the success of the effort. This is the level of commitment required to achieve significant and long-lasting results.

Moreover, sooner or later an outside expert goes home. Then what? A process is never optimized. It can and must be continuously improved. Only the people on the payroll, from the top down, can establish a permanent culture of continuous improvement.

Our approach is to teach people in the organization how to improve processes so that they can sustain a continuous improvement effort on their own.

Benefits

People often assume that improving processes is expensive. Actually, improving processes leads to lower costs. Improving a process reduces the resource needed to generate an outcome, increasing the outcome’s predictability. Studies consistently show that eliminating rework and unnecessary work, shortening cycle times, reducing defects—all the streamlining activities of process improvement—result in lower costs and higher productivity. It is not unusual for a process to show a 25 percent reduction in costs within the first year of an improvement initiative. An ongoing continuous improvement effort can yield additional annual savings of up to 4 to 6 percent.

The biggest benefit of improving processes is satisfied customers

Improving processes also focuses management and the work force on clearly defined, objective goals held in common. Process improvement provides a systemic approach to making changes and fosters cooperative work, enhancing job satisfaction and commitment.

The biggest benefit of improving processes, however, is satisfied customers. The improvement of the organization’s work processes improves what customers receive, and it is by what they receive that customers judge an organization.

A Cultural Change

Improving processes may require and inspire a culture change in your organization. Conventional wisdom may have to give way to new concepts.

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Conventional Wisdom	New Concept
Quality is meeting conformance standards. or Quality is an intangible good.	Quality is meeting and exceeding customer expectations. Quality is defined by the customer
Finding and fixing problems results in improvements, which may or may not be sustainable.	Making changes to the system to prevent problems results in sustainable improvements.
Effectiveness and efficiency is achieved by meeting acceptable defect levels.	Effectiveness and efficiency is achieved by continuously improving.
Crisis management is the dominant management mode.	Preventative management is the dominant management mode.
Performance standards and quotas improve productivity.	Changes in the process improve productivity.
Defects are caused by workers.	Defects are caused by flaws in the process, and management is responsible for the process.
Decisions are made by “superiors.”	Decisions are made through collaboration between staff and management.
Top management evaluates the organization on financial performance alone.	Top management focuses on process performance and customer satisfaction, as well as financial performance.
Process improvement is expensive.	Process improvement leads to lower costs.
Only managers are capable of identifying and making improvements.	Workers know the process best and will suggest excellent ways to improve it when given a chance.
Managers command functional “fiefdoms” and are concerned with directing and controlling.	Team leaders guide cross-functional improvement teams and are concerned with planning and prevention.
Employees receive instructions and information from above, as deemed appropriate by management.	Management shares information with employees on a routine basis and on request.
Leadership for an improvement effort can be delegated to outside experts.	Leadership for an improvement effort is provided by executives within the organization, who are accountable for results.
Reviews are only necessary when things go wrong.	Regular, disciplined reviews are a key to improved

HOW PROCESSES ARE IMPROVED

Ultimately, improving a process is a matter of taking things out rather than putting things in. Usually, simpler is better.

If your next pot of chili tastes better, it is probably because of something you left out, rather than added.

The first step in improving a process is to reduce the variations in the outputs. An output is a product, document, service, or information generated by the process and received by a customer. An output of a “purchase office supplies” process would be an order. An output of an Admit Patients Process would be the arrival of the patient in the correct ward.

-Hal John Wimberly

To illustrate how reducing variations improves a process, let’s take the example of a hamburger, the output of a “cook hamburgers” process. When one cooked hamburger weighs .25 pounds and another weighs .35 pounds, they vary by .10 pounds. Similarly, if one hamburger takes five minutes to cook, while another takes eight, the cooking times vary by three minutes. If you are in the business of cooking hamburgers for customers, you would be wise to reduce these variations in order to produce a consistent product at a consistent cost.

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It makes it easier to teach employees to cook the hamburgers and you are likely to produce consistent product for your customers. When all customers receive the same size hamburger cooked in the same amount of time, you meet their minimal expectations. At the same time, your costs remain stable and predictable.

An improved process is more consistent.

Process improvement begins by identifying and understanding the variations in process outputs and then making changes that reduce those variations.

SERVICE PROCESSES DIFFERENT FROM MANUFACTURING PROCESSES

The universe is intractably squiggly.
-Charles Suhor

The universe of service processes is indeed “intractably squiggly,” as many a front-line employee will testify. Manufacturing processes occupy a more predictable, more concrete universe.

Different Outputs

One difference between manufacturing processes and service processes is the difference in outputs. The outputs of manufacturing processes are tangible goods, e.g. automobiles, shirts, lamps. The outputs of service processes are less tangible, e.g. the investment of money or the compilations of a vacation itinerary. Some service process outputs are intended to create a feeling in the customer. “It’s the way we make you feel that makes us the world’s favorite airline,” says one advertisement.

The quality of the outputs of service processes has a powerful effect on customers. If the delivery person for a new washing machine is surly and installs it improperly, the customer perceives poor quality, even if the washing machine itself has zero defects.

Different Inputs and Suppliers

The inputs of service processes differ, too. An input is a product, service, or information needed to perform the activities of the process and create the outputs.

Typically, a service process deals with many inputs and often many different kinds of inputs, some of them unexpected.

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For example, a travel agency requires inputs from its customers—information about where they want to go, when they want to leave and return, how they want to pay, and so on. There are many opportunities for variations in these kinds of inputs because they are supplied by the customer, and customer needs vary.

All processes have suppliers. A supplier is the source of an input. The suppliers to manufacturing processes generally fall into two categories: the first is vendors providing materials; the second is groups within the organization supplying parts, documents, or other inputs needed to create the product.

Service processes have these types of suppliers, too. In addition, however,

The suppliers to service processes almost always include customers.

Service processes usually need something from the customer to be “processed.” A bank customer supplies deposits, a patient supplies a medical need, a life insurance customer supplies personal data. This is why service processes often deal with more variations in inputs than do manufacturing processes.

Moreover, these are variations to be accommodated not corrected, as would be the case in a manufacturing process. A component that gets installed upside down is a variation that needs to be corrected. Eliminating it is relatively straightforward. You could add a beveled edge to the component so that it can only be installed one way.

However the variations in customer inputs, which always come from outside the process, usually require response, not correction. One travel agency customer may be primarily cost-conscious, while another’s priority is to travel as comfortably as possible.

A Predictable Yet Flexible Process

The challenge in improving service processes is to have a process predictable enough to be under control yet flexible enough to respond as necessary to numerous individual events. The “squiggly” universe of service processes demands the same rigorous approach to quality as manufacturing processes. Both need to be objectively described, documented, and measured, using statistical tools and proven quality management techniques. Yet service processes must also be designed to respond quickly and positively to random events.

ACTION STEP

Look at the lists of new concepts on pages 5 and 6. Identify three that would most benefit your business if you were to implement continuous improvement